DESIGN NOTES
FOR
STRUCTURE B-16-EV

PROJECT NO. FBR 0142-055, SA.: 18085

BY: HOANG BUI

TABLE OF CONTENTS:

Bentley			Sheet #	1
			Job #	
Program:	LEAP® CONSPAN® V8i (SELECTseries 5)	Colorado DOT	Designed	Hoang Bui
Version:	12.01.00.57	Copyright © Bentley Systems, Inc. 1984 - 2012	Date	Dec/11/2012
		www.bentley.com Phone: 1-800-778-4277	Checked	
File Name:	**Conspan Final_BX30a.csl**		Date	

PROJECT DATA

Project:	Sh14 over Poudre River
Designer:	Hoang Bui
Date:	Dec/11/2012
Checked By:	
Date Checked:	
User job number:	
State:	Colorado, State Job #:FBR 0142-055
State Specification:	None
Design Code:	AASHTO LRFD - [6th Edition, 2012]
Units:	US
Span Type:	Multi-Span (Continuous)
Flared Girder:	No
File Name:	C:\Project_Hoang_Bui\SH14 FORT COLLINS\Calculations\Conspan Final_BX30a.csl

1/508

GEOMETRY DATA
BRIDGE LAYOUT

Overall Width (ft)	124.000
Left curb (ft)	2.000
Right curb (ft)	2.000
Curb-to-curb width (ft)	120.000
Number of spans	5
Number of lanes	7
Lane width (ft)	12.000
Eff Deck thick (in)	5.000
Sacrificial thick (in)	0.000
Haunch thickness (in)	3.000
Haunch width (in)	72.000

SPAN DATA

Span	Pier-to-pier ft	Precast ft	Brg-to-brg ft	Pier CL ft	Release ft	StartSkew	EndSkew	Bridge c/s M.I. in4
1	62.750	62.583	61.750	-0.417	62.583	0.00	0.00	4901262.50
2	84.000	82.833	82.000	0.583	82.833	0.00	0.00	4901262.50
3	84.000	82.833	82.000	0.583	82.833	0.00	0.00	4901262.50
4	84.000	82.833	82.000	0.583	82.833	0.00	0.00	4901262.50
5	62.750	62.583	61.750	0.583	62.583	0.00	0.00	4901262.50

BEAM DATA
Span: 1

No	ID	Loc-prev ft	Area in2	MI(Ixx) in4	Height in	Yb in	B-topg in	B-trib ft
1	Bui72X30	4.208	978.0	120856.0	30.00	13.79	72.00	7.250
2	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
3	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
4	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
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19	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
20	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	7.250

Span: 2

No	ID	Loc-prev ft	Area in2	MI(Ixx) in4	Height in	Yb in	B-topg in	B-trib ft
1	Bui72X30	4.208	978.0	120856.0	30.00	13.79	72.00	7.250
2	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
3	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
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20	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	7.250

Span: 3

No	ID	Loc-prev ft	Area in2	MI(Ixx) in4	Height in	Yb in	B-topg in	B-trib ft
1	Bui72X30	4.208	978.0	120856.0	30.00	13.79	72.00	7.250
2	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
3	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
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18	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
19	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
20	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	7.250

Span: 4

3/508

No	ID	Loc-prev ft	Area in2	MI(Ixx) in4	Height in	Yb in	B-topg in	B-trib ft
1	Bui72X30	4.208	978.0	120856.0	30.00	13.79	72.00	7.250
2	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
3	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
4	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
5	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
6	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
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19	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
20	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	7.250

Span: 5

No	ID	Loc-prev ft	Area in2	MI(Ixx) in4	Height in	Yb in	B-topg in	B-trib ft
1	Bui72X30	4.208	978.0	120856.0	30.00	13.79	72.00	7.250
2	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
3	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
4	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
5	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
6	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
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19	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	6.083
20	Bui72X30	6.083	978.0	120856.0	30.00	13.79	72.00	7.250

MATERIAL DATA - Project Level

As defined in Material Tab. For beam level properties look at Beam Specific output.

4/508

CONCRETE PROPERTIES

	Precast Release	Precast Final	C.I.P
f'c (ksi)	6.500	8.500	4.500
Wc (pcf)	150.000	150.000	150.000
Ec (ksi)	4887.730	5589.340	4066.840
K1	1.000	1.000	1.000
Thermal coeff.(1/°F)	0.00000600		

STRAND AND REBAR PROPERTIES

PRESTRESSED STEEL:

6/10-270K-LL, Low relaxation strands
Straight Pattern
Strand Diameter = 0.600 in
Tensile Strength(fpu) = 270.0 ksi
Use transformed strand and rebar: No

REINFORCING STEEL:

Tension/Shear steel: fy = 60.0 ksi Es = 29000 ksi fs = 24.0 ksi

LOADS DATA

Loads generated using Permanent Load Wizard: NO

DEAD LOADS ON PRECAST - NONE

DIAPHRAGM LOADS - NONE

DEAD LOADS ON COMPOSITE

UNITS: (Point: kips, Location: ft, Line: klf, Trapez: klf, Area: ksf, Width: ft)

Span	DC/DW	Type	Mag.1	Loc.1/Width	Mag.2	Loc.2	Description
1	DC	Line	0.680	0.000	0.680	61.750	Left Barrier Weight
1	DC	Line	0.680	0.000	0.680	61.750	Right Barrier Weight
1	DC	Line	1.092	0.000	1.092	61.750	Left Sidewalk
1	DC	Line	1.092	0.000	1.092	61.750	Right Sidewalk
1	DC	Area	0.112	26.000	-	-	Raised Concrete Median
1	DC	Area	0.036	78.000	-	-	Future Wearing Surface
1	DC	Trapez	1.800	45.250	1.800	61.750	Plinth
1	DC	Point	1.060	47.500	-	-	Planter pot
1	DC	Point	5.200	56.750	-	-	Planter pot
1	DC	Point	1.060	51.750	-	-	Planter pot
2	DC	Line	0.680	0.000	0.680	82.000	Left Barrier Weight
2	DC	Line	0.680	0.000	0.680	82.000	Right Barrier Weight
2	DC	Line	1.092	0.000	1.092	82.000	Left Sidewalk
2	DC	Line	1.092	0.000	1.092	82.000	Right Sidewalk
2	DC	Area	0.112	26.000	-	-	Raised Concrete Median
2	DC	Point	5.200	6.000	-	-	Planter Pot
2	DC	Point	5.200	12.500	-	-	Planter Pot
2	DC	Point	5.200	71.500	-	-	Planter Pot
2	DC	Point	5.200	78.500	-	-	Planter Pot
2	DC	Point	5.200	0.000	-	-	Planter Pot
2	DC	Trapez	1.800	0.000	1.800	17.500	Plinth
2	DC	Trapez	1.800	66.500	1.800	82.833	Plinth
2	DW	Area	0.036	78.000	-	-	Future Wearing Surface
3	DC	Line	0.680	0.000	0.680	82.000	Left Barrier Weight
3	DC	Line	0.680	0.000	0.680	82.000	Right Barrier Weight
3	DC	Line	1.092	0.000	1.092	82.000	Left Sidewalk
3	DC	Line	1.092	0.000	1.092	82.000	Right Sidewalk
3	DC	Area	0.112	26.000	-	-	Raised Concrete Median
3	DC	Point	5.200	5.500	-	-	Planter Pot
3	DC	Point	5.200	12.500	-	-	Planter Pot
3	DC	Point	5.200	71.500	-	-	Planter Pot
3	DC	Point	5.200	78.500	-	-	Planter Pot
3	DC	Point	10.400	0.000	-	-	Planter Pot
3	DC	Trapez	1.800	0.000	1.800	17.500	Plinth
3	DC	Trapez	1.800	66.500	1.800	82.833	Plinth
3	DW	Area	0.036	78.000	-	-	Future Wearing Surface
4	DC	Line	0.680	0.000	0.680	82.000	Left Barrier Weight

6/508

Span	DC/DW	Type	Mag.1	Loc.1/Width	Mag.2	Loc.2	Description
4	DC	Line	0.680	0.000	0.680	82.000	Right Barrier Weight
4	DC	Line	1.092	0.000	1.092	82.000	Left Sidewalk
4	DC	Area	0.112	26.000	-	-	Raised Concrete Median
4	DC	Line	1.092	0.000	1.092	82.000	Right Sidewalk
4	DC	Point	5.200	5.500	-	-	Planter Pot
4	DC	Point	5.200	12.500	-	-	Planter Pot
4	DC	Point	5.200	71.500	-	-	Planter Pot
4	DC	Point	5.200	78.000	-	-	Planter Pot
4	DC	Point	10.400	0.000	-	-	Planter Pot
4	DC	Trapez	1.800	0.000	1.800	17.500	Plinth
4	DC	Trapez	1.800	66.500	1.800	82.833	Plinth
4	DW	Area	0.036	78.000	-	-	Future Wearing Surface
5	DC	Line	0.680	0.000	0.680	61.750	Left Barrier Weight
5	DC	Line	0.680	0.000	0.680	61.750	Right Barrier Weight
5	DC	Line	1.092	0.000	1.092	61.750	Left Sidewalk
5	DC	Line	1.092	0.000	1.092	61.750	Right Sidewalk
5	DC	Area	0.112	26.000	-	-	Raised Concrete Median
5	DC	Point	5.200	6.000	-	-	Planter Pot
5	DC	Point	1.060	11.000	-	-	Planter Pot
5	DC	Point	5.200	0.000	-	-	Planter Pot
5	DC	Trapez	1.800	0.000	1.800	17.500	Plinth
5	DC	Point	1.060	15.250	-	-	Planter Pot
5	DW	Area	0.036	78.000	-	-	Future Wearing Surface

TEMPERATURE LOADS - NONE

LIVE LOADS

Live load deflection: not included.

ID	Type
Design Lane	Design Lane
Design Tandem	Design Tandem
Design Truck	Design Truck
Double Truck	Double Truck

Pedestrian Load

1.20 plf

User Defined Truck:

ID: Colorado Permit	Width, ft:	10.00		Wheel Spg., ft:	6.00
Description:	Colorado Permit Vehicle				

7/508

LIVE LOADS USED
LIVE LOAD LIBRARY: Default.cs3

1 ID: Design Lane

Description:	Design Lane as in AASHTO-LRFD
Type:	Design Lane

Lane Load:	Intensity = 0.64 klf,	Width = 10.00 ft

2 ID: Design Tandem

Description:	Design Tandem as in AASHTO-LRFD
Type:	Design Tandem

First Axle Magnitude = 25.00 k,	Wheel Spacing = 6.00 ft,	Truck Width = 10.00 ft

#	Magnitude, k	Max Spacing, ft	Min Spacing, ft	Increment, ft
1	25.00	4.00	4.00	0.00

3 ID: Design Truck

Description:	Design Truck as in AASHTO-LRFD
Type:	Design Truck

First Axle Magnitude = 8.00 k,	Wheel Spacing = 6.00 ft,	Truck Width = 10.00 ft

#	Magnitude, k	Max Spacing, ft	Min Spacing, ft	Increment, ft
1	32.00	14.00	14.00	0.00
2	32.00	30.00	14.00	2.00

4 ID: Double Truck

Description:	Double Truck as in AASHTO-LRFD
Type:	Double Truck

First Axle Magnitude = 8.00 k,	Wheel Spacing = 6.00 ft,	Truck Width = 10.00 ft

#	Magnitude, k	Max Spacing, ft	Min Spacing, ft	Increment, ft
1	32.00	14.00	14.00	0.00
2	32.00	14.00	14.00	0.00
3	8.00	300.00	50.00	14.00
4	32.00	14.00	14.00	0.00
5	32.00	14.00	14.00	0.00

5 ID: Colorado Permit Vehicle

Description:	Colorado Permit Vehicle
Type:	Permit Vehicle

Uniform Load	Intensity, klf	Location, ft	Length, ft
Preceding	0.00	0.00	0.00
Trailing	0.00	0.00	0.00

First Axle Magnitude = 27.00 k, Wheel Spacing = 6.00 ft, Truck Width = 10.00 ft

#	Magnitude, k	Max Spacing, ft	Min Spacing, ft	Increment, ft
1	25.00	14.00	14.00	0.00
2	25.00	4.00	4.00	0.00
3	25.00	12.00	12.00	0.00
4	25.00	4.00	4.00	0.00
5	21.70	35.00	35.00	0.00
6	21.70	4.00	4.00	0.00
7	21.70	4.00	4.00	0.00

6 ID: Fatigue Truck

Description:	Fatigue Truck as in AASHTO-LRFD
Type:	Fatigue Truck

First Axle Magnitude = 8.00 k, Wheel Spacing = 6.00 ft, Truck Width = 10.00 ft

#	Magnitude, k	Max Spacing, ft	Min Spacing, ft	Increment, ft
1	32.00	14.00	14.00	0.00
2	32.00	30.00	30.00	0.00

RATING LOADS - NONE

10/508

ANALYSIS DATA
ANALYSIS PARAMETERS DATA

Truck impact:	1.330
Lane impact:	1.000
Strength II impact:	1.330
Fatigue impact:	1.150

DISTRIBUTION FACTORS (Art. 4.6.2.2):

Is Span Post-tensioned:	NO
ADTT (Average Daily Truck Traffic) :	2000
Percent of the specified force effect :	0.96

NOTE: Beam specific dead and live load DFs are printed in beam level reports.

LOAD FACTORS: (Table 3.4.1-1 & 3.4.1-2)

	Live	DC(max)	DC(min)	DW(max)	DW(min)
Service I:	1.00	1.00	-	1.00	-
Service III:	0.80	1.00	-	1.00	-
Strength I:	1.75	1.25	0.90	1.50	0.65
Fatigue I:	1.50	-	-	-	-

Ductility Factor:	1.00
Redundancy Factor:	1.00
Importance Factor:	1.00

11/508

PROJECT DESIGN PARAMETERS

MULTIPLIERS:

Trans len mult:	Bonded	1.00
	Debonded	1.00
Dev len mult:	Bonded	1.60
	Debonded	2.00

Camber & Deflection Multiplier (PCI ref.)

	Erection	Final
Prestress:	1.80	2.20
Self. Wt:	1.85	2.40
Deck + Haunch:		2.30
Diaphragm:		3.00
DL-Prec.:		3.00
DL-Comp.:		3.00

MOMENT AND SHEAR PROVISIONS:

Ultimate Moment Capacity, Mr-prvd computed:	Strain Compatibility method.
Ultimate Concrete Strain:	0.0030
Horizontal Shear, Beam and Slab effects in Vu:	INCLUDED
Negative Moment Design, Non-composite Moment effects in Mu:	INCLUDED

STRESS LIMITS (Art. 5.9.4):

STRESS LIMITS AT RELEASE BEFORE LOSSES:

		PRECAST	
Strength		6.50	ksi
Elasticity		4887.7	ksi
Max comp		3.90	ksi
Max tens		-0.20	ksi
Max tens,	w/reinf	-0.61	ksi

STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST		DECK	
Strength	8.50	ksi	4.50	ksi
Elasticity	5589.34	ksi	4066.84	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST		DECK	
Max comp	5.10	ksi	2.70	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST		DECK	

	PRECAST		DECK	
Max comp	3.82	ksi	2.02	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST		DECK	
Max comp	3.40	ksi	-	ksi

SERVICE III (Tension):

	PRECAST		DECK	
Max tens	-0.55	ksi	-0.40	ksi

RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	
Compression controlled sections	0.75
Tension controlled sections	0.90
Flexure Prestressed	
Compression controlled sections	0.75
Tension controlled sections	1.00
Shear	0.90

PRESTRESS LOSSES:

Time Dependent Losses, Approximate Method (Art.5.9.5.3)
Days to release = 0.75
Rel. Humid.(RH) = 60.0 %

13/508

RATING PARAMETERS

Rating Factors	References	Values
Condition Factor	Table 6A.4.2.3-1	1.00
System Factor for Flexural Effect	Table 6A.4.2.4-1	1.00
System Factor for Shear Effect	Art. 6A.4.2.4	1.00
ADTT	Section C3.6.1.1.2	2000
Dynamic Load Factor for Design Level	Art. 6A.4.3.3	0.33
Dynamic Load Factor for Legal and Permit Level	Table C6A.4.4.3-1	0.33

For Flexural Effect: Condition Factor * System Factor = 1.00 >= 0.85 (Art. 6A.4.2.1) OK
For Shear Effect: Condition Factor * System Factor = 1.00 >= 0.85 (Art. 6A.4.2.1 and 6A.4.2.4) OK

Dead Load Factors (Table 6A.4.2.2-1)

Limit State	DC	DW
Strength I	1.25	1.50
Strength II	1.25	1.50
Service I	1.00	1.00
Service III	1.00	1.00

Allowable Stresses (ksi)

Rating Level	Concrete Compression	Concrete Tension	Steel
Design Inventory	0.60 x f'c = 5.10	0.19 x sqrt(f'c) = 0.55	0.90 x f'y = 218.70
Design Operating	0.60 x f'c = 5.10	0.19 x sqrt(f'c) = 0.55	0.90 x f'y = 218.70
Legal	0.60 x f'c = 5.10	0.19 x sqrt(f'c) = 0.55	-
Permit	0.60 x f'c = 5.10	0.19 x sqrt(f'c) = 0.55	0.90 x f'y = 218.70

Consider shear reinf. across plane (FDOT alternative): No

BEAM REINFORCEMENT
BEAM SPECIFIC MATERIAL PROPERTIES:

Span#, Beam#	Tendon-ID	Girder-f'ci ksi	Girder-f'c ksi	Deck-f'c ksi
Span:1, Beam:1	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:2	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:3	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:4	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:5	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:6	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:7	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:8	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:9	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:10	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:11	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:12	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:13	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:14	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:15	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:16	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:17	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:18	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:19	6/10-270K-LL	6.50	8.50	4.50
Span:1, Beam:20	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:1	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:2	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:3	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:4	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:5	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:6	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:7	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:8	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:9	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:10	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:11	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:12	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:13	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:14	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:15	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:16	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:17	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:18	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:19	6/10-270K-LL	6.50	8.50	4.50
Span:2, Beam:20	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:1	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:2	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:3	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:4	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:5	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:6	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:7	6/10-270K-LL	6.50	8.50	4.50

Span#, Beam#	Tendon-ID	Girder-f'ci ksi	Girder-f'c ksi	Deck-f'c ksi
Span:3, Beam:8	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:9	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:10	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:11	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:12	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:13	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:14	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:15	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:16	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:17	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:18	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:19	6/10-270K-LL	6.50	8.50	4.50
Span:3, Beam:20	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:1	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:2	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:3	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:4	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:5	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:6	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:7	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:8	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:9	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:10	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:11	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:12	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:13	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:14	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:15	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:16	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:17	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:18	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:19	6/10-270K-LL	6.50	8.50	4.50
Span:4, Beam:20	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:1	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:2	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:3	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:4	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:5	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:6	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:7	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:8	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:9	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:10	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:11	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:12	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:13	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:14	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:15	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:16	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:17	6/10-270K-LL	6.50	8.50	4.50

Span#, Beam#	Tendon-ID	Girder-f'ci ksi	Girder-f'c ksi	Deck-f'c ksi
	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:19	6/10-270K-LL	6.50	8.50	4.50
Span:5, Beam:20	6/10-270K-LL	6.50	8.50	4.50

Span:1, Beam:1

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	4.00	60.5801	62.5801	Yes

Span:1, Beam:2

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:3

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in		

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:4

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:5

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:6

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:7

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:8

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:9

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:10

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:11

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:12

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:13

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in		

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:14

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:15

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:16

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:17

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:18

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in		

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:19

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:1, Beam:20

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:2, Beam:1

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:2

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:3

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in		

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:4

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:5

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:6

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:7

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:8

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:9

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:10

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:11

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:12

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:13

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in		

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:14

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:15

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:16

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:17

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:18

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in		

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:19

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:2, Beam:20

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:3, Beam:1

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	4.00	80.8301	82.8301	Yes

Span:3, Beam:2

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8333	No
2	US#4[M13]	60.0	0.40	4.00	80.8333	82.8333	No

Span:3, Beam:3

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8333	No
2	US#4[M13]	60.0	0.40	4.00	80.8333	82.8333	No

Span:3, Beam:4

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	4.00	80.8301	82.8301	Yes

Span:3, Beam:5

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8333	No
2	US#4[M13]	60.0	0.40	4.00	80.8333	82.8333	No

Span:3, Beam:6

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8333	No
2	US#4[M13]	60.0	0.40	4.00	80.8333	82.8333	No

Span:3, Beam:7

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:3, Beam:8

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in		

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8333	No
2	US#4[M13]	60.0	0.40	4.00	80.8333	82.8333	No

Span:3, Beam:9

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8333	No
2	US#4[M13]	60.0	0.40	4.00	80.8333	82.8333	No

Span:3, Beam:10

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8333	No
2	US#4[M13]	60.0	0.40	4.00	80.8333	82.8333	No

Span:3, Beam:11

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8333	No
2	US#4[M13]	60.0	0.40	4.00	80.8333	82.8333	No

Span:3, Beam:12

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8333	No
2	US#4[M13]	60.0	0.40	4.00	80.8333	82.8333	No

Span:3, Beam:13

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in		

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8333	No
2	US#4[M13]	60.0	0.40	4.00	80.8333	82.8333	No

Span:3, Beam:14

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8333	No
2	US#4[M13]	60.0	0.40	4.00	80.8333	82.8333	No

Span:3, Beam:15

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8333	No
2	US#4[M13]	60.0	0.40	4.00	80.8333	82.8333	No

Span:3, Beam:16

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8333	No
2	US#4[M13]	60.0	0.40	4.00	80.8333	82.8333	No

Span:3, Beam:17

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8333	No
2	US#4[M13]	60.0	0.40	4.00	80.8333	82.8333	No

Span:3, Beam:18

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in		

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8333	No
2	US#4[M13]	60.0	0.40	4.00	80.8333	82.8333	No

Span:3, Beam:19

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8333	No
2	US#4[M13]	60.0	0.40	4.00	80.8333	82.8333	No

Span:3, Beam:20

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8333	No
2	US#4[M13]	60.0	0.40	4.00	80.8333	82.8333	No

Span:4, Beam:1

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:2

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:3

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in		

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:4

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:5

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:6

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:7

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:8

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:9

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:10

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:11

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:12

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:13

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in		

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:14

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:15

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:16

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:17

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:18

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in		

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:19

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:4, Beam:20

PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	6.00	80.8301	82.8301	Yes

Span:5, Beam:1

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

Span:5, Beam:2

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:3

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in		

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:4

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:5

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:6

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:7

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:8

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:9

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:10

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:11

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:12

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:13

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in		

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:14

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:15

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:16

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:17

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:18

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in		

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:19

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

Span:5, Beam:20

PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands
Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in

REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	No
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5833	No
2	US#4[M13]	60.0	0.40	4.00	60.5833	62.5833	No

PROPERTIES
Span:1, Beam:1
PRECAST DATA:

Section Id	Bui72X30						
Type	Adjacent Box Beam						
Flng width	Top	72.000	in	Bot	72.000	in
thick	Top	4.000	in	Bot	6.000	in
Stems	No	2				
	Top	6.000	in			
	Bot	6.000	in			
Shear width		12.000	in			

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

GENERAL BRIDGE DATA:

Bridge Width	124.00	ft
Curb-to-curb	120.00	ft
Beam Spac. Lt./Rt	4.21/ 6.08	ft
Lane width	12.00	ft
Number of lanes	7	
Interior/Exterior	Exterior	
Start Skew Angle	0.00	degrees
End Skew Angle	0.00	degrees

TOPPING DATA:

Deck	Thickness	5.000	in	
Haunch:				
	Thickness	3.000	in	
	Width	72.000	in	
Effective	width	87.000	in	(Art. 4.6.2.6.1)

GENERAL LOAD DATA:
DEAD LOADS ON PRECAST - NONE

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	62.583	ft
Release length	62.583	ft
Design length	61.750	ft

KERN POINTS:

Upper	22.75	in
Lower	6.17	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):
Type f, with deck

Live Negative Moment	Left Side	(2+ lanes loaded)	0.335	(Calculated)	(#)
Live Negative Moment	Right Side	(2+ lanes loaded)	0.335	(Calculated)	(#)
Live Negative Moment	Left Side	(1 lane loaded)	0.335	(Calculated)	(#)
Live Negative Moment	Right Side	(1 lane loaded)	0.335	(Calculated)	(#)
Live Positive Moment		(2+ lanes loaded)	0.335	(Calculated)	(#)
Live Positive Moment		(1 lane loaded)	0.335	(Calculated)	(#)
Live Shear		(2+ lanes loaded)	0.335	(Calculated)	(#)
Live Shear		(1 lane loaded)	0.335	(Calculated)	(#)

(#) Lever rule (C4.6.2.2.1)

Pedestrian	0.050	(Calculated)
Comp. DC	0.050	(Calculated)
Comp. DW	0.050	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)
RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	
Compression controlled sections	0.75
Tension controlled sections	0.90
Flexure Prestressed	
Compression controlled sections	0.75
Tension controlled sections	1.00
Shear	0.90

SECTION PROPERTIES:

	PRECAST		COMPOSITE		
Area	978.0	in2	1451.7	in2	#
Total Height	30.00	in	38.00	in	
Mom. of Inertia (Ixx)	120856	in4	255893	in4	#
Ht. of c.g.	13.79	in	20.44	in	#
Density	150.00	pcf	150.00	pcf	
Self-weight	1018.8	plf	1696.9	plf	
Mom. of Inertia (Iyy)	588267.0	in4			
Poisson's Ratio	0.2				

	PRECAST		COMPOSITE		
Thermal Coeff.	0.000006000	1/°F			

(#) Of Total Section using Ect/Ec = 0.7276
Use transformed strand and rebar: No

Span:1, Beam:1
STRESS LIMITS (Art. 5.9.4):
STRESS LIMITS AT RELEASE BEFORE LOSSES:

		PRECAST	
Strength		6.50	ksi
Elasticity		4887.7	ksi
Max comp		3.90	ksi
Max tens		-0.20	ksi
Max tens,	w/reinf	-0.61	ksi

STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST		DECK	
Strength	8.50	ksi	4.50	ksi
Elasticity	5589.34	ksi	4066.84	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST		DECK	
Max comp	5.10	ksi	2.70	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST		DECK	
Max comp	3.83	ksi	2.03	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST		DECK	
Max comp	3.40	ksi	-	ksi

SERVICE III (Tension):

	PRECAST		DECK	
Max tens	-0.55	ksi	-0.40	ksi

Span:1, Beam:1
PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands

Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in		

SHIELDING AND REDUCED INITIAL PULLS:

Group	Strands	End	Heights	Mid		End		Shielding	Mid		Distance to center		Initial Frac	Pull Pull/Str	
1	2	2.250	in	2.250	in	4.00	ft		0.00	ft	1.000	in	75.0 %	43.9	kips
2	2	4.250	in	4.250	in	2.00	ft		0.00	ft	1.000	in	75.0 %	43.9	kips
12	2	2.250	in	2.250	in	4.00	ft		0.00	ft	21.000	in	75.0 %	43.9	kips

Check for Art. 5.11.4.3 (debond termination distances): OK

Strand Diameter	0.600	in
Strand Area	0.217	in2
Total Strand Area	5.208	in2
Trans. Len,bonded	3.000	ft
Trans. Len,debonded	3.000	ft
Dev. Len, bonded	11.248	ft
Dev. Len, debonded	14.059	ft
Holddown Force	0.000	kips
Tensile Strength(fpu)	270.0	ksi
Initial Prestress = 0.75fpu	202.5	ksi
Initial Pull	1054.6	kips
Beam Shrtng (PL/AE)	0.159	in

Span:1, Beam:1
ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	(LB)	Beam Vol(C.Y.)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
1501.999	740	1111.479	15.742	63756.875	444.684	0.000

Span:1, Beam:1
REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

81/508

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	7.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	4.00	60.5801	62.5801	Yes

LOSSES

Note: Values are calculated at Midspan

Str. area	5.2080	in2
Ycg	3.25	in
P_init	1054.6	kips
Ecc	10.54	in
Days to release	0.75	
Rel. Humid.(RH)	60.0	%
Es	28500.0	ksi
Eci	4888	ksi

AASHTO LOSSES

Elastic Shortening 8.47 ksi (Eq 5.9.5.2.3a-1), (fcgp= 1.453 ksi)

	Elastic Gains		Gains			Adjustment	
due	to Precast Loads		-1.72	ksi		0.08	ksi
due	to Composite Loads		-0.52	ksi		0.02	ksi
due	to Live Loads		-1.31	ksi		0.08	ksi

Time Dependent Losses (Approximate Method (Art.5.9.5.3))

		Initial			Final		
Steel relaxation	0.00	ksi			2.40	ksi	(Eq 5.9.5.3-1)
Concrete shrinkage	0.00	ksi			8.80	ksi	(Eq 5.9.5.3-1)
Concrete creep	0.00	ksi			7.91	ksi	(Eq 5.9.5.3-1)
Sub-total	8.47	ksi	(4.18 %)		15.74	ksi	(7.77 %)
Total Prestress Losses					24.21	ksi	(11.96 %)

Prestressing Stress Limit Check (Table 5.9.3.1)
initial fpi = 202.5 ksi < 0.75 fpu, OK
initial fpe = 178.3 ksi < 0.80 fpy, OK

SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 1, SERVICE I
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
Self wt. :	M	0.0	77.9	48.5	166.4	306.0	405.8	465.6	485.6
(Max)	V	31.5	28.8	29.8	25.5	19.1	12.8	6.4	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	51.8	32.3	110.7	203.7	270.1	309.9	323.2
Haunch (Max)	V	20.9	19.2	19.9	17.0	12.7	8.5	4.2	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	27.6	17.3	57.9	102.4	128.8	136.9	126.9
DC(Max)	V	11.3	10.1	10.5	8.6	5.7	2.8	0.1	3.0
DL-Comp :	M	0.0	-1.8	-1.1	-4.1	-8.6	-13.0	-17.4	-21.9
DW(Max)	V	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
LL + I :	M+	0.0	78.8	49.4	164.9	288.7	361.2	396.9	397.0
	V	6.5	15.8	12.2	27.6	22.6	4.2	3.7	2.1
LL + I :	M-	-0.0	-13.3	-8.1	-30.1	-62.3	-94.5	-126.7	-158.9
	V	6.5	5.9	6.1	5.1	5.1	5.1	5.1	5.1
LL + I :	Vmx	32.7	30.4	31.3	27.6	22.8	18.3	14.6	15.8
	M	0.0	80.3	50.6	164.9	275.8	336.1	292.8	268.4
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	-0.0
Total :	M+	0.0	234.3	146.4	495.8	892.3	1152.9	1292.0	1310.9
	V	70.8	74.6	73.1	79.4	60.8	28.9	15.2	5.9
Total :	M-	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	70.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	97.0	89.2	92.3	79.4	61.0	43.0	26.1	19.6
	M	0.0	235.7	147.5	495.8	879.4	1127.7	1187.9	1182.3

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	37.13	43.39	49.65	55.91	60.17	59.17	61.75
Self wt. :	M	465.6	405.8	306.0	166.4	48.5	77.9	0.0
(Max)	V	6.4	12.8	19.1	25.5	29.8	28.8	31.5
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	309.9	270.1	203.7	110.7	32.3	51.8	0.0
Haunch (Max)	V	4.2	8.5	12.7	17.0	19.9	19.2	20.9

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	98.8	52.4	-13.0	-100.5	-173.2	-155.2	-203.0
DC(Max)	V	6.0	8.9	12.2	15.7	18.2	17.6	19.1
DL-Comp :	M	-26.3	-30.7	-35.2	-39.6	-42.6	-41.9	-43.7
DW(Max)	V	0.7	0.7	0.7	0.7	0.7	0.7	0.7
LL + I :	M+	365.6	295.4	193.1	93.7	76.4	76.8	80.4
	V	3.2	9.0	13.4	11.1	5.0	6.5	2.8
LL + I :	M-	-191.1	-223.3	-248.7	-312.1	-400.4	-376.4	-442.6
	V	5.1	5.1	5.0	19.7	24.0	23.0	25.6
LL + I :	Vmx	19.8	24.2	28.5	32.6	35.4	34.8	36.5
	M	245.6	184.1	83.4	-53.4	-148.5	-126.0	-184.3
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
Total :	M+	1213.6	993.0	654.6	230.7	0.0	9.4	0.0
	V	20.5	39.8	58.2	70.0	0.0	72.8	0.0
Total :	M-	0.0	0.0	0.0	-175.2	-535.5	-443.9	-689.4
	V	0.0	0.0	0.0	78.7	92.6	89.3	97.8
Total :	Vmx	37.1	55.0	73.2	91.5	104.0	101.1	108.7
	M	1093.6	881.6	544.8	83.6	-283.6	-193.5	-431.1

REACTIONS (kips), SERVICE I

Load Type		Left Support	Right Support
Self Wt.		31.5	31.5
Deck+Haunch		20.9	20.9
Diaphragm		0.0	0.0
DL-Prec.(DC)		0.0	0.0
DL-Prec.(DW)		0.0	0.0
DL-Comp.(DC)		225.4	712.5
DL-Comp.(DW)		-14.2	120.7
Live	(Max)	78.0	129.2
Live	(Min)	-12.6	-14.6
Pedestrian	(Max)	0.0	0.1
Pedestrian	(Min)	-0.0	-0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.
Live Load reaction reported at intermediate supports is full reaction at support.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 1, SERVICE III
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
Self wt. :	M	0.0	77.9	48.5	166.4	306.0	405.8	465.6	485.6
(Max)	V	31.5	28.8	29.8	25.5	19.1	12.8	6.4	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	51.8	32.3	110.7	203.7	270.1	309.9	323.2
Haunch (Max)	V	20.9	19.2	19.9	17.0	12.7	8.5	4.2	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	27.6	17.3	57.9	102.4	128.8	136.9	126.9
DC(Max)	V	11.3	10.1	10.5	8.6	5.7	2.8	0.1	3.0
DL-Comp :	M	0.0	-1.8	-1.1	-4.1	-8.6	-13.0	-17.4	-21.9
DW(Max)	V	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
LL + I :	M+	0.0	63.1	39.5	131.9	230.9	289.0	317.5	317.6
	V	5.2	12.6	9.7	22.1	18.0	3.4	3.0	1.7
LL + I :	M-	-0.0	-10.6	-6.5	-24.0	-49.8	-75.6	-101.3	-127.1
	V	5.2	4.7	4.9	4.1	4.1	4.1	4.1	4.1
LL + I :	Vmx	26.1	24.3	25.0	22.1	18.2	14.6	11.7	12.7
	M	0.0	64.2	40.5	131.9	220.6	268.9	234.3	214.8
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	-0.0
Total :	M+	0.0	218.5	136.5	462.9	834.5	1080.6	1212.6	1231.5
	V	69.5	71.4	70.7	73.8	56.3	28.1	14.5	5.4
Total :	M-	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	69.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	90.5	83.1	86.0	73.8	56.5	39.4	23.1	16.4
	M	0.0	219.6	137.4	462.9	824.2	1060.5	1129.3	1128.6

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	37.13	43.39	49.65	55.91	60.17	59.17	61.75
Self wt. :	M	465.6	405.8	306.0	166.4	48.5	77.9	0.0
(Max)	V	6.4	12.8	19.1	25.5	29.8	28.8	31.5
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	309.9	270.1	203.7	110.7	32.3	51.8	0.0
Haunch (Max)	V	4.2	8.5	12.7	17.0	19.9	19.2	20.9
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	98.8	52.4	-13.0	-100.5	-173.2	-155.2	-203.0
DC(Max)	V	6.0	8.9	12.2	15.7	18.2	17.6	19.1
DL-Comp :	M	-26.3	-30.7	-35.2	-39.6	-42.6	-41.9	-43.7
DW(Max)	V	0.7	0.7	0.7	0.7	0.7	0.7	0.7
LL + I :	M+	292.5	236.3	154.5	74.9	61.1	61.4	64.3
	V	2.6	7.2	10.8	8.9	4.0	5.2	2.2
LL + I :	M-	-152.9	-178.6	-198.9	-249.7	-320.3	-301.1	-354.1
	V	4.1	4.1	4.0	15.8	19.2	18.4	20.4
LL + I :	Vmx	15.9	19.3	22.8	26.1	28.3	27.8	29.2
	M	196.5	147.2	66.7	-42.7	-118.8	-100.8	-147.5
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
Total :	M+	1140.5	933.9	616.0	211.9	0.0	0.0	0.0
	V	19.9	38.0	55.5	67.8	0.0	0.0	0.0
Total :	M-	0.0	0.0	0.0	-112.7	-455.4	-368.6	-600.8
	V	0.0	0.0	0.0	74.7	87.8	84.7	92.7
Total :	Vmx	33.1	50.1	67.6	85.0	96.9	94.1	101.4
	M	1044.5	844.8	528.2	94.2	-253.9	-168.3	-394.2

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 1, STRENGTH I
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
Self wt. :	M	0.0	97.3	60.7	208.0	382.5	507.2	582.0	607.0
(Max)	V	39.3	36.0	37.3	31.9	23.9	15.9	8.0	0.0
Self wt. :	M	0.0	70.1	43.7	149.7	275.4	365.2	419.1	437.0
(Min)	V	28.3	25.9	26.9	23.0	17.2	11.5	5.7	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	64.8	40.4	138.4	254.6	337.6	387.4	404.0
Haunch (Max)	V	26.2	24.0	24.8	21.2	15.9	10.6	5.3	0.0
Deck + :	M	0.0	46.6	29.1	99.7	183.3	243.1	278.9	290.9
Haunch (Min)	V	18.8	17.3	17.9	15.3	11.5	7.6	3.8	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	34.5	21.6	72.4	128.0	161.0	171.2	158.7
DC(Max)	V	14.1	12.6	13.2	10.7	7.1	3.4	0.2	3.8
DL-Comp :	M	0.0	24.8	15.5	52.1	92.2	115.9	123.2	114.2
DC(Min)	V	10.1	9.1	9.5	7.7	5.1	2.5	0.1	2.7
DL-Comp :	M	0.0	-2.7	-1.7	-6.2	-12.9	-19.5	-26.2	-32.8
DW(Max)	V	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
DL-Comp :	M	0.0	-1.2	-0.7	-2.7	-5.6	-8.5	-11.3	-14.2
DW(Min)	V	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
LL + I :	M+	0.0	137.9	86.5	288.6	505.2	632.2	694.6	694.7
	V	11.3	27.7	21.3	48.3	39.5	7.3	6.5	3.7
LL + I :	M-	-0.0	-23.3	-14.3	-52.6	-109.0	-165.3	-221.7	-278.1
	V	11.3	10.3	10.7	9.0	9.0	9.0	9.0	9.0
LL + I :	Vmx	57.2	53.3	54.8	48.3	39.9	32.0	25.5	27.7
	M	0.0	140.5	88.5	288.6	482.7	588.2	512.5	469.8
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	-0.0
Total :	M+	0.0	333.3	208.4	704.8	1264.8	1629.5	1824.0	1850.2
	V	91.9	101.3	97.7	113.2	87.4	38.4	21.1	8.5
Total :	M-	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	69.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	137.8	126.9	131.1	113.2	87.9	63.1	40.1	32.5
	M	0.0	334.3	209.4	701.2	1235.0	1574.5	1626.9	1606.6

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	37.13	43.39	49.65	55.91	60.17	59.17	61.75
Self wt. :	M	582.0	507.2	382.5	208.0	60.7	97.3	0.0
(Max)	V	8.0	15.9	23.9	31.9	37.3	36.0	39.3
Self wt. :	M	419.1	365.2	275.4	149.7	43.7	70.1	0.0
(Min)	V	5.7	11.5	17.2	23.0	26.9	25.9	28.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	387.4	337.6	254.6	138.4	40.4	64.8	0.0
Haunch (Max)	V	5.3	10.6	15.9	21.2	24.8	24.0	26.2
Deck + :	M	278.9	243.1	183.3	99.7	29.1	46.6	0.0
Haunch (Min)	V	3.8	7.6	11.5	15.3	17.9	17.3	18.8
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	123.5	65.6	-16.3	-125.6	-216.5	-194.0	-253.8
DC(Max)	V	7.4	11.1	15.3	19.7	22.7	22.0	23.9
DL-Comp :	M	88.9	47.2	-11.7	-90.5	-155.9	-139.7	-182.7
DC(Min)	V	5.4	8.0	11.0	14.2	16.4	15.9	17.2
DL-Comp :	M	-39.5	-46.1	-52.8	-59.4	-63.9	-62.9	-65.6
DW(Max)	V	1.1	1.1	1.1	1.1	1.1	1.1	1.1
DL-Comp :	M	-17.1	-20.0	-22.9	-25.7	-27.7	-27.2	-28.4
DW(Min)	V	0.5	0.5	0.5	0.5	0.5	0.5	0.5
LL + I :	M+	639.8	517.0	337.9	163.9	133.7	134.4	140.7
	V	5.7	15.8	23.5	19.4	8.8	11.3	4.9
LL + I :	M-	-334.4	-390.8	-435.2	-546.2	-700.7	-658.7	-774.5
	V	9.0	9.0	8.8	34.5	42.0	40.2	44.7
LL + I :	Vmx	34.7	42.3	49.8	57.1	62.0	60.8	63.8
	M	429.8	322.1	145.9	-93.5	-259.9	-220.6	-322.6
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.1	-0.1	-0.1
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	-0.0	-0.0	-0.0	-0.0	-0.1	-0.1	-0.1
Total :	M+	1715.7	1407.5	940.5	394.1	51.1	129.6	0.0
	V	27.4	54.4	79.7	93.2	94.7	94.4	0.0
Total :	M-	0.0	0.0	-45.5	-481.9	-908.5	-798.9	-1093.9
	V	0.0	0.0	48.9	87.4	103.5	99.7	109.5
Total :	Vmx	56.5	81.0	106.0	130.9	147.9	143.9	154.2
	M	1483.3	1186.4	713.9	67.8	-439.4	-315.4	-642.0

REACTIONS (kips), STRENGTH I

Load Type		Left Support	Right Support
Self Wt.		39.3	39.3
Deck+Haunch		26.2	26.2
Diaphragm		0.0	0.0
DL-Prec.(DC)		0.0	0.0
DL-Prec.(DW)		0.0	0.0
DL-Comp.(DC)		281.8	890.6
DL-Comp.(DW)		-21.3	181.0
Live	(Max)	136.4	226.1
Live	(Min)	-22.1	-25.5
Pedestrian	(Max)	0.1	0.2
Pedestrian	(Min)	-0.0	-0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Live Load reaction reported at intermediate supports is full reaction at support.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 1, FATIGUE I
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
Self wt. :	M	0.0	77.9	48.5	166.4	306.0	405.8	465.6	485.6
(Max)	V	31.5	28.8	29.8	25.5	19.1	12.8	6.4	0.0
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	51.8	32.3	110.7	203.7	270.1	309.9	323.2
Haunch (Max)	V	20.9	19.2	19.9	17.0	12.7	8.5	4.2	0.0
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	27.6	17.3	57.9	102.4	128.8	136.9	126.9
DC(Max)	V	11.3	10.1	10.5	8.6	5.7	2.8	0.1	3.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	-1.8	-1.1	-4.1	-8.6	-13.0	-17.4	-21.9
DW(Max)	V	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
DL-Comp :	M	0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	54.5	34.3	112.3	188.6	235.0	249.2	229.5
	V	0.1	8.6	5.3	19.2	15.6	11.8	8.4	5.3
LL + I :	M-	-0.0	-8.8	-5.4	-19.9	-41.2	-62.5	-83.7	-105.0
	V	0.1	1.6	1.0	3.4	3.4	3.4	3.4	3.4
LL + I :	Vmx	23.0	21.3	22.0	19.2	15.6	12.2	9.2	8.7
	M	0.0	54.5	34.3	112.3	188.6	223.7	226.9	189.0
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M+	0.0	210.0	131.3	443.2	792.1	1026.6	1144.2	1143.4
	V	64.5	67.4	66.3	71.0	53.8	36.5	19.9	9.0

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Total :	M-	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	64.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	87.4	80.1	82.9	71.0	53.8	36.9	20.7	12.5
	M	0.0	210.0	131.3	443.2	792.1	1015.3	1122.0	1102.9

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	37.13	43.39	49.65	55.91	60.17	59.17	61.75
Self wt. :	M	465.6	405.8	306.0	166.4	48.5	77.9	0.0
(Max)	V	6.4	12.8	19.1	25.5	29.8	28.8	31.5
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	309.9	270.1	203.7	110.7	32.3	51.8	0.0
Haunch (Max)	V	4.2	8.5	12.7	17.0	19.9	19.2	20.9
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	98.8	52.4	-13.0	-100.5	-173.2	-155.2	-203.0
DC(Max)	V	6.0	8.9	12.2	15.7	18.2	17.6	19.1
DL-Comp :	M	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-26.3	-30.7	-35.2	-39.6	-42.6	-41.9	-43.7
DW(Max)	V	0.7	0.7	0.7	0.7	0.7	0.7	0.7
DL-Comp :	M	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	227.0	186.6	118.4	52.5	46.0	44.7	51.5
	V	2.9	0.6	15.8	14.3	6.0	7.9	2.9
LL + I :	M-	-126.3	-147.6	-168.9	-190.2	-204.7	-201.3	-210.1
	V	3.4	3.4	3.4	3.4	3.4	3.4	3.4
LL + I :	Vmx	12.2	15.5	19.1	22.5	24.8	24.3	25.7
	M	203.8	175.7	115.5	23.7	-50.6	-32.3	-80.7
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M+	1075.0	884.2	579.9	189.5	0.0	0.0	0.0
	V	20.2	31.5	60.5	73.2	0.0	0.0	0.0
Total :	M-	0.0	0.0	0.0	-53.2	-339.7	-268.7	-456.8
	V	0.0	0.0	0.0	62.3	72.0	69.7	75.6

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Total :	Vmx	29.5	46.3	63.8	81.4	93.4	90.6	97.9
	M	1051.8	873.2	577.0	160.7	-185.6	-99.7	-327.4

POSITIVE ENVELOPE STRESSES

Span : 1, Beam : 1, SERVICE I

RELEASE STRESSES, (ksi) (LOSS = 4.18 %)

	Trans	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	3.00	6.26	12.52	18.77	25.03	31.29
Beam-Self						
Precast-top	0.147	0.289	0.514	0.674	0.771	0.803
Bottom	-0.125	-0.246	-0.437	-0.574	-0.656	-0.683
Prestress						
Precast-top	-0.292	-0.373	-0.395	-0.395	-0.395	-0.395
Bottom	1.736	2.151	2.248	2.248	2.248	2.248
Total						
Precast-top	-0.146	-0.084	0.118	0.279	0.375	0.407
Bottom	1.611	1.905	1.811	1.675	1.593	1.566

SERVICE I

POSITIVE ENVELOPE STRESSES, (ksi) (LOSS = 11.96 %)

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
Prestress								
Precast-top	-0.036	-0.269	-0.175	-0.343	-0.363	-0.363	-0.363	-0.363
Bottom	0.214	1.595	1.027	1.977	2.066	2.066	2.066	2.066
Self wt.								
Precast-top	0.000	0.125	0.078	0.268	0.493	0.653	0.749	0.782
Bottom	-0.000	-0.107	-0.066	-0.228	-0.419	-0.556	-0.638	-0.665
DL-Prec (DC)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
DL-Prec (DW)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Diaphragm								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Deck + Haunch								
Precast-top	0.000	0.083	0.052	0.178	0.328	0.435	0.499	0.520
Bottom	-0.000	-0.071	-0.044	-0.152	-0.279	-0.370	-0.424	-0.443
DL-Comp (DC)								
Precast-top	-0.000	0.012	0.008	0.026	0.046	0.058	0.061	0.057
Bottom	-0.000	-0.026	-0.017	-0.056	-0.098	-0.123	-0.131	-0.122
DL-Comp (DW)								
Precast-top	-0.000	-0.001	-0.001	-0.002	-0.004	-0.006	-0.008	-0.010
Bottom	0.000	0.002	0.001	0.004	0.008	0.012	0.017	0.021
LL+I(+)								
Precast-top	0.000	0.035	0.022	0.074	0.129	0.162	0.178	0.178
Bottom	-0.000	-0.076	-0.047	-0.158	-0.277	-0.346	-0.380	-0.381
Pedestrian(+)								
Precast-top	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Final 1 (P/S + DL + LL)								
Precast-top	-0.036	-0.013	-0.015	0.201	0.629	0.938	1.117	1.164
Bottom	0.214	1.317	0.854	1.388	1.001	0.683	0.509	0.477
Final 2 (P/S + DL)								
Precast-top	-0.036	-0.048	-0.037	0.127	0.499	0.776	0.939	0.986
Bottom	0.214	1.393	0.901	1.546	1.278	1.030	0.890	0.858

Span : 1, Beam : 1, SERVICE III

RELEASE STRESSES, (ksi) (LOSS = 4.18 %)

	Trans	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	3.00	6.26	12.52	18.77	25.03	31.29
Beam-Self						
Precast-top	0.147	0.289	0.514	0.674	0.771	0.803
Bottom	-0.125	-0.246	-0.437	-0.574	-0.656	-0.683

93/508

	Trans	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Prestress						
Precast-top	-0.292	-0.373	-0.395	-0.395	-0.395	-0.395
Bottom	1.736	2.151	2.248	2.248	2.248	2.248
Total						
Precast-top	-0.146	-0.084	0.118	0.279	0.375	0.407
Bottom	1.611	1.905	1.811	1.675	1.593	1.566
As_top, in2	0.000	0.000	0.000	0.000	0.000	0.000
Ast_prvd, in2	0.000	0.000	0.000	0.000	0.000	0.000

SERVICE III

POSITIVE ENVELOPE STRESSES, (ksi) (LOSS = 11.96 %)

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
Prestress								
Precast-top	-0.036	-0.269	-0.175	-0.343	-0.363	-0.363	-0.363	-0.363
Bottom	0.214	1.595	1.027	1.977	2.066	2.066	2.066	2.066
Self wt.								
Precast-top	0.000	0.125	0.078	0.268	0.493	0.653	0.749	0.782
Bottom	-0.000	-0.107	-0.066	-0.228	-0.419	-0.556	-0.638	-0.665
DL-Prec (DC)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
DL-Prec (DW)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Diaphragm								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Deck + Haunch								
Precast-top	0.000	0.083	0.052	0.178	0.328	0.435	0.499	0.520
Bottom	-0.000	-0.071	-0.044	-0.152	-0.279	-0.370	-0.424	-0.443
DL-Comp (DC)								
Precast-top	-0.000	0.012	0.008	0.026	0.046	0.058	0.061	0.057

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Bottom	-0.000	-0.026	-0.017	-0.056	-0.098	-0.123	-0.131	-0.122
DL-Comp (DW)								
Precast-top	-0.000	-0.001	-0.001	-0.002	-0.004	-0.006	-0.008	-0.010
Bottom	0.000	0.002	0.001	0.004	0.008	0.012	0.017	0.021
LL+I(+)								
Precast-top	0.000	0.028	0.018	0.059	0.104	0.130	0.142	0.142
Bottom	-0.000	-0.060	-0.038	-0.126	-0.221	-0.277	-0.304	-0.304
Pedestrian(+)								
Precast-top	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Final 1 (P/S + DL + LL)								
Precast-top	-0.036	-0.020	-0.020	0.186	0.603	0.906	1.081	1.128
Bottom	0.214	1.333	0.863	1.419	1.057	0.753	0.585	0.554

Span : 1, Beam : 1, FATIGUE I
POSITIVE ENVELOPE STRESSES, (ksi)

		Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft		0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
F_LL+I(+)									
Precast-top		0.000	0.024	0.015	0.050	0.085	0.105	0.112	0.103
Bottom		-0.000	-0.052	-0.033	-0.108	-0.181	-0.225	-0.239	-0.220
Pedestrian(+)									
Precast-top		-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom		-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Final 3 (50% P/S	+ 50%	DL + F_LL)							
Precast-top		-0.018	0.000	-0.003	0.114	0.334	0.494	0.581	0.596
Bottom		0.107	0.644	0.418	0.665	0.458	0.290	0.206	0.209

VERTICAL/HORIZONTAL SHEAR

VERTICAL SHEAR (Art. 5.8) - Span : 1, Beam : 1, STRENGTH I

Using General Beta Theta Equation procedure - Art.5.8.3.4.2

Location(ft) Vu (kips) Mcor (kft)	bv (in) a (in)	de (in) dv (in)	Aps (in2) fpo (ksi)	Vp (kips) vu/fc	eps_x Vc-com (kips)	Theta Beta	Vs-reqd (kips) Max.spc. (in)	Av/s (in2/ft) min.Av/s (in2/ft)	Av-prvd (in2/ft) pVn/Vu	Al_reqd (in2) Aps* (in2)
Bearing :	0.42									
137.8	12.00	34.64	0.350	0.0	6.00e-3	50.0	119.7	0.824	1.200	0.00
0.0	0.00	34.64	26.2	0.043	33.4	0.87	24.00	0.221	1.357	0.373
Transfer :	3.00									
126.9	12.00	34.55	4.340	0.0	-0.14e-3	28.5	0.0	0.221	0.686	0.00
334.3	0.00	34.55	189.0	0.040	204.1	5.34	24.00	0.221	2.993	2.830
Critical :	3.20									
126.1	12.00	34.55	4.340	0.0	-0.14e-3	28.5	0.0	0.221	0.686	0.00
347.8	2.31	33.40	189.0	0.041	197.4	5.34	24.00	0.221	2.913	3.016
0.1L :	6.26									
113.2	12.00	34.75	5.208	0.0	-0.15e-3	28.5	0.0	0.221	0.686	0.00
701.2	3.19	33.16	189.0	0.037	197.8	5.39	24.00	0.221	3.239	3.870
0.2L :	12.52									
87.9	12.00	34.75	5.208	0.0	-0.11e-3	28.6	0.0	0.221	0.686	0.00
1235.0	4.14	32.68	189.0	0.029	188.3	5.21	24.00	0.221	4.032	4.634
0.3L :	18.77									
63.1	12.00	34.75	5.208	0.0	-0.08e-3	28.7	0.0	0.221	0.686	0.00
1574.5	4.19	32.66	189.0	0.021	184.6	5.11	24.00	0.221	5.549	5.208
0.4L :	25.03									
40.1	12.00	34.75	5.208	0.0	-0.08e-3	28.7	0.0	0.221	0.686	0.00
1626.9	4.19	32.66	189.0	0.013	184.8	5.12	24.00	0.221	8.744	5.208
0.5L :	31.29									
32.5	12.00	34.75	5.208	0.0	-0.09e-3	28.7	0.0	0.221	0.686	0.00
1606.6	4.19	32.66	189.0	0.011	185.3	5.13	24.00	0.221	10.778	5.208
0.6L :	37.55									
56.5	12.00	34.75	5.208	0.0	-0.09e-3	28.7	0.0	0.221	0.686	0.00
1483.3	4.19	32.66	189.0	0.019	186.0	5.15	24.00	0.221	6.228	5.208
0.7L :	43.81									
81.0	12.00	34.75	5.208	0.0	-0.11e-3	28.6	0.0	0.221	0.686	0.00

Location(ft) Vu (kips) Mcor (kft)	bv (in) a (in)	de (in) dv (in)	Aps (in2) fpo (ksi)	Vp (kips) vu/fc	eps_x Vc-com (kips)	Theta Beta	Vs-reqd (kips) Max.spc. (in)	Av/s (in2/ft) min.Av/s (in2/ft)	Av-prvd (in2/ft) pVn/Vu	Al_reqd (in2) Aps* (in2)
1186.4	4.19	32.66	189.0	0.027	189.1	5.24	24.00	0.221	4.382	5.208
0.8L :	50.07									
106.0	12.00	34.75	5.208	0.0	-0.15e-3	28.5	0.0	0.221	0.686	0.00
713.9	4.14	32.68	189.0	0.035	194.9	5.39	24.00	0.221	3.408	4.634
0.9L :	56.32									
130.9	12.00	34.75	5.208	0.0	-0.17e-3	28.4	0.0	0.221	0.686	0.00
67.8	3.19	33.16	189.0	0.043	202.0	5.51	24.00	0.221	2.835	3.870
Critical :	59.27									
142.6	12.00	34.79	0.000	0.0	1.79e-3	35.3	79.6	0.323	0.686	3.49
-282.7	0.00	34.79	189.0	0.045	78.9	2.05	24.00	0.221	1.563	0.000
Transfer :	59.58									
143.9	12.00	34.79	0.000	0.0	1.72e-3	35.0	79.3	0.319	0.686	0.35
-315.4	0.00	34.79	189.0	0.045	80.6	2.10	24.00	0.221	1.569	0.750
Bearing :	62.17									
154.2	12.00	34.79	0.000	0.0	1.64e-3	34.7	88.6	0.353	1.200	5.19
-642.0	0.00	34.79	26.2	0.048	82.7	2.15	24.00	0.221	2.239	0.124

ANCHORAGE ZONE REINFORCEMENT (Art. 5.10.10)
Span : 1, Beam : 1

Fpi (kips)	fs (ksi)	h/4 (in)	Abrst_rqrd (in2)
790.96	20.00	7.50	1.58

HORIZONTAL SHEAR (Art. 5.8.4) - Span : 1, Beam : 1
(Beam and Slab effects are INCLUDED in Vu).
Computed Interface width considered to be engaged in shear transfer, bvi = 72.00(in).

Location (ft) Vu (kips)	Vnh-req (kips/in)	de (in)	a (in)	dv (in)	s_max (in)	Avh-min (in2/ft)	Avh-sm (in2/ft)	Avh-rg (in2/ft)	Avh-prvd (in2/ft)
Bearing : 0.00 137.8	4.42	34.64	0.00	34.64	24.00	0.720	0.000	0.000	1.200

97/508

Location (ft) / Vu (kips)	Vnh-req (kips/in)	de (in)	a (in)	dv (in)	s_max (in)	Avh-min (in2/ft)	Avh-sm (in2/ft)	Avh-rg (in2/ft)	Avh-prvd (in2/ft)
Transfer : 126.9	2.58 4.08	34.55	0.00	34.55	24.00	0.720	0.000	0.000	0.686
Critical : 126.1	2.78 4.19	34.55	2.31	33.40	24.00	0.720	0.000	0.000	0.686
0.1L : 113.2	5.84 3.79	34.75	3.19	33.16	24.00	0.720	0.000	0.000	0.686
0.2L : 87.9	12.10 2.99	34.75	4.14	32.68	24.00	0.720	0.000	0.000	0.686
0.3L : 63.1	18.36 2.15	34.75	4.19	32.66	24.00	0.720	0.000	0.000	0.686
0.4L : 40.1	24.62 1.36	34.75	4.19	32.66	24.00	0.720	0.000	0.000	0.686
0.5L : 32.5	30.88 1.11	34.75	4.19	32.66	24.00	0.720	0.000	0.000	0.686
0.6L : 56.5	37.13 1.92	34.75	4.19	32.66	24.00	0.720	0.000	0.000	0.686
0.7L : 81.0	43.39 2.76	34.75	4.19	32.66	24.00	0.720	0.000	0.000	0.686
0.8L : 106.0	49.65 3.60	34.75	4.14	32.68	24.00	0.720	0.000	0.000	0.686
0.9L : 130.9	55.91 4.39	34.75	3.19	33.16	24.00	0.720	0.000	0.000	0.686
Critical : 142.6	58.85 4.56	34.79	0.00	34.79	24.00	0.720	0.000	0.000	0.686
Transfer : 143.9	59.17 4.60	34.79	0.00	34.79	24.00	0.720	0.000	0.000	0.686
Bearing : 154.2	61.75 4.93	34.79	0.00	34.79	24.00	0.720	0.000	0.000	1.200

98/508

CAMBER/DEFLECTION

CAMBER AND DEFLECTIONS: SERVICE I
(Span : 1, Beam : 1; Units: in)

	Release	Mult	Erection	Mult	Final
At 0.1 x L =	5.84 ft				
Prestress	0.453	1.80	0.815	2.20	0.996
Self Wt.	-0.187	1.85	-0.346	2.40	-0.448
Deck + Haunch			-0.098	2.30	-0.225
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.018	3.00	-0.054
DL-Comp. (DW)			0.003	3.00	0.010
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.266		0.357		0.278

	Release	Mult	Erection	Mult	Final
At 0.2 x L =	12.10 ft				
Prestress	0.800	1.80	1.440	2.20	1.760
Self Wt.	-0.354	1.85	-0.654	2.40	-0.848
Deck + Haunch			-0.192	2.30	-0.441
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.035	3.00	-0.104
DL-Comp. (DW)			0.007	3.00	0.020
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.446		0.566		0.386

	Release	Mult	Erection	Mult	Final
At 0.3 x L =	18.36 ft				
Prestress	1.054	1.80	1.898	2.20	2.319
Self Wt.	-0.484	1.85	-0.895	2.40	-1.162
Deck + Haunch			-0.265	2.30	-0.610
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.047	3.00	-0.140
DL-Comp. (DW)			0.009	3.00	0.028
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.570		0.700		0.436

	Release	Mult	Erection	Mult	Final
At 0.4 x L =	24.62 ft				
Prestress	1.207	1.80	2.172	2.20	2.655
Self Wt.	-0.567	1.85	-1.049	2.40	-1.361
Deck + Haunch			-0.312	2.30	-0.718
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.053	3.00	-0.158
DL-Comp. (DW)			0.012	3.00	0.035
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.640		0.770		0.454

	Release	Mult	Erection	Mult	Final
At 0.5 x L =	30.88 ft				
Prestress	1.258	1.80	2.264	2.20	2.767
Self Wt.	-0.595	1.85	-1.101	2.40	-1.429
Deck + Haunch			-0.328	2.30	-0.755
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.052	3.00	-0.156
DL-Comp. (DW)			0.013	3.00	0.039
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.662		0.795		0.466

	Release	Mult	Erection	Mult	Final
At 0.6 x L =	37.13 ft				
Prestress	1.207	1.80	2.172	2.20	2.655
Self Wt.	-0.567	1.85	-1.049	2.40	-1.361
Deck + Haunch			-0.312	2.30	-0.718
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.046	3.00	-0.137
DL-Comp. (DW)			0.014	3.00	0.041
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.640		0.779		0.480

	Release	Mult	Erection	Mult	Final
At 0.7 x L =	43.39 ft				
Prestress	1.054	1.80	1.898	2.20	2.319
Self Wt.	-0.484	1.85	-0.895	2.40	-1.162
Deck + Haunch			-0.265	2.30	-0.610
DL-Prec. (DC)			0.000	3.00	0.000

	Release	Mult	Erection	Mult	Final
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.034	3.00	-0.103
DL-Comp. (DW)			0.013	3.00	0.038
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.570		0.715		0.482

	Release	Mult	Erection	Mult	Final
At 0.8 x L =	49.65 ft				
Prestress	0.800	1.80	1.440	2.20	1.760
Self Wt.	-0.354	1.85	-0.654	2.40	-0.848
Deck + Haunch			-0.192	2.30	-0.441
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.021	3.00	-0.063
DL-Comp. (DW)			0.010	3.00	0.031
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.446		0.584		0.439

	Release	Mult	Erection	Mult	Final
At 0.9 x L =	55.91 ft				
Prestress	0.453	1.80	0.815	2.20	0.996
Self Wt.	-0.187	1.85	-0.346	2.40	-0.448
Deck + Haunch			-0.098	2.30	-0.225
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.008	3.00	-0.025
DL-Comp. (DW)			0.006	3.00	0.019
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.266		0.370		0.318

ULTIMATE MOMENT

ULTIMATE - Span : 1, Beam : 1, STRENGTH I
(Mr-prvd computed by Strain Compatibility method. Ult. Conc. Strain = 0.00300)

Location (ft) Mu k.ft	dp in	Aps in2	fps ksi	c in	a in	Mr-prvd k.ft	c/dt	Phi	Mcr k.ft	min Mr k.ft	Crkg Ratio	Mu-p/r Ratio
Transfer	2.58											
333.3	34.6	2.785	268.8	2.7	2.2	2088.9	0.076T	1.00	-	-	-	-
H/2	1.58											
208.4	34.6	1.790	269.3	1.7	1.4	1362.4	0.049T	1.00	-	-	-	-
0.1L	5.84											
704.8	34.7	3.931	268.3	3.8	3.2	2926.5	0.108T	1.00	-	-	-	-
0.2L	12.10											
1264.8	34.7	5.029	267.7	5.0	4.1	3754.8	0.140T	1.00	3320.5	1682.2	1.13	-
0.3L	18.36											
1629.5	34.8	5.208	267.7	5.1	4.2	3793.6	0.141T	1.00	3249.4	2167.3	1.17	-
0.4L	24.62											
1824.0	34.8	5.208	267.7	5.1	4.2	3793.6	0.141T	1.00	3206.6	2425.9	1.18	-
0.5L	30.88											
1850.2	34.8	5.208	267.7	5.1	4.2	3793.6	0.141T	1.00	3192.4	2460.8	1.19	-
0.6L	37.13											
1715.7	34.8	5.208	267.7	5.1	4.2	3793.6	0.141T	1.00	3206.6	2281.8	1.18	-
0.7L	43.39											
1407.5	34.8	5.208	267.7	5.1	4.2	3793.6	0.141T	1.00	3249.4	1871.9	1.17	-
0.8L	49.65											
940.5	34.7	5.029	267.7	5.0	4.1	3754.8	0.140T	1.00	3320.5	1250.8	1.13	-
0.9L	55.91											
394.1	34.7	3.931	268.3	3.8	3.2	2926.5	0.108T	1.00	-	-	-	-
H/2	60.17											
51.1	34.6	1.790	269.3	1.7	1.4	1362.4	0.049T	1.00	-	-	-	-
Transfer	59.17											
129.6	34.6	2.785	268.8	2.7	2.2	2088.9	0.076T	1.00	-	-	-	-

Legend: C = Compression-Controlled (c/dt > 0.600)
I = In-Transition (0.60 >= c/dt > 0.375)
T = Tension-Controlled (c/dt <= 0.375)
Note : fr used for calculating Mcr is computed using AASHTO method (Art.5.4.2.6.)
Consider Bottom Tension Steel Contribution : NO

DETENSIONING

Span : 1, Beam : 1; Groups 1-12; Units: ksi

Grp	Str		Ys,in		3.00ft	5.00ft	7.00ft
1	2	E	2.25	Ft	0.147	0.222	0.275
		M	2.25	Fb	-0.125	-0.135	-0.075
2	2	E	4.25	Ft	0.140	0.200	0.253
		M	4.25	Fb	-0.066	0.042	0.103
3	2	E	4.25	Ft	0.118	0.178	0.232
		M	4.25	Fb	0.112	0.220	0.281
4	2	E	4.25	Ft	0.096	0.157	0.210
		M	4.25	Fb	0.290	0.398	0.459
5	2	E	4.25	Ft	0.075	0.135	0.189
		M	4.25	Fb	0.468	0.576	0.636
6	2	E	4.25	Ft	0.053	0.113	0.167
		M	4.25	Fb	0.645	0.753	0.814
7	2	E	4.25	Ft	0.031	0.092	0.145
		M	4.25	Fb	0.823	0.931	0.992
8	2	E	2.25	Ft	-0.013	0.047	0.101
		M	2.25	Fb	1.020	1.128	1.189
9	2	E	2.25	Ft	-0.057	0.003	0.057
		M	2.25	Fb	1.217	1.325	1.386
10	2	E	2.25	Ft	-0.101	-0.041	0.013
		M	2.25	Fb	1.414	1.522	1.583
11	2	E	2.25	Ft	-0.146	-0.085	-0.032
		M	2.25	Fb	1.611	1.719	1.780
12	2	E	2.25	Ft	-0.146	-0.100	-0.076
		M	2.25	Fb	1.611	1.785	1.977

NEGATIVE ENVELOPE STRESSES

Span : 1, Beam : 1, SERVICE I
NEGATIVE ENVELOPE STRESSES, (ksi) (LOSS = 11.96 %)

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
Prestress								
Precast-top	-0.036	-0.269	-0.175	-0.343	-0.363	-0.363	-0.363	-0.363
Bottom	0.214	1.595	1.027	1.977	2.066	2.066	2.066	2.066
Self wt.								
Precast-top	0.000	0.125	0.078	0.268	0.493	0.653	0.749	0.782
Bottom	-0.000	-0.107	-0.066	-0.228	-0.419	-0.556	-0.638	-0.665
DL-Prec (DC)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
DL-Prec (DW)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Diaphragm								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Deck + Haunch								
Precast-top	0.000	0.083	0.052	0.178	0.328	0.435	0.499	0.520
Bottom	-0.000	-0.071	-0.044	-0.152	-0.279	-0.370	-0.424	-0.443
DL-Comp (DC)								
Precast-top	-0.091	-0.070	-0.078	-0.045	-0.006	0.024	0.044	0.057
Bottom	0.195	0.149	0.166	0.096	0.013	-0.050	-0.095	-0.122
DL-Comp (DW)								
Precast-top	-0.020	-0.019	-0.019	-0.018	-0.016	-0.014	-0.012	-0.010
Bottom	0.042	0.040	0.041	0.038	0.034	0.029	0.025	0.021
LL+I(-)								
Precast-top	-0.198	-0.169	-0.180	-0.140	-0.111	-0.100	-0.086	-0.071
Bottom	0.424	0.361	0.384	0.299	0.238	0.214	0.183	0.152
Pedestrian(-)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Final 1 (P/S + DL + LL)								
Precast-top	-0.345	-0.317	-0.321	-0.100	0.324	0.634	0.832	0.914

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Bottom	0.875	1.967	1.507	2.031	1.653	1.334	1.118	1.010
Final 2 (P/S + DL)								
Precast-top	-0.147	-0.148	-0.141	0.040	0.436	0.734	0.918	0.986
Bottom	0.451	1.607	1.123	1.732	1.414	1.120	0.935	0.858

Span : 1, Beam : 1, SERVICE III
NEGATIVE ENVELOPE STRESSES, (ksi) (LOSS = 11.96 %)

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
Prestress								
Precast-top	-0.036	-0.269	-0.175	-0.343	-0.363	-0.363	-0.363	-0.363
Bottom	0.214	1.595	1.027	1.977	2.066	2.066	2.066	2.066
Self wt.								
Precast-top	0.000	0.125	0.078	0.268	0.493	0.653	0.749	0.782
Bottom	-0.000	-0.107	-0.066	-0.228	-0.419	-0.556	-0.638	-0.665
DL-Prec (DC)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
DL-Prec (DW)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Diaphragm								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Deck + Haunch								
Precast-top	0.000	0.083	0.052	0.178	0.328	0.435	0.499	0.520
Bottom	-0.000	-0.071	-0.044	-0.152	-0.279	-0.370	-0.424	-0.443
DL-Comp (DC)								
Precast-top	-0.091	-0.070	-0.078	-0.045	-0.006	0.024	0.044	0.057
Bottom	0.195	0.149	0.166	0.096	0.013	-0.050	-0.095	-0.122
DL-Comp (DW)								
Precast-top	-0.020	-0.019	-0.019	-0.018	-0.016	-0.014	-0.012	-0.010
Bottom	0.042	0.040	0.041	0.038	0.034	0.029	0.025	0.021

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
LL+I(-)								
Precast-top	-0.159	-0.135	-0.144	-0.112	-0.089	-0.080	-0.069	-0.057
Bottom	0.339	0.289	0.307	0.239	0.191	0.171	0.147	0.122
Pedestrian(-)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Final 1 (P/S + DL + LL)								
Precast-top	-0.306	-0.283	-0.285	-0.072	0.346	0.654	0.849	0.929
Bottom	0.790	1.895	1.430	1.971	1.605	1.291	1.081	0.980

Span : 1, Beam : 1, FATIGUE I
NEGATIVE ENVELOPE STRESSES, (ksi)

		Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft		0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
F_LL+I(-)									
Precast-top		-0.094	-0.090	-0.092	-0.085	-0.076	-0.066	-0.057	-0.047
Bottom		0.201	0.193	0.196	0.182	0.162	0.141	0.121	0.101
Pedestrian(-)									
Precast-top		-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom		-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Final 3 (50% P/S	+ 50%	DL + F_LL)							
Precast-top		-0.168	-0.164	-0.162	-0.065	0.142	0.301	0.402	0.446
Bottom		0.427	0.996	0.758	1.048	0.869	0.701	0.588	0.530

REINFORCED DESIGN

REINFORCED DESIGN - Span : 1, Beam : 1, STRENGTH I (fy = 60.00 ksi)

(a) NEGATIVE MOMENTS ALONG SPAN (Non-composite Moment effects are INCLUDED in Mu)

Negative Moment Continuity Steel:

#bars	Size	Dist. from Top (in)	Area (in2)	Start (ft)	End (ft)
14	US#4[M13]	2.88	2.80	0.0000	62.7500
7	US#10[M32]	3.26	8.89	34.7500	62.7500
7	US#10[M32]	3.26	8.89	50.7500	62.7500

f'c (ksi)	b (in)	bw (in)
8.50	72.00	12.00

Sec	Dist (ft)	Mu-reqd (k.ft)	hf (in)	d (in)	d' (in)	Phi	Phi*Mn-r (k.ft)	c/dt	Asb (in2)	Ast-r (in2)	Ast-p (in2)	Phi*Mn-p (k.ft)
1	0.00	0.0	6.00	35.12	2.00	0.9	-0.0	0.0000	0.000	0.000	2.800	-440.5
2	5.84	0.0	6.00	35.12	2.00	0.9	-0.0	0.0000	0.000	0.000	2.800	-440.5
3	12.10	0.0	6.00	35.12	2.00	0.9	-0.0	0.0000	0.000	0.000	2.800	-440.5
4	18.36	0.0	6.00	35.12	2.00	0.9	-0.0	0.0000	0.000	0.000	2.800	-440.5
5	24.62	0.0	6.00	35.12	2.00	0.9	-0.0	0.0000	0.000	0.000	2.800	-440.5
6	30.88	0.0	6.00	35.12	2.00	0.9	-0.0	0.0000	0.000	0.000	2.800	-440.5
7	37.13	0.0	6.00	34.83	2.00	0.9	-0.0	0.0000	0.000	0.000	11.690	-1812.0
8	43.39	0.0	6.00	34.83	2.00	0.9	-0.0	0.0000	0.000	2.629	11.690	-1812.0
9	49.65	-45.5	6.00	34.83	2.00	0.9	-45.5	0.0015	0.000	2.629	11.690	-1812.0
10	55.91	-481.9	6.00	34.79	2.00	0.9	-481.9	0.0158	0.000	3.094	20.580	-3142.5
11	62.75	-1218.5	6.00	34.79	2.00	0.9	-1218.5	0.0402	0.000	7.886	20.580	-3142.5

(b) POSITIVE MOMENTS AT PIERS

NONE

DESIGN SUMMARY

Span: 1, Beam: 1, Exterior beam

Beam type:	Adjacent Box Beam,	Bui72X30
Precast Length,	ft	62.58
Release Length,	ft	62.58
Strand Pattern:	Straight	
Strand:	6/10-270K-LL	
Strand Es,	ksi:	28500.0
No. of strands:	24	
	Draped:	0
	Straight:	24
Concrete Strength:		
	f'ci:	6.5 ksi
	f'c:	8.5 ksi
	f'ct:	4.5 ksi
Initial losses:	4.18 %	
Final losses:	11.96 %	

Specification	Allowable	Computed	Location	Status
Release Stresses (ksi) (Art. 5.9.4.1)				
Precast Bot (compression)	3.900	1.905	0.1L/0.9L	OK
Precast Top w/ no reinf. (tension)	-0.200	-0.146	Trans	
Precast Top w/ reinf. (tension)	-0.612			
Strength I (Art. 3.4.1, 5.7.3.1.1)	Provided	Required	Location	Status
Ult. Moment (k.ft)	3793.57	1850.22	Midspan	OK
Debonding Limits (Art. 5.11.4.3)	Allowable	Computed		Status
Max. Debond per Row	40.00 %	33.33 %		OK
Max. Debond Total	25.00 %	25.00 %		OK

Positive Moment Envelope Stresses (ksi) (Art. 3.4.1 and 5.9.4.2)

Specification	Allow	Final 1 Comp	Loc.	Allow	Final 2 Comp	Loc.	Allow	Final 3 Comp	Loc.
Service I Limit State - Compressive	Stresses	Only							
Precast Top	5.100	1.164	Midspan	3.825	0.986	Midspan			
Precast Bot	5.100	1.388	0.1L/0.9L	3.825	1.546	0.1L/0.9L			
Service III Limit State - Tensile	Stresses	Only							
Precast Top	-0.554	-0.036	Bearing						
Precast Bot	-0.554	0.214	Bearing						
Fatigue I Limit State - Compressive	Stresses	Only							
Precast Top							3.400	0.596	Midspan
Precast Bot							3.400	0.665	0.1L/0.9L

Negative Moment Envelope Stresses (ksi) (Art. 3.4.1 and 5.9.4.2)

Specification	Allow	Final 1 Comp	Loc.	Allow	Final 2 Comp	Loc.	Allow	Final 3 Comp	Loc.
Service I Limit State - Compressive	Stresses	Only							
Precast Top	5.100	0.914	Midspan	3.825	0.986	Midspan			
Precast Bot	5.100	2.031	0.1L/0.9L	3.825	1.732	0.1L/0.9L			
Service III Limit State - Tensile	Stresses	Only							
Precast Top	-0.554	-0.306	Bearing						
Precast Bot	-0.554	0.790	Bearing						
Fatigue I Limit State - Compressive	Stresses	Only							
Precast Top							3.400	0.446	Midspan
Precast Bot							3.400	1.048	0.1L/0.9L

CAMBER / DEFLECTION: (PCI Design Handbook - 4th Ed.- Table 4.6.2)
0.5 x L = 30.88 ft

	Release	Mult	Erection	Mult	Final
Prestress	1.258	1.80	2.264	2.20	2.767
Self Wt.	-0.595	1.85	-1.101	2.40	-1.429
Deck + Haunch			-0.328	2.30	-0.755
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.052	3.00	-0.156
DL-Comp. (DW)			0.013	3.00	0.039
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.662		0.795		0.466

Positive values indicate upward deflection.

110/508

PROPERTIES
Span:3, Beam:1
PRECAST DATA:

Section Id	Bui72X30						
Type	Adjacent Box Beam						
Flng width	Top	72.000	in	Bot	72.000	in
thick	Top	4.000	in	Bot	6.000	in
Stems	No	2				
	Top	6.000	in			
	Bot	6.000	in			
Shear width		12.000	in			

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

GENERAL BRIDGE DATA:

Bridge Width	124.00	ft
Curb-to-curb	120.00	ft
Beam Spac. Lt./Rt	4.21/ 6.08	ft
Lane width	12.00	ft
Number of lanes	7	
Interior/Exterior	Exterior	
Start Skew Angle	0.00	degrees
End Skew Angle	0.00	degrees

TOPPING DATA:

Deck	Thickness	5.000	in	
Haunch:				
	Thickness	3.000	in	
	Width	72.000	in	
Effective	width	87.000	in	(Art. 4.6.2.6.1)

GENERAL LOAD DATA:
DEAD LOADS ON PRECAST - NONE

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	82.833	ft
Release length	82.833	ft
Design length	82.000	ft

KERN POINTS:

111/508

Upper	22.75	in
Lower	6.17	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):
Type f, with deck

Live Negative Moment	Left Side	(2+ lanes loaded)	0.335	(Calculated)	(#)
Live Negative Moment	Right Side	(2+ lanes loaded)	0.335	(Calculated)	(#)
Live Negative Moment	Left Side	(1 lane loaded)	0.335	(Calculated)	(#)
Live Negative Moment	Right Side	(1 lane loaded)	0.335	(Calculated)	(#)
Live Positive Moment		(2+ lanes loaded)	0.335	(Calculated)	(#)
Live Positive Moment		(1 lane loaded)	0.335	(Calculated)	(#)
Live Shear		(2+ lanes loaded)	0.335	(Calculated)	(#)
Live Shear		(1 lane loaded)	0.335	(Calculated)	(#)

(#) Lever rule (C4.6.2.2.1)

Pedestrian	0.050	(Calculated)
Comp. DC	0.050	(Calculated)
Comp. DW	0.050	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)
RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	
Compression controlled sections	0.75
Tension controlled sections	0.90
Flexure Prestressed	
Compression controlled sections	0.75
Tension controlled sections	1.00
Shear	0.90

SECTION PROPERTIES:

	PRECAST		COMPOSITE		
Area	978.0	in2	1451.7	in2	#
Total Height	30.00	in	38.00	in	
Mom. of Inertia (Ixx)	120856	in4	255893	in4	#
Ht. of c.g.	13.79	in	20.44	in	#
Density	150.00	pcf	150.00	pcf	
Self-weight	1018.8	plf	1696.9	plf	
Mom. of Inertia (Iyy)	588267.0	in4			
Poisson's Ratio	0.2				

112/508

	PRECAST		COMPOSITE		
Thermal Coeff.	0.000006000	1/°F			

(#) Of Total Section using Ect/Ec = 0.7276
Use transformed strand and rebar: No

Span:3, Beam:1
STRESS LIMITS (Art. 5.9.4):
STRESS LIMITS AT RELEASE BEFORE LOSSES:

		PRECAST	
Strength		6.50	ksi
Elasticity		4887.7	ksi
Max comp		3.90	ksi
Max tens		-0.20	ksi
Max tens,	w/reinf	-0.61	ksi

STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST		DECK	
Strength	8.50	ksi	4.50	ksi
Elasticity	5589.34	ksi	4066.84	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST		DECK	
Max comp	5.10	ksi	2.70	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST		DECK	
Max comp	3.83	ksi	2.03	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST		DECK	
Max comp	3.40	ksi	-	ksi

SERVICE III (Tension):

	PRECAST		DECK	
Max tens	-0.55	ksi	-0.40	ksi

Span:3, Beam:1
PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands

Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in		

SHIELDING AND REDUCED INITIAL PULLS:

Group	Strands	End	Heights	Mid		End		Shielding	Mid		Distance to center		Initial Frac	Pull Pull/Str	
1	2	2.250	in	2.250	in	4.00	ft		0.00	ft	1.000	in	75.0 %	43.9	kips
2	2	4.250	in	4.250	in	2.00	ft		0.00	ft	1.000	in	75.0 %	43.9	kips
16	2	2.250	in	2.250	in	2.00	ft		0.00	ft	15.000	in	75.0 %	43.9	kips
17	2	2.250	in	2.250	in	4.00	ft		0.00	ft	17.000	in	75.0 %	43.9	kips

Check for Art. 5.11.4.3 (debond termination distances): OK

Strand Diameter	0.600	in
Strand Area	0.217	in2
Total Strand Area	7.378	in2
Trans. Len,bonded	3.000	ft
Trans. Len,debonded	3.000	ft
Dev. Len, bonded	10.593	ft
Dev. Len, debonded	13.241	ft
Holddown Force	0.000	kips
Tensile Strength(fpu)	270.0	ksi
Initial Prestress = 0.75fpu	202.5	ksi
Initial Pull	1494.0	kips
Beam Shrtng (PL/AE)	0.294	in

Span:3, Beam:1
ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	(LB)	Beam Vol(C.Y.)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
2816.332	740	2084.086	20.836	84386.602	583.648	0.000

Span:3, Beam:1
REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	4.00	80.8301	82.8301	Yes

LOSSES

Note: Values are calculated at Midspan

Str. area	7.3780	in2
Ycg	3.19	in
P_init	1494.0	kips
Ecc	10.60	in
Days to release	0.75	
Rel. Humid.(RH)	60.0	%
Es	28500.0	ksi
Eci	4888	ksi

AASHTO LOSSES

Elastic Shortening 10.83 ksi (Eq 5.9.5.2.3a-1), (fcgp= 1.858 ksi)

	Elastic Gains	Gains		Adjustment	
due	to Precast Loads	-3.06	ksi	0.20	ksi
due	to Composite Loads	-0.55	ksi	0.04	ksi
due	to Live Loads	-1.54	ksi	0.13	ksi

Time Dependent Losses (Approximate Method (Art.5.9.5.3))

		Initial			Final		
Steel relaxation	0.00	ksi		2.40	ksi	(Eq 5.9.5.3-1)
Concrete shrinkage	0.00	ksi		8.80	ksi	(Eq 5.9.5.3-1)
Concrete creep	0.00	ksi		11.20	ksi	(Eq 5.9.5.3-1)
Sub-total	10.83	ksi	(5.35 %)	17.61	ksi	(8.70 %)
Total Prestress Losses				28.44	ksi	(14.05 %)

Prestressing Stress Limit Check (Table 5.9.3.1)
initial fpi = 202.5 ksi < 0.75 fpu, OK
initial fpe = 174.1 ksi < 0.80 fpy, OK

SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 3, Beam : 1, SERVICE I
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
Self wt. :	M	0.0	104.5	64.9	297.1	541.7	716.5	821.3	856.3
(Max)	V	41.8	39.1	40.2	33.8	25.3	16.9	8.4	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	69.6	43.2	197.7	360.6	476.9	546.7	570.0
Haunch (Max)	V	27.8	26.1	26.7	22.5	16.9	11.2	5.6	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-185.3	-147.5	-161.8	-79.9	0.9	55.4	87.6	97.6
DC(Max)	V	15.1	14.0	14.4	11.6	7.9	5.2	2.5	0.1
DL-Comp :	M	-86.4	-71.7	-77.3	-44.4	-9.6	15.5	31.0	36.9
DW(Max)	V	5.9	5.5	5.7	4.8	3.6	2.5	1.3	0.1
LL + I :	M+	88.3	87.2	86.6	113.9	234.2	364.6	444.6	466.7
	V	5.3	7.0	6.3	10.5	12.3	7.1	1.9	10.4
LL + I :	M-	-506.1	-433.0	-460.2	-312.2	-200.1	-187.7	-161.2	-134.7
	V	27.7	25.6	26.4	21.3	5.1	3.2	3.2	3.2
LL + I :	Vmx	38.5	37.1	37.6	34.0	29.1	24.1	19.2	15.4
	M	-218.8	-156.0	-180.1	-33.7	141.7	263.8	328.7	361.7
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	-0.0	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0
Total :	M+	0.0	42.1	0.0	484.4	1127.8	1628.9	1931.3	2027.5
	V	0.0	91.7	0.0	83.1	66.1	42.8	19.8	10.7
Total :	M-	-777.8	-478.2	-591.2	0.0	0.0	0.0	0.0	0.0
	V	118.3	110.3	113.4	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	129.1	121.7	124.6	106.7	82.8	59.9	37.1	15.7
	M	-490.5	-201.2	-311.1	336.7	1035.3	1528.0	1815.3	1922.5

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	49.28	57.57	65.85	74.13	80.42	79.42	82.00
Self wt. :	M	821.3	716.5	541.7	297.1	64.9	104.5	0.0
(Max)	V	8.4	16.9	25.3	33.8	40.2	39.1	41.8
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	546.7	476.9	360.6	197.7	43.2	69.6	0.0
Haunch (Max)	V	5.6	11.2	16.9	22.5	26.7	26.1	27.8

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	85.4	51.0	-5.5	-88.6	-172.1	-157.6	-195.9
DC(Max)	V	2.8	5.5	8.2	11.9	14.6	14.2	15.3
DL-Comp :	M	33.2	19.8	-3.2	-35.8	-67.0	-61.7	-75.8
DW(Max)	V	1.0	2.2	3.4	4.5	5.4	5.3	5.6
LL + I :	M+	444.6	364.6	234.2	113.9	86.6	87.2	88.3
	V	1.9	7.1	12.3	10.5	6.3	7.0	5.3
LL + I :	M-	-161.2	-187.7	-200.1	-312.2	-460.2	-433.0	-506.1
	V	3.2	3.2	5.1	21.3	26.4	25.6	27.7
LL + I :	Vmx	19.2	24.1	29.1	34.0	37.6	37.1	38.5
	M	328.7	263.8	141.7	-33.7	-180.1	-156.0	-218.8
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0
Total :	M+	1931.3	1628.9	1127.8	484.3	0.0	42.0	0.0
	V	19.8	42.8	66.1	83.1	0.0	91.6	0.0
Total :	M-	0.0	0.0	0.0	0.0	-591.3	-478.3	-777.8
	V	0.0	0.0	0.0	0.0	113.3	110.2	118.2
Total :	Vmx	37.1	59.9	82.8	106.7	124.5	121.7	129.0
	M	1815.3	1528.0	1035.3	336.6	-311.2	-201.3	-490.5

REACTIONS (kips), SERVICE I

Load Type		Left Support	Right Support
Self Wt.		41.8	41.8
Deck+Haunch		27.8	27.8
Diaphragm		0.0	0.0
DL-Prec.(DC)		0.0	0.0
DL-Prec.(DW)		0.0	0.0
DL-Comp.(DC)		617.3	632.9
DL-Comp.(DW)		249.9	234.3
Live	(Max)	137.8	137.8
Live	(Min)	-16.4	-16.4
Pedestrian	(Max)	0.1	0.1
Pedestrian	(Min)	-0.0	-0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.
Live Load reaction reported at intermediate supports is full reaction at support.

117/508

SHEAR AND MOMENT ENVELOPE : Span : 3, Beam : 1, SERVICE III
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
Self wt. :	M	0.0	104.5	64.9	297.1	541.7	716.5	821.3	856.3
(Max)	V	41.8	39.1	40.2	33.8	25.3	16.9	8.4	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	69.6	43.2	197.7	360.6	476.9	546.7	570.0
Haunch (Max)	V	27.8	26.1	26.7	22.5	16.9	11.2	5.6	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-185.3	-147.5	-161.8	-79.9	0.9	55.4	87.6	97.6
DC(Max)	V	15.1	14.0	14.4	11.6	7.9	5.2	2.5	0.1
DL-Comp :	M	-86.4	-71.7	-77.3	-44.4	-9.6	15.5	31.0	36.9
DW(Max)	V	5.9	5.5	5.7	4.8	3.6	2.5	1.3	0.1
LL + I :	M+	70.7	69.8	69.2	91.2	187.4	291.7	355.7	373.4
	V	4.2	5.6	5.0	8.4	9.9	5.6	1.5	8.3
LL + I :	M-	-404.8	-346.4	-368.2	-249.8	-160.1	-150.2	-129.0	-107.8
	V	22.2	20.5	21.2	17.0	4.1	2.6	2.6	2.6
LL + I :	Vmx	30.8	29.6	30.1	27.2	23.3	19.3	15.4	12.3
	M	-175.0	-124.8	-144.1	-27.0	113.4	211.0	262.9	289.4
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	-0.0	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0
Total :	M+	0.0	24.7	0.0	461.6	1081.0	1556.0	1842.3	1934.1
	V	0.0	90.3	0.0	81.0	63.6	41.4	19.4	8.6
Total :	M-	-676.5	-391.6	-499.2	0.0	0.0	0.0	0.0	0.0
	V	112.8	105.2	108.1	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	121.4	114.3	117.1	99.8	77.0	55.1	33.3	12.6
	M	-446.7	-170.0	-275.1	343.4	1007.0	1475.3	1749.5	1850.1

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	49.28	57.57	65.85	74.13	80.42	79.42	82.00
Self wt. :	M	821.3	716.5	541.7	297.1	64.9	104.5	0.0
(Max)	V	8.4	16.9	25.3	33.8	40.2	39.1	41.8
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	546.7	476.9	360.6	197.7	43.2	69.6	0.0
Haunch (Max)	V	5.6	11.2	16.9	22.5	26.7	26.1	27.8
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	85.4	51.0	-5.5	-88.6	-172.1	-157.6	-195.9
DC(Max)	V	2.8	5.5	8.2	11.9	14.6	14.2	15.3
DL-Comp :	M	33.2	19.8	-3.2	-35.8	-67.0	-61.7	-75.8
DW(Max)	V	1.0	2.2	3.4	4.5	5.4	5.3	5.6
LL + I :	M+	355.7	291.7	187.4	91.2	69.2	69.8	70.7
	V	1.5	5.6	9.9	8.4	5.0	5.6	4.2
LL + I :	M-	-129.0	-150.2	-160.1	-249.8	-368.2	-346.4	-404.8
	V	2.6	2.6	4.1	17.0	21.2	20.5	22.2
LL + I :	Vmx	15.4	19.3	23.3	27.2	30.1	29.6	30.8
	M	262.9	211.0	113.4	-27.0	-144.1	-124.8	-175.0
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0
Total :	M+	1842.3	1555.9	1080.9	461.5	0.0	24.5	0.0
	V	19.4	41.4	63.6	81.0	0.0	90.2	0.0
Total :	M-	0.0	0.0	0.0	0.0	-499.3	-391.7	-676.6
	V	0.0	0.0	0.0	0.0	108.0	105.1	112.7
Total :	Vmx	33.3	55.1	77.0	99.9	117.0	114.3	121.3
	M	1749.5	1475.2	1006.9	343.4	-275.2	-170.1	-446.8

SHEAR AND MOMENT ENVELOPE : Span : 3, Beam : 1, STRENGTH I
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
Self wt. :	M	0.0	130.6	81.1	371.3	677.1	895.6	1026.6	1070.3
(Max)	V	52.2	48.9	50.2	42.2	31.6	21.1	10.5	0.0
Self wt. :	M	0.0	94.1	58.4	267.4	487.5	644.8	739.2	770.6
(Min)	V	37.6	35.2	36.1	30.4	22.8	15.2	7.6	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	87.0	54.0	247.2	450.7	596.1	683.4	712.5
Haunch (Max)	V	34.8	32.6	33.4	28.1	21.1	14.0	7.0	0.0
Deck + :	M	0.0	62.6	38.9	178.0	324.5	429.2	492.0	513.0
Haunch (Min)	V	25.0	23.4	24.1	20.2	15.2	10.1	5.1	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Bentley			Sheet #	10
			Job #	
Program:	LEAP® CONSPAN® V8i (SELECTseries 5)	Colorado DOT	Designed	Hoang Bui
Version:	12.01.00.57	Copyright © Bentley Systems, Inc. 1984 - 2012	Date	Dec/11/2012
		www.bentley.com Phone: 1-800-778-4277	Checked	
File Name:	**Conspan Final_BX30a.csl**		Date	

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-231.6	-184.4	-202.2	-99.9	1.2	69.2	109.5	122.0
DC(Max)	V	18.9	17.5	18.0	14.5	9.9	6.5	3.2	0.2
DL-Comp :	M	-166.7	-132.8	-145.6	-71.9	0.9	49.8	78.8	87.8
DC(Min)	V	13.6	12.6	13.0	10.5	7.1	4.7	2.3	0.1
DL-Comp :	M	-129.6	-107.5	-115.9	-66.7	-14.5	23.3	46.5	55.4
DW(Max)	V	8.8	8.3	8.5	7.2	5.4	3.7	1.9	0.2
DL-Comp :	M	-56.2	-46.6	-50.2	-28.9	-6.3	10.1	20.2	24.0
DW(Min)	V	3.8	3.6	3.7	3.1	2.4	1.6	0.8	0.1
LL + I :	M+	154.6	152.6	151.5	199.4	409.9	638.1	778.1	816.7
	V	9.2	12.2	11.0	18.4	21.6	12.3	3.4	18.2
LL + I :	M-	-885.6	-757.8	-805.4	-546.4	-350.2	-328.5	-282.1	-235.8
	V	48.6	44.8	46.3	37.2	9.0	5.6	5.6	5.6
LL + I :	Vmx	67.4	64.8	65.9	59.5	50.9	42.2	33.7	27.0
	M	-382.9	-273.1	-315.2	-59.0	248.0	461.6	575.2	633.0
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.1	-0.1	-0.1	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	-0.1	-0.1	-0.1	-0.0	-0.0	0.0	0.0	0.0
Total :	M+	0.0	190.9	90.7	717.1	1532.7	2222.3	2644.2	2776.9
	V	0.0	114.5	116.1	110.4	89.6	57.7	26.1	18.6
Total :	M-	-1246.8	-893.1	-1026.3	-267.7	0.0	0.0	0.0	0.0
	V	133.9	124.6	128.2	101.4	0.0	0.0	0.0	0.0
Total :	Vmx	182.1	172.1	176.0	151.5	119.0	87.6	56.4	27.3
	M	-744.1	-347.4	-498.3	392.8	1362.6	2045.8	2441.2	2593.2

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	49.28	57.57	65.85	74.13	80.42	79.42	82.00
Self wt. :	M	1026.6	895.6	677.1	371.3	81.1	130.6	0.0
(Max)	V	10.5	21.1	31.6	42.2	50.2	48.9	52.2
Self wt. :	M	739.2	644.8	487.5	267.4	58.4	94.1	0.0
(Min)	V	7.6	15.2	22.8	30.4	36.1	35.2	37.6
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	683.4	596.1	450.7	247.2	54.0	87.0	0.0
Haunch (Max)	V	7.0	14.0	21.1	28.1	33.4	32.6	34.8
Deck + :	M	492.0	429.2	324.5	178.0	38.9	62.6	0.0
Haunch (Min)	V	5.1	10.1	15.2	20.2	24.1	23.4	25.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	106.8	63.8	-6.9	-110.7	-215.1	-197.0	-244.9
DC(Max)	V	3.5	6.9	10.2	14.9	18.2	17.7	19.1
DL-Comp :	M	76.9	45.9	-5.0	-79.7	-154.9	-141.9	-176.3
DC(Min)	V	2.5	4.9	7.4	10.7	13.1	12.7	13.7
DL-Comp :	M	49.8	29.7	-4.8	-53.8	-100.6	-92.6	-113.7
DW(Max)	V	1.6	3.3	5.0	6.8	8.1	7.9	8.4
DL-Comp :	M	21.6	12.9	-2.1	-23.3	-43.6	-40.1	-49.2
DW(Min)	V	0.7	1.4	2.2	2.9	3.5	3.4	3.7
LL + I :	M+	778.1	638.1	409.9	199.4	151.5	152.6	154.6
	V	3.4	12.3	21.6	18.4	11.0	12.2	9.2
LL + I :	M-	-282.1	-328.5	-350.2	-546.4	-805.4	-757.8	-885.6
	V	5.6	5.6	9.0	37.2	46.3	44.8	48.6
LL + I :	Vmx	33.7	42.2	50.9	59.5	65.9	64.8	67.4
	M	575.2	461.6	248.0	-59.0	-315.2	-273.1	-382.9
Pedestrian:	M+	0.1	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.1	-0.1	-0.1
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	-0.0	-0.0	-0.1	-0.1	-0.1
Total :	M+	2644.7	2223.4	1530.7	714.9	88.1	188.3	0.0
	V	26.0	57.6	89.6	110.3	121.0	119.3	0.0
Total :	M-	0.0	0.0	0.0	-265.6	-1023.9	-890.8	-1244.2
	V	0.0	0.0	0.0	101.5	123.1	119.7	128.6
Total :	Vmx	56.3	87.5	118.9	151.5	175.8	171.9	181.9
	M	2441.7	2046.9	1364.2	394.9	-495.9	-345.1	-741.5

REACTIONS (kips), STRENGTH I

Load Type		Left Support	Right Support
Self Wt.		52.2	52.2
Deck+Haunch		34.8	34.8
Diaphragm		0.0	0.0
DL-Prec.(DC)		0.0	0.0
DL-Prec.(DW)		0.0	0.0
DL-Comp.(DC)		771.7	791.1
DL-Comp.(DW)		374.8	351.5
Live	(Max)	241.1	241.1
Live	(Min)	-28.7	-28.7
Pedestrian	(Max)	0.2	0.2
Pedestrian	(Min)	-0.0	-0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

121/508

Live Load reaction reported at intermediate supports is full reaction at support.

SHEAR AND MOMENT ENVELOPE : Span : 3, Beam : 1, FATIGUE I
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
Self wt. :	M	0.0	104.5	64.9	297.1	541.7	716.5	821.3	856.3
(Max)	V	41.8	39.1	40.2	33.8	25.3	16.9	8.4	0.0
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	69.6	43.2	197.7	360.6	476.9	546.7	570.0
Haunch (Max)	V	27.8	26.1	26.7	22.5	16.9	11.2	5.6	0.0
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-185.3	-147.5	-161.8	-79.9	0.9	55.4	87.6	97.6
DC(Max)	V	15.1	14.0	14.4	11.6	7.9	5.2	2.5	0.1
DL-Comp :	M	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-86.4	-71.7	-77.3	-44.4	-9.6	15.5	31.0	36.9
DW(Max)	V	5.9	5.5	5.7	4.8	3.6	2.5	1.3	0.1
DL-Comp :	M	-0.0	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	50.1	48.3	48.2	65.8	150.3	241.0	289.7	294.0
	V	2.8	2.5	2.6	1.8	4.0	0.3	3.5	8.2
LL + I :	M-	-195.9	-186.7	-190.3	-169.1	-144.7	-120.2	-95.8	-71.3
	V	17.7	12.9	14.8	3.0	3.0	3.0	3.0	3.0
LL + I :	Vmx	27.0	25.5	26.1	22.6	18.9	15.1	11.4	9.4
	M	-118.3	-75.5	-91.9	7.6	125.1	200.4	230.6	262.9
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M+	0.0	3.2	0.0	436.3	1043.9	1505.2	1776.3	1854.7
	V	0.0	87.2	0.0	74.5	57.8	36.1	21.4	8.5

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Total :	M-	-467.6	-231.9	-321.2	0.0	0.0	0.0	0.0	0.0
	V	108.3	97.6	101.7	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	117.5	110.2	113.1	95.2	72.6	50.9	29.3	9.7
	M	-390.0	-120.6	-222.9	378.0	1018.7	1464.7	1717.2	1823.7

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	49.28	57.57	65.85	74.13	80.42	79.42	82.00
Self wt. :	M	821.3	716.5	541.7	297.1	64.9	104.5	0.0
(Max)	V	8.4	16.9	25.3	33.8	40.2	39.1	41.8
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	546.7	476.9	360.6	197.7	43.2	69.6	0.0
Haunch (Max)	V	5.6	11.2	16.9	22.5	26.7	26.1	27.8
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	85.4	51.0	-5.5	-88.6	-172.1	-157.6	-195.9
DC(Max)	V	2.8	5.5	8.2	11.9	14.6	14.2	15.3
DL-Comp :	M	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	33.2	19.8	-3.2	-35.8	-67.0	-61.7	-75.8
DW(Max)	V	1.0	2.2	3.4	4.5	5.4	5.3	5.6
DL-Comp :	M	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	289.7	241.0	150.3	65.8	48.2	48.3	50.1
	V	3.5	0.3	4.0	1.8	2.6	2.5	2.8
LL + I :	M-	-95.8	-120.2	-144.7	-169.1	-190.3	-186.7	-195.9
	V	3.0	3.0	3.0	3.0	14.8	12.9	17.7
LL + I :	Vmx	11.4	15.1	18.9	22.6	26.1	25.5	27.0
	M	230.6	200.4	125.1	7.6	-91.9	-75.5	-118.3
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M+	1776.3	1505.2	1043.9	436.2	0.0	3.1	0.0
	V	21.4	36.1	57.8	74.5	0.0	87.1	0.0
Total :	M-	0.0	0.0	0.0	0.0	-321.4	-232.0	-467.7
	V	0.0	0.0	0.0	0.0	101.6	97.5	108.2

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Total :	Vmx	29.3	50.9	72.6	95.2	113.0	110.2	117.5
	M	1717.2	1464.6	1018.7	377.9	-223.0	-120.7	-390.0

POSITIVE ENVELOPE STRESSES

Span : 3, Beam : 1, SERVICE I

RELEASE STRESSES, (ksi) (LOSS = 5.35 %)

	Trans	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	3.00	8.28	16.57	24.85	33.13	41.42
Beam-Self						
Precast-top	0.196	0.506	0.900	1.181	1.350	1.406
Bottom	-0.167	-0.431	-0.766	-1.005	-1.149	-1.196
Prestress						
Precast-top	-0.434	-0.564	-0.564	-0.564	-0.564	-0.564
Bottom	2.520	3.156	3.156	3.156	3.156	3.156
Total						
Precast-top	-0.237	-0.058	0.336	0.617	0.786	0.842
Bottom	2.353	2.725	2.390	2.151	2.008	1.960

SERVICE I

POSITIVE ENVELOPE STRESSES, (ksi) (LOSS = 14.05 %)

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
Prestress								
Precast-top	-0.052	-0.394	-0.249	-0.513	-0.513	-0.513	-0.513	-0.513
Bottom	0.302	2.289	1.451	2.866	2.866	2.866	2.866	2.866
Self wt.								
Precast-top	0.000	0.168	0.104	0.478	0.872	1.153	1.322	1.378
Bottom	-0.000	-0.143	-0.089	-0.407	-0.742	-0.981	-1.125	-1.172
DL-Prec (DC)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
DL-Prec (DW)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Diaphragm								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Deck + Haunch								
Precast-top	-0.000	0.112	0.069	0.318	0.580	0.768	0.880	0.917
Bottom	-0.000	-0.095	-0.059	-0.271	-0.494	-0.653	-0.749	-0.780
DL-Comp (DC)								
Precast-top	-0.083	-0.066	-0.073	-0.036	0.000	0.025	0.039	0.044
Bottom	0.178	0.141	0.155	0.077	-0.001	-0.053	-0.084	-0.094
DL-Comp (DW)								
Precast-top	-0.039	-0.032	-0.035	-0.020	-0.004	0.007	0.014	0.017
Bottom	0.083	0.069	0.074	0.043	0.009	-0.015	-0.030	-0.035
LL+I(+)								
Precast-top	0.040	0.039	0.039	0.051	0.105	0.163	0.199	0.209
Bottom	-0.085	-0.084	-0.083	-0.109	-0.225	-0.350	-0.426	-0.447
Pedestrian(+)								
Precast-top	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Final 1 (P/S + DL + LL)								
Precast-top	-0.134	-0.173	-0.144	0.279	1.041	1.603	1.942	2.053
Bottom	0.478	2.177	1.449	2.199	1.414	0.815	0.453	0.337
Final 2 (P/S + DL)								
Precast-top	-0.174	-0.212	-0.183	0.228	0.936	1.440	1.742	1.843
Bottom	0.563	2.260	1.532	2.308	1.639	1.164	0.879	0.784

Span : 3, Beam : 1, SERVICE III

RELEASE STRESSES, (ksi) (LOSS = 5.35 %)

	Trans	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	3.00	8.28	16.57	24.85	33.13	41.42
Beam-Self						
Precast-top	0.196	0.506	0.900	1.181	1.350	1.406
Bottom	-0.167	-0.431	-0.766	-1.005	-1.149	-1.196

126/508

	Trans	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Prestress						
Precast-top	-0.434	-0.564	-0.564	-0.564	-0.564	-0.564
Bottom	2.520	3.156	3.156	3.156	3.156	3.156
Total						
Precast-top	-0.237	-0.058	0.336	0.617	0.786	0.842
Bottom	2.353	2.725	2.390	2.151	2.008	1.960
As_top, in2	0.782	0.000	0.000	0.000	0.000	0.000
Ast_prvd, in2	0.000*	0.000	0.000	0.000	0.000	0.000

SERVICE III

POSITIVE ENVELOPE STRESSES, (ksi) (LOSS = 14.05 %)

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
Prestress								
Precast-top	-0.052	-0.394	-0.249	-0.513	-0.513	-0.513	-0.513	-0.513
Bottom	0.302	2.289	1.451	2.866	2.866	2.866	2.866	2.866
Self wt.								
Precast-top	0.000	0.168	0.104	0.478	0.872	1.153	1.322	1.378
Bottom	-0.000	-0.143	-0.089	-0.407	-0.742	-0.981	-1.125	-1.172
DL-Prec (DC)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
DL-Prec (DW)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Diaphragm								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Deck + Haunch								
Precast-top	-0.000	0.112	0.069	0.318	0.580	0.768	0.880	0.917
Bottom	-0.000	-0.095	-0.059	-0.271	-0.494	-0.653	-0.749	-0.780
DL-Comp (DC)								
Precast-top	-0.083	-0.066	-0.073	-0.036	0.000	0.025	0.039	0.044

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Bottom	0.178	0.141	0.155	0.077	-0.001	-0.053	-0.084	-0.094
DL-Comp (DW)								
Precast-top	-0.039	-0.032	-0.035	-0.020	-0.004	0.007	0.014	0.017
Bottom	0.083	0.069	0.074	0.043	0.009	-0.015	-0.030	-0.035
LL+I(+)								
Precast-top	0.032	0.031	0.031	0.041	0.084	0.131	0.159	0.167
Bottom	-0.068	-0.067	-0.066	-0.087	-0.180	-0.280	-0.341	-0.358
Pedestrian(+)								
Precast-top	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Final 1 (P/S + DL + LL)								
Precast-top	-0.142	-0.181	-0.152	0.269	1.020	1.571	1.902	2.011
Bottom	0.495	2.193	1.466	2.220	1.459	0.885	0.538	0.426

Span : 3, Beam : 1, FATIGUE I
POSITIVE ENVELOPE STRESSES, (ksi)

		Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft		0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
F_LL+I(+)									
Precast-top		0.022	0.022	0.022	0.030	0.067	0.108	0.130	0.132
Bottom		-0.048	-0.046	-0.046	-0.063	-0.144	-0.231	-0.278	-0.282
Pedestrian(+)									
Precast-top		-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom		-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Final 3 (50% P/S	+ 50%	DL + F_LL)							
Precast-top		-0.064	-0.084	-0.070	0.144	0.535	0.828	1.001	1.053
Bottom		0.233	1.084	0.720	1.091	0.675	0.351	0.162	0.110

VERTICAL/HORIZONTAL SHEAR

VERTICAL SHEAR (Art. 5.8) - Span : 3, Beam : 1, STRENGTH I

Using General Beta Theta Equation procedure - Art.5.8.3.4.2

Location(ft)										
Vu (kips)	bv (in)	de (in)	Aps (in2)	Vp (kips)	eps_x	Theta	Vs-reqd (kips)	Av/s (in2/ft)	Av-prvd (in2/ft)	Al_reqd (in2)
Mcor (kft)	a (in)	dv (in)	fpo (ksi)	vu/fc	Vc-com (kips)	Beta	Max.spc. (in)	min.Av/s (in2/ft)	pVn/Vu	Aps* (in2)
Bearing :	0.42									
182.1	12.00	34.79	0.000	0.0	1.69e-3	34.9	122.2	0.498	1.200	6.00
-744.1	1.04	34.27	26.2	0.058	80.2	2.12	24.00	0.221	1.852	0.169
Transfer :	3.00									
172.1	12.00	34.79	0.000	0.0	1.68e-3	34.9	110.8	0.451	0.686	0.43
-347.4	1.04	34.27	189.0	0.055	80.4	2.12	24.00	0.221	1.302	0.928
Critical :	3.27									
171.0	12.00	34.79	0.000	0.0	1.72e-3	35.0	110.7	0.453	0.686	4.38
-317.8	1.04	34.27	189.0	0.054	79.3	2.09	24.00	0.221	1.300	0.000
0.1L :	8.28									
151.5	12.00	34.81	7.378	0.0	-0.26e-3	28.1	0.0	0.221	0.686	0.00
392.8	8.16	31.33	189.0	0.053	205.8	5.94	24.00	0.221	2.417	5.516
0.2L :	16.57									
119.0	12.00	34.81	7.378	0.0	-0.18e-3	28.4	0.0	0.221	0.686	0.00
1362.6	8.59	31.33	189.0	0.041	191.7	5.53	24.00	0.221	2.954	7.321
0.3L :	24.85									
87.6	12.00	34.81	7.378	0.0	-0.12e-3	28.6	0.0	0.221	0.686	0.00
2045.8	8.55	31.33	189.0	0.030	183.1	5.29	24.00	0.221	3.910	7.378
0.4L :	33.13									
56.4	12.00	34.81	7.378	0.0	-0.09e-3	28.7	0.0	0.221	0.686	0.00
2441.2	8.55	31.33	189.0	0.020	179.0	5.17	24.00	0.221	5.995	7.378
0.5L :	41.42									
27.3	12.00	34.81	7.378	0.0	-0.09e-3	28.7	0.0	0.221	0.686	0.00
2593.2	8.55	31.33	189.0	0.009	178.0	5.14	24.00	0.221	12.328	7.378
0.6L :	49.70									
56.3	12.00	34.81	7.378	0.0	-0.09e-3	28.7	0.0	0.221	0.686	0.00
2441.7	8.55	31.33	189.0	0.020	179.0	5.17	24.00	0.221	6.002	7.378
0.7L :	57.98									
87.5	12.00	34.81	7.378	0.0	-0.12e-3	28.6	0.0	0.221	0.686	0.00

Location(ft) Vu (kips) Mcor (kft)	bv (in) a (in)	de (in) dv (in)	Aps (in2) fpo (ksi)	Vp (kips) vu/fc	eps_x Vc-com (kips)	Theta Beta	Vs-reqd (kips) Max.spc. (in)	Av/s (in2/ft) min.Av/s (in2/ft)	Av-prvd (in2/ft) pVn/Vu	Al_reqd (in2) Aps* (in2)
2046.9	8.55	31.33	189.0	0.030	183.1	5.29	24.00	0.221	3.912	7.378
0.8L :	66.27									
118.9	12.00	34.81	7.378	0.0	-0.18e-3	28.4	0.0	0.221	0.686	0.00
1364.2	8.59	31.33	189.0	0.041	191.7	5.53	24.00	0.221	2.955	7.321
0.9L :	74.55									
151.5	12.00	34.81	7.378	0.0	-0.26e-3	28.1	0.0	0.221	0.686	0.00
394.9	8.16	31.33	189.0	0.053	205.8	5.94	24.00	0.221	2.418	5.516
Critical :	79.56									
170.9	12.00	34.79	0.000	0.0	1.73e-3	35.0	110.6	0.452	0.686	4.36
-315.4	1.04	34.27	189.0	0.054	79.3	2.09	24.00	0.221	1.300	0.000
Transfer :	79.83									
171.9	12.00	34.79	0.000	0.0	1.69e-3	34.9	110.7	0.451	0.686	0.42
-345.1	1.04	34.27	189.0	0.055	80.4	2.12	24.00	0.221	1.302	0.928
Bearing :	82.42									
181.9	12.00	34.79	0.000	0.0	1.69e-3	34.9	121.9	0.497	1.200	5.98
-741.5	1.04	34.27	26.2	0.058	80.2	2.12	24.00	0.221	1.854	0.169

ANCHORAGE ZONE REINFORCEMENT (Art. 5.10.10)
Span : 3, Beam : 1

Fpi (kips)	fs (ksi)	h/4 (in)	Abrst_rqrd (in2)
1142.50	20.00	7.50	2.29

HORIZONTAL SHEAR (Art. 5.8.4) - Span : 3, Beam : 1
(Beam and Slab effects are INCLUDED in Vu).
Computed Interface width considered to be engaged in shear transfer, bvi = 72.00(in).

Location (ft) Vu (kips)	Vnh-req (kips/in)	de (in)	a (in)	dv (in)	s_max (in)	Avh-min (in2/ft)	Avh-sm (in2/ft)	Avh-rg (in2/ft)	Avh-prvd (in2/ft)
Bearing :	0.00								
182.1	5.90	34.79	1.04	34.27	24.00	0.720	0.168	0.000	1.200

Location (ft) / Vu (kips)	Vnh-req (kips/in)	de (in)	a (in)	dv (in)	s_max (in)	Avh-min (in2/ft)	Avh-sm (in2/ft)	Avh-rg (in2/ft)	Avh-prvd (in2/ft)
Transfer : 172.1	2.58 5.58	34.79	1.04	34.27	24.00	0.720	0.060	0.000	0.686
Critical : 171.0	2.86 5.54	34.79	1.04	34.27	24.00	0.720	0.048	0.000	0.686
0.1L : 151.5	7.87 5.48	34.81	8.16	30.73	24.00	0.720	0.027	0.000	0.686
0.2L : 119.0	16.15 4.33	34.81	8.59	30.51	24.00	0.720	0.000	0.000	0.686
0.3L : 87.6	24.43 3.19	34.81	8.55	30.54	24.00	0.720	0.000	0.000	0.686
0.4L : 56.4	32.72 2.05	34.81	8.55	30.54	24.00	0.720	0.000	0.000	0.686
0.5L : 27.3	41.00 0.99	34.81	8.55	30.54	24.00	0.720	0.000	0.000	0.686
0.6L : 56.3	49.28 2.05	34.81	8.55	30.54	24.00	0.720	0.000	0.000	0.686
0.7L : 87.5	57.57 3.18	34.81	8.55	30.54	24.00	0.720	0.000	0.000	0.686
0.8L : 118.9	65.85 4.33	34.81	8.59	30.51	24.00	0.720	0.000	0.000	0.686
0.9L : 151.5	74.13 5.48	34.81	8.16	30.73	24.00	0.720	0.026	0.000	0.686
Critical : 170.9	79.14 5.54	34.79	1.04	34.27	24.00	0.720	0.047	0.000	0.686
Transfer : 171.9	79.42 5.57	34.79	1.04	34.27	24.00	0.720	0.058	0.000	0.686
Bearing : 181.9	82.00 5.90	34.79	1.04	34.27	24.00	0.720	0.166	0.000	1.200

CAMBER/DEFLECTION

CAMBER AND DEFLECTIONS: SERVICE I
(Span : 3, Beam : 1; Units: in)

	Release	Mult	Erection	Mult	Final
At 0.1 x L =	7.87 ft				
Prestress	1.111	1.80	2.000	2.20	2.445
Self Wt.	-0.573	1.85	-1.061	2.40	-1.376
Deck + Haunch			-0.308	2.30	-0.708
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.008	3.00	-0.025
DL-Comp. (DW)			-0.001	3.00	-0.002
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.538		0.622		0.333

	Release	Mult	Erection	Mult	Final
At 0.2 x L =	16.15 ft				
Prestress	1.989	1.80	3.580	2.20	4.375
Self Wt.	-1.085	1.85	-2.007	2.40	-2.604
Deck + Haunch			-0.599	2.30	-1.377
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.023	3.00	-0.070
DL-Comp. (DW)			-0.006	3.00	-0.017
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.904		0.945		0.308

	Release	Mult	Erection	Mult	Final
At 0.3 x L =	24.43 ft				
Prestress	2.615	1.80	4.708	2.20	5.754
Self Wt.	-1.485	1.85	-2.748	2.40	-3.565
Deck + Haunch			-0.827	2.30	-1.901
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.038	3.00	-0.115
DL-Comp. (DW)			-0.011	3.00	-0.033
Live Load	Not Included				
Pedestrian Load					-0.000
Total	1.130		1.083		0.139

	Release	Mult	Erection	Mult	Final
At 0.4 x L =	32.72 ft				
Prestress	2.991	1.80	5.385	2.20	6.581
Self Wt.	-1.740	1.85	-3.218	2.40	-4.175
Deck + Haunch			-0.972	2.30	-2.235
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.049	3.00	-0.148
DL-Comp. (DW)			-0.015	3.00	-0.046
Live Load	Not Included				
Pedestrian Load					-0.000
Total	1.252		1.130		-0.023

	Release	Mult	Erection	Mult	Final
At 0.5 x L =	41.00 ft				
Prestress	3.117	1.80	5.610	2.20	6.857
Self Wt.	-1.827	1.85	-3.380	2.40	-4.384
Deck + Haunch			-1.021	2.30	-2.349
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.053	3.00	-0.158
DL-Comp. (DW)			-0.017	3.00	-0.052
Live Load	Not Included				
Pedestrian Load					-0.000
Total	1.290		1.139		-0.087

	Release	Mult	Erection	Mult	Final
At 0.6 x L =	49.28 ft				
Prestress	2.991	1.80	5.385	2.20	6.581
Self Wt.	-1.740	1.85	-3.218	2.40	-4.175
Deck + Haunch			-0.972	2.30	-2.235
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.048	3.00	-0.145
DL-Comp. (DW)			-0.016	3.00	-0.049
Live Load	Not Included				
Pedestrian Load					-0.000
Total	1.252		1.130		-0.023

	Release	Mult	Erection	Mult	Final
At 0.7 x L =	57.57 ft				
Prestress	2.615	1.80	4.708	2.20	5.754
Self Wt.	-1.485	1.85	-2.748	2.40	-3.565
Deck + Haunch			-0.827	2.30	-1.901
DL-Prec. (DC)			0.000	3.00	0.000

	Release	Mult	Erection	Mult	Final
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.037	3.00	-0.112
DL-Comp. (DW)			-0.012	3.00	-0.037
Live Load	Not Included				
Pedestrian Load					-0.000
Total	1.130		1.084		0.139

	Release	Mult	Erection	Mult	Final
At 0.8 x L =	65.85 ft				
Prestress	1.989	1.80	3.580	2.20	4.375
Self Wt.	-1.085	1.85	-2.007	2.40	-2.604
Deck + Haunch			-0.599	2.30	-1.377
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.022	3.00	-0.066
DL-Comp. (DW)			-0.007	3.00	-0.021
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.904		0.945		0.308

	Release	Mult	Erection	Mult	Final
At 0.9 x L =	74.13 ft				
Prestress	1.111	1.80	2.000	2.20	2.445
Self Wt.	-0.573	1.85	-1.061	2.40	-1.376
Deck + Haunch			-0.308	2.30	-0.708
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.007	3.00	-0.021
DL-Comp. (DW)			-0.002	3.00	-0.006
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.538		0.622		0.333

ULTIMATE MOMENT

ULTIMATE - Span : 3, Beam : 1, STRENGTH I
(Mr-prvd computed by Strain Compatibility method. Ult. Conc. Strain = 0.00300)

Location (ft) Mu k.ft	dp in	Aps in2	fps ksi	c in	a in	Mr-prvd k.ft	c/dt	Phi	Mcr k.ft	min Mr k.ft	Crkg Ratio	Mu-p/r Ratio
Transfer	2.58											
190.9	34.7	4.160	268.2	4.0	3.4	3067.9	0.113T	1.00	-	-	-	-
H/2	1.58											
90.7	34.7	2.638	268.9	2.6	2.1	1986.6	0.072T	1.00	-	-	-	-
0.1L	7.87											
717.1	34.8	6.462	264.3	9.9	8.2	4667.5	0.276T	1.00	-	-	-	-
0.2L	16.15											
1532.7	34.8	7.361	263.9	10.4	8.6	5157.3	0.290T	1.00	4070.4	2038.4	1.27	-
0.3L	24.43											
2222.3	34.8	7.378	264.0	10.3	8.5	5107.5	0.289T	1.00	3945.7	2955.7	1.29	-
0.4L	32.72											
2644.2	34.8	7.378	264.0	10.3	8.5	5107.5	0.289T	1.00	3870.9	3516.8	1.32	-
0.5L	41.00											
2776.9	34.8	7.378	264.0	10.3	8.5	5107.5	0.289T	1.00	3845.9	3693.3	1.33	-
0.6L	49.28											
2644.7	34.8	7.378	264.0	10.3	8.5	5107.5	0.289T	1.00	3870.9	3517.5	1.32	-
0.7L	57.57											
2223.4	34.8	7.378	264.0	10.3	8.5	5107.5	0.289T	1.00	3945.7	2957.1	1.29	-
0.8L	65.85											
1530.7	34.8	7.361	263.9	10.4	8.6	5157.3	0.290T	1.00	4070.4	2035.8	1.27	-
0.9L	74.13											
714.9	34.8	6.462	264.3	9.9	8.2	4667.5	0.276T	1.00	-	-	-	-
H/2	80.42											
88.1	34.7	2.638	268.9	2.6	2.1	1986.6	0.072T	1.00	-	-	-	-
Transfer	79.42											
188.3	34.7	4.160	268.2	4.0	3.4	3067.9	0.113T	1.00	-	-	-	-

Legend: C = Compression-Controlled (c/dt > 0.600)
I = In-Transition (0.60 >= c/dt > 0.375)
T = Tension-Controlled (c/dt <= 0.375)
Note : fr used for calculating Mcr is computed using AASHTO method (Art.5.4.2.6.)
Consider Bottom Tension Steel Contribution : NO

DETENSIONING

Span : 3, Beam : 1; Groups 1-17; Units: ksi

Grp	Str		Ys,in		3.00ft	5.00ft	7.00ft
1	2	E	2.25	Ft	0.197	0.305	0.392
		M	2.25	Fb	-0.167	-0.207	-0.176
2	2	E	4.25	Ft	0.189	0.283	0.371
		M	4.25	Fb	-0.109	-0.031	-0.000
3	2	E	4.25	Ft	0.168	0.262	0.349
		M	4.25	Fb	0.067	0.144	0.175
4	2	E	4.25	Ft	0.147	0.241	0.328
		M	4.25	Fb	0.242	0.320	0.351
5	2	E	4.25	Ft	0.125	0.219	0.307
		M	4.25	Fb	0.418	0.496	0.526
6	2	E	4.25	Ft	0.104	0.198	0.285
		M	4.25	Fb	0.594	0.671	0.702
7	2	E	4.25	Ft	0.083	0.177	0.264
		M	4.25	Fb	0.769	0.847	0.878
8	2	E	4.25	Ft	0.061	0.155	0.242
		M	4.25	Fb	0.945	1.022	1.053
9	2	E	4.25	Ft	0.040	0.134	0.221
		M	4.25	Fb	1.121	1.198	1.229
10	2	E	2.25	Ft	-0.004	0.090	0.177
		M	2.25	Fb	1.315	1.393	1.423
11	2	E	2.25	Ft	-0.048	0.046	0.134
		M	2.25	Fb	1.510	1.587	1.618
12	2	E	2.25	Ft	-0.091	0.003	0.090
		M	2.25	Fb	1.704	1.782	1.812
13	2	E	2.25	Ft	-0.135	-0.041	0.046
		M	2.25	Fb	1.899	1.976	2.007
14	2	E	2.25	Ft	-0.179	-0.085	0.002
		M	2.25	Fb	2.093	2.171	2.202
15	2	E	2.25	Ft	-0.222	-0.128	-0.041
		M	2.25	Fb	2.288	2.365	2.396
16	2	E	2.25	Ft	-0.237	-0.172	-0.085
		M	2.25	Fb	2.353	2.560	2.591
17	2	E	2.25	Ft	-0.237	-0.187	-0.129
		M	2.25	Fb	2.353	2.625	2.785

NEGATIVE ENVELOPE STRESSES

Span : 3, Beam : 1, SERVICE I
NEGATIVE ENVELOPE STRESSES, (ksi) (LOSS = 14.05 %)

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
Prestress								
Precast-top	-0.052	-0.394	-0.249	-0.513	-0.513	-0.513	-0.513	-0.513
Bottom	0.302	2.289	1.451	2.866	2.866	2.866	2.866	2.866
Self wt.								
Precast-top	0.000	0.168	0.104	0.478	0.872	1.153	1.322	1.378
Bottom	-0.000	-0.143	-0.089	-0.407	-0.742	-0.981	-1.125	-1.172
DL-Prec (DC)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
DL-Prec (DW)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Diaphragm								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Deck + Haunch								
Precast-top	-0.000	0.112	0.069	0.318	0.580	0.768	0.880	0.917
Bottom	-0.000	-0.095	-0.059	-0.271	-0.494	-0.653	-0.749	-0.780
DL-Comp (DC)								
Precast-top	-0.088	-0.071	-0.077	-0.040	-0.002	0.023	0.038	0.044
Bottom	0.188	0.151	0.165	0.085	0.005	-0.049	-0.082	-0.094
DL-Comp (DW)								
Precast-top	-0.034	-0.028	-0.030	-0.016	-0.001	0.009	0.015	0.017
Bottom	0.073	0.059	0.064	0.034	0.003	-0.019	-0.032	-0.035
LL+I(-)								
Precast-top	-0.227	-0.194	-0.206	-0.140	-0.090	-0.084	-0.072	-0.060
Bottom	0.485	0.415	0.441	0.299	0.192	0.180	0.155	0.129
Pedestrian(-)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Final 1 (P/S + DL + LL)								
Precast-top	-0.401	-0.406	-0.389	0.088	0.846	1.356	1.670	1.783

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Bottom	1.048	2.676	1.973	2.607	1.831	1.344	1.034	0.913
Final 2 (P/S + DL)								
Precast-top	-0.174	-0.212	-0.183	0.228	0.936	1.440	1.742	1.843
Bottom	0.563	2.260	1.532	2.308	1.639	1.164	0.879	0.784

Span : 3, Beam : 1, SERVICE III
NEGATIVE ENVELOPE STRESSES, (ksi) (LOSS = 14.05 %)

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
Prestress								
Precast-top	-0.052	-0.394	-0.249	-0.513	-0.513	-0.513	-0.513	-0.513
Bottom	0.302	2.289	1.451	2.866	2.866	2.866	2.866	2.866
Self wt.								
Precast-top	0.000	0.168	0.104	0.478	0.872	1.153	1.322	1.378
Bottom	-0.000	-0.143	-0.089	-0.407	-0.742	-0.981	-1.125	-1.172
DL-Prec (DC)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
DL-Prec (DW)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Diaphragm								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Deck + Haunch								
Precast-top	-0.000	0.112	0.069	0.318	0.580	0.768	0.880	0.917
Bottom	-0.000	-0.095	-0.059	-0.271	-0.494	-0.653	-0.749	-0.780
DL-Comp (DC)								
Precast-top	-0.088	-0.071	-0.077	-0.040	-0.002	0.023	0.038	0.044
Bottom	0.188	0.151	0.165	0.085	0.005	-0.049	-0.082	-0.094
DL-Comp (DW)								
Precast-top	-0.034	-0.028	-0.030	-0.016	-0.001	0.009	0.015	0.017
Bottom	0.073	0.059	0.064	0.034	0.003	-0.019	-0.032	-0.035

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
LL+I(-)								
Precast-top	-0.181	-0.155	-0.165	-0.112	-0.072	-0.067	-0.058	-0.048
Bottom	0.388	0.332	0.353	0.239	0.153	0.144	0.124	0.103
Pedestrian(-)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Final 1 (P/S + DL + LL)								
Precast-top	-0.355	-0.367	-0.348	0.116	0.864	1.373	1.685	1.795
Bottom	0.951	2.593	1.885	2.547	1.792	1.308	1.003	0.888

Span : 3, Beam : 1, FATIGUE I
NEGATIVE ENVELOPE STRESSES, (ksi)

		Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft		0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
F_LL+I(-)									
Precast-top		-0.088	-0.084	-0.085	-0.076	-0.065	-0.054	-0.043	-0.032
Bottom		0.188	0.179	0.182	0.162	0.139	0.115	0.092	0.068
Pedestrian(-)									
Precast-top		-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom		-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Final 3 (50% P/S	+ 50%	DL + F_LL)							
Precast-top		-0.175	-0.190	-0.177	0.038	0.403	0.666	0.828	0.890
Bottom		0.469	1.309	0.949	1.316	0.958	0.697	0.531	0.461

REINFORCED DESIGN

REINFORCED DESIGN - Span : 3, Beam : 1, STRENGTH I (fy = 60.00 ksi)

(a) NEGATIVE MOMENTS ALONG SPAN (Non-composite Moment effects are INCLUDED in Mu)

Negative Moment Continuity Steel:

#bars	Size	Dist. from Top (in)	Area (in2)	Start (ft)	End (ft)
12	US#4[M13]	2.88	2.40	0.0000	84.0000
6	US#10[M32]	3.26	7.62	0.0000	12.0000
6	US#10[M32]	3.26	7.62	0.0000	28.0000
6	US#10[M32]	3.26	7.62	56.0000	84.0000
6	US#10[M32]	3.26	7.62	72.0000	84.0000

f'c (ksi)	b (in)	bw (in)
8.50	72.00	12.00

Sec	Dist (ft)	Mu-reqd (k.ft)	hf (in)	d (in)	d' (in)	Phi	Phi*Mn-r (k.ft)	c/dt	Asb (in2)	Ast-r (in2)	Ast-p (in2)	Phi*Mn-p (k.ft)
1	0.00	-1392.2	6.00	34.79	2.00	0.9	-1392.2	0.0460	0.000	9.027	17.640	-2681.1
2	8.87	-267.7	6.00	34.79	2.00	0.9	-267.7	0.0087	0.000	3.009	17.640	-2681.1
3	17.15	0.0	6.00	34.83	2.00	0.9	-0.0	0.0000	0.000	3.009	10.020	-1542.7
4	25.43	0.0	6.00	34.83	2.00	0.9	-0.0	0.0000	0.000	0.000	10.020	-1542.7
5	33.72	0.0	6.00	35.13	2.00	0.9	-0.0	0.0000	0.000	0.000	2.400	-374.3
6	42.00	0.0	6.00	35.13	2.00	0.9	-0.0	0.0000	0.000	0.000	2.400	-374.3
7	50.28	0.0	6.00	35.13	2.00	0.9	-0.0	0.0000	0.000	0.000	2.400	-374.3
8	58.57	0.0	6.00	34.83	2.00	0.9	-0.0	0.0000	0.000	0.000	10.020	-1542.7
9	66.85	0.0	6.00	34.83	2.00	0.9	-0.0	0.0000	0.000	3.003	10.020	-1542.7
10	75.13	-265.6	6.00	34.79	2.00	0.9	-265.6	0.0087	0.000	3.003	17.640	-2681.1
11	84.00	-1389.5	6.00	34.79	2.00	0.9	-1389.5	0.0460	0.000	9.010	17.640	-2681.1

(b) POSITIVE MOMENTS AT PIERS

NONE

DESIGN SUMMARY

Span: 3, Beam: 1, Exterior beam

Beam type:	Adjacent Box Beam,	Bui72X30
Precast Length,	ft	82.83
Release Length,	ft	82.83
Strand Pattern:	Straight	
Strand:	6/10-270K-LL	
Strand Es,	ksi:	28500.0
No. of strands:	34	
	Draped:	0
	Straight:	34
Concrete Strength:		
	f'ci:	6.5 ksi
	f'c:	8.5 ksi
	f'ct:	4.5 ksi
Initial losses:	5.35 %	
Final losses:	14.05 %	

Specification	Allowable	Computed	Location	Status
Release Stresses (ksi) (Art. 5.9.4.1)				
Precast Bot (compression)	3.900	2.725	0.1L/0.9L	OK
Precast Top w/ no reinf. (tension)	-0.200	-0.237	Trans	
Precast Top w/ reinf. (tension)	-0.612			
Strength I (Art. 3.4.1, 5.7.3.1.1)	Provided	Required	Location	Status
Ult. Moment (k.ft)	5157.27	2776.92	Midspan	OK
Debonding Limits (Art. 5.11.4.3)	Allowable	Computed		Status
Max. Debond per Row	40.00 %	33.33 %		OK
Max. Debond Total	25.00 %	23.53 %		OK

Positive Moment Envelope Stresses (ksi) (Art. 3.4.1 and 5.9.4.2)

Specification	Allow	Final 1 Comp	Loc.	Allow	Final 2 Comp	Loc.	Allow	Final 3 Comp	Loc.
Service I Limit State - Compressive	Stresses	Only							
Precast Top	5.100	2.053	Midspan	3.825	1.843	Midspan			
Precast Bot	5.100	2.199	0.1L/0.9L	3.825	2.308	0.1L/0.9L			
Service III Limit State - Tensile	Stresses	Only							
Precast Top	-0.554	-0.181	Transfer						
Precast Bot	-0.554	0.426	Midspan						
Fatigue I Limit State - Compressive	Stresses	Only							
Precast Top							3.400	1.053	Midspan
Precast Bot							3.400	1.091	0.1L/0.9L

Negative Moment Envelope Stresses (ksi) (Art. 3.4.1 and 5.9.4.2)

Specification	Allow	Final 1 Comp	Loc.	Allow	Final 2 Comp	Loc.	Allow	Final 3 Comp	Loc.
Service I Limit State - Compressive	Stresses	Only							
Precast Top	5.100	1.783	Midspan	3.825	1.843	Midspan			
Precast Bot	5.100	2.676	Transfer	3.825	2.308	0.1L/0.9L			
Service III Limit State - Tensile	Stresses	Only							
Precast Top	-0.554	-0.367	Transfer						
Precast Bot	-0.554	0.888	Midspan						
Fatigue I Limit State - Compressive	Stresses	Only							
Precast Top							3.400	0.890	Midspan
Precast Bot							3.400	1.316	0.1L/0.9L

CAMBER / DEFLECTION: (PCI Design Handbook - 4th Ed.- Table 4.6.2)
0.5 x L = 41.00 ft

	Release	Mult	Erection	Mult	Final
Prestress	3.117	1.80	5.610	2.20	6.857
Self Wt.	-1.827	1.85	-3.380	2.40	-4.384
Deck + Haunch			-1.021	2.30	-2.349
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.053	3.00	-0.158
DL-Comp. (DW)			-0.017	3.00	-0.052
Live Load	Not Included				
Pedestrian Load					-0.000
Total	1.290		1.139		-0.087

Positive values indicate upward deflection.

143/508

PROPERTIES
Span:1, Beam:4
PRECAST DATA:

Section Id	Bui72X30						
Type	Adjacent Box Beam						
Flng width	Top	72.000	in	Bot	72.000	in
thick	Top	4.000	in	Bot	6.000	in
Stems	No	2				
	Top	6.000	in			
	Bot	6.000	in			
Shear width		12.000	in			

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

GENERAL BRIDGE DATA:

Bridge Width	124.00	ft
Curb-to-curb	120.00	ft
Beam Spac. Lt./Rt	6.08/ 6.08	ft
Lane width	12.00	ft
Number of lanes	7	
Interior/Exterior	Interior	
Start Skew Angle	0.00	degrees
End Skew Angle	0.00	degrees

TOPPING DATA:

Deck	Thickness	5.000	in	
Haunch:				
	Thickness	3.000	in	
	Width	72.000	in	
Effective	width	73.000	in	(Art. 4.6.2.6.1)

GENERAL LOAD DATA:
DEAD LOADS ON PRECAST - NONE

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	62.583	ft
Release length	62.583	ft
Design length	61.750	ft

KERN POINTS:

Upper	22.75	in
Lower	6.17	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):
Type f, with deck

Live Negative Moment	Left Side	(2+ lanes loaded)	0.651	(Calculated)	(#)
Live Negative Moment	Right Side	(2+ lanes loaded)	0.651	(Calculated)	(#)
Live Negative Moment	Left Side	(1 lane loaded)	0.584	(Calculated)	(#)
Live Negative Moment	Right Side	(1 lane loaded)	0.584	(Calculated)	(#)
Live Positive Moment		(2+ lanes loaded)	0.651	(Calculated)	(#)
Live Positive Moment		(1 lane loaded)	0.584	(Calculated)	(#)
Live Shear		(2+ lanes loaded)	0.651	(Calculated)	(#)
Live Shear		(1 lane loaded)	0.584	(Calculated)	(#)

(#) Lever rule (C4.6.2.2.1)

Pedestrian	0.050	(Calculated)
Comp. DC	0.050	(Calculated)
Comp. DW	0.050	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)
RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	
Compression controlled sections	0.75
Tension controlled sections	0.90
Flexure Prestressed	
Compression controlled sections	0.75
Tension controlled sections	1.00
Shear	0.90

SECTION PROPERTIES:

	PRECAST		COMPOSITE		
Area	978.0	in2	1400.7	in2	#
Total Height	30.00	in	38.00	in	
Mom. of Inertia (Ixx)	120856	in4	243816	in4	#
Ht. of c.g.	13.79	in	19.89	in	#
Density	150.00	pcf	150.00	pcf	
Self-weight	1018.8	plf	1624.0	plf	
Mom. of Inertia (Iyy)	588267.0	in4			
Poisson's Ratio	0.2				

	PRECAST		COMPOSITE		
Thermal Coeff.	0.000006000	1/°F			

(#) Of Total Section using Ect/Ec = 0.7276
Use transformed strand and rebar: No

Span:1, Beam:4
STRESS LIMITS (Art. 5.9.4):
STRESS LIMITS AT RELEASE BEFORE LOSSES:

		PRECAST	
Strength		6.50	ksi
Elasticity		4887.7	ksi
Max comp		3.90	ksi
Max tens		-0.20	ksi
Max tens,	w/reinf	-0.61	ksi

STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST		DECK	
Strength	8.50	ksi	4.50	ksi
Elasticity	5589.34	ksi	4066.84	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST		DECK	
Max comp	5.10	ksi	2.70	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST		DECK	
Max comp	3.83	ksi	2.03	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST		DECK	
Max comp	3.40	ksi	-	ksi

SERVICE III (Tension):

	PRECAST		DECK	
Max tens	-0.55	ksi	-0.40	ksi

Span:1, Beam:4
PRESTRESSED STEEL:
24 strands, 6/10-270K-LL, Low relaxation strands

Straight Pattern

END PATTERN (Ycg = 3.25 in):

12 @ 2.250 in	12 @ 4.250 in		

SHIELDING AND REDUCED INITIAL PULLS:

Group	Strands	End	Heights	Mid		End		Shielding	Mid		Distance to center		Initial Frac	Pull Pull/Str	
1	2	2.250	in	2.250	in	4.00	ft		0.00	ft	1.000	in	75.0 %	43.9	kips
2	2	4.250	in	4.250	in	2.00	ft		0.00	ft	1.000	in	75.0 %	43.9	kips
12	2	2.250	in	2.250	in	4.00	ft		0.00	ft	21.000	in	75.0 %	43.9	kips

Check for Art. 5.11.4.3 (debond termination distances): OK

Strand Diameter	0.600	in
Strand Area	0.217	in2
Total Strand Area	5.208	in2
Trans. Len,bonded	3.000	ft
Trans. Len,debonded	3.000	ft
Dev. Len, bonded	11.038	ft
Dev. Len, debonded	13.798	ft
Holddown Force	0.000	kips
Tensile Strength(fpu)	270.0	ksi
Initial Prestress = 0.75fpu	202.5	ksi
Initial Pull	1054.6	kips
Beam Shrtng (PL/AE)	0.159	in

Span:1, Beam:4
ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	(LB)		Beam Vol(C.Y.)	Concrete Wt(LB)		Stirrups (LB)		Longitudinal Bars (LB)
1501.999	740	1111.479		15.742	63756.875		496.299		0.000

Span:1, Beam:4
REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck

147/508

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	6.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	6.00	2.0000	60.5801	Yes
2	US#4[M13]	60.0	0.40	6.00	60.5801	62.5801	Yes

LOSSES

Note: Values are calculated at Midspan

Str. area	5.2080	in2
Ycg	3.25	in
P_init	1054.6	kips
Ecc	10.54	in
Days to release	0.75	
Rel. Humid.(RH)	60.0	%
Es	28500.0	ksi
Eci	4888	ksi

AASHTO LOSSES

Elastic Shortening 8.47 ksi (Eq 5.9.5.2.3a-1), (fcgp= 1.453 ksi)

	Elastic Gains	Gains		Adjustment	
due	to Precast Loads	-1.54	ksi	0.07	ksi
due	to Composite Loads	-0.53	ksi	0.02	ksi
due	to Live Loads	-2.57	ksi	0.15	ksi

Time Dependent Losses (Approximate Method (Art.5.9.5.3))

	Initial			Final		
Steel relaxation	0.00	ksi		2.40	ksi	(Eq 5.9.5.3-1)
Concrete shrinkage	0.00	ksi		8.80	ksi	(Eq 5.9.5.3-1)
Concrete creep	0.00	ksi		7.91	ksi	(Eq 5.9.5.3-1)
Sub-total	8.47	ksi	(4.18 %)	14.71	ksi	(7.26 %)
Total Prestress Losses				23.18	ksi	(11.45 %)

Prestressing Stress Limit Check (Table 5.9.3.1)

initial fpi = 202.5 ksi < 0.75 fpu, OK

initial fpe = 179.3 ksi < 0.80 fpy, OK

SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, SERVICE I
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
Self wt. :	M	0.0	77.9	48.5	166.4	306.0	405.8	465.6	485.6
(Max)	V	31.5	28.8	29.8	25.5	19.1	12.8	6.4	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	46.3	28.8	98.8	181.8	241.1	276.6	288.5
Haunch (Max)	V	18.7	17.1	17.7	15.2	11.4	7.6	3.8	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	27.6	17.3	57.9	102.4	128.8	136.9	126.9
DC(Max)	V	11.3	10.1	10.5	8.6	5.7	2.8	0.1	3.0
DL-Comp :	M	0.0	-1.8	-1.1	-4.1	-8.6	-13.0	-17.4	-21.9
DW(Max)	V	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
LL + I :	M+	0.0	153.0	95.9	320.2	560.4	701.2	770.5	770.6
	V	12.5	30.7	23.7	53.6	43.8	8.2	7.2	4.1
LL + I :	M-	-0.0	-25.8	-15.8	-58.4	-120.9	-183.4	-245.9	-308.4
	V	12.5	11.4	11.8	10.0	10.0	10.0	10.0	10.0
LL + I :	Vmx	63.4	59.1	60.8	53.6	44.2	35.5	28.3	30.7
	M	0.0	155.8	98.2	320.2	535.4	652.4	568.4	521.1
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	-0.0
Total :	M+	0.0	302.9	189.4	639.2	1142.1	1463.8	1632.3	1649.7
	V	74.6	87.4	82.5	103.5	80.7	31.9	18.3	7.8
Total :	M-	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	74.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	125.6	115.8	119.6	103.5	81.1	59.3	39.3	34.5
	M	0.0	305.7	191.7	639.2	1117.1	1415.0	1430.2	1400.2

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	37.13	43.39	49.65	55.91	60.17	59.17	61.75
Self wt. :	M	465.6	405.8	306.0	166.4	48.5	77.9	0.0
(Max)	V	6.4	12.8	19.1	25.5	29.8	28.8	31.5
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	276.6	241.1	181.8	98.8	28.8	46.3	0.0
Haunch (Max)	V	3.8	7.6	11.4	15.2	17.7	17.1	18.7

149/508

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	98.8	52.4	-13.0	-100.5	-173.2	-155.2	-203.0
DC(Max)	V	6.0	8.9	12.2	15.7	18.2	17.6	19.1
DL-Comp :	M	-26.3	-30.7	-35.2	-39.6	-42.6	-41.9	-43.7
DW(Max)	V	0.7	0.7	0.7	0.7	0.7	0.7	0.7
LL + I :	M+	709.7	573.5	374.8	181.8	148.3	149.1	156.1
	V	6.3	17.5	26.1	21.5	9.8	12.5	5.4
LL + I :	M-	-370.9	-433.5	-482.7	-605.9	-777.3	-730.7	-859.1
	V	10.0	10.0	9.7	38.3	46.5	44.6	49.6
LL + I :	Vmx	38.5	46.9	55.3	63.3	68.7	67.5	70.8
	M	476.8	357.3	161.8	-103.7	-288.3	-244.7	-357.8
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
Total :	M+	1524.4	1242.0	814.4	306.9	9.8	76.1	0.0
	V	23.1	47.4	69.5	78.6	76.2	76.8	0.0
Total :	M-	0.0	0.0	-43.2	-480.9	-915.8	-803.7	-1105.9
	V	0.0	0.0	53.1	95.4	113.0	108.9	119.6
Total :	Vmx	55.3	76.8	98.7	120.4	135.2	131.7	140.7
	M	1291.5	1025.8	601.4	21.4	-426.9	-317.7	-604.6

REACTIONS (kips), SERVICE I

Load Type		Left Support	Right Support
Self Wt.		31.5	31.5
Deck+Haunch		18.7	18.7
Diaphragm		0.0	0.0
DL-Prec.(DC)		0.0	0.0
DL-Prec.(DW)		0.0	0.0
DL-Comp.(DC)		225.4	712.5
DL-Comp.(DW)		-14.2	120.7
Live	(Max)	78.0	129.2
Live	(Min)	-12.6	-14.6
Pedestrian	(Max)	0.0	0.1
Pedestrian	(Min)	-0.0	-0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.
Live Load reaction reported at intermediate supports is full reaction at support.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, SERVICE III
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
Self wt. :	M	0.0	77.9	48.5	166.4	306.0	405.8	465.6	485.6
(Max)	V	31.5	28.8	29.8	25.5	19.1	12.8	6.4	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	46.3	28.8	98.8	181.8	241.1	276.6	288.5
Haunch (Max)	V	18.7	17.1	17.7	15.2	11.4	7.6	3.8	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	27.6	17.3	57.9	102.4	128.8	136.9	126.9
DC(Max)	V	11.3	10.1	10.5	8.6	5.7	2.8	0.1	3.0
DL-Comp :	M	0.0	-1.8	-1.1	-4.1	-8.6	-13.0	-17.4	-21.9
DW(Max)	V	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
LL + I :	M+	0.0	122.4	76.7	256.1	448.3	561.0	616.4	616.5
	V	10.0	24.5	18.9	42.9	35.0	6.5	5.8	3.2
LL + I :	M-	-0.0	-20.6	-12.7	-46.7	-96.7	-146.7	-196.7	-246.7
	V	10.0	9.1	9.5	8.0	8.0	8.0	8.0	8.0
LL + I :	Vmx	50.7	47.3	48.6	42.9	35.4	28.4	22.7	24.6
	M	0.0	124.6	78.5	256.1	428.3	521.9	454.7	416.9
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	-0.0
Total :	M+	0.0	272.3	170.2	575.1	1030.0	1323.6	1478.2	1495.6
	V	72.1	81.3	77.7	92.8	71.9	30.3	16.8	7.0
Total :	M-	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	72.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	112.9	104.0	107.4	92.8	72.3	52.2	33.7	28.3
	M	0.0	274.5	172.0	575.1	1010.0	1284.5	1316.5	1296.0

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	37.13	43.39	49.65	55.91	60.17	59.17	61.75
Self wt. :	M	465.6	405.8	306.0	166.4	48.5	77.9	0.0
(Max)	V	6.4	12.8	19.1	25.5	29.8	28.8	31.5
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	276.6	241.1	181.8	98.8	28.8	46.3	0.0
Haunch (Max)	V	3.8	7.6	11.4	15.2	17.7	17.1	18.7
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0

151/508

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	98.8	52.4	-13.0	-100.5	-173.2	-155.2	-203.0
DC(Max)	V	6.0	8.9	12.2	15.7	18.2	17.6	19.1
DL-Comp :	M	-26.3	-30.7	-35.2	-39.6	-42.6	-41.9	-43.7
DW(Max)	V	0.7	0.7	0.7	0.7	0.7	0.7	0.7
LL + I :	M+	567.7	458.8	299.8	145.5	118.7	119.3	124.8
	V	5.0	14.0	20.9	17.2	7.8	10.0	4.3
LL + I :	M-	-296.8	-346.8	-386.2	-484.7	-621.8	-584.5	-687.3
	V	8.0	8.0	7.8	30.7	37.2	35.7	39.7
LL + I :	Vmx	30.8	37.5	44.2	50.6	55.0	54.0	56.6
	M	381.4	285.8	129.4	-82.9	-230.7	-195.7	-286.2
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
Total :	M+	1382.5	1127.3	739.4	270.5	0.0	46.3	0.0
	V	21.8	43.9	64.3	74.3	0.0	74.3	0.0
Total :	M-	0.0	0.0	0.0	-359.7	-760.4	-657.6	-934.1
	V	0.0	0.0	0.0	87.7	103.7	100.0	109.6
Total :	Vmx	47.6	67.4	87.6	107.7	121.5	118.2	126.6
	M	1196.1	954.4	569.0	42.1	-369.2	-268.8	-533.0

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, STRENGTH I
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
Self wt. :	M	0.0	97.3	60.7	208.0	382.5	507.2	582.0	607.0
(Max)	V	39.3	36.0	37.3	31.9	23.9	15.9	8.0	0.0
Self wt. :	M	0.0	70.1	43.7	149.7	275.4	365.2	419.1	437.0
(Min)	V	28.3	25.9	26.9	23.0	17.2	11.5	5.7	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	57.8	36.0	123.5	227.2	301.3	345.8	360.6
Haunch (Max)	V	23.4	21.4	22.2	18.9	14.2	9.5	4.7	0.0
Deck + :	M	0.0	41.6	25.9	88.9	163.6	216.9	248.9	259.6
Haunch (Min)	V	16.8	15.4	16.0	13.6	10.2	6.8	3.4	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	34.5	21.6	72.4	128.0	161.0	171.2	158.7
DC(Max)	V	14.1	12.6	13.2	10.7	7.1	3.4	0.2	3.8
DL-Comp :	M	0.0	24.8	15.5	52.1	92.2	115.9	123.2	114.2
DC(Min)	V	10.1	9.1	9.5	7.7	5.1	2.5	0.1	2.7
DL-Comp :	M	0.0	-2.7	-1.7	-6.2	-12.9	-19.5	-26.2	-32.8
DW(Max)	V	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
DL-Comp :	M	0.0	-1.2	-0.7	-2.7	-5.6	-8.5	-11.3	-14.2
DW(Min)	V	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
LL + I :	M+	0.0	267.8	167.9	560.3	980.7	1227.1	1348.4	1348.6
	V	21.9	53.7	41.4	93.8	76.6	14.3	12.7	7.1
LL + I :	M-	-0.0	-45.2	-27.7	-102.1	-211.5	-320.9	-430.3	-539.8
	V	21.9	20.0	20.7	17.5	17.5	17.5	17.5	17.5
LL + I :	Vmx	111.0	103.4	106.3	93.8	77.4	62.2	49.6	53.7
	M	0.0	272.6	171.8	560.3	936.9	1141.7	994.8	911.9
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	-0.0
Total :	M+	0.0	456.2	285.4	961.5	1712.9	2188.2	2436.1	2460.6
	V	99.8	124.8	115.1	156.4	122.9	44.2	26.6	12.0
Total :	M-	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	77.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	188.8	174.5	180.0	156.4	123.7	92.1	63.5	58.6
	M	0.0	459.5	288.4	958.0	1661.9	2091.7	2067.6	2005.3

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	37.13	43.39	49.65	55.91	60.17	59.17	61.75
Self wt. :	M	582.0	507.2	382.5	208.0	60.7	97.3	0.0
(Max)	V	8.0	15.9	23.9	31.9	37.3	36.0	39.3
Self wt. :	M	419.1	365.2	275.4	149.7	43.7	70.1	0.0
(Min)	V	5.7	11.5	17.2	23.0	26.9	25.9	28.3
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	345.8	301.3	227.2	123.5	36.0	57.8	0.0
Haunch (Max)	V	4.7	9.5	14.2	18.9	22.2	21.4	23.4
Deck + :	M	248.9	216.9	163.6	88.9	25.9	41.6	0.0
Haunch (Min)	V	3.4	6.8	10.2	13.6	16.0	15.4	16.8
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	123.5	65.6	-16.3	-125.6	-216.5	-194.0	-253.8
DC(Max)	V	7.4	11.1	15.3	19.7	22.7	22.0	23.9
DL-Comp :	M	88.9	47.2	-11.7	-90.5	-155.9	-139.7	-182.7
DC(Min)	V	5.4	8.0	11.0	14.2	16.4	15.9	17.2
DL-Comp :	M	-39.5	-46.1	-52.8	-59.4	-63.9	-62.9	-65.6
DW(Max)	V	1.1	1.1	1.1	1.1	1.1	1.1	1.1
DL-Comp :	M	-17.1	-20.0	-22.9	-25.7	-27.7	-27.2	-28.4
DW(Min)	V	0.5	0.5	0.5	0.5	0.5	0.5	0.5
LL + I :	M+	1241.9	1003.6	655.9	318.2	259.6	260.9	273.1
	V	11.0	30.6	45.7	37.7	17.1	21.9	9.5
LL + I :	M-	-649.2	-758.6	-844.8	-1060.4	-1360.3	-1278.7	-1503.4
	V	17.5	17.5	17.0	67.0	81.5	78.1	86.8
LL + I :	Vmx	67.3	82.1	96.7	110.8	120.3	118.1	123.9
	M	834.3	625.3	283.2	-181.4	-504.6	-428.2	-626.2
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.1	-0.1	-0.1
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	-0.0	-0.0	-0.0	-0.0	-0.1	-0.1	-0.1
Total :	M+	2276.1	1857.7	1231.1	533.5	172.6	249.1	62.0
	V	32.2	68.1	100.1	109.2	100.4	102.4	97.1
Total :	M-	0.0	-175.4	-474.9	-1006.8	-1571.2	-1423.9	-1822.9
	V	0.0	44.2	55.9	118.3	141.1	135.7	149.6
Total :	Vmx	88.5	119.7	151.2	182.3	203.6	198.6	211.5
	M	1846.1	1453.2	823.8	-35.0	-688.4	-529.9	-945.6

REACTIONS (kips), STRENGTH I

Load Type		Left Support	Right Support
Self Wt.		39.3	39.3
Deck+Haunch		23.4	23.4
Diaphragm		0.0	0.0
DL-Prec.(DC)		0.0	0.0
DL-Prec.(DW)		0.0	0.0
DL-Comp.(DC)		281.8	890.6
DL-Comp.(DW)		-21.3	181.0
Live	(Max)	136.4	226.1
Live	(Min)	-22.1	-25.5
Pedestrian	(Max)	0.1	0.2
Pedestrian	(Min)	-0.0	-0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Live Load reaction reported at intermediate supports is full reaction at support.

SHEAR AND MOMENT ENVELOPE : Span : 1, Beam : 4, FATIGUE I
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
Self wt. :	M	0.0	77.9	48.5	166.4	306.0	405.8	465.6	485.6
(Max)	V	31.5	28.8	29.8	25.5	19.1	12.8	6.4	0.0
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	46.3	28.8	98.8	181.8	241.1	276.6	288.5
Haunch (Max)	V	18.7	17.1	17.7	15.2	11.4	7.6	3.8	0.0
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	27.6	17.3	57.9	102.4	128.8	136.9	126.9
DC(Max)	V	11.3	10.1	10.5	8.6	5.7	2.8	0.1	3.0
DL-Comp :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	0.0	-1.8	-1.1	-4.1	-8.6	-13.0	-17.4	-21.9
DW(Max)	V	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
DL-Comp :	M	0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	0.0	95.0	59.8	195.5	328.3	409.1	433.8	399.6
	V	0.2	14.9	9.2	33.5	27.1	20.5	14.6	9.2
LL + I :	M-	-0.0	-15.3	-9.4	-34.6	-71.7	-108.7	-145.8	-182.9
	V	0.2	2.7	1.8	5.9	5.9	5.9	5.9	5.9
LL + I :	Vmx	40.0	37.1	38.3	33.5	27.1	21.2	16.0	15.2
	M	0.0	95.0	59.8	195.5	328.3	389.5	395.1	329.1
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M+	0.0	244.8	153.3	514.5	910.0	1171.7	1295.6	1278.7
	V	62.3	71.6	68.0	83.4	64.0	44.3	25.6	12.9

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Total :	M-	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	62.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	102.2	93.9	97.1	83.4	64.0	45.0	27.1	18.9
	M	0.0	244.8	153.3	514.5	910.0	1152.1	1256.8	1208.2

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	37.13	43.39	49.65	55.91	60.17	59.17	61.75
Self wt. :	M	465.6	405.8	306.0	166.4	48.5	77.9	0.0
(Max)	V	6.4	12.8	19.1	25.5	29.8	28.8	31.5
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	276.6	241.1	181.8	98.8	28.8	46.3	0.0
Haunch (Max)	V	3.8	7.6	11.4	15.2	17.7	17.1	18.7
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	98.8	52.4	-13.0	-100.5	-173.2	-155.2	-203.0
DC(Max)	V	6.0	8.9	12.2	15.7	18.2	17.6	19.1
DL-Comp :	M	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-26.3	-30.7	-35.2	-39.6	-42.6	-41.9	-43.7
DW(Max)	V	0.7	0.7	0.7	0.7	0.7	0.7	0.7
DL-Comp :	M	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	395.2	324.9	206.2	91.4	80.1	77.9	89.6
	V	5.1	1.1	27.5	24.8	10.4	13.8	5.0
LL + I :	M-	-219.9	-257.0	-294.1	-331.2	-356.4	-350.5	-365.8
	V	5.9	5.9	5.9	5.9	5.9	5.9	5.9
LL + I :	Vmx	21.2	27.1	33.2	39.1	43.2	42.2	44.7
	M	354.8	305.9	201.1	41.3	-88.1	-56.2	-140.5
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M+	1209.9	993.5	645.8	216.5	0.0	4.9	0.0
	V	21.9	31.0	70.9	81.9	0.0	78.0	0.0
Total :	M-	0.0	0.0	0.0	-206.1	-494.9	-423.4	-612.5
	V	0.0	0.0	0.0	63.0	72.4	70.2	75.9

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Total :	Vmx	38.0	56.9	76.6	96.2	109.7	106.5	114.7
	M	1169.5	974.4	640.7	166.4	-226.6	-129.2	-387.2

POSITIVE ENVELOPE STRESSES

Span : 1, Beam : 4, SERVICE I

RELEASE STRESSES, (ksi) (LOSS = 4.18 %)

	Trans	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	3.00	6.26	12.52	18.77	25.03	31.29
Beam-Self						
Precast-top	0.147	0.289	0.514	0.674	0.771	0.803
Bottom	-0.125	-0.246	-0.437	-0.574	-0.656	-0.683
Prestress						
Precast-top	-0.292	-0.373	-0.395	-0.395	-0.395	-0.395
Bottom	1.736	2.151	2.248	2.248	2.248	2.248
Total						
Precast-top	-0.146	-0.084	0.118	0.279	0.375	0.407
Bottom	1.611	1.905	1.811	1.675	1.593	1.566

SERVICE I

POSITIVE ENVELOPE STRESSES, (ksi) (LOSS = 11.45 %)

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
Prestress								
Precast-top	-0.037	-0.270	-0.176	-0.345	-0.365	-0.365	-0.365	-0.365
Bottom	0.215	1.604	1.033	1.988	2.078	2.078	2.078	2.078
Self wt.								
Precast-top	0.000	0.125	0.078	0.268	0.493	0.653	0.749	0.782
Bottom	-0.000	-0.107	-0.066	-0.228	-0.419	-0.556	-0.638	-0.665
DL-Prec (DC)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
DL-Prec (DW)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Diaphragm								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Deck + Haunch								
Precast-top	0.000	0.074	0.046	0.159	0.293	0.388	0.445	0.464
Bottom	-0.000	-0.063	-0.039	-0.135	-0.249	-0.330	-0.379	-0.395
DL-Comp (DC)								
Precast-top	-0.000	0.014	0.009	0.029	0.051	0.064	0.068	0.063
Bottom	-0.000	-0.027	-0.017	-0.057	-0.100	-0.126	-0.134	-0.124
DL-Comp (DW)								
Precast-top	-0.000	-0.001	-0.001	-0.002	-0.004	-0.006	-0.009	-0.011
Bottom	0.000	0.002	0.001	0.004	0.008	0.013	0.017	0.021
LL+I(+)								
Precast-top	0.000	0.076	0.048	0.159	0.279	0.349	0.383	0.383
Bottom	-0.000	-0.150	-0.094	-0.313	-0.549	-0.687	-0.754	-0.755
Pedestrian(+)								
Precast-top	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Final 1 (P/S + DL + LL)								
Precast-top	-0.037	0.018	0.005	0.268	0.745	1.082	1.272	1.316
Bottom	0.215	1.259	0.817	1.259	0.769	0.392	0.190	0.161
Final 2 (P/S + DL)								
Precast-top	-0.037	-0.058	-0.043	0.108	0.466	0.733	0.889	0.933
Bottom	0.215	1.409	0.911	1.572	1.318	1.079	0.945	0.915

Span : 1, Beam : 4, SERVICE III

RELEASE STRESSES, (ksi) (LOSS = 4.18 %)

	Trans	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	3.00	6.26	12.52	18.77	25.03	31.29
Beam-Self						
Precast-top	0.147	0.289	0.514	0.674	0.771	0.803
Bottom	-0.125	-0.246	-0.437	-0.574	-0.656	-0.683

159/508

	Trans	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Prestress						
Precast-top	-0.292	-0.373	-0.395	-0.395	-0.395	-0.395
Bottom	1.736	2.151	2.248	2.248	2.248	2.248
Total						
Precast-top	-0.146	-0.084	0.118	0.279	0.375	0.407
Bottom	1.611	1.905	1.811	1.675	1.593	1.566
As_top, in2	0.000	0.000	0.000	0.000	0.000	0.000
Ast_prvd, in2	0.000	0.000	0.000	0.000	0.000	0.000

SERVICE III

POSITIVE ENVELOPE STRESSES, (ksi) (LOSS = 11.45 %)

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
Prestress								
Precast-top	-0.037	-0.270	-0.176	-0.345	-0.365	-0.365	-0.365	-0.365
Bottom	0.215	1.604	1.033	1.988	2.078	2.078	2.078	2.078
Self wt.								
Precast-top	0.000	0.125	0.078	0.268	0.493	0.653	0.749	0.782
Bottom	-0.000	-0.107	-0.066	-0.228	-0.419	-0.556	-0.638	-0.665
DL-Prec (DC)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
DL-Prec (DW)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Diaphragm								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Deck + Haunch								
Precast-top	0.000	0.074	0.046	0.159	0.293	0.388	0.445	0.464
Bottom	-0.000	-0.063	-0.039	-0.135	-0.249	-0.330	-0.379	-0.395
DL-Comp (DC)								
Precast-top	-0.000	0.014	0.009	0.029	0.051	0.064	0.068	0.063

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Bottom	-0.000	-0.027	-0.017	-0.057	-0.100	-0.126	-0.134	-0.124
DL-Comp (DW)								
Precast-top	-0.000	-0.001	-0.001	-0.002	-0.004	-0.006	-0.009	-0.011
Bottom	0.000	0.002	0.001	0.004	0.008	0.013	0.017	0.021
LL+I(+)								
Precast-top	0.000	0.061	0.038	0.127	0.223	0.279	0.307	0.307
Bottom	-0.000	-0.120	-0.075	-0.251	-0.439	-0.549	-0.604	-0.604
Pedestrian(+)								
Precast-top	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Final 1 (P/S + DL + LL)								
Precast-top	-0.037	0.003	-0.005	0.236	0.690	1.012	1.195	1.239
Bottom	0.215	1.289	0.836	1.321	0.879	0.530	0.341	0.312

Span : 1, Beam : 4, FATIGUE I
POSITIVE ENVELOPE STRESSES, (ksi)

		Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft		0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
F_LL+I(+)									
Precast-top		0.000	0.047	0.030	0.097	0.163	0.203	0.216	0.199
Bottom		-0.000	-0.093	-0.059	-0.191	-0.321	-0.401	-0.425	-0.391
Pedestrian(+)									
Precast-top		-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom		-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Final 3 (50% P/S	+ 50%	DL + F_LL)							
Precast-top		-0.018	0.018	0.008	0.151	0.397	0.570	0.660	0.665
Bottom		0.108	0.612	0.397	0.595	0.338	0.139	0.048	0.066

VERTICAL/HORIZONTAL SHEAR

VERTICAL SHEAR (Art. 5.8) - Span : 1, Beam : 4, STRENGTH I

Using General Beta Theta Equation procedure - Art.5.8.3.4.2

Location(ft) / Vu (kips) / Mcor (kft)	bv (in) / a (in)	de (in) / dv (in)	Aps (in2) / fpo (ksi)	Vp (kips) / vu/fc	eps_x / Vc-com (kips)	Theta / Beta	Vs-reqd (kips) / Max.spc. (in)	Av/s (in2/ft) / min.Av/s (in2/ft)	Av-prvd (in2/ft) / pVn/Vu	Al_reqd (in2) / Aps* (in2)
Bearing :	0.42									
188.8	12.00	34.64	0.345	0.0	6.00e-3	50.0	176.4	1.214	0.800	0.42
0.0	0.00	34.64	26.2	0.059	33.4	0.87	24.00	0.221	0.713*	0.378
Transfer :	3.00									
174.5	12.00	34.55	4.340	0.0	-0.12e-3	28.6	0.0	0.221	0.800	0.00
459.5	0.00	34.55	189.0	0.055	201.0	5.26	24.00	0.221	2.345	2.866
Critical :	3.18									
173.5	12.00	34.55	4.340	0.0	-0.12e-3	28.6	0.0	0.221	0.800	0.00
473.7	2.78	33.16	189.0	0.057	193.0	5.26	24.00	0.221	2.264	3.053
0.1L :	6.26									
156.4	12.00	34.75	5.208	0.0	-0.12e-3	28.6	0.0	0.221	0.800	0.00
958.0	0.00	34.75	189.0	0.049	203.1	5.28	24.00	0.221	2.638	3.905
0.2L :	12.52									
123.7	12.00	34.75	5.208	0.0	-0.06e-3	28.8	0.0	0.221	0.800	0.00
1661.9	4.94	32.28	189.0	0.042	179.4	5.03	24.00	0.221	3.015	4.652
0.3L :	18.77									
92.1	12.00	34.75	5.208	0.0	-0.03e-3	28.9	0.0	0.221	0.800	0.00
2091.7	4.98	32.26	189.0	0.031	174.9	4.90	24.00	0.221	3.993	5.208
0.4L :	25.03									
63.5	12.00	34.75	5.208	0.0	-0.04e-3	28.9	0.0	0.221	0.800	0.00
2067.6	4.98	32.26	189.0	0.021	176.2	4.94	24.00	0.221	5.813	5.208
0.5L :	31.29									
58.6	12.00	34.75	5.208	0.0	-0.04e-3	28.8	0.0	0.221	0.800	0.00
2005.3	4.98	32.26	189.0	0.020	177.1	4.96	24.00	0.221	6.319	5.208
0.6L :	37.55									
88.5	12.00	34.75	5.208	0.0	-0.05e-3	28.8	0.0	0.221	0.800	0.00
1846.1	4.98	32.26	189.0	0.030	178.1	4.99	24.00	0.221	4.195	5.208
0.7L :	43.81									
119.7	12.00	34.75	5.208	0.0	-0.08e-3	28.7	0.0	0.221	0.800	0.00

Location(ft) Vu (kips) Mcor (kft)	bv (in) a (in)	de (in) dv (in)	Aps (in2) fpo (ksi)	Vp (kips) vu/fc	eps_x Vc-com (kips)	Theta Beta	Vs-reqd (kips) Max.spc. (in)	Av/s (in2/ft) min.Av/s (in2/ft)	Av-prvd (in2/ft) pVn/Vu	Al_reqd (in2) Aps* (in2)
1453.2	4.98	32.26	189.0	0.040	182.1	5.11	24.00	0.221	3.141	5.208
0.8L :	50.07									
151.2	12.00	34.75	5.208	0.0	-0.13e-3	28.5	0.0	0.221	0.800	0.00
823.8	4.94	32.28	189.0	0.051	189.8	5.32	24.00	0.221	2.543	4.652
0.9L :	56.32									
182.3	12.00	34.79	0.000	0.0	1.93e-3	35.8	127.2	0.527	0.800	1.03
-35.0	0.00	34.79	189.0	0.057	75.4	1.96	24.00	0.221	1.326	0.363
Critical :	59.27									
197.0	12.00	34.79	0.000	0.0	1.39e-3	33.9	128.4	0.495	0.800	5.66
-486.5	0.00	34.79	189.0	0.062	90.5	2.35	24.00	0.221	1.361	0.000
Transfer :	59.58									
198.6	12.00	34.79	0.000	0.0	1.35e-3	33.7	128.9	0.495	0.800	2.54
-529.9	0.00	34.79	189.0	0.062	91.7	2.38	24.00	0.221	1.360	0.762
Bearing :	62.17									
211.5	12.00	34.79	0.000	0.0	1.42e-3	34.0	145.7	0.565	0.800	8.13
-945.6	0.00	34.79	26.2	0.066	89.3	2.32	24.00	0.221	1.258	0.126

ANCHORAGE ZONE REINFORCEMENT (Art. 5.10.10)
Span : 1, Beam : 4

Fpi (kips)	fs (ksi)	h/4 (in)	Abrst_rqrd (in2)
790.96	20.00	7.50	1.58

HORIZONTAL SHEAR (Art. 5.8.4) - Span : 1, Beam : 4
(Beam and Slab effects are INCLUDED in Vu).
Computed Interface width considered to be engaged in shear transfer, bvi = 72.00(in).

Location (ft) Vu (kips)	Vnh-req (kips/in)	de (in)	a (in)	dv (in)	s_max (in)	Avh-min (in2/ft)	Avh-sm (in2/ft)	Avh-rg (in2/ft)	Avh-prvd (in2/ft)
Bearing :	0.00								
188.8	6.06	34.64	0.00	34.64	24.00	0.720	0.219	0.000	0.800

Location (ft) / Vu (kips)	Vnh-req (kips/in)	de (in)	a (in)	dv (in)	s_max (in)	Avh-min (in2/ft)	Avh-sm (in2/ft)	Avh-rg (in2/ft)	Avh-prvd (in2/ft)
Transfer : 174.5	2.58 5.61	34.55	0.00	34.55	24.00	0.720	0.070	0.000	0.800
Critical : 173.5	2.76 5.81	34.55	2.78	33.16	24.00	0.720	0.138	0.000	0.800
0.1L : 156.4	5.84 5.00	34.75	0.00	34.75	24.00	0.720	0.000	0.000	0.800
0.2L : 123.7	12.10 4.26	34.75	4.94	32.28	24.00	0.720	0.000	0.000	0.800
0.3L : 92.1	18.36 3.17	34.75	4.98	32.26	24.00	0.720	0.000	0.000	0.800
0.4L : 63.5	24.62 2.19	34.75	4.98	32.26	24.00	0.720	0.000	0.000	0.800
0.5L : 58.6	30.88 2.02	34.75	4.98	32.26	24.00	0.720	0.000	0.000	0.800
0.6L : 88.5	37.13 3.05	34.75	4.98	32.26	24.00	0.720	0.000	0.000	0.800
0.7L : 119.7	43.39 4.12	34.75	4.98	32.26	24.00	0.720	0.000	0.000	0.800
0.8L : 151.2	49.65 5.20	34.75	4.94	32.28	24.00	0.720	0.000	0.000	0.800
0.9L : 182.3	55.91 5.82	34.79	0.00	34.79	24.00	0.720	0.141	0.000	0.800
Critical : 197.0	58.85 6.29	34.79	0.00	34.79	24.00	0.720	0.297	0.000	0.800
Transfer : 198.6	59.17 6.34	34.79	0.00	34.79	24.00	0.720	0.314	0.000	0.800
Bearing : 211.5	61.75 6.75	34.79	0.00	34.79	24.00	0.720	0.451	0.000	0.800

CAMBER/DEFLECTION

CAMBER AND DEFLECTIONS: SERVICE I
(Span : 1, Beam : 4; Units: in)

	Release	Mult	Erection	Mult	Final
At 0.1 x L =	5.84 ft				
Prestress	0.453	1.80	0.815	2.20	0.996
Self Wt.	-0.187	1.85	-0.346	2.40	-0.448
Deck + Haunch			-0.087	2.30	-0.201
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.019	3.00	-0.057
DL-Comp. (DW)			0.003	3.00	0.010
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.266		0.367		0.300

	Release	Mult	Erection	Mult	Final
At 0.2 x L =	12.10 ft				
Prestress	0.800	1.80	1.440	2.20	1.760
Self Wt.	-0.354	1.85	-0.654	2.40	-0.848
Deck + Haunch			-0.171	2.30	-0.393
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.036	3.00	-0.109
DL-Comp. (DW)			0.007	3.00	0.021
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.446		0.585		0.429

	Release	Mult	Erection	Mult	Final
At 0.3 x L =	18.36 ft				
Prestress	1.054	1.80	1.898	2.20	2.319
Self Wt.	-0.484	1.85	-0.895	2.40	-1.162
Deck + Haunch			-0.237	2.30	-0.545
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.049	3.00	-0.147
DL-Comp. (DW)			0.010	3.00	0.030
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.570		0.726		0.496

	Release	Mult	Erection	Mult	Final
At 0.4 x L =	24.62 ft				
Prestress	1.207	1.80	2.172	2.20	2.655
Self Wt.	-0.567	1.85	-1.049	2.40	-1.361
Deck + Haunch			-0.279	2.30	-0.641
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.055	3.00	-0.165
DL-Comp. (DW)			0.012	3.00	0.037
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.640		0.802		0.525

	Release	Mult	Erection	Mult	Final
At 0.5 x L =	30.88 ft				
Prestress	1.258	1.80	2.264	2.20	2.767
Self Wt.	-0.595	1.85	-1.101	2.40	-1.429
Deck + Haunch			-0.293	2.30	-0.674
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.055	3.00	-0.164
DL-Comp. (DW)			0.014	3.00	0.041
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.662		0.829		0.542

	Release	Mult	Erection	Mult	Final
At 0.6 x L =	37.13 ft				
Prestress	1.207	1.80	2.172	2.20	2.655
Self Wt.	-0.567	1.85	-1.049	2.40	-1.361
Deck + Haunch			-0.279	2.30	-0.641
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.048	3.00	-0.143
DL-Comp. (DW)			0.014	3.00	0.043
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.640		0.811		0.553

	Release	Mult	Erection	Mult	Final
At 0.7 x L =	43.39 ft				
Prestress	1.054	1.80	1.898	2.20	2.319
Self Wt.	-0.484	1.85	-0.895	2.40	-1.162
Deck + Haunch			-0.237	2.30	-0.545
DL-Prec. (DC)			0.000	3.00	0.000

	Release	Mult	Erection	Mult	Final
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.036	3.00	-0.109
DL-Comp. (DW)			0.013	3.00	0.040
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.570		0.742		0.544

	Release	Mult	Erection	Mult	Final
At 0.8 x L =	49.65 ft				
Prestress	0.800	1.80	1.440	2.20	1.760
Self Wt.	-0.354	1.85	-0.654	2.40	-0.848
Deck + Haunch			-0.171	2.30	-0.393
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.022	3.00	-0.066
DL-Comp. (DW)			0.011	3.00	0.033
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.446		0.604		0.485

	Release	Mult	Erection	Mult	Final
At 0.9 x L =	55.91 ft				
Prestress	0.453	1.80	0.815	2.20	0.996
Self Wt.	-0.187	1.85	-0.346	2.40	-0.448
Deck + Haunch			-0.087	2.30	-0.201
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.009	3.00	-0.026
DL-Comp. (DW)			0.007	3.00	0.020
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.266		0.380		0.341

ULTIMATE MOMENT

ULTIMATE - Span : 1, Beam : 4, STRENGTH I
(Mr-prvd computed by Strain Compatibility method. Ult. Conc. Strain = 0.00300)

Location (ft) Mu k.ft	dp in	Aps in2	fps ksi	c in	a in	Mr-prvd k.ft	c/dt	Phi	Mcr k.ft	min Mr k.ft	Crkg Ratio	Mu-p/r Ratio
Transfer	2.58											
456.2	34.6	2.822	268.6	3.3	2.7	2100.1	0.092T	1.00	-	-	-	-
H/2	1.58											
285.4	34.6	1.814	269.1	2.1	1.7	1373.7	0.059T	1.00	-	-	-	-
0.1L	5.84											
961.5	34.7	3.974	267.9	4.6	3.8	2925.5	0.130T	1.00	-	-	-	-
0.2L	12.10											
1712.9	34.7	5.039	267.2	6.0	4.9	3708.9	0.167T	1.00	3283.7	2278.2	1.13	-
0.3L	18.36											
2188.2	34.8	5.208	267.1	6.0	5.0	3739.9	0.168T	1.00	3220.3	2910.3	1.16	-
0.4L	24.62											
2436.1	34.8	5.208	267.1	6.0	5.0	3739.9	0.168T	1.00	3182.3	3182.3	1.18	-
0.5L	30.88											
2460.6	34.8	5.208	267.1	6.0	5.0	3739.9	0.168T	1.00	3169.6	3169.6	1.18	-
0.6L	37.13											
2276.1	34.8	5.208	267.1	6.0	5.0	3739.9	0.168T	1.00	3182.3	3027.3	1.18	-
0.7L	43.39											
1857.7	34.8	5.208	267.1	6.0	5.0	3739.9	0.168T	1.00	3220.3	2470.8	1.16	-
0.8L	49.65											
1231.1	34.7	5.039	267.2	6.0	4.9	3708.9	0.167T	1.00	3283.7	1637.3	1.13	-
0.9L	55.91											
533.5	34.7	3.974	267.9	4.6	3.8	2925.5	0.130T	1.00	-	-	-	-
H/2	60.17											
172.6	34.6	1.814	269.1	2.1	1.7	1373.7	0.059T	1.00	-	-	-	-
Transfer	59.17											
249.1	34.6	2.822	268.6	3.3	2.7	2100.1	0.092T	1.00	-	-	-	-

Legend: C = Compression-Controlled (c/dt > 0.600)
I = In-Transition (0.60 >= c/dt > 0.375)
T = Tension-Controlled (c/dt <= 0.375)
Note : fr used for calculating Mcr is computed using AASHTO method (Art.5.4.2.6.)
Consider Bottom Tension Steel Contribution : NO

DETENSIONING

Span : 1, Beam : 4; Groups 1-12; Units: ksi

Grp	Str		Ys,in		3.00ft	5.00ft	7.00ft
1	2	E	2.25	Ft	0.147	0.222	0.275
		M	2.25	Fb	-0.125	-0.135	-0.075
2	2	E	4.25	Ft	0.140	0.200	0.253
		M	4.25	Fb	-0.066	0.042	0.103
3	2	E	4.25	Ft	0.118	0.178	0.232
		M	4.25	Fb	0.112	0.220	0.281
4	2	E	4.25	Ft	0.096	0.157	0.210
		M	4.25	Fb	0.290	0.398	0.459
5	2	E	4.25	Ft	0.075	0.135	0.189
		M	4.25	Fb	0.468	0.576	0.636
6	2	E	4.25	Ft	0.053	0.113	0.167
		M	4.25	Fb	0.645	0.753	0.814
7	2	E	4.25	Ft	0.031	0.092	0.145
		M	4.25	Fb	0.823	0.931	0.992
8	2	E	2.25	Ft	-0.013	0.047	0.101
		M	2.25	Fb	1.020	1.128	1.189
9	2	E	2.25	Ft	-0.057	0.003	0.057
		M	2.25	Fb	1.217	1.325	1.386
10	2	E	2.25	Ft	-0.101	-0.041	0.013
		M	2.25	Fb	1.414	1.522	1.583
11	2	E	2.25	Ft	-0.146	-0.085	-0.032
		M	2.25	Fb	1.611	1.719	1.780
12	2	E	2.25	Ft	-0.146	-0.100	-0.076
		M	2.25	Fb	1.611	1.785	1.977

NEGATIVE ENVELOPE STRESSES

Span : 1, Beam : 4, SERVICE I
NEGATIVE ENVELOPE STRESSES, (ksi) (LOSS = 11.45 %)

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
Prestress								
Precast-top	-0.037	-0.270	-0.176	-0.345	-0.365	-0.365	-0.365	-0.365
Bottom	0.215	1.604	1.033	1.988	2.078	2.078	2.078	2.078
Self wt.								
Precast-top	0.000	0.125	0.078	0.268	0.493	0.653	0.749	0.782
Bottom	-0.000	-0.107	-0.066	-0.228	-0.419	-0.556	-0.638	-0.665
DL-Prec (DC)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
DL-Prec (DW)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Diaphragm								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Deck + Haunch								
Precast-top	0.000	0.074	0.046	0.159	0.293	0.388	0.445	0.464
Bottom	-0.000	-0.063	-0.039	-0.135	-0.249	-0.330	-0.379	-0.395
DL-Comp (DC)								
Precast-top	-0.101	-0.077	-0.086	-0.050	-0.006	0.026	0.049	0.063
Bottom	0.199	0.152	0.170	0.098	0.013	-0.051	-0.097	-0.124
DL-Comp (DW)								
Precast-top	-0.022	-0.021	-0.021	-0.020	-0.017	-0.015	-0.013	-0.011
Bottom	0.043	0.041	0.042	0.039	0.034	0.030	0.026	0.021
LL+I(-)								
Precast-top	-0.427	-0.363	-0.387	-0.301	-0.240	-0.216	-0.185	-0.153
Bottom	0.841	0.715	0.761	0.593	0.473	0.424	0.363	0.302
Pedestrian(-)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Final 1 (P/S + DL + LL)								
Precast-top	-0.587	-0.532	-0.545	-0.289	0.156	0.471	0.681	0.779

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Bottom	1.298	2.343	1.900	2.355	1.930	1.596	1.354	1.217
Final 2 (P/S + DL)								
Precast-top	-0.159	-0.169	-0.159	0.012	0.396	0.687	0.865	0.933
Bottom	0.457	1.627	1.138	1.762	1.457	1.171	0.991	0.915

Span : 1, Beam : 4, SERVICE III
NEGATIVE ENVELOPE STRESSES, (ksi) (LOSS = 11.45 %)

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
Prestress								
Precast-top	-0.037	-0.270	-0.176	-0.345	-0.365	-0.365	-0.365	-0.365
Bottom	0.215	1.604	1.033	1.988	2.078	2.078	2.078	2.078
Self wt.								
Precast-top	0.000	0.125	0.078	0.268	0.493	0.653	0.749	0.782
Bottom	-0.000	-0.107	-0.066	-0.228	-0.419	-0.556	-0.638	-0.665
DL-Prec (DC)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
DL-Prec (DW)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Diaphragm								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Deck + Haunch								
Precast-top	0.000	0.074	0.046	0.159	0.293	0.388	0.445	0.464
Bottom	-0.000	-0.063	-0.039	-0.135	-0.249	-0.330	-0.379	-0.395
DL-Comp (DC)								
Precast-top	-0.101	-0.077	-0.086	-0.050	-0.006	0.026	0.049	0.063
Bottom	0.199	0.152	0.170	0.098	0.013	-0.051	-0.097	-0.124
DL-Comp (DW)								
Precast-top	-0.022	-0.021	-0.021	-0.020	-0.017	-0.015	-0.013	-0.011
Bottom	0.043	0.041	0.042	0.039	0.034	0.030	0.026	0.021

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
LL+I(-)								
Precast-top	-0.342	-0.291	-0.309	-0.241	-0.192	-0.172	-0.148	-0.123
Bottom	0.673	0.572	0.609	0.475	0.378	0.340	0.291	0.242
Pedestrian(-)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Final 1 (P/S + DL + LL)								
Precast-top	-0.501	-0.459	-0.468	-0.229	0.204	0.514	0.718	0.810
Bottom	1.130	2.200	1.747	2.237	1.835	1.511	1.281	1.157

Span : 1, Beam : 4, FATIGUE I
NEGATIVE ENVELOPE STRESSES, (ksi)

		Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft		0.00	2.58	1.58	5.84	12.10	18.36	24.62	30.88
F_LL+I(-)									
Precast-top		-0.182	-0.174	-0.177	-0.165	-0.146	-0.128	-0.109	-0.091
Bottom		0.358	0.343	0.349	0.324	0.288	0.252	0.215	0.179
Pedestrian(-)									
Precast-top		-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom		-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Final 3 (50% P/S	+ 50%	DL + F_LL)							
Precast-top		-0.262	-0.259	-0.257	-0.159	0.052	0.215	0.323	0.375
Bottom		0.587	1.157	0.918	1.205	1.017	0.837	0.711	0.637

REINFORCED DESIGN

REINFORCED DESIGN - Span : 1, Beam : 4, STRENGTH I (fy = 60.00 ksi)

(a) NEGATIVE MOMENTS ALONG SPAN (Non-composite Moment effects are INCLUDED in Mu)

Negative Moment Continuity Steel:

#bars	Size	Dist. from Top (in)	Area (in2)	Start (ft)	End (ft)
12	US#4[M13]	2.88	2.40	0.0000	62.7500
6	US#10[M32]	3.26	7.62	34.7500	62.7500
6	US#10[M32]	3.26	7.62	50.7500	62.7500

f'c (ksi)	b (in)	bw (in)
8.50	72.00	12.00

Sec	Dist (ft)	Mu-reqd (k.ft)	hf (in)	d (in)	d' (in)	Phi	Phi*Mn-r (k.ft)	c/dt	Asb (in2)	Ast-r (in2)	Ast-p (in2)	Phi*Mn-p (k.ft)
1	0.00	0.0	6.00	35.12	2.00	0.9	-0.0	0.0000	0.000	0.000	2.400	-377.8
2	5.84	0.0	6.00	35.12	2.00	0.9	-0.0	0.0000	0.000	0.000	2.400	-377.8
3	12.10	0.0	6.00	35.12	2.00	0.9	-0.0	0.0000	0.000	0.000	2.400	-377.8
4	18.36	0.0	6.00	35.12	2.00	0.9	-0.0	0.0000	0.000	0.000	2.400	-377.8
5	24.62	0.0	6.00	35.12	2.00	0.9	-0.0	0.0000	0.000	0.000	2.400	-377.8
6	30.88	0.0	6.00	35.12	2.00	0.9	-0.0	0.0000	0.000	0.000	2.400	-377.8
7	37.13	0.0	6.00	34.83	2.00	0.9	-0.0	0.0000	0.000	4.338	10.020	-1557.5
8	43.39	-175.4	6.00	34.83	2.00	0.9	-175.4	0.0057	0.000	4.338	10.020	-1557.5
9	49.65	-474.9	6.00	34.83	2.00	0.9	-474.9	0.0155	0.000	4.338	10.020	-1557.5
10	55.91	-1006.8	6.00	34.79	2.00	0.9	-1006.8	0.0332	0.000	6.500	17.640	-2707.1
11	62.75	-1993.5	6.00	34.79	2.00	0.9	-1993.5	0.0664	0.000	13.014	17.640	-2707.1

(b) POSITIVE MOMENTS AT PIERS

NONE

DESIGN SUMMARY

Span: 1, Beam: 4, Interior beam

Beam type:	Adjacent Box Beam,	Bui72X30
Precast Length,	ft	62.58
Release Length,	ft	62.58
Strand Pattern:	Straight	
Strand:	6/10-270K-LL	
Strand Es,	ksi:	28500.0
No. of strands:	24	
	Draped:	0
	Straight:	24
Concrete Strength:		
	f'ci:	6.5 ksi
	f'c:	8.5 ksi
	f'ct:	4.5 ksi
Initial losses:	4.18 %	
Final losses:	11.45 %	

Specification	Allowable	Computed	Location	Status
Release Stresses (ksi) (Art. 5.9.4.1)				
Precast Bot (compression)	3.900	1.905	0.1L/0.9L	OK
Precast Top w/ no reinf. (tension)	-0.200	-0.146	Trans	
Precast Top w/ reinf. (tension)	-0.612			
Strength I (Art. 3.4.1, 5.7.3.1.1)	Provided	Required	Location	Status
Ult. Moment (k.ft)	3739.91	2460.63	Midspan	OK
Debonding Limits (Art. 5.11.4.3)	Allowable	Computed		Status
Max. Debond per Row	40.00 %	33.33 %		OK
Max. Debond Total	25.00 %	25.00 %		OK

Positive Moment Envelope Stresses (ksi) (Art. 3.4.1 and 5.9.4.2)

Specification	Allow	Final 1 Comp	Loc.	Allow	Final 2 Comp	Loc.	Allow	Final 3 Comp	Loc.
Service I Limit State - Compressive	Stresses	Only							
Precast Top	5.100	1.316	Midspan	3.825	0.933	Midspan			
Precast Bot	5.100	1.259	Transfer	3.825	1.572	0.1L/0.9L			
Service III Limit State - Tensile	Stresses	Only							
Precast Top	-0.554	-0.037	Bearing						
Precast Bot	-0.554	0.215	Bearing						
Fatigue I Limit State - Compressive	Stresses	Only							
Precast Top							3.400	0.665	Midspan
Precast Bot							3.400	0.612	Transfer

Negative Moment Envelope Stresses (ksi) (Art. 3.4.1 and 5.9.4.2)

Specification	Allow	Final 1 Comp	Loc.	Allow	Final 2 Comp	Loc.	Allow	Final 3 Comp	Loc.
Service I Limit State - Compressive	Stresses	Only							
Precast Top	5.100	0.779	Midspan	3.825	0.933	Midspan			
Precast Bot	5.100	2.355	0.1L/0.9L	3.825	1.762	0.1L/0.9L			
Service III Limit State - Tensile	Stresses	Only							
Precast Top	-0.554	-0.501	Bearing						
Precast Bot	-0.554	1.130	Bearing						
Fatigue I Limit State - Compressive	Stresses	Only							
Precast Top							3.400	0.375	Midspan
Precast Bot							3.400	1.205	0.1L/0.9L

CAMBER / DEFLECTION: (PCI Design Handbook - 4th Ed.- Table 4.6.2)
0.5 x L = 30.88 ft

	Release	Mult	Erection	Mult	Final
Prestress	1.258	1.80	2.264	2.20	2.767
Self Wt.	-0.595	1.85	-1.101	2.40	-1.429
Deck + Haunch			-0.293	2.30	-0.674
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.055	3.00	-0.164
DL-Comp. (DW)			0.014	3.00	0.041
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.662		0.829		0.542

Positive values indicate upward deflection.

PROPERTIES
Span:3, Beam:4
PRECAST DATA:

Section Id	Bui72X30						
Type	Adjacent Box Beam						
Flng width	Top	72.000	in	Bot	72.000	in
thick	Top	4.000	in	Bot	6.000	in
Stems	No	2				
	Top	6.000	in			
	Bot	6.000	in			
Shear width		12.000	in			

Minimum Thickness Criteria, Article 5.14.1.2.2 checked: OK.

GENERAL BRIDGE DATA:

Bridge Width	124.00	ft
Curb-to-curb	120.00	ft
Beam Spac. Lt./Rt	6.08/ 6.08	ft
Lane width	12.00	ft
Number of lanes	7	
Interior/Exterior	Interior	
Start Skew Angle	0.00	degrees
End Skew Angle	0.00	degrees

TOPPING DATA:

Deck	Thickness	5.000	in	
Haunch:				
	Thickness	3.000	in	
	Width	72.000	in	
Effective	width	73.000	in	(Art. 4.6.2.6.1)

GENERAL LOAD DATA:
DEAD LOADS ON PRECAST - NONE

Dead loads on composite: See Project info for composite loads

GENERAL SPAN DATA:

Overall length	82.833	ft
Release length	82.833	ft
Design length	82.000	ft

KERN POINTS:

Upper	22.75	in
Lower	6.17	in

DISTRIBUTION FACTORS (Art. 4.6.2.2):
Type f, with deck

Live Negative Moment	Left Side	(2+ lanes loaded)	0.651	(Calculated)	(#)
Live Negative Moment	Right Side	(2+ lanes loaded)	0.651	(Calculated)	(#)
Live Negative Moment	Left Side	(1 lane loaded)	0.584	(Calculated)	(#)
Live Negative Moment	Right Side	(1 lane loaded)	0.584	(Calculated)	(#)
Live Positive Moment		(2+ lanes loaded)	0.651	(Calculated)	(#)
Live Positive Moment		(1 lane loaded)	0.584	(Calculated)	(#)
Live Shear		(2+ lanes loaded)	0.651	(Calculated)	(#)
Live Shear		(1 lane loaded)	0.584	(Calculated)	(#)

(#) Lever rule (C4.6.2.2.1)

Pedestrian	0.050	(Calculated)
Comp. DC	0.050	(Calculated)
Comp. DW	0.050	(Calculated)

Dead Loads and Pedestrian Load distributed equally to all beams (Art. 4.6.2.2.1)
RESISTANCE FACTORS (Art. 5.5.4.2):

Flexure Reinforced	
Compression controlled sections	0.75
Tension controlled sections	0.90
Flexure Prestressed	
Compression controlled sections	0.75
Tension controlled sections	1.00
Shear	0.90

SECTION PROPERTIES:

	PRECAST		COMPOSITE		
Area	978.0	in2	1400.7	in2	#
Total Height	30.00	in	38.00	in	
Mom. of Inertia (Ixx)	120856	in4	243816	in4	#
Ht. of c.g.	13.79	in	19.89	in	#
Density	150.00	pcf	150.00	pcf	
Self-weight	1018.8	plf	1624.0	plf	
Mom. of Inertia (Iyy)	588267.0	in4			
Poisson's Ratio	0.2				

178/508

	PRECAST		COMPOSITE		
Thermal Coeff.	0.000006000	1/°F			

(#) Of Total Section using Ect/Ec = 0.7276
Use transformed strand and rebar: No

Span:3, Beam:4
STRESS LIMITS (Art. 5.9.4):
STRESS LIMITS AT RELEASE BEFORE LOSSES:

		PRECAST	
Strength		6.50	ksi
Elasticity		4887.7	ksi
Max comp		3.90	ksi
Max tens		-0.20	ksi
Max tens,	w/reinf	-0.61	ksi

STRESS LIMITS AT FINAL AFTER LOSSES:

	PRECAST		DECK	
Strength	8.50	ksi	4.50	ksi
Elasticity	5589.34	ksi	4066.84	ksi

STRESS LIMITS AT FINAL 1 (P/S + DL + LL):

	PRECAST		DECK	
Max comp	5.10	ksi	2.70	ksi

STRESS LIMITS AT FINAL 2 (P/S + DL):

	PRECAST		DECK	
Max comp	3.83	ksi	2.03	ksi

FATIGUE I STRESS LIMITS AT FINAL 3 (50% P/S + 50% DL + F_LL) (Art. 5.5.3.1):

	PRECAST		DECK	
Max comp	3.40	ksi	-	ksi

SERVICE III (Tension):

	PRECAST		DECK	
Max tens	-0.55	ksi	-0.40	ksi

Span:3, Beam:4
PRESTRESSED STEEL:
34 strands, 6/10-270K-LL, Low relaxation strands

Straight Pattern

END PATTERN (Ycg = 3.19 in):

18 @ 2.250 in	16 @ 4.250 in		

SHIELDING AND REDUCED INITIAL PULLS:

Group	Strands	End	Heights	Mid		End		Shielding	Mid		Distance to center		Initial Frac	Pull Pull/Str	
1	2	2.250	in	2.250	in	4.00	ft		0.00	ft	1.000	in	75.0 %	43.9	kips
2	2	4.250	in	4.250	in	2.00	ft		0.00	ft	1.000	in	75.0 %	43.9	kips
16	2	2.250	in	2.250	in	2.00	ft		0.00	ft	15.000	in	75.0 %	43.9	kips
17	2	2.250	in	2.250	in	4.00	ft		0.00	ft	17.000	in	75.0 %	43.9	kips

Check for Art. 5.11.4.3 (debond termination distances): OK

Strand Diameter	0.600	in
Strand Area	0.217	in2
Total Strand Area	7.378	in2
Trans. Len,bonded	3.000	ft
Trans. Len,debonded	3.000	ft
Dev. Len, bonded	10.432	ft
Dev. Len, debonded	13.040	ft
Holddown Force	0.000	kips
Tensile Strength(fpu)	270.0	ksi
Initial Prestress = 0.75fpu	202.5	ksi
Initial Pull	1494.0	kips
Beam Shrtng (PL/AE)	0.294	in

Span:3, Beam:4
ESTIMATED QUANTITIES

Prestressing (linear ft)	Strands (LB/1000ft)	(LB)	Beam Vol(C.Y.)	Concrete Wt(LB)	Stirrups (LB)	Longitudinal Bars (LB)
2816.332	740	2084.086	20.836	84386.602	583.648	0.000

Span:3, Beam:4
REINFORCING STEEL:

Tension	steel:	
fy	60.0	ksi
Es	29000	ksi
fs	24.0	ksi

Stirrups:

# legs	Size	fy (ksi)	Area (in2)	Spacing (in)	Start (ft)	End (ft)	Extends into Deck
2	US#4[M13]	60.0	0.40	4.00	0.0000	2.0000	Yes
2	US#4[M13]	60.0	0.40	7.00	2.0000	80.8301	Yes
2	US#4[M13]	60.0	0.40	4.00	80.8301	82.8301	Yes

LOSSES

Note: Values are calculated at Midspan

Str. area	7.3780	in2
Ycg	3.19	in
P_init	1494.0	kips
Ecc	10.60	in
Days to release	0.75	
Rel. Humid.(RH)	60.0	%
Es	28500.0	ksi
Eci	4888	ksi

AASHTO LOSSES

Elastic Shortening 10.83 ksi (Eq 5.9.5.2.3a-1), (fcgp= 1.858 ksi)

	Elastic Gains	Gains		Adjustment	
due	to Precast Loads	-2.73	ksi	0.18	ksi
due	to Composite Loads	-0.56	ksi	0.04	ksi
due	to Live Loads	-3.04	ksi	0.25	ksi

Time Dependent Losses (Approximate Method (Art.5.9.5.3))

	Initial			Final		
Steel relaxation	0.00	ksi		2.40	ksi	(Eq 5.9.5.3-1)
Concrete shrinkage	0.00	ksi		8.80	ksi	(Eq 5.9.5.3-1)
Concrete creep	0.00	ksi		11.20	ksi	(Eq 5.9.5.3-1)
Sub-total	10.83	ksi	(5.35 %)	16.53	ksi	(8.17 %)
Total Prestress Losses				27.37	ksi	(13.52 %)

Prestressing Stress Limit Check (Table 5.9.3.1)
initial fpi = 202.5 ksi < 0.75 fpu, OK
initial fpe = 175.1 ksi < 0.80 fpy, OK

181/508

SHEAR/MOMENT ENVELOPE (&REACTIONS)

SHEAR AND MOMENT ENVELOPE : Span : 3, Beam : 4, SERVICE I
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
Self wt. :	M	0.0	104.5	64.9	297.1	541.7	716.5	821.3	856.3
(Max)	V	41.8	39.1	40.2	33.8	25.3	16.9	8.4	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	62.1	38.5	176.5	321.8	425.6	487.9	508.7
Haunch (Max)	V	24.8	23.3	23.9	20.1	15.0	10.0	5.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-185.3	-147.5	-161.8	-79.9	0.9	55.4	87.6	97.6
DC(Max)	V	15.1	14.0	14.4	11.6	7.9	5.2	2.5	0.1
DL-Comp :	M	-86.4	-71.7	-77.3	-44.4	-9.6	15.5	31.0	36.9
DW(Max)	V	5.9	5.5	5.7	4.8	3.6	2.5	1.3	0.1
LL + I :	M+	171.5	169.3	168.0	221.2	454.6	707.8	863.1	905.9
	V	10.2	13.5	12.2	20.4	23.9	13.7	3.7	20.2
LL + I :	M-	-982.4	-840.6	-893.3	-606.1	-388.4	-364.4	-313.0	-261.5
	V	53.9	49.7	51.3	41.3	9.9	6.2	6.2	6.2
LL + I :	Vmx	74.8	71.9	73.0	66.0	56.5	46.8	37.3	29.9
	M	-424.7	-302.9	-349.6	-65.5	275.1	512.1	638.0	702.2
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	-0.0	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0
Total :	M+	0.0	116.7	32.4	570.3	1309.5	1920.8	2291.0	2405.4
	V	0.0	95.4	96.3	90.6	75.9	48.3	21.0	20.5
Total :	M-	-1254.0	-893.2	-1029.0	-257.0	0.0	0.0	0.0	0.0
	V	141.4	131.6	135.4	111.5	0.0	0.0	0.0	0.0
Total :	Vmx	162.4	153.8	157.1	136.3	108.4	81.4	54.6	30.2
	M	-696.4	-355.5	-485.3	283.7	1129.9	1725.0	2065.8	2201.6

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	49.28	57.57	65.85	74.13	80.42	79.42	82.00
Self wt. :	M	821.3	716.5	541.7	297.1	64.9	104.5	0.0
(Max)	V	8.4	16.9	25.3	33.8	40.2	39.1	41.8
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	487.9	425.6	321.8	176.5	38.5	62.1	0.0
Haunch (Max)	V	5.0	10.0	15.0	20.1	23.9	23.3	24.8

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	85.4	51.0	-5.5	-88.6	-172.1	-157.6	-195.9
DC(Max)	V	2.8	5.5	8.2	11.9	14.6	14.2	15.3
DL-Comp :	M	33.2	19.8	-3.2	-35.8	-67.0	-61.7	-75.8
DW(Max)	V	1.0	2.2	3.4	4.5	5.4	5.3	5.6
LL + I :	M+	863.1	707.8	454.6	221.2	168.0	169.3	171.5
	V	3.7	13.7	23.9	20.4	12.2	13.5	10.2
LL + I :	M-	-313.0	-364.4	-388.4	-606.1	-893.3	-840.6	-982.3
	V	6.2	6.2	9.9	41.3	51.3	49.7	53.9
LL + I :	Vmx	37.3	46.8	56.5	66.0	73.0	71.9	74.8
	M	638.0	512.1	275.1	-65.5	-349.6	-302.9	-424.7
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0
Total :	M+	2291.0	1920.8	1309.4	570.3	32.3	116.6	0.0
	V	21.0	48.3	75.9	90.6	96.3	95.4	0.0
Total :	M-	0.0	0.0	0.0	-257.0	-1029.1	-893.3	-1254.1
	V	0.0	0.0	0.0	111.5	135.3	131.6	141.4
Total :	Vmx	54.6	81.4	108.4	136.3	157.1	153.7	162.3
	M	2065.8	1725.0	1129.9	283.6	-485.4	-355.7	-696.4

REACTIONS (kips), SERVICE I

Load Type		Left Support	Right Support
Self Wt.		41.8	41.8
Deck+Haunch		24.8	24.8
Diaphragm		0.0	0.0
DL-Prec.(DC)		0.0	0.0
DL-Prec.(DW)		0.0	0.0
DL-Comp.(DC)		617.3	632.9
DL-Comp.(DW)		249.9	234.3
Live	(Max)	137.8	137.8
Live	(Min)	-16.4	-16.4
Pedestrian	(Max)	0.1	0.1
Pedestrian	(Min)	-0.0	-0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.
Live Load reaction reported at intermediate supports is full reaction at support.

SHEAR AND MOMENT ENVELOPE : Span : 3, Beam : 4, SERVICE III
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
Self wt. :	M	0.0	104.5	64.9	297.1	541.7	716.5	821.3	856.3
(Max)	V	41.8	39.1	40.2	33.8	25.3	16.9	8.4	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	62.1	38.5	176.5	321.8	425.6	487.9	508.7
Haunch (Max)	V	24.8	23.3	23.9	20.1	15.0	10.0	5.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-185.3	-147.5	-161.8	-79.9	0.9	55.4	87.6	97.6
DC(Max)	V	15.1	14.0	14.4	11.6	7.9	5.2	2.5	0.1
DL-Comp :	M	-86.4	-71.7	-77.3	-44.4	-9.6	15.5	31.0	36.9
DW(Max)	V	5.9	5.5	5.7	4.8	3.6	2.5	1.3	0.1
LL + I :	M+	137.2	135.5	134.4	176.9	363.7	566.3	690.5	724.8
	V	8.2	10.8	9.8	16.3	19.2	10.9	3.0	16.2
LL + I :	M-	-785.9	-672.5	-714.7	-484.9	-310.7	-291.5	-250.4	-209.2
	V	43.1	39.8	41.1	33.0	8.0	5.0	5.0	5.0
LL + I :	Vmx	59.8	57.5	58.4	52.8	45.2	37.4	29.9	23.9
	M	-339.8	-242.3	-279.7	-52.4	220.1	409.7	510.4	561.7
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	-0.0	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0
Total :	M+	0.0	82.9	0.0	526.1	1218.5	1779.2	2118.4	2224.2
	V	0.0	92.7	0.0	86.5	71.1	45.5	20.3	16.4
Total :	M-	-1057.6	-725.1	-850.3	-135.7	0.0	0.0	0.0	0.0
	V	130.7	121.7	125.2	103.3	0.0	0.0	0.0	0.0
Total :	Vmx	147.4	139.4	142.5	123.1	97.1	72.0	47.2	24.2
	M	-611.4	-294.9	-415.3	296.8	1074.9	1622.6	1938.2	2061.2

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	49.28	57.57	65.85	74.13	80.42	79.42	82.00
Self wt. :	M	821.3	716.5	541.7	297.1	64.9	104.5	0.0
(Max)	V	8.4	16.9	25.3	33.8	40.2	39.1	41.8
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	487.9	425.6	321.8	176.5	38.5	62.1	0.0
Haunch (Max)	V	5.0	10.0	15.0	20.1	23.9	23.3	24.8
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	85.4	51.0	-5.5	-88.6	-172.1	-157.6	-195.9
DC(Max)	V	2.8	5.5	8.2	11.9	14.6	14.2	15.3
DL-Comp :	M	33.2	19.8	-3.2	-35.8	-67.0	-61.7	-75.8
DW(Max)	V	1.0	2.2	3.4	4.5	5.4	5.3	5.6
LL + I :	M+	690.5	566.3	363.7	176.9	134.4	135.5	137.2
	V	3.0	10.9	19.2	16.3	9.8	10.8	8.2
LL + I :	M-	-250.4	-291.5	-310.7	-484.9	-714.7	-672.4	-785.9
	V	5.0	5.0	8.0	33.0	41.1	39.8	43.1
LL + I :	Vmx	29.9	37.4	45.2	52.8	58.4	57.5	59.8
	M	510.4	409.7	220.1	-52.4	-279.7	-242.3	-339.8
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0
Total :	M+	2118.3	1779.2	1218.5	526.1	0.0	82.7	0.0
	V	20.3	45.5	71.1	86.5	0.0	92.6	0.0
Total :	M-	0.0	0.0	0.0	-135.8	-850.4	-725.2	-1057.6
	V	0.0	0.0	0.0	103.3	125.1	121.6	130.6
Total :	Vmx	47.2	72.0	97.1	123.1	142.4	139.4	147.3
	M	1938.2	1622.6	1074.9	296.7	-415.5	-295.1	-611.5

SHEAR AND MOMENT ENVELOPE : Span : 3, Beam : 4, STRENGTH I
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
Self wt. :	M	0.0	130.6	81.1	371.3	677.1	895.6	1026.6	1070.3
(Max)	V	52.2	48.9	50.2	42.2	31.6	21.1	10.5	0.0
Self wt. :	M	0.0	94.1	58.4	267.4	487.5	644.8	739.2	770.6
(Min)	V	37.6	35.2	36.1	30.4	22.8	15.2	7.6	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	77.6	48.2	220.6	402.3	532.0	609.9	635.8
Haunch (Max)	V	31.0	29.1	29.8	25.1	18.8	12.5	6.3	0.0
Deck + :	M	0.0	55.9	34.7	158.8	289.6	383.1	439.1	457.8
Haunch (Min)	V	22.3	20.9	21.5	18.0	13.5	9.0	4.5	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-231.6	-184.4	-202.2	-99.9	1.2	69.2	109.5	122.0
DC(Max)	V	18.9	17.5	18.0	14.5	9.9	6.5	3.2	0.2
DL-Comp :	M	-166.7	-132.8	-145.6	-71.9	0.9	49.8	78.8	87.8
DC(Min)	V	13.6	12.6	13.0	10.5	7.1	4.7	2.3	0.1
DL-Comp :	M	-129.6	-107.5	-115.9	-66.7	-14.5	23.3	46.5	55.4
DW(Max)	V	8.8	8.3	8.5	7.2	5.4	3.7	1.9	0.2
DL-Comp :	M	-56.2	-46.6	-50.2	-28.9	-6.3	10.1	20.2	24.0
DW(Min)	V	3.8	3.6	3.7	3.1	2.4	1.6	0.8	0.1
LL + I :	M+	300.1	296.3	294.0	387.1	795.6	1238.7	1510.5	1585.4
	V	17.8	23.7	21.4	35.7	41.9	24.0	6.6	35.4
LL + I :	M-	-1719.1	-1471.0	-1563.3	-1060.6	-679.8	-637.8	-547.7	-457.6
	V	94.3	87.0	89.8	72.3	17.4	10.9	10.9	10.9
LL + I :	Vmx	130.9	125.9	127.8	115.6	98.9	81.9	65.3	52.3
	M	-743.2	-530.1	-611.8	-114.6	481.5	896.1	1116.5	1228.8
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.1	-0.1	-0.1	-0.0	-0.0	-0.0	-0.0	-0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	-0.1	-0.1	-0.1	-0.0	-0.0	0.0	0.0	0.0
Total :	M+	77.2	325.2	227.5	878.2	1870.0	2758.8	3303.1	3469.0
	V	123.5	122.5	122.9	124.7	107.7	67.8	28.5	35.7
Total :	M-	-2080.4	-1613.0	-1788.4	-801.1	0.0	0.0	0.0	0.0
	V	176.9	164.2	169.1	134.3	0.0	0.0	0.0	0.0
Total :	Vmx	241.9	229.6	234.4	204.5	164.7	125.8	87.3	52.7
	M	-1104.5	-613.8	-800.7	310.7	1547.6	2416.2	2909.0	3112.3

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	49.28	57.57	65.85	74.13	80.42	79.42	82.00
Self wt. :	M	1026.6	895.6	677.1	371.3	81.1	130.6	0.0
(Max)	V	10.5	21.1	31.6	42.2	50.2	48.9	52.2
Self wt. :	M	739.2	644.8	487.5	267.4	58.4	94.1	0.0
(Min)	V	7.6	15.2	22.8	30.4	36.1	35.2	37.6
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	609.9	532.0	402.3	220.6	48.2	77.6	0.0
Haunch (Max)	V	6.3	12.5	18.8	25.1	29.8	29.1	31.0
Deck + :	M	439.1	383.1	289.6	158.8	34.7	55.9	0.0
Haunch (Min)	V	4.5	9.0	13.5	18.0	21.5	20.9	22.3
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	106.8	63.8	-6.9	-110.7	-215.1	-197.0	-244.9
DC(Max)	V	3.5	6.9	10.2	14.9	18.2	17.7	19.1
DL-Comp :	M	76.9	45.9	-5.0	-79.7	-154.9	-141.9	-176.3
DC(Min)	V	2.5	4.9	7.4	10.7	13.1	12.7	13.7
DL-Comp :	M	49.8	29.7	-4.8	-53.8	-100.6	-92.6	-113.7
DW(Max)	V	1.6	3.3	5.0	6.8	8.1	7.9	8.4
DL-Comp :	M	21.6	12.9	-2.1	-23.3	-43.6	-40.1	-49.2
DW(Min)	V	0.7	1.4	2.2	2.9	3.5	3.4	3.7
LL + I :	M+	1510.5	1238.7	795.6	387.1	294.0	296.3	300.1
	V	6.6	24.0	41.9	35.7	21.4	23.7	17.8
LL + I :	M-	-547.7	-637.8	-679.8	-1060.6	-1563.3	-1471.0	-1719.1
	V	10.9	10.9	17.4	72.3	89.8	87.0	94.3
LL + I :	Vmx	65.3	81.9	98.9	115.6	127.8	125.9	130.9
	M	1116.5	896.1	481.5	-114.5	-611.8	-530.0	-743.2
Pedestrian:	M+	0.1	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	-0.0	-0.0	-0.0	-0.0	-0.1	-0.1	-0.1
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	-0.0	-0.0	-0.1	-0.1	-0.1
Total :	M+	3303.6	2759.8	1868.0	876.0	224.8	322.6	74.5
	V	28.4	67.7	107.6	124.6	127.8	127.3	128.6
Total :	M-	0.0	0.0	0.0	-799.0	-1786.0	-1610.7	-2077.8
	V	0.0	0.0	0.0	134.3	164.1	159.4	171.6
Total :	Vmx	87.2	125.7	164.6	204.5	234.2	229.5	241.7
	M	2909.6	2417.2	1549.2	312.8	-798.3	-611.5	-1101.9

REACTIONS (kips), STRENGTH I

Load Type		Left Support	Right Support
Self Wt.		52.2	52.2
Deck+Haunch		31.0	31.0
Diaphragm		0.0	0.0
DL-Prec.(DC)		0.0	0.0
DL-Prec.(DW)		0.0	0.0
DL-Comp.(DC)		771.7	791.1
DL-Comp.(DW)		374.8	351.5
Live	(Max)	241.1	241.1
Live	(Min)	-28.7	-28.7
Pedestrian	(Max)	0.2	0.2
Pedestrian	(Min)	-0.0	-0.0

Upward reactions are positive.
Live Load reactions are per lane with no distribution factor and no impact.
Reactions are not multiplied by Load Modifiers (ductility, redundancy and operational importance).
Non-composite load types are per beam.
Composite and Pedestrian load types are per total bridge width.

Live Load reaction reported at intermediate supports is full reaction at support.

SHEAR AND MOMENT ENVELOPE : Span : 3, Beam : 4, FATIGUE I
Shears: kips, Moments: kft

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Location,	ft	0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
Self wt. :	M	0.0	104.5	64.9	297.1	541.7	716.5	821.3	856.3
(Max)	V	41.8	39.1	40.2	33.8	25.3	16.9	8.4	0.0
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	0.0	62.1	38.5	176.5	321.8	425.6	487.9	508.7
Haunch (Max)	V	24.8	23.3	23.9	20.1	15.0	10.0	5.0	0.0
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-185.3	-147.5	-161.8	-79.9	0.9	55.4	87.6	97.6
DC(Max)	V	15.1	14.0	14.4	11.6	7.9	5.2	2.5	0.1
DL-Comp :	M	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	-86.4	-71.7	-77.3	-44.4	-9.6	15.5	31.0	36.9
DW(Max)	V	5.9	5.5	5.7	4.8	3.6	2.5	1.3	0.1
DL-Comp :	M	-0.0	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	87.2	84.2	83.9	114.7	261.7	419.7	504.4	511.9
	V	4.9	4.3	4.6	3.2	7.0	0.6	6.0	14.3
LL + I :	M-	-341.2	-325.2	-331.3	-294.5	-251.9	-209.3	-166.8	-124.2
	V	30.9	22.4	25.7	5.1	5.1	5.1	5.1	5.1
LL + I :	Vmx	47.0	44.5	45.4	39.4	32.9	26.3	19.8	16.4
	M	-206.1	-131.4	-160.0	13.2	217.9	349.0	401.6	457.8
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M+	0.0	31.6	0.0	463.8	1116.6	1632.6	1932.2	2011.4
	V	0.0	86.2	0.0	73.4	59.0	35.2	23.3	14.6

188/508

		Bearing	Trans	H/2	0.10L	0.20L	0.30L	0.40L	Midspan
Total :	M-	-612.8	-377.7	-466.9	0.0	0.0	0.0	0.0	0.0
	V	118.5	104.3	109.8	0.0	0.0	0.0	0.0	0.0
Total :	Vmx	134.6	126.4	129.5	109.6	84.8	60.9	37.1	16.7
	M	-477.7	-184.0	-295.6	362.3	1072.7	1561.9	1829.4	1957.2

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Location,	ft	49.28	57.57	65.85	74.13	80.42	79.42	82.00
Self wt. :	M	821.3	716.5	541.7	297.1	64.9	104.5	0.0
(Max)	V	8.4	16.9	25.3	33.8	40.2	39.1	41.8
Self wt. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Prec. :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deck + :	M	487.9	425.6	321.8	176.5	38.5	62.1	0.0
Haunch (Max)	V	5.0	10.0	15.0	20.1	23.9	23.3	24.8
Deck + :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haunch (Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Max)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diaphragm :	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	85.4	51.0	-5.5	-88.6	-172.1	-157.6	-195.9
DC(Max)	V	2.8	5.5	8.2	11.9	14.6	14.2	15.3
DL-Comp :	M	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0
DC(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DL-Comp :	M	33.2	19.8	-3.2	-35.8	-67.0	-61.7	-75.8
DW(Max)	V	1.0	2.2	3.4	4.5	5.4	5.3	5.6
DL-Comp :	M	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0
DW(Min)	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LL + I :	M+	504.4	419.7	261.7	114.7	83.9	84.2	87.2
	V	6.0	0.6	7.0	3.2	4.6	4.3	4.9
LL + I :	M-	-166.8	-209.3	-251.9	-294.5	-331.3	-325.2	-341.2
	V	5.1	5.1	5.1	5.1	25.7	22.4	30.9
LL + I :	Vmx	19.8	26.3	32.9	39.4	45.4	44.5	47.0
	M	401.6	349.0	217.9	13.2	-160.0	-131.4	-206.1
Pedestrian:	M+	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	M-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	V	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian:	Vmx	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total :	M+	1932.2	1632.6	1116.5	463.8	0.0	31.4	0.0
	V	23.3	35.2	59.0	73.4	0.0	86.2	0.0
Total :	M-	0.0	0.0	0.0	0.0	-467.0	-377.9	-612.9
	V	0.0	0.0	0.0	0.0	109.7	104.2	118.4

		0.60L	0.70L	0.80L	0.90L	H/2	Trans	Bearing
Total :	Vmx	37.1	60.9	84.8	109.6	129.5	126.3	134.5
	M	1829.4	1561.9	1072.7	362.3	-295.7	-184.1	-477.8

POSITIVE ENVELOPE STRESSES

Span : 3, Beam : 4, SERVICE I

RELEASE STRESSES, (ksi) (LOSS = 5.35 %)

	Trans	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	3.00	8.28	16.57	24.85	33.13	41.42
Beam-Self						
Precast-top	0.196	0.506	0.900	1.181	1.350	1.406
Bottom	-0.167	-0.431	-0.766	-1.005	-1.149	-1.196
Prestress						
Precast-top	-0.434	-0.564	-0.564	-0.564	-0.564	-0.564
Bottom	2.520	3.156	3.156	3.156	3.156	3.156
Total						
Precast-top	-0.237	-0.058	0.336	0.617	0.786	0.842
Bottom	2.353	2.725	2.390	2.151	2.008	1.960

SERVICE I

POSITIVE ENVELOPE STRESSES, (ksi) (LOSS = 13.52 %)

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
Prestress								
Precast-top	-0.052	-0.396	-0.251	-0.516	-0.516	-0.516	-0.516	-0.516
Bottom	0.304	2.303	1.460	2.884	2.884	2.884	2.884	2.884
Self wt.								
Precast-top	0.000	0.168	0.104	0.478	0.872	1.153	1.322	1.378
Bottom	-0.000	-0.143	-0.089	-0.407	-0.742	-0.981	-1.125	-1.172
DL-Prec (DC)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
DL-Prec (DW)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Diaphragm								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Deck + Haunch								
Precast-top	0.000	0.100	0.062	0.284	0.518	0.685	0.785	0.819
Bottom	-0.000	-0.085	-0.053	-0.242	-0.441	-0.583	-0.668	-0.696
DL-Comp (DC)								
Precast-top	-0.092	-0.073	-0.080	-0.040	0.000	0.028	0.044	0.049
Bottom	0.181	0.144	0.158	0.078	-0.001	-0.054	-0.086	-0.096
DL-Comp (DW)								
Precast-top	-0.043	-0.036	-0.038	-0.022	-0.005	0.008	0.015	0.018
Bottom	0.085	0.070	0.076	0.044	0.009	-0.015	-0.030	-0.036
LL+I(+)								
Precast-top	0.085	0.084	0.084	0.110	0.226	0.352	0.429	0.451
Bottom	-0.168	-0.166	-0.165	-0.217	-0.445	-0.693	-0.845	-0.887
Pedestrian(+)								
Precast-top	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Final 1 (P/S + DL + LL)								
Precast-top	-0.102	-0.153	-0.120	0.295	1.096	1.710	2.080	2.199
Bottom	0.402	2.123	1.388	2.141	1.265	0.558	0.130	-0.004
Final 2 (P/S + DL)								
Precast-top	-0.187	-0.237	-0.203	0.185	0.870	1.358	1.651	1.748
Bottom	0.570	2.289	1.552	2.357	1.710	1.251	0.975	0.883

Span : 3, Beam : 4, SERVICE III

RELEASE STRESSES, (ksi) (LOSS = 5.35 %)

	Trans	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	3.00	8.28	16.57	24.85	33.13	41.42
Beam-Self						
Precast-top	0.196	0.506	0.900	1.181	1.350	1.406
Bottom	-0.167	-0.431	-0.766	-1.005	-1.149	-1.196

	Trans	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Prestress						
Precast-top	-0.434	-0.564	-0.564	-0.564	-0.564	-0.564
Bottom	2.520	3.156	3.156	3.156	3.156	3.156
Total						
Precast-top	-0.237	-0.058	0.336	0.617	0.786	0.842
Bottom	2.353	2.725	2.390	2.151	2.008	1.960
As_top, in2	0.782	0.000	0.000	0.000	0.000	0.000
Ast_prvd, in2	0.000*	0.000	0.000	0.000	0.000	0.000

SERVICE III

POSITIVE ENVELOPE STRESSES, (ksi) (LOSS = 13.52 %)

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
Prestress								
Precast-top	-0.052	-0.396	-0.251	-0.516	-0.516	-0.516	-0.516	-0.516
Bottom	0.304	2.303	1.460	2.884	2.884	2.884	2.884	2.884
Self wt.								
Precast-top	0.000	0.168	0.104	0.478	0.872	1.153	1.322	1.378
Bottom	-0.000	-0.143	-0.089	-0.407	-0.742	-0.981	-1.125	-1.172
DL-Prec (DC)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
DL-Prec (DW)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Diaphragm								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Deck + Haunch								
Precast-top	0.000	0.100	0.062	0.284	0.518	0.685	0.785	0.819
Bottom	-0.000	-0.085	-0.053	-0.242	-0.441	-0.583	-0.668	-0.696
DL-Comp (DC)								
Precast-top	-0.092	-0.073	-0.080	-0.040	0.000	0.028	0.044	0.049

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Bottom	0.181	0.144	0.158	0.078	-0.001	-0.054	-0.086	-0.096
DL-Comp (DW)								
Precast-top	-0.043	-0.036	-0.038	-0.022	-0.005	0.008	0.015	0.018
Bottom	0.085	0.070	0.076	0.044	0.009	-0.015	-0.030	-0.036
LL+I(+)								
Precast-top	0.068	0.067	0.067	0.088	0.181	0.282	0.343	0.361
Bottom	-0.134	-0.133	-0.132	-0.173	-0.356	-0.554	-0.676	-0.710
Pedestrian(+)								
Precast-top	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Final 1 (P/S + DL + LL)								
Precast-top	-0.119	-0.170	-0.137	0.273	1.051	1.639	1.994	2.109
Bottom	0.436	2.157	1.421	2.184	1.354	0.696	0.299	0.174

Span : 3, Beam : 4, FATIGUE I
POSITIVE ENVELOPE STRESSES, (ksi)

		Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft		0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
F_LL+I(+)									
Precast-top		0.043	0.042	0.042	0.057	0.130	0.209	0.251	0.255
Bottom		-0.085	-0.082	-0.082	-0.112	-0.256	-0.411	-0.494	-0.501
Pedestrian(+)									
Precast-top		-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom		-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Final 3 (50% P/S	+ 50%	DL + F_LL)							
Precast-top		-0.050	-0.077	-0.060	0.149	0.565	0.888	1.076	1.129
Bottom		0.200	1.062	0.694	1.066	0.599	0.214	-0.006	-0.060

VERTICAL/HORIZONTAL SHEAR

VERTICAL SHEAR (Art. 5.8) - Span : 3, Beam : 4, STRENGTH I

Using General Beta Theta Equation procedure - Art.5.8.3.4.2

Location(ft) / Vu (kips) / Mcor (kft)	bv (in) / a (in)	de (in) / dv (in)	Aps (in2) / fpo (ksi)	Vp (kips) / vu/fc	eps_x / Vc-com (kips)	Theta / Beta	Vs-reqd (kips) / Max.spc. (in)	Av/s (in2/ft) / min.Av/s (in2/ft)	Av-prvd (in2/ft) / pVn/Vu	Al_reqd (in2) / Aps* (in2)
Bearing :	0.42									
241.9	12.00	34.79	0.000	0.0	1.46e-3	34.1	182.9	0.731	1.200	9.05
-1104.5	1.72	33.93	26.2	0.078	85.8	2.29	24.00	0.221	1.437	0.171
Transfer :	3.00									
229.6	12.00	34.79	0.000	0.0	1.35e-3	33.7	165.8	0.653	0.686	3.61
-613.8	1.72	33.93	189.0	0.074	89.4	2.38	24.00	0.221	1.033	0.942
Critical :	3.24									
228.5	12.00	34.79	0.000	0.0	1.38e-3	33.8	165.4	0.654	0.686	7.58
-580.6	1.72	33.93	189.0	0.073	88.4	2.36	24.00	0.221	1.032	0.000
0.1L :	8.28									
204.5	12.00	34.81	7.378	0.0	-0.24e-3	28.2	24.7	0.221	0.686	0.00
310.7	8.70	31.33	189.0	0.071	202.6	5.85	24.00	0.221	1.774	5.563
0.2L :	16.57									
164.7	12.00	34.81	7.378	0.0	-0.15e-3	28.5	0.0	0.221	0.686	0.00
1547.6	9.10	31.33	189.0	0.057	188.1	5.43	24.00	0.221	2.111	7.337
0.3L :	24.85									
125.8	12.00	34.81	7.378	0.0	-0.08e-3	28.7	0.0	0.221	0.686	0.00
2416.2	9.05	31.33	189.0	0.044	177.4	5.12	24.00	0.221	2.673	7.378
0.4L :	33.13									
87.3	12.00	34.81	7.378	0.0	-0.05e-3	28.8	0.0	0.221	0.686	0.00
2909.0	9.05	31.33	189.0	0.030	172.3	4.97	24.00	0.221	3.789	7.378
0.5L :	41.42									
52.7	12.00	34.81	7.378	0.0	-0.04e-3	28.9	0.0	0.221	0.686	0.00
3112.3	9.05	31.33	189.0	0.018	170.9	4.93	24.00	0.221	6.246	7.378
0.6L :	49.70									
87.2	12.00	34.81	7.378	0.0	-0.05e-3	28.8	0.0	0.221	0.686	0.00
2909.6	9.05	31.33	189.0	0.030	172.3	4.97	24.00	0.221	3.792	7.378
0.7L :	57.98									
125.7	12.00	34.81	7.378	0.0	-0.08e-3	28.7	0.0	0.221	0.686	0.00

Location(ft) Vu (kips) Mcor (kft)	bv (in) a (in)	de (in) dv (in)	Aps (in2) fpo (ksi)	Vp (kips) vu/fc	eps_x Vc-com (kips)	Theta Beta	Vs-reqd (kips) Max.spc. (in)	Av/s (in2/ft) min.Av/s (in2/ft)	Av-prvd (in2/ft) pVn/Vu	Al_reqd (in2) Aps* (in2)
2417.2	9.05	31.33	189.0	0.044	177.4	5.12	24.00	0.221	2.674	7.378
0.8L :	66.27									
164.6	12.00	34.81	7.378	0.0	-0.15e-3	28.5	0.0	0.221	0.686	0.00
1549.2	9.10	31.33	189.0	0.057	188.1	5.43	24.00	0.221	2.112	7.337
0.9L :	74.55									
204.5	12.00	34.81	7.378	0.0	-0.24e-3	28.2	24.6	0.221	0.686	0.00
312.8	8.70	31.33	189.0	0.071	202.6	5.85	24.00	0.221	1.775	5.563
Critical :	79.59									
228.3	12.00	34.79	0.000	0.0	1.38e-3	33.8	165.3	0.653	0.686	7.56
-578.2	1.72	33.93	189.0	0.073	88.4	2.36	24.00	0.221	1.032	0.000
Transfer :	79.83									
229.5	12.00	34.79	0.000	0.0	1.36e-3	33.7	165.6	0.652	0.686	3.59
-611.5	1.72	33.93	189.0	0.074	89.3	2.38	24.00	0.221	1.033	0.942
Bearing :	82.42									
241.7	12.00	34.79	0.000	0.0	1.46e-3	34.1	182.7	0.730	1.200	9.03
-1101.9	1.72	33.93	26.2	0.078	85.9	2.29	24.00	0.221	1.439	0.171

ANCHORAGE ZONE REINFORCEMENT (Art. 5.10.10)
Span : 3, Beam : 4

Fpi (kips)	fs (ksi)	h/4 (in)	Abrst_rqrd (in2)
1142.50	20.00	7.50	2.29

HORIZONTAL SHEAR (Art. 5.8.4) - Span : 3, Beam : 4
(Beam and Slab effects are INCLUDED in Vu).
Computed Interface width considered to be engaged in shear transfer, bvi = 72.00(in).

Location (ft) Vu (kips)	Vnh-req (kips/in)	de (in)	a (in)	dv (in)	s_max (in)	Avh-min (in2/ft)	Avh-sm (in2/ft)	Avh-rg (in2/ft)	Avh-prvd (in2/ft)
Bearing :	0.00								
241.9	7.92	34.79	1.72	33.93	24.00	0.720	0.840	0.000	1.200

196/508

Location (ft) / Vu (kips)	Vnh-req (kips/in)	de (in)	a (in)	dv (in)	s_max (in)	Avh-min (in2/ft)	Avh-sm (in2/ft)	Avh-rg (in2/ft)	Avh-prvd (in2/ft)
Transfer : 229.6	2.58 7.52	34.79	1.72	33.93	24.00	0.720	0.706	0.000	**0.686***
Critical : 228.5	2.83 7.48	34.79	1.72	33.93	24.00	0.720	0.694	0.000	**0.686***
0.1L : 204.5	7.87 7.46	34.81	8.70	30.46	24.00	0.720	0.687	0.000	**0.686***
0.2L : 164.7	16.15 6.05	34.81	9.10	30.26	24.00	0.720	0.215	0.000	0.686
0.3L : 125.8	24.43 4.61	34.81	9.05	30.28	24.00	0.720	0.000	0.000	0.686
0.4L : 87.3	32.72 3.20	34.81	9.05	30.28	24.00	0.720	0.000	0.000	0.686
0.5L : 52.7	41.00 1.93	34.81	9.05	30.28	24.00	0.720	0.000	0.000	0.686
0.6L : 87.2	49.28 3.20	34.81	9.05	30.28	24.00	0.720	0.000	0.000	0.686
0.7L : 125.7	57.57 4.61	34.81	9.05	30.28	24.00	0.720	0.000	0.000	0.686
0.8L : 164.6	65.85 6.04	34.81	9.10	30.26	24.00	0.720	0.215	0.000	0.686
0.9L : 204.5	74.13 7.46	34.81	8.70	30.46	24.00	0.720	0.686	0.000	**0.686***
Critical : 228.3	79.17 7.48	34.79	1.72	33.93	24.00	0.720	0.692	0.000	**0.686***
Transfer : 229.5	79.42 7.51	34.79	1.72	33.93	24.00	0.720	0.705	0.000	**0.686***
Bearing : 241.7	82.00 7.91	34.79	1.72	33.93	24.00	0.720	0.838	0.000	1.200

CAMBER/DEFLECTION

CAMBER AND DEFLECTIONS: SERVICE I
(Span : 3, Beam : 4; Units: in)

	Release	Mult	Erection	Mult	Final
At 0.1 x L =	7.87 ft				
Prestress	1.111	1.80	2.000	2.20	2.445
Self Wt.	-0.573	1.85	-1.061	2.40	-1.376
Deck + Haunch			-0.275	2.30	-0.632
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.009	3.00	-0.026
DL-Comp. (DW)			-0.001	3.00	-0.003
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.538		0.655		0.407

	Release	Mult	Erection	Mult	Final
At 0.2 x L =	16.15 ft				
Prestress	1.989	1.80	3.580	2.20	4.375
Self Wt.	-1.085	1.85	-2.007	2.40	-2.604
Deck + Haunch			-0.534	2.30	-1.229
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.024	3.00	-0.073
DL-Comp. (DW)			-0.006	3.00	-0.017
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.904		1.008		0.451

	Release	Mult	Erection	Mult	Final
At 0.3 x L =	24.43 ft				
Prestress	2.615	1.80	4.708	2.20	5.754
Self Wt.	-1.485	1.85	-2.748	2.40	-3.565
Deck + Haunch			-0.738	2.30	-1.697
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.040	3.00	-0.121
DL-Comp. (DW)			-0.012	3.00	-0.035
Live Load	Not Included				
Pedestrian Load					-0.000
Total	1.130		1.170		0.336

	Release	Mult	Erection	Mult	Final
At 0.4 x L =	32.72 ft				
Prestress	2.991	1.80	5.385	2.20	6.581
Self Wt.	-1.740	1.85	-3.218	2.40	-4.175
Deck + Haunch			-0.867	2.30	-1.994
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.052	3.00	-0.155
DL-Comp. (DW)			-0.016	3.00	-0.049
Live Load	Not Included				
Pedestrian Load					-0.000
Total	1.252		1.231		0.208

	Release	Mult	Erection	Mult	Final
At 0.5 x L =	41.00 ft				
Prestress	3.117	1.80	5.610	2.20	6.857
Self Wt.	-1.827	1.85	-3.380	2.40	-4.384
Deck + Haunch			-0.911	2.30	-2.096
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.055	3.00	-0.166
DL-Comp. (DW)			-0.018	3.00	-0.055
Live Load	Not Included				
Pedestrian Load					-0.000
Total	1.290		1.246		0.155

	Release	Mult	Erection	Mult	Final
At 0.6 x L =	49.28 ft				
Prestress	2.991	1.80	5.385	2.20	6.581
Self Wt.	-1.740	1.85	-3.218	2.40	-4.175
Deck + Haunch			-0.867	2.30	-1.994
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.051	3.00	-0.153
DL-Comp. (DW)			-0.017	3.00	-0.051
Live Load	Not Included				
Pedestrian Load					-0.000
Total	1.252		1.231		0.208

	Release	Mult	Erection	Mult	Final
At 0.7 x L =	57.57 ft				
Prestress	2.615	1.80	4.708	2.20	5.754
Self Wt.	-1.485	1.85	-2.748	2.40	-3.565
Deck + Haunch			-0.738	2.30	-1.697
DL-Prec. (DC)			0.000	3.00	0.000

	Release	Mult	Erection	Mult	Final
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.039	3.00	-0.117
DL-Comp. (DW)			-0.013	3.00	-0.039
Live Load	Not Included				
Pedestrian Load					-0.000
Total	1.130		1.170		0.336

	Release	Mult	Erection	Mult	Final
At 0.8 x L =	65.85 ft				
Prestress	1.989	1.80	3.580	2.20	4.375
Self Wt.	-1.085	1.85	-2.007	2.40	-2.604
Deck + Haunch			-0.534	2.30	-1.229
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.023	3.00	-0.069
DL-Comp. (DW)			-0.007	3.00	-0.022
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.904		1.008		0.451

	Release	Mult	Erection	Mult	Final
At 0.9 x L =	74.13 ft				
Prestress	1.111	1.80	2.000	2.20	2.445
Self Wt.	-0.573	1.85	-1.061	2.40	-1.376
Deck + Haunch			-0.275	2.30	-0.632
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.007	3.00	-0.022
DL-Comp. (DW)			-0.002	3.00	-0.006
Live Load	Not Included				
Pedestrian Load					-0.000
Total	0.538		0.655		0.407

ULTIMATE MOMENT

ULTIMATE - Span : 3, Beam : 4, STRENGTH I
(Mr-prvd computed by Strain Compatibility method. Ult. Conc. Strain = 0.00300)

Location (ft) Mu k.ft	dp in	Aps in2	fps ksi	c in	a in	Mr-prvd k.ft	c/dt	Phi	Mcr k.ft	min Mr k.ft	Crkg Ratio	Mu-p/r Ratio
Transfer	2.58											
325.2	34.7	4.208	267.7	4.9	4.0	3066.0	0.136T	1.00	-	-	-	-
H/2	1.58											
227.5	34.7	2.668	268.7	3.1	2.6	1994.5	0.087T	1.00	-	-	-	-
0.1L	7.87											
878.2	34.8	6.514	263.8	10.5	8.7	4556.8	0.294T	1.00	-	-	-	-
0.2L	16.15											
1870.0	34.8	7.366	263.4	11.0	9.1	5010.0	0.307T	1.00	4039.3	2487.0	1.24	-
0.3L	24.43											
2758.8	34.8	7.378	263.5	10.9	9.1	4958.8	0.306T	1.00	3928.3	3669.2	1.26	-
0.4L	32.72											
3303.1	34.8	7.378	263.5	10.9	9.1	4958.8	0.306T	1.00	3861.7	3861.7	1.28	-
0.5L	41.00											
3469.0	34.8	7.378	263.5	10.9	9.1	4958.8	0.306T	1.00	3839.5	3839.5	1.29	-
0.6L	49.28											
3303.6	34.8	7.378	263.5	10.9	9.1	4958.8	0.306T	1.00	3861.7	3861.7	1.28	-
0.7L	57.57											
2759.8	34.8	7.378	263.5	10.9	9.1	4958.8	0.306T	1.00	3928.3	3670.6	1.26	-
0.8L	65.85											
1868.0	34.8	7.366	263.4	11.0	9.1	5010.0	0.307T	1.00	4039.3	2484.4	1.24	-
0.9L	74.13											
876.0	34.8	6.514	263.8	10.5	8.7	4556.8	0.294T	1.00	-	-	-	-
H/2	80.42											
224.8	34.7	2.668	268.7	3.1	2.6	1994.5	0.087T	1.00	-	-	-	-
Transfer	79.42											
322.6	34.7	4.208	267.7	4.9	4.0	3066.0	0.136T	1.00	-	-	-	-

Legend: C = Compression-Controlled (c/dt > 0.600)
I = In-Transition (0.60 >= c/dt > 0.375)
T = Tension-Controlled (c/dt <= 0.375)
Note : fr used for calculating Mcr is computed using AASHTO method (Art.5.4.2.6.)
Consider Bottom Tension Steel Contribution : NO

201/508

DETENSIONING

Span : 3, Beam : 4; Groups 1-17; Units: ksi

Grp	Str		Ys,in		3.00ft	5.00ft	7.00ft
1	2	E	2.25	Ft	0.197	0.305	0.392
		M	2.25	Fb	-0.167	-0.207	-0.176
2	2	E	4.25	Ft	0.189	0.283	0.371
		M	4.25	Fb	-0.109	-0.031	-0.000
3	2	E	4.25	Ft	0.168	0.262	0.349
		M	4.25	Fb	0.067	0.144	0.175
4	2	E	4.25	Ft	0.147	0.241	0.328
		M	4.25	Fb	0.242	0.320	0.351
5	2	E	4.25	Ft	0.125	0.219	0.307
		M	4.25	Fb	0.418	0.496	0.526
6	2	E	4.25	Ft	0.104	0.198	0.285
		M	4.25	Fb	0.594	0.671	0.702
7	2	E	4.25	Ft	0.083	0.177	0.264
		M	4.25	Fb	0.769	0.847	0.878
8	2	E	4.25	Ft	0.061	0.155	0.242
		M	4.25	Fb	0.945	1.022	1.053
9	2	E	4.25	Ft	0.040	0.134	0.221
		M	4.25	Fb	1.121	1.198	1.229
10	2	E	2.25	Ft	-0.004	0.090	0.177
		M	2.25	Fb	1.315	1.393	1.423
11	2	E	2.25	Ft	-0.048	0.046	0.134
		M	2.25	Fb	1.510	1.587	1.618
12	2	E	2.25	Ft	-0.091	0.003	0.090
		M	2.25	Fb	1.704	1.782	1.812
13	2	E	2.25	Ft	-0.135	-0.041	0.046
		M	2.25	Fb	1.899	1.976	2.007
14	2	E	2.25	Ft	-0.179	-0.085	0.002
		M	2.25	Fb	2.093	2.171	2.202
15	2	E	2.25	Ft	-0.222	-0.128	-0.041
		M	2.25	Fb	2.288	2.365	2.396
16	2	E	2.25	Ft	-0.237	-0.172	-0.085
		M	2.25	Fb	2.353	2.560	2.591
17	2	E	2.25	Ft	-0.237	-0.187	-0.129
		M	2.25	Fb	2.353	2.625	2.785

NEGATIVE ENVELOPE STRESSES

Span : 3, Beam : 4, SERVICE I
NEGATIVE ENVELOPE STRESSES, (ksi) (LOSS = 13.52 %)

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
Prestress								
Precast-top	-0.052	-0.396	-0.251	-0.516	-0.516	-0.516	-0.516	-0.516
Bottom	0.304	2.303	1.460	2.884	2.884	2.884	2.884	2.884
Self wt.								
Precast-top	0.000	0.168	0.104	0.478	0.872	1.153	1.322	1.378
Bottom	-0.000	-0.143	-0.089	-0.407	-0.742	-0.981	-1.125	-1.172
DL-Prec (DC)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
DL-Prec (DW)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Diaphragm								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Deck + Haunch								
Precast-top	0.000	0.100	0.062	0.284	0.518	0.685	0.785	0.819
Bottom	-0.000	-0.085	-0.053	-0.242	-0.441	-0.583	-0.668	-0.696
DL-Comp (DC)								
Precast-top	-0.092	-0.078	-0.086	-0.044	-0.003	0.025	0.042	0.049
Bottom	0.181	0.154	0.169	0.087	0.005	-0.050	-0.084	-0.096
DL-Comp (DW)								
Precast-top	-0.043	-0.031	-0.033	-0.018	-0.002	0.010	0.017	0.018
Bottom	0.085	0.060	0.066	0.035	0.003	-0.019	-0.032	-0.036
LL+I(-)								
Precast-top	-0.489	-0.418	-0.444	-0.301	-0.193	-0.181	-0.156	-0.130
Bottom	0.962	0.823	0.875	0.593	0.380	0.357	0.306	0.256
Pedestrian(-)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Final 1 (P/S + DL + LL)								
Precast-top	-0.676	-0.655	-0.648	-0.117	0.677	1.176	1.495	1.618

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Bottom	1.532	3.112	2.427	2.951	2.090	1.607	1.282	1.139
Final 2 (P/S + DL)								
Precast-top	-0.187	-0.237	-0.203	0.185	0.870	1.358	1.651	1.748
Bottom	0.570	2.289	1.553	2.357	1.710	1.251	0.975	0.883

Span : 3, Beam : 4, SERVICE III
NEGATIVE ENVELOPE STRESSES, (ksi) (LOSS = 13.52 %)

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft	0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
Prestress								
Precast-top	-0.052	-0.396	-0.251	-0.516	-0.516	-0.516	-0.516	-0.516
Bottom	0.304	2.303	1.460	2.884	2.884	2.884	2.884	2.884
Self wt.								
Precast-top	0.000	0.168	0.104	0.478	0.872	1.153	1.322	1.378
Bottom	-0.000	-0.143	-0.089	-0.407	-0.742	-0.981	-1.125	-1.172
DL-Prec (DC)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
DL-Prec (DW)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Diaphragm								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Deck + Haunch								
Precast-top	0.000	0.100	0.062	0.284	0.518	0.685	0.785	0.819
Bottom	-0.000	-0.085	-0.053	-0.242	-0.441	-0.583	-0.668	-0.696
DL-Comp (DC)								
Precast-top	-0.097	-0.078	-0.086	-0.044	-0.003	0.025	0.042	0.049
Bottom	0.192	0.154	0.169	0.087	0.005	-0.050	-0.084	-0.096
DL-Comp (DW)								
Precast-top	-0.038	-0.031	-0.033	-0.018	-0.002	0.010	0.017	0.018
Bottom	0.074	0.060	0.066	0.035	0.003	-0.019	-0.032	-0.036

	Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
LL+I(-)								
Precast-top	-0.391	-0.334	-0.355	-0.241	-0.155	-0.145	-0.125	-0.104
Bottom	0.769	0.658	0.700	0.475	0.304	0.285	0.245	0.205
Pedestrian(-)								
Precast-top	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Final 1 (P/S + DL + LL)								
Precast-top	**-0.578***	**-0.572***	**-0.559***	-0.057	0.715	1.213	1.526	1.644
Bottom	1.340	2.948	2.252	2.832	2.014	1.536	1.220	1.088

Span : 3, Beam : 4, FATIGUE I
NEGATIVE ENVELOPE STRESSES, (ksi)

		Bearing	Trans	H/2	0.10L /0.90L	0.20L /0.80L	0.30L /0.70L	0.40L /0.60L	Midspan
Location, ft		0.00	2.58	1.58	7.87	16.15	24.43	32.72	41.00
F_LL+I(-)									
Precast-top		-0.170	-0.162	-0.165	-0.146	-0.125	-0.104	-0.083	-0.062
Bottom		0.334	0.318	0.324	0.288	0.247	0.205	0.163	0.122
Pedestrian(-)									
Precast-top		-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Bottom		-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
Final 3 (50% P/S	+ 50%	DL + F_LL)							
Precast-top		-0.263	-0.280	-0.267	-0.054	0.310	0.575	0.742	0.812
Bottom		0.619	1.463	1.101	1.467	1.102	0.830	0.651	0.563

REINFORCED DESIGN

REINFORCED DESIGN - Span : 3, Beam : 4, STRENGTH I (fy = 60.00 ksi)

(a) NEGATIVE MOMENTS ALONG SPAN (Non-composite Moment effects are INCLUDED in Mu)

Negative Moment Continuity Steel:

#bars	Size	Dist. from Top (in)	Area (in2)	Start (ft)	End (ft)
12	US#4[M13]	2.88	2.40	0.0000	84.0000
6	US#10[M32]	3.26	7.62	0.0000	12.0000
6	US#10[M32]	3.26	7.62	0.0000	28.0000
6	US#10[M32]	3.26	7.62	56.0000	84.0000
6	US#10[M32]	3.26	7.62	72.0000	84.0000

f'c (ksi)	b (in)	bw (in)
8.50	72.00	12.00

Sec	Dist (ft)	Mu-reqd (k.ft)	hf (in)	d (in)	d' (in)	Phi	Phi*Mn-r (k.ft)	c/dt	Asb (in2)	Ast-r (in2)	Ast-p (in2)	Phi*Mn-p (k.ft)
1	0.00	-2273.7	6.00	34.79	2.00	0.9	-2273.7	0.0759	0.000	14.890	17.640	-2681.0
2	8.87	-801.1	6.00	34.79	2.00	0.9	-801.1	0.0263	0.000	5.161	17.640	-2681.0
3	17.15	0.0	6.00	34.83	2.00	0.9	-0.0	0.0000	0.000	4.963	10.020	-1542.7
4	25.43	0.0	6.00	34.83	2.00	0.9	-0.0	0.0000	0.000	0.000	10.020	-1542.7
5	33.72	0.0	6.00	35.12	2.00	0.9	-0.0	0.0000	0.000	0.000	2.400	-374.3
6	42.00	0.0	6.00	35.12	2.00	0.9	-0.0	0.0000	0.000	0.000	2.400	-374.3
7	50.28	0.0	6.00	35.12	2.00	0.9	-0.0	0.0000	0.000	0.000	2.400	-374.3
8	58.57	0.0	6.00	34.83	2.00	0.9	-0.0	0.0000	0.000	0.000	10.020	-1542.7
9	66.85	0.0	6.00	34.83	2.00	0.9	-0.0	0.0000	0.000	4.957	10.020	-1542.7
10	75.13	-799.0	6.00	34.79	2.00	0.9	-799.0	0.0263	0.000	5.147	17.640	-2681.0
11	84.00	-2270.9	6.00	34.79	2.00	0.9	-2270.9	0.0758	0.000	14.872	17.640	-2681.0

(b) POSITIVE MOMENTS AT PIERS

NONE

DESIGN SUMMARY

Span: 3, Beam: 4, Interior beam

Beam type:	Adjacent Box Beam,	Bui72X30
Precast Length,	ft	82.83
Release Length,	ft	82.83
Strand Pattern:	Straight	
Strand:	6/10-270K-LL	
Strand Es,	ksi:	28500.0
No. of strands:	34	
	Draped:	0
	Straight:	34
Concrete Strength:		
	f'ci:	6.5 ksi
	f'c:	8.5 ksi
	f'ct:	4.5 ksi
Initial losses:	5.35 %	
Final losses:	13.52 %	

Specification	Allowable	Computed	Location	Status
Release Stresses (ksi) (Art. 5.9.4.1)				
Precast Bot (compression)	3.900	2.725	0.1L/0.9L	OK
Precast Top w/ no reinf. (tension)	-0.200	-0.237	Trans	
Precast Top w/ reinf. (tension)	-0.612			
Strength I (Art. 3.4.1, 5.7.3.1.1)	Provided	Required	Location	Status
Ult. Moment (k.ft)	5010.01	3468.98	Midspan	OK
Debonding Limits (Art. 5.11.4.3)	Allowable	Computed		Status
Max. Debond per Row	40.00 %	33.33 %		OK
Max. Debond Total	25.00 %	23.53 %		OK

Positive Moment Envelope Stresses (ksi) (Art. 3.4.1 and 5.9.4.2)

Specification	Allow	Final 1 Comp	Loc.	Allow	Final 2 Comp	Loc.	Allow	Final 3 Comp	Loc.
Service I Limit State - Compressive	Stresses	Only							
Precast Top	5.100	2.199	Midspan	3.825	1.748	Midspan			
Precast Bot	5.100	2.141	0.1L/0.9L	3.825	2.357	0.1L/0.9L			
Service III Limit State - Tensile	Stresses	Only							
Precast Top	-0.554	-0.170	Transfer						
Precast Bot	-0.554	0.174	Midspan						
Fatigue I Limit State - Compressive	Stresses	Only							
Precast Top							3.400	1.129	Midspan
Precast Bot							3.400	1.066	0.1L/0.9L

Negative Moment Envelope Stresses (ksi) (Art. 3.4.1 and 5.9.4.2)

Specification	Allow	Final 1 Comp	Loc.	Allow	Final 2 Comp	Loc.	Allow	Final 3 Comp	Loc.
Service I Limit State - Compressive	Stresses	Only							
Precast Top	5.100	1.618	Midspan	3.825	1.748	Midspan			
Precast Bot	5.100	3.112	Transfer	3.825	2.357	0.1L/0.9L			
Service III Limit State - Tensile	Stresses	Only							
Precast Top	-0.554	-0.578*	Bearing						
Precast Bot	-0.554	1.088	Midspan						
Fatigue I Limit State - Compressive	Stresses	Only							
Precast Top							3.400	0.812	Midspan
Precast Bot							3.400	1.467	0.1L/0.9L

$\frac{0.578}{0.554} = 1.043 \Rightarrow 4.3\% < 5\%$ Say OK

CAMBER / DEFLECTION: (PCI Design Handbook - 4th Ed.- Table 4.6.2)
0.5 x L = 41.00 ft

	Release	Mult	Erection	Mult	Final
Prestress	3.117	1.80	5.610	2.20	6.857
Self Wt.	-1.827	1.85	-3.380	2.40	-4.384
Deck + Haunch			-0.911	2.30	-2.096
DL-Prec. (DC)			0.000	3.00	0.000
Diaphragm			0.000	3.00	0.000
DL-Prec. (DW)			0.000	3.00	0.000
DL-Comp. (DC)			-0.055	3.00	-0.166
DL-Comp. (DW)			-0.018	3.00	-0.055
Live Load	Not Included				
Pedestrian Load					-0.000
Total	1.290		1.246		0.155

208/508

Positive values indicate upward deflection.

Bridge ID : 57
Bridge : CBGCP 5span
Superstructure Def : 5 span 20-Box30 System w/Sidewalk
Member : G3
Analysis Preference Setting : None

NBI Structure ID : 7B-16-EV
Bridge Alt : Aternative 1

Member Alt : 30 x 72 Interior Box3

AASHTO LRFD Specification, Edition 5, Interim 2010

Specification Check Summary

Article	Status
Initial Stress at Transfer (5.9.4.1.1, 5.9.4.1.2)	Pass
Final Stress due to Permanent and Transient Loads (5.9.4.2.1, 5.9.4.2.2)	Pass
Flexure (5.7.3.2, 5.7.3.3.2)	Pass
Shear (5.8.3.3, 5.8.2.5, 5.8.2.7, 5.8.3.5)	Pass
Deflection (5.7.3.6.2)	Pass

Initial Compression Stress At Transfer of Prestress

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
0.000	-3.90	0.04	-0.23	16.78	Pass
2.583	-3.90	0.16	-1.62	2.41	Pass
2.850	-3.90	0.15	-1.63	2.40	Pass
4.583	-3.90	0.14	-1.81	2.15	Pass
6.275	-3.90	0.10	-1.96	1.99	Pass
6.583	-3.90	0.10	-1.99	1.96	Pass
10.460	-3.90	-0.04	-1.88	2.08	Pass
12.550	-3.90	-0.11	-1.81	2.15	Pass
18.825	-3.90	-0.27	-1.68	2.32	Pass
20.920	-3.90	-0.30	-1.65	2.36	Pass
25.100	-3.90	-0.36	-1.60	2.43	Pass
30.875	-3.90	-0.39	-1.58	2.47	Pass
31.375	-3.90	-0.39	-1.58	2.47	Pass
37.650	-3.90	-0.35	-1.61	2.42	Pass
41.830	-3.90	-0.28	-1.67	2.34	Pass
43.925	-3.90	-0.25	-1.70	2.30	Pass
50.200	-3.90	-0.08	-1.84	2.12	Pass
52.290	-3.90	-0.01	-1.90	2.05	Pass
55.167	-3.90	0.10	-1.99	1.96	Pass

210/508

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
56.475	-3.90	0.12	-1.87	2.08	Pass
57.167	-3.90	0.14	-1.81	2.15	Pass
58.891	-3.90	0.15	-1.63	2.40	Pass
59.167	-3.90	0.16	-1.62	2.41	Pass
61.750	-3.90	0.04	-0.23	16.78	Pass
63.750	-3.90	0.06	-0.33	11.75	Pass
66.333	-3.90	0.27	-2.37	1.64	Pass
66.602	-3.90	0.25	-2.39	1.63	Pass
68.333	-3.90	0.23	-2.65	1.47	Pass
70.333	-3.90	0.16	-2.80	1.39	Pass
71.150	-3.90	0.11	-2.76	1.41	Pass
76.750	-3.90	-0.16	-2.53	1.54	Pass
79.550	-3.90	-0.29	-2.42	1.61	Pass
87.950	-3.90	-0.58	-2.17	1.80	Pass
90.750	-3.90	-0.64	-2.12	1.84	Pass
96.350	-3.90	-0.76	-2.02	1.93	Pass
104.750	-3.90	-0.82	-1.98	1.97	Pass
113.150	-3.90	-0.76	-2.02	1.93	Pass
118.750	-3.90	-0.64	-2.12	1.84	Pass
121.550	-3.90	-0.58	-2.17	1.80	Pass
129.950	-3.90	-0.29	-2.42	1.61	Pass
132.750	-3.90	-0.16	-2.53	1.54	Pass
138.350	-3.90	0.11	-2.76	1.41	Pass
139.167	-3.90	0.16	-2.80	1.39	Pass
141.167	-3.90	0.23	-2.65	1.47	Pass
142.898	-3.90	0.25	-2.39	1.63	Pass
143.167	-3.90	0.27	-2.37	1.64	Pass
145.750	-3.90	0.06	-0.33	11.75	Pass
147.750	-3.90	0.06	-0.33	11.75	Pass
150.333	-3.90	0.27	-2.37	1.64	Pass
150.602	-3.90	0.25	-2.39	1.63	Pass
152.333	-3.90	0.23	-2.65	1.47	Pass
154.333	-3.90	0.16	-2.80	1.39	Pass
155.150	-3.90	0.11	-2.76	1.41	Pass
160.750	-3.90	-0.16	-2.53	1.54	Pass
163.550	-3.90	-0.29	-2.42	1.61	Pass
171.950	-3.90	-0.58	-2.17	1.80	Pass

211/508

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
	-3.90	-0.64	-2.12	1.84	Pass
180.350	-3.90	-0.76	-2.02	1.93	Pass
188.750	-3.90	-0.82	-1.98	1.97	Pass
197.150	-3.90	-0.76	-2.02	1.93	Pass
202.750	-3.90	-0.64	-2.12	1.84	Pass
205.550	-3.90	-0.58	-2.17	1.80	Pass
213.950	-3.90	-0.29	-2.42	1.61	Pass
216.750	-3.90	-0.16	-2.53	1.54	Pass
222.350	-3.90	0.11	-2.76	1.41	Pass
223.167	-3.90	0.16	-2.80	1.39	Pass
225.167	-3.90	0.23	-2.65	1.47	Pass
226.898	-3.90	0.25	-2.39	1.63	Pass
227.167	-3.90	0.27	-2.37	1.64	Pass
229.750	-3.90	0.06	-0.33	11.75	Pass
231.750	-3.90	0.06	-0.33	11.75	Pass
234.333	-3.90	0.27	-2.37	1.64	Pass
234.602	-3.90	0.25	-2.39	1.63	Pass
236.333	-3.90	0.23	-2.65	1.47	Pass
238.333	-3.90	0.16	-2.80	1.39	Pass
239.150	-3.90	0.11	-2.76	1.41	Pass
244.750	-3.90	-0.16	-2.53	1.54	Pass
247.550	-3.90	-0.29	-2.42	1.61	Pass
255.950	-3.90	-0.58	-2.17	1.80	Pass
258.750	-3.90	-0.64	-2.12	1.84	Pass
264.350	-3.90	-0.76	-2.02	1.93	Pass
272.750	-3.90	-0.82	-1.98	1.97	Pass
281.150	-3.90	-0.76	-2.02	1.93	Pass
286.750	-3.90	-0.64	-2.12	1.84	Pass
289.550	-3.90	-0.58	-2.17	1.80	Pass
297.950	-3.90	-0.29	-2.42	1.61	Pass
300.750	-3.90	-0.16	-2.53	1.54	Pass
306.350	-3.90	0.11	-2.76	1.41	Pass
307.167	-3.90	0.16	-2.80	1.39	Pass
309.167	-3.90	0.23	-2.65	1.47	Pass
310.898	-3.90	0.25	-2.39	1.63	Pass
311.167	-3.90	0.27	-2.37	1.64	Pass
313.750	-3.90	0.06	-0.33	11.75	Pass

212/508

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
	-3.90	0.04	-0.23	16.78	Pass
318.333	-3.90	0.16	-1.62	2.41	Pass
318.609	-3.90	0.15	-1.63	2.40	Pass
320.333	-3.90	0.14	-1.81	2.15	Pass
321.025	-3.90	0.12	-1.87	2.08	Pass
322.333	-3.90	0.10	-1.99	1.96	Pass
325.210	-3.90	-0.01	-1.90	2.05	Pass
327.300	-3.90	-0.08	-1.84	2.12	Pass
333.575	-3.90	-0.25	-1.70	2.30	Pass
335.670	-3.90	-0.28	-1.67	2.34	Pass
339.850	-3.90	-0.35	-1.61	2.42	Pass
346.125	-3.90	-0.39	-1.58	2.47	Pass
346.625	-3.90	-0.39	-1.58	2.47	Pass
352.400	-3.90	-0.36	-1.60	2.43	Pass
356.580	-3.90	-0.30	-1.65	2.36	Pass
358.675	-3.90	-0.27	-1.68	2.32	Pass
364.950	-3.90	-0.11	-1.81	2.15	Pass
367.040	-3.90	-0.04	-1.88	2.08	Pass
370.917	-3.90	0.10	-1.99	1.96	Pass
371.225	-3.90	0.10	-1.96	1.99	Pass
372.917	-3.90	0.14	-1.81	2.15	Pass
374.650	-3.90	0.15	-1.63	2.40	Pass
374.917	-3.90	0.16	-1.62	2.41	Pass
377.500	-3.90	0.04	-0.23	16.78	Pass

NR = Spec check not required at this location

Initial Tension Stress At Transfer of Prestress

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
0.000	0.61	0.04	-0.23	15.48	Pass
2.583	0.61	0.16	-1.62	3.81	Pass
2.850	0.61	0.15	-1.63	4.05	Pass
4.583	0.61	0.14	-1.81	4.50	Pass
6.275	0.61	0.10	-1.96	5.98	Pass
6.583	0.61	0.10	-1.99	6.32	Pass
10.460	0.61	-0.04	-1.88	99.00	Pass

213/508

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
12.550	0.61	-0.11	-1.81	99.00	Pass
18.825	0.61	-0.27	-1.68	99.00	Pass
20.920	0.61	-0.30	-1.65	99.00	Pass
25.100	0.61	-0.36	-1.60	99.00	Pass
30.875	0.61	-0.39	-1.58	99.00	Pass
31.375	0.61	-0.39	-1.58	99.00	Pass
37.650	0.61	-0.35	-1.61	99.00	Pass
41.830	0.61	-0.28	-1.67	99.00	Pass
43.925	0.61	-0.25	-1.70	99.00	Pass
50.200	0.61	-0.08	-1.84	99.00	Pass
52.290	0.61	-0.01	-1.90	99.00	Pass
55.167	0.61	0.10	-1.99	6.32	Pass
56.475	0.61	0.12	-1.87	5.03	Pass
57.167	0.61	0.14	-1.81	4.50	Pass
58.891	0.61	0.15	-1.63	4.06	Pass
59.167	0.61	0.16	-1.62	3.81	Pass
61.750	0.61	0.04	-0.23	15.48	Pass
63.750	0.61	0.06	-0.33	10.72	Pass
66.333	0.61	0.27	-2.37	2.31	Pass
66.602	0.61	0.25	-2.39	2.41	Pass
68.333	0.61	0.23	-2.65	2.69	Pass
70.333	0.61	0.16	-2.80	3.93	Pass
71.150	0.61	0.11	-2.76	5.55	Pass
76.750	0.61	-0.16	-2.53	99.00	Pass
79.550	0.61	-0.29	-2.42	99.00	Pass
87.950	0.61	-0.58	-2.17	99.00	Pass
90.750	0.61	-0.64	-2.12	99.00	Pass
96.350	0.61	-0.76	-2.02	99.00	Pass
104.750	0.61	-0.82	-1.98	99.00	Pass
113.150	0.61	-0.76	-2.02	99.00	Pass
118.750	0.61	-0.64	-2.12	99.00	Pass
121.550	0.61	-0.58	-2.17	99.00	Pass
129.950	0.61	-0.29	-2.42	99.00	Pass
132.750	0.61	-0.16	-2.53	99.00	Pass
138.350	0.61	0.11	-2.76	5.55	Pass
139.167	0.61	0.16	-2.80	3.93	Pass
141.167	0.61	0.23	-2.65	2.69	Pass

214/508

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
	0.61	0.25	-2.39	2.41	Pass
143.167	0.61	0.27	-2.37	2.31	Pass
145.750	0.61	0.06	-0.33	10.72	Pass
147.750	0.61	0.06	-0.33	10.72	Pass
150.333	0.61	0.27	-2.37	2.31	Pass
150.602	0.61	0.25	-2.39	2.41	Pass
152.333	0.61	0.23	-2.65	2.69	Pass
154.333	0.61	0.16	-2.80	3.93	Pass
155.150	0.61	0.11	-2.76	5.55	Pass
160.750	0.61	-0.16	-2.53	99.00	Pass
163.550	0.61	-0.29	-2.42	99.00	Pass
171.950	0.61	-0.58	-2.17	99.00	Pass
174.750	0.61	-0.64	-2.12	99.00	Pass
180.350	0.61	-0.76	-2.02	99.00	Pass
188.750	0.61	-0.82	-1.98	99.00	Pass
197.150	0.61	-0.76	-2.02	99.00	Pass
202.750	0.61	-0.64	-2.12	99.00	Pass
205.550	0.61	-0.58	-2.17	99.00	Pass
213.950	0.61	-0.29	-2.42	99.00	Pass
216.750	0.61	-0.16	-2.53	99.00	Pass
222.350	0.61	0.11	-2.76	5.55	Pass
223.167	0.61	0.16	-2.80	3.93	Pass
225.167	0.61	0.23	-2.65	2.69	Pass
226.898	0.61	0.25	-2.39	2.41	Pass
227.167	0.61	0.27	-2.37	2.31	Pass
229.750	0.61	0.06	-0.33	10.72	Pass
231.750	0.61	0.06	-0.33	10.72	Pass
234.333	0.61	0.27	-2.37	2.31	Pass
234.602	0.61	0.25	-2.39	2.41	Pass
236.333	0.61	0.23	-2.65	2.69	Pass
238.333	0.61	0.16	-2.80	3.93	Pass
239.150	0.61	0.11	-2.76	5.55	Pass
244.750	0.61	-0.16	-2.53	99.00	Pass
247.550	0.61	-0.29	-2.42	99.00	Pass
255.950	0.61	-0.58	-2.17	99.00	Pass
258.750	0.61	-0.64	-2.12	99.00	Pass
264.350	0.61	-0.76	-2.02	99.00	Pass

215/508

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
	0.61	-0.82	-1.98	99.00	Pass
281.150	0.61	-0.76	-2.02	99.00	Pass
286.750	0.61	-0.64	-2.12	99.00	Pass
289.550	0.61	-0.58	-2.17	99.00	Pass
297.950	0.61	-0.29	-2.42	99.00	Pass
300.750	0.61	-0.16	-2.53	99.00	Pass
306.350	0.61	0.11	-2.76	5.55	Pass
307.167	0.61	0.16	-2.80	3.93	Pass
309.167	0.61	0.23	-2.65	2.69	Pass
310.898	0.61	0.25	-2.39	2.41	Pass
311.167	0.61	0.27	-2.37	2.31	Pass
313.750	0.61	0.06	-0.33	10.72	Pass
315.750	0.61	0.04	-0.23	15.48	Pass
318.333	0.61	0.16	-1.62	3.81	Pass
318.609	0.61	0.15	-1.63	4.06	Pass
320.333	0.61	0.14	-1.81	4.50	Pass
321.025	0.61	0.12	-1.87	5.03	Pass
322.333	0.61	0.10	-1.99	6.32	Pass
325.210	0.61	-0.01	-1.90	99.00	Pass
327.300	0.61	-0.08	-1.84	99.00	Pass
333.575	0.61	-0.25	-1.70	99.00	Pass
335.670	0.61	-0.28	-1.67	99.00	Pass
339.850	0.61	-0.35	-1.61	99.00	Pass
346.125	0.61	-0.39	-1.58	99.00	Pass
346.625	0.61	-0.39	-1.58	99.00	Pass
352.400	0.61	-0.36	-1.60	99.00	Pass
356.580	0.61	-0.30	-1.65	99.00	Pass
358.675	0.61	-0.27	-1.68	99.00	Pass
364.950	0.61	-0.11	-1.81	99.00	Pass
367.040	0.61	-0.04	-1.88	99.00	Pass
370.917	0.61	0.10	-1.99	6.32	Pass
371.225	0.61	0.10	-1.96	5.98	Pass
372.917	0.61	0.14	-1.81	4.50	Pass
374.650	0.61	0.15	-1.63	4.05	Pass
374.917	0.61	0.16	-1.62	3.81	Pass
377.500	0.61	0.04	-0.23	15.48	Pass

NR = Spec check not required at this location

216/508

Final Compression Stress due to Permanent and Transient Loads

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
0.000	-5.10	0.04	-0.21	24.35	Pass
2.583	-5.10	-0.03	-1.41	3.63	Pass
4.583	-5.10	-0.17	-1.54	3.31	Pass
6.275	-5.10	-0.29	-1.65	3.10	Pass
6.583	-5.10	-0.31	-1.67	3.06	Pass
10.460	-5.10	-0.64	-1.52	3.36	Pass
12.550	-5.10	-0.80	-1.44	3.54	Pass
18.825	-5.10	-1.13	-1.29	3.95	Pass
20.920	-5.10	-1.27	-1.28	3.99	Pass
25.100	-5.10	-1.39	-1.24	3.68	Pass
30.875	-5.10	-1.43	-1.28	3.56	Pass
31.375	-5.10	-1.43	-1.29	3.57	Pass
37.650	-5.10	-1.30	-1.43	3.58	Pass
41.830	-5.10	-1.11	-1.58	3.23	Pass
43.925	-5.10	-0.96	-1.64	3.11	Pass
50.200	-5.10	-0.56	-1.97	2.59	Pass
52.290	-5.10	-0.40	-2.11	2.42	Pass
55.167	-5.10	-0.18	-2.28	2.23	Pass
56.475	-5.10	-0.11	-2.28	2.24	Pass
57.167	-5.10	-0.07	-2.27	2.24	Pass
59.167	-5.10	0.01	-2.26	2.26	Pass
61.750	-5.10	-0.01	-1.22	4.17	Pass
63.750	-5.10	0.06	-1.38	3.69	Pass
66.333	-5.10	0.13	-2.89	1.77	Pass
68.333	-5.10	0.02	-2.95	1.73	Pass
70.333	-5.10	-0.13	-2.91	1.75	Pass
71.150	-5.10	-0.22	-2.81	1.82	Pass
76.750	-5.10	-0.73	-2.33	2.19	Pass
79.550	-5.10	-1.01	-2.07	2.46	Pass
87.950	-5.10	-1.65	-1.58	3.09	Pass
90.750	-5.10	-1.84	-1.48	2.77	Pass
96.350	-5.10	-2.10	-1.27	2.43	Pass
104.750	-5.10	-2.21	-1.17	2.31	Pass
113.150	-5.10	-2.12	-1.34	2.41	Pass
118.750	-5.10	-1.86	-1.57	2.74	Pass

217/508

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
121.550	-5.10	-1.67	-1.67	3.05	Pass
129.950	-5.10	-1.04	-2.18	2.34	Pass
132.750	-5.10	-0.77	-2.41	2.11	Pass
138.350	-5.10	-0.25	-2.86	1.78	Pass
139.167	-5.10	-0.17	-2.97	1.72	Pass
141.167	-5.10	-0.01	-3.01	1.70	Pass
143.167	-5.10	0.11	-2.94	1.74	Pass
145.750	-5.10	0.04	-1.38	3.70	Pass
147.750	-5.10	0.04	-1.37	3.72	Pass
150.333	-5.10	0.12	-2.93	1.74	Pass
152.333	-5.10	0.00	-3.00	1.70	Pass
154.333	-5.10	-0.17	-2.96	1.72	Pass
155.150	-5.10	-0.25	-2.85	1.79	Pass
160.750	-5.10	-0.77	-2.40	2.13	Pass
163.550	-5.10	-1.05	-2.16	2.36	Pass
171.950	-5.10	-1.68	-1.65	3.03	Pass
174.750	-5.10	-1.88	-1.55	2.72	Pass
180.350	-5.10	-2.13	-1.32	2.39	Pass
188.750	-5.10	-2.23	-1.16	2.29	Pass
197.150	-5.10	-2.13	-1.32	2.39	Pass
202.750	-5.10	-1.88	-1.55	2.72	Pass
205.550	-5.10	-1.68	-1.65	3.03	Pass
213.950	-5.10	-1.05	-2.16	2.36	Pass
216.750	-5.10	-0.77	-2.40	2.13	Pass
222.350	-5.10	-0.25	-2.85	1.79	Pass
223.167	-5.10	-0.17	-2.96	1.72	Pass
225.167	-5.10	0.00	-3.00	1.70	Pass
227.167	-5.10	0.12	-2.93	1.74	Pass
229.750	-5.10	0.04	-1.37	3.72	Pass
231.750	-5.10	0.04	-1.38	3.70	Pass
234.333	-5.10	0.11	-2.94	1.74	Pass
236.333	-5.10	-0.01	-3.01	1.70	Pass
238.333	-5.10	-0.17	-2.97	1.72	Pass
239.150	-5.10	-0.25	-2.86	1.78	Pass
244.750	-5.10	-0.77	-2.41	2.11	Pass
247.550	-5.10	-1.04	-2.18	2.34	Pass
255.950	-5.10	-1.67	-1.67	3.05	Pass

218/508

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
	-5.10	-1.86	-1.57	2.74	Pass
264.350	-5.10	-2.12	-1.34	2.41	Pass
272.750	-5.10	-2.21	-1.17	2.31	Pass
281.150	-5.10	-2.10	-1.27	2.43	Pass
286.750	-5.10	-1.84	-1.48	2.77	Pass
289.550	-5.10	-1.65	-1.58	3.09	Pass
297.950	-5.10	-1.01	-2.07	2.46	Pass
300.750	-5.10	-0.73	-2.33	2.19	Pass
306.350	-5.10	-0.22	-2.81	1.82	Pass
307.167	-5.10	-0.13	-2.91	1.75	Pass
309.167	-5.10	0.02	-2.95	1.73	Pass
311.167	-5.10	0.13	-2.89	1.77	Pass
313.750	-5.10	0.06	-1.38	3.69	Pass
315.750	-5.10	-0.01	-1.22	4.17	Pass
318.333	-5.10	0.01	-2.26	2.26	Pass
320.333	-5.10	-0.07	-2.27	2.24	Pass
321.025	-5.10	-0.11	-2.28	2.24	Pass
322.333	-5.10	-0.18	-2.28	2.23	Pass
325.210	-5.10	-0.40	-2.11	2.42	Pass
327.300	-5.10	-0.56	-1.97	2.59	Pass
333.575	-5.10	-0.96	-1.64	3.11	Pass
335.670	-5.10	-1.11	-1.58	3.23	Pass
339.850	-5.10	-1.30	-1.43	3.58	Pass
346.125	-5.10	-1.43	-1.29	3.57	Pass
346.625	-5.10	-1.43	-1.28	3.56	Pass
352.400	-5.10	-1.39	-1.24	3.68	Pass
356.580	-5.10	-1.27	-1.28	3.99	Pass
358.675	-5.10	-1.13	-1.29	3.95	Pass
364.950	-5.10	-0.80	-1.44	3.54	Pass
367.040	-5.10	-0.64	-1.52	3.36	Pass
370.917	-5.10	-0.31	-1.67	3.06	Pass
371.225	-5.10	-0.29	-1.65	3.10	Pass
372.917	-5.10	-0.17	-1.54	3.31	Pass
374.917	-5.10	-0.03	-1.41	3.63	Pass
377.500	-5.10	0.04	-0.21	24.35	Pass

NR = Spec check not required at this location

219/508

Final Compression Stress due to Permanent Loads

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
0.000	-3.83	0.04	-0.21	18.26	Pass
2.583	-3.83	0.06	-1.38	2.78	Pass
4.583	-3.83	-0.02	-1.49	2.57	Pass
6.275	-3.83	-0.10	-1.58	2.42	Pass
6.583	-3.83	-0.12	-1.60	2.40	Pass
10.460	-3.83	-0.34	-1.40	2.72	Pass
12.550	-3.83	-0.45	-1.30	2.95	Pass
18.825	-3.83	-0.70	-1.08	3.55	Pass
20.920	-3.83	-0.75	-1.04	3.69	Pass
25.100	-3.83	-0.85	-0.95	4.03	Pass
30.875	-3.83	-0.89	-0.92	4.16	Pass
31.375	-3.83	-0.89	-0.92	4.16	Pass
37.650	-3.83	-0.82	-0.99	3.88	Pass
41.830	-3.83	-0.71	-1.09	3.50	Pass
43.925	-3.83	-0.65	-1.15	3.33	Pass
50.200	-3.83	-0.37	-1.40	2.73	Pass
52.290	-3.83	-0.25	-1.52	2.52	Pass
55.167	-3.83	-0.08	-1.67	2.29	Pass
56.475	-3.83	-0.02	-1.60	2.39	Pass
57.167	-3.83	0.01	-1.57	2.44	Pass
59.167	-3.83	0.10	-1.46	2.62	Pass
61.750	-3.83	0.08	-0.30	12.65	Pass
63.750	-3.83	0.15	-0.48	7.95	Pass
66.333	-3.83	0.21	-2.16	1.77	Pass
68.333	-3.83	0.09	-2.32	1.65	Pass
70.333	-3.83	-0.06	-2.37	1.61	Pass
71.150	-3.83	-0.13	-2.30	1.66	Pass
76.750	-3.83	-0.57	-1.91	2.01	Pass
79.550	-3.83	-0.78	-1.71	2.24	Pass
87.950	-3.83	-1.25	-1.28	2.99	Pass
90.750	-3.83	-1.35	-1.19	2.84	Pass
96.350	-3.83	-1.54	-1.02	2.49	Pass
104.750	-3.83	-1.63	-0.93	2.34	Pass
113.150	-3.83	-1.54	-1.01	2.48	Pass
118.750	-3.83	-1.36	-1.18	2.82	Pass

220/508

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
121.550	-3.83	-1.26	-1.26	3.03	Pass
129.950	-3.83	-0.80	-1.68	2.27	Pass
132.750	-3.83	-0.58	-1.88	2.03	Pass
138.350	-3.83	-0.15	-2.27	1.68	Pass
139.167	-3.83	-0.08	-2.34	1.64	Pass
141.167	-3.83	0.07	-2.29	1.67	Pass
143.167	-3.83	0.19	-2.13	1.80	Pass
145.750	-3.83	0.12	-0.45	8.59	Pass
147.750	-3.83	0.12	-0.44	8.64	Pass
150.333	-3.83	0.19	-2.12	1.80	Pass
152.333	-3.83	0.07	-2.29	1.67	Pass
154.333	-3.83	-0.08	-2.33	1.64	Pass
155.150	-3.83	-0.15	-2.27	1.69	Pass
160.750	-3.83	-0.59	-1.87	2.04	Pass
163.550	-3.83	-0.80	-1.67	2.28	Pass
171.950	-3.83	-1.27	-1.25	3.01	Pass
174.750	-3.83	-1.37	-1.16	2.80	Pass
180.350	-3.83	-1.56	-0.99	2.46	Pass
188.750	-3.83	-1.65	-0.91	2.32	Pass
197.150	-3.83	-1.56	-0.99	2.46	Pass
202.750	-3.83	-1.37	-1.16	2.80	Pass
205.550	-3.83	-1.27	-1.25	3.01	Pass
213.950	-3.83	-0.80	-1.67	2.28	Pass
216.750	-3.83	-0.59	-1.87	2.04	Pass
222.350	-3.83	-0.15	-2.27	1.69	Pass
223.167	-3.83	-0.08	-2.33	1.64	Pass
225.167	-3.83	0.07	-2.29	1.67	Pass
227.167	-3.83	0.19	-2.12	1.80	Pass
229.750	-3.83	0.12	-0.44	8.64	Pass
231.750	-3.83	0.12	-0.45	8.59	Pass
234.333	-3.83	0.19	-2.13	1.80	Pass
236.333	-3.83	0.07	-2.29	1.67	Pass
238.333	-3.83	-0.08	-2.34	1.64	Pass
239.150	-3.83	-0.15	-2.27	1.68	Pass
244.750	-3.83	-0.58	-1.88	2.03	Pass
247.550	-3.83	-0.80	-1.68	2.27	Pass
255.950	-3.83	-1.26	-1.26	3.03	Pass

221/508

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
	-3.83	-1.36	-1.18	2.82	Pass
264.350	-3.83	-1.54	-1.01	2.48	Pass
272.750	-3.83	-1.63	-0.93	2.34	Pass
281.150	-3.83	-1.54	-1.02	2.49	Pass
286.750	-3.83	-1.35	-1.19	2.84	Pass
289.550	-3.83	-1.25	-1.28	2.99	Pass
297.950	-3.83	-0.78	-1.71	2.24	Pass
300.750	-3.83	-0.57	-1.91	2.01	Pass
306.350	-3.83	-0.13	-2.30	1.66	Pass
307.167	-3.83	-0.06	-2.37	1.61	Pass
309.167	-3.83	0.09	-2.32	1.65	Pass
311.167	-3.83	0.21	-2.16	1.77	Pass
313.750	-3.83	0.15	-0.48	7.95	Pass
315.750	-3.83	0.08	-0.30	12.65	Pass
318.333	-3.83	0.10	-1.46	2.62	Pass
320.333	-3.83	0.01	-1.57	2.44	Pass
321.025	-3.83	-0.02	-1.60	2.39	Pass
322.333	-3.83	-0.08	-1.67	2.29	Pass
325.210	-3.83	-0.25	-1.52	2.52	Pass
327.300	-3.83	-0.37	-1.40	2.73	Pass
333.575	-3.83	-0.65	-1.15	3.33	Pass
335.670	-3.83	-0.71	-1.09	3.50	Pass
339.850	-3.83	-0.82	-0.99	3.88	Pass
346.125	-3.83	-0.89	-0.92	4.16	Pass
346.625	-3.83	-0.89	-0.92	4.16	Pass
352.400	-3.83	-0.85	-0.95	4.03	Pass
356.580	-3.83	-0.75	-1.04	3.69	Pass
358.675	-3.83	-0.70	-1.08	3.55	Pass
364.950	-3.83	-0.45	-1.30	2.95	Pass
367.040	-3.83	-0.34	-1.40	2.72	Pass
370.917	-3.83	-0.12	-1.60	2.40	Pass
371.225	-3.83	-0.10	-1.58	2.42	Pass
372.917	-3.83	-0.02	-1.49	2.57	Pass
374.917	-3.83	0.06	-1.38	2.78	Pass
377.500	-3.83	0.04	-0.21	18.26	Pass

NR = Spec check not required at this location

222/508

Final Compression Stress due to 1/2 Permanent and Transient Loads

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
0.000	-3.40	0.00	0.00	99.00	Pass
2.583	-3.40	-0.23	0.00	14.76	Pass
4.583	-3.40	-0.39	0.00	8.72	Pass
6.275	-3.40	-0.51	0.00	6.63	Pass
6.583	-3.40	-0.53	0.00	6.37	Pass
10.460	-3.40	-0.82	0.00	4.14	Pass
12.550	-3.40	-0.95	0.00	3.58	Pass
18.825	-3.40	-1.20	0.00	2.82	Pass
20.920	-3.40	-1.35	0.00	2.51	Pass
25.100	-3.40	-1.44	0.00	2.36	Pass
30.875	-3.40	-1.47	0.00	2.32	Pass
31.375	-3.40	-1.46	0.00	2.32	Pass
37.650	-3.40	-1.33	0.00	2.56	Pass
41.830	-3.40	-1.15	0.00	2.96	Pass
43.925	-3.40	-0.99	0.00	3.45	Pass
50.200	-3.40	-0.64	0.00	5.29	Pass
52.290	-3.40	-0.53	0.00	6.45	Pass
55.167	-3.40	-0.35	0.00	9.64	Pass
56.475	-3.40	-0.29	0.00	11.61	Pass
57.167	-3.40	-0.27	0.00	12.63	Pass
59.167	-3.40	-0.20	0.00	17.28	Pass
61.750	-3.40	-0.10	0.00	35.74	Pass
63.750	-3.40	-0.03	0.00	100.19	Pass
66.333	-3.40	-0.16	0.00	21.56	Pass
68.333	-3.40	-0.25	0.00	13.75	Pass
70.333	-3.40	-0.36	0.00	9.45	Pass
71.150	-3.40	-0.41	0.00	8.28	Pass
76.750	-3.40	-0.77	0.00	4.43	Pass
79.550	-3.40	-0.97	0.00	3.50	Pass
87.950	-3.40	-1.48	0.00	2.30	Pass
90.750	-3.40	-1.67	0.00	2.03	Pass
96.350	-3.40	-1.88	0.00	1.81	Pass
104.750	-3.40	-1.95	0.00	1.75	Pass
113.150	-3.40	-1.90	0.00	1.79	Pass
118.750	-3.40	-1.70	0.00	2.00	Pass

223/508

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
121.550	-3.40	-1.51	0.00	2.26	Pass
129.950	-3.40	-1.01	0.00	3.37	Pass
132.750	-3.40	-0.82	0.00	4.17	Pass
138.350	-3.40	-0.45	0.00	7.48	Pass
139.167	-3.40	-0.40	0.00	8.43	Pass
141.167	-3.40	-0.29	0.00	11.87	Pass
143.167	-3.40	-0.19	0.00	18.14	Pass
145.750	-3.40	-0.05	0.00	66.08	Pass
147.750	-3.40	-0.05	0.00	70.97	Pass
150.333	-3.40	-0.17	0.00	19.65	Pass
152.333	-3.40	-0.27	0.00	12.48	Pass
154.333	-3.40	-0.40	0.00	8.45	Pass
155.150	-3.40	-0.45	0.00	7.50	Pass
160.750	-3.40	-0.81	0.00	4.20	Pass
163.550	-3.40	-1.01	0.00	3.35	Pass
171.950	-3.40	-1.52	0.00	2.24	Pass
174.750	-3.40	-1.72	0.00	1.98	Pass
180.350	-3.40	-1.92	0.00	1.77	Pass
188.750	-3.40	-1.97	0.00	1.73	Pass
197.150	-3.40	-1.92	0.00	1.77	Pass
202.750	-3.40	-1.72	0.00	1.98	Pass
205.550	-3.40	-1.52	0.00	2.24	Pass
213.950	-3.40	-1.01	0.00	3.35	Pass
216.750	-3.40	-0.81	0.00	4.20	Pass
222.350	-3.40	-0.45	0.00	7.50	Pass
223.167	-3.40	-0.40	0.00	8.45	Pass
225.167	-3.40	-0.27	0.00	12.48	Pass
227.167	-3.40	-0.17	0.00	19.65	Pass
229.750	-3.40	-0.05	0.00	70.97	Pass
231.750	-3.40	-0.05	0.00	66.08	Pass
234.333	-3.40	-0.19	0.00	18.14	Pass
236.333	-3.40	-0.29	0.00	11.87	Pass
238.333	-3.40	-0.40	0.00	8.43	Pass
239.150	-3.40	-0.45	0.00	7.48	Pass
244.750	-3.40	-0.82	0.00	4.17	Pass
247.550	-3.40	-1.01	0.00	3.37	Pass
255.950	-3.40	-1.51	0.00	2.26	Pass

224/508

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
	-3.40	-1.70	0.00	2.00	Pass
264.350	-3.40	-1.90	0.00	1.79	Pass
272.750	-3.40	-1.95	0.00	1.75	Pass
281.150	-3.40	-1.88	0.00	1.81	Pass
286.750	-3.40	-1.67	0.00	2.03	Pass
289.550	-3.40	-1.48	0.00	2.30	Pass
297.950	-3.40	-0.97	0.00	3.50	Pass
300.750	-3.40	-0.77	0.00	4.43	Pass
306.350	-3.40	-0.41	0.00	8.28	Pass
307.167	-3.40	-0.36	0.00	9.45	Pass
309.167	-3.40	-0.25	0.00	13.75	Pass
311.167	-3.40	-0.16	0.00	21.56	Pass
313.750	-3.40	-0.03	0.00	100.19	Pass
315.750	-3.40	-0.10	0.00	35.74	Pass
318.333	-3.40	-0.20	0.00	17.28	Pass
320.333	-3.40	-0.27	0.00	12.63	Pass
321.025	-3.40	-0.29	0.00	11.61	Pass
322.333	-3.40	-0.35	0.00	9.64	Pass
325.210	-3.40	-0.53	0.00	6.45	Pass
327.300	-3.40	-0.64	0.00	5.29	Pass
333.575	-3.40	-0.99	0.00	3.45	Pass
335.670	-3.40	-1.15	0.00	2.96	Pass
339.850	-3.40	-1.33	0.00	2.56	Pass
346.125	-3.40	-1.46	0.00	2.32	Pass
346.625	-3.40	-1.47	0.00	2.32	Pass
352.400	-3.40	-1.44	0.00	2.36	Pass
356.580	-3.40	-1.35	0.00	2.51	Pass
358.675	-3.40	-1.20	0.00	2.82	Pass
364.950	-3.40	-0.95	0.00	3.58	Pass
367.040	-3.40	-0.82	0.00	4.14	Pass
370.917	-3.40	-0.53	0.00	6.37	Pass
371.225	-3.40	-0.51	0.00	6.63	Pass
372.917	-3.40	-0.39	0.00	8.72	Pass
374.917	-3.40	-0.23	0.00	14.76	Pass
377.500	-3.40	0.00	0.00	99.00	Pass

NR = Spec check not required at this location

225/508

Final Slab Compression Stress due to Permanent and Transient Loads

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Ratio	Code
0.000	-2.03	0.00	99.00	Pass
2.583	-2.03	-0.13	16.10	Pass
4.583	-2.03	-0.21	9.59	Pass
6.275	-2.03	-0.28	7.35	Pass
6.583	-2.03	-0.29	7.07	Pass
10.460	-2.03	-0.42	4.79	Pass
12.550	-2.03	-0.49	4.16	Pass
18.825	-2.03	-0.60	3.36	Pass
20.920	-2.03	-0.66	3.07	Pass
25.100	-2.03	-0.69	2.93	Pass
30.875	-2.03	-0.70	2.90	Pass
31.375	-2.03	-0.69	2.91	Pass
37.650	-2.03	-0.61	3.33	Pass
41.830	-2.03	-0.47	3.99	Pass
43.925	-2.03	-0.43	4.73	Pass
50.200	-2.03	-0.24	8.39	Pass
52.290	-2.03	-0.18	10.69	Pass
55.167	-2.03	-0.12	17.37	Pass
56.475	-2.03	-0.10	20.59	Pass
57.167	-2.03	-0.10	20.92	Pass
59.167	-2.03	-0.09	22.03	Pass
61.750	-2.03	-0.08	23.89	Pass
63.750	-2.03	-0.02	84.61	Pass
66.333	-2.03	-0.02	93.25	Pass
68.333	-2.03	-0.02	104.60	Pass
70.333	-2.03	-0.04	47.36	Pass
71.150	-2.03	-0.06	34.63	Pass
76.750	-2.03	-0.18	11.19	Pass
79.550	-2.03	-0.27	7.52	Pass
87.950	-2.03	-0.52	3.92	Pass
90.750	-2.03	-0.60	3.39	Pass
96.350	-2.03	-0.70	2.91	Pass
104.750	-2.03	-0.72	2.83	Pass
113.150	-2.03	-0.71	2.84	Pass
118.750	-2.03	-0.58	3.25	Pass
121.550	-2.03	-0.54	3.73	Pass

226/508

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Ratio	Code
129.950	-2.03	-0.30	6.66	Pass
132.750	-2.03	-0.21	9.03	Pass
138.350	-2.03	-0.10	20.17	Pass
139.167	-2.03	-0.08	24.02	Pass
141.167	-2.03	-0.06	35.46	Pass
143.167	-2.03	-0.05	39.86	Pass
145.750	-2.03	-0.04	48.41	Pass
147.750	-2.03	-0.04	52.37	Pass
150.333	-2.03	-0.04	53.82	Pass
152.333	-2.03	-0.04	45.53	Pass
154.333	-2.03	-0.08	24.20	Pass
155.150	-2.03	-0.10	20.33	Pass
160.750	-2.03	-0.22	9.17	Pass
163.550	-2.03	-0.31	6.55	Pass
171.950	-2.03	-0.55	3.65	Pass
174.750	-2.03	-0.64	3.18	Pass
180.350	-2.03	-0.73	2.77	Pass
188.750	-2.03	-0.74	2.75	Pass
197.150	-2.03	-0.73	2.77	Pass
202.750	-2.03	-0.60	3.18	Pass
205.550	-2.03	-0.55	3.65	Pass
213.950	-2.03	-0.31	6.55	Pass
216.750	-2.03	-0.21	9.17	Pass
222.350	-2.03	-0.10	20.33	Pass
223.167	-2.03	-0.08	24.20	Pass
225.167	-2.03	-0.04	45.53	Pass
227.167	-2.03	-0.04	53.82	Pass
229.750	-2.03	-0.04	52.37	Pass
231.750	-2.03	-0.04	48.41	Pass
234.333	-2.03	-0.05	39.86	Pass
236.333	-2.03	-0.06	35.46	Pass
238.333	-2.03	-0.08	24.02	Pass
239.150	-2.03	-0.10	20.17	Pass
244.750	-2.03	-0.22	9.03	Pass
247.550	-2.03	-0.30	6.66	Pass
255.950	-2.03	-0.54	3.73	Pass
258.750	-2.03	-0.62	3.25	Pass
264.350	-2.03	-0.71	2.84	Pass

227/508

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Ratio	Code
	-2.03	-0.72	2.83	Pass
281.150	-2.03	-0.70	2.91	Pass
286.750	-2.03	-0.56	3.39	Pass
289.550	-2.03	-0.52	3.92	Pass
297.950	-2.03	-0.27	7.52	Pass
300.750	-2.03	-0.17	11.19	Pass
306.350	-2.03	-0.06	34.63	Pass
307.167	-2.03	-0.04	47.36	Pass
309.167	-2.03	-0.02	104.60	Pass
311.167	-2.03	-0.02	93.25	Pass
313.750	-2.03	-0.02	84.61	Pass
315.750	-2.03	-0.08	23.89	Pass
318.333	-2.03	-0.09	22.03	Pass
320.333	-2.03	-0.10	20.92	Pass
321.025	-2.03	-0.10	20.59	Pass
322.333	-2.03	-0.12	17.37	Pass
325.210	-2.03	-0.19	10.69	Pass
327.300	-2.03	-0.24	8.39	Pass
333.575	-2.03	-0.43	4.73	Pass
335.670	-2.03	-0.51	3.99	Pass
339.850	-2.03	-0.61	3.33	Pass
346.125	-2.03	-0.69	2.91	Pass
346.625	-2.03	-0.70	2.90	Pass
352.400	-2.03	-0.69	2.93	Pass
356.580	-2.03	-0.62	3.07	Pass
358.675	-2.03	-0.60	3.36	Pass
364.950	-2.03	-0.49	4.16	Pass
367.040	-2.03	-0.40	4.79	Pass
370.917	-2.03	-0.29	7.07	Pass
371.225	-2.03	-0.28	7.35	Pass
372.917	-2.03	-0.21	9.59	Pass
374.917	-2.03	-0.13	16.10	Pass
377.500	-2.03	0.00	99.00	Pass

NR = Spec check not required at this location

Final Tension Stress due to Permanent and Transient Loads

228/508

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
0.000	0.55	0.04	-0.21	99.00	Pass
2.583	0.55	0.07	-1.24	7.92	Pass
4.583	0.55	0.00	-1.26	99.00	Pass
6.275	0.55	-0.08	-1.28	99.00	Pass
6.583	0.55	-0.09	-1.28	99.00	Pass
10.460	0.55	-0.29	-0.97	99.00	Pass
12.550	0.55	-0.39	-0.78	99.00	Pass
18.825	0.55	-0.60	-0.44	99.00	Pass
20.920	0.55	-0.64	-0.38	99.00	Pass
25.100	0.55	-0.71	-0.24	99.00	Pass
30.875	0.55	-0.71	-0.19	99.00	Pass
31.375	0.55	-0.71	-0.20	99.00	Pass
37.650	0.55	-0.61	-0.35	99.00	Pass
41.830	0.55	-0.49	-0.58	99.00	Pass
43.925	0.55	-0.43	-0.68	99.00	Pass
50.200	0.55	-0.12	-1.13	99.00	Pass
52.290	0.55	-0.02	-1.30	99.00	Pass
55.167	0.55	0.16	-1.51	3.44	Pass
56.475	0.55	0.25	-1.46	2.26	Pass
57.167	0.55	0.29	-1.42	1.90	Pass
59.167	0.55	0.41	-1.31	1.34	Pass
61.750	0.55	0.44	-0.14	99.00	Pass
63.750	0.55	0.50	-0.35	99.00	Pass
66.333	0.55	0.49	-2.05	1.13	Pass
68.333	0.55	0.33	-2.22	1.68	Pass
70.333	0.55	0.15	-2.26	3.71	Pass
71.150	0.55	0.06	-2.17	8.77	Pass
76.750	0.55	-0.41	-1.67	99.00	Pass
79.550	0.55	-0.62	-1.38	99.00	Pass
87.950	0.55	-1.12	-0.70	99.00	Pass
90.750	0.55	-1.22	-0.57	99.00	Pass
96.350	0.55	-1.42	-0.27	99.00	Pass
104.750	0.55	-1.52	-0.17	99.00	Pass
113.150	0.55	-1.38	-0.25	99.00	Pass
118.750	0.55	-1.19	-0.53	99.00	Pass
121.550	0.55	-1.08	-0.66	99.00	Pass
129.950	0.55	-0.58	-1.33	99.00	Pass

229/508

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
	0.55	-0.38	-1.61	99.00	Pass
138.350	0.55	0.08	-2.11	6.77	Pass
139.167	0.55	0.17	-2.19	3.29	Pass
141.167	0.55	0.35	-2.16	1.58	Pass
143.167	0.55	0.51	-2.00	1.09	Pass
145.750	0.55	0.49	-0.31	99.00	Pass
147.750	0.55	0.49	-0.31	99.00	Pass
150.333	0.55	0.50	-2.01	1.10	Pass
152.333	0.55	0.35	-2.17	1.60	Pass
154.333	0.55	0.16	-2.19	3.37	Pass
155.150	0.55	0.08	-2.11	7.15	Pass
160.750	0.55	-0.39	-1.61	99.00	Pass
163.550	0.55	-0.59	-1.32	99.00	Pass
171.950	0.55	-1.09	-0.64	99.00	Pass
174.750	0.55	-1.20	-0.51	99.00	Pass
180.350	0.55	-1.40	-0.23	99.00	Pass
188.750	0.55	-1.52	-0.14	99.00	Pass
197.150	0.55	-1.40	-0.23	99.00	Pass
202.750	0.55	-1.20	-0.51	99.00	Pass
205.550	0.55	-1.09	-0.64	99.00	Pass
213.950	0.55	-0.59	-1.32	99.00	Pass
216.750	0.55	-0.39	-1.61	99.00	Pass
222.350	0.55	0.08	-2.11	7.15	Pass
223.167	0.55	0.16	-2.19	3.37	Pass
225.167	0.55	0.35	-2.17	1.60	Pass
227.167	0.55	0.50	-2.01	1.10	Pass
229.750	0.55	0.49	-0.31	99.00	Pass
231.750	0.55	0.49	-0.31	99.00	Pass
234.333	0.55	0.51	-2.00	1.09	Pass
236.333	0.55	0.35	-2.16	1.58	Pass
238.333	0.55	0.17	-2.19	3.29	Pass
239.150	0.55	0.08	-2.11	6.77	Pass
244.750	0.55	-0.38	-1.61	99.00	Pass
247.550	0.55	-0.58	-1.33	99.00	Pass
255.950	0.55	-1.08	-0.66	99.00	Pass
258.750	0.55	-1.19	-0.53	99.00	Pass
264.350	0.55	-1.38	-0.25	99.00	Pass

230/508

Location (ft)	Allowable Stress (ksi)	Actual Stress Top of Beam (ksi)	Actual Stress Bot of Beam (ksi)	Ratio	Code
	0.55	-1.52	-0.17	99.00	Pass
281.150	0.55	-1.42	-0.27	99.00	Pass
286.750	0.55	-1.22	-0.57	99.00	Pass
289.550	0.55	-1.12	-0.70	99.00	Pass
297.950	0.55	-0.62	-1.38	99.00	Pass
300.750	0.55	-0.41	-1.67	99.00	Pass
306.350	0.55	0.06	-2.17	8.77	Pass
307.167	0.55	0.15	-2.26	3.71	Pass
309.167	0.55	0.33	-2.22	1.68	Pass
311.167	0.55	0.49	-2.05	1.13	Pass
313.750	0.55	0.50	-0.35	99.00	Pass
315.750	0.55	0.44	-0.14	99.00	Pass
318.333	0.55	0.41	-1.31	1.34	Pass
320.333	0.55	0.29	-1.42	1.90	Pass
321.025	0.55	0.25	-1.46	2.26	Pass
322.333	0.55	0.16	-1.51	3.44	Pass
325.210	0.55	-0.02	-1.30	41.15	Pass
327.300	0.55	-0.12	-1.13	99.00	Pass
333.575	0.55	-0.43	-0.68	99.00	Pass
335.670	0.55	-0.49	-0.58	99.00	Pass
339.850	0.55	-0.61	-0.35	99.00	Pass
346.125	0.55	-0.71	-0.20	99.00	Pass
346.625	0.55	-0.71	-0.19	99.00	Pass
352.400	0.55	-0.71	-0.24	99.00	Pass
356.580	0.55	-0.64	-0.38	99.00	Pass
358.675	0.55	-0.60	-0.44	99.00	Pass
364.950	0.55	-0.39	-0.78	99.00	Pass
367.040	0.55	-0.29	-0.97	99.00	Pass
370.917	0.55	-0.09	-1.28	99.00	Pass
371.225	0.55	-0.08	-1.28	99.00	Pass
372.917	0.55	0.00	-1.26	99.00	Pass
374.917	0.55	0.07	-1.24	7.92	Pass
377.500	0.55	0.04	-0.21	99.00	Pass

NR = Spec check not required at this location

Girder Positive Flexure Analysis

231/508

Location (ft)	LS	Load Comb	Mr (kip-ft)	Mu (kip-ft)	Mr/Mu	Code
0.000	STR-I	1	322.14	0.00	99.00	Pass
2.583	STR-I	1	2030.27	420.36	4.83	Pass
2.850	STR-I	1	2074.27	460.42	4.51	Pass
4.583	STR-I	1	2487.44	714.32	3.48	Pass
6.275	STR-I	1	2887.30	941.88	3.07	Pass
6.583	STR-I	1	2959.69	981.27	3.02	Pass
10.460	STR-I	1	3281.25	1395.10	2.35	Pass
12.550	STR-I	1	3328.21	1618.20	2.06	Pass
18.825	STR-I	1	3410.32	2038.73	1.67	Pass
20.920	STR-I	1	3298.97	2110.11	1.56	Pass
25.100	STR-I	1	3298.97	2252.52	1.46	Pass
30.875	STR-I	1	3298.97	2260.47	1.46	Pass
31.375	STR-I	1	3298.97	2256.05	1.46	Pass
37.650	STR-I	1	3340.15	2075.37	1.61	Pass
41.830	STR-I	1	3340.15	1811.24	1.84	Pass
43.925	STR-I	1	3453.92	1678.86	2.06	Pass
50.200	STR-I	1	3345.53	1096.31	3.05	Pass
52.290	STR-I	2	3250.09	878.84	3.70	Pass
55.167	STR-I	2	3002.36	590.16	5.09	Pass
56.475	STR-I	2	2681.67	454.32	5.90	Pass
57.167	STR-I	1	2764.73	404.72	6.83	Pass
58.891	STR-I	1	2339.70	292.58	8.00	Pass
59.167	STR-I	1	2293.49	274.50	8.36	Pass
61.750	STR-I	1	624.88	147.43	4.24	Pass
62.750	STR-I	1	318.93	141.30	2.26	Pass
63.750	STR-I	1	746.70	137.27	5.44	Pass
66.333	STR-I	1	3111.20	287.95	10.80	Pass
66.602	STR-I	1	3185.85	307.94	10.35	Pass
68.333	STR-I	1	3797.81	435.20	8.73	Pass
70.333	STR-I	2	4384.55	657.41	6.67	Pass
71.150	STR-I	2	4282.37	751.31	5.70	Pass
76.750	STR-I	2	4660.47	1347.92	3.46	Pass
79.550	STR-I	1	4733.19	1662.59	2.85	Pass
87.950	STR-I	1	4749.81	2492.80	1.91	Pass
90.750	STR-I	1	4592.90	2664.62	1.72	Pass
96.350	STR-I	1	4495.91	3008.27	1.49	Pass
104.750	STR-I	1	4495.91	3177.42	1.41	Pass
113.150	STR-I	1	4495.91	3039.96	1.48	Pass

232/508

Location (ft)	LS	Load Comb	Mr (kip-ft)	Mu (kip-ft)	Mr/Mu	Code
	STR-I	1	4592.90	2717.17	1.69	Pass
121.550	STR-I	1	4749.81	2555.78	1.86	Pass
129.950	STR-I	1	4733.19	1742.70	2.72	Pass
132.750	STR-I	2	4660.47	1409.92	3.31	Pass
138.350	STR-I	2	4282.37	798.91	5.36	Pass
139.167	STR-I	2	4384.55	702.54	6.24	Pass
141.167	STR-I	1	3797.81	487.55	7.79	Pass
142.898	STR-I	1	3185.85	343.95	9.26	Pass
143.167	STR-I	1	3111.20	321.44	9.68	Pass
145.750	STR-I	1	746.70	151.87	4.92	Pass
146.750	STR-I	1	318.93	147.02	2.17	Pass
147.750	STR-I	1	746.70	143.20	5.21	Pass
150.333	STR-I	1	3111.20	290.11	10.72	Pass
150.602	STR-I	1	3185.85	310.26	10.27	Pass
152.333	STR-I	2	3797.81	451.36	8.41	Pass
154.333	STR-I	2	4384.55	690.47	6.35	Pass
155.150	STR-I	2	4282.37	785.67	5.45	Pass
160.750	STR-I	2	4660.47	1389.68	3.35	Pass
163.550	STR-I	1	4733.19	1717.83	2.76	Pass
171.950	STR-I	1	4749.81	2541.39	1.87	Pass
174.750	STR-I	1	4592.90	2708.02	1.70	Pass
180.350	STR-I	1	4495.91	3041.29	1.48	Pass
188.750	STR-I	1	4495.91	3193.36	1.41	Pass
197.150	STR-I	1	4495.91	3041.29	1.48	Pass
202.750	STR-I	1	4592.90	2708.02	1.70	Pass
205.550	STR-I	1	4749.81	2541.39	1.87	Pass
213.950	STR-I	1	4733.19	1717.83	2.76	Pass
216.750	STR-I	2	4660.47	1389.68	3.35	Pass
222.350	STR-I	2	4282.37	785.67	5.45	Pass
223.167	STR-I	2	4384.55	690.47	6.35	Pass
225.167	STR-I	2	3797.81	451.36	8.41	Pass
226.898	STR-I	1	3185.85	310.26	10.27	Pass
227.167	STR-I	1	3111.20	290.11	10.72	Pass
229.750	STR-I	1	746.70	143.20	5.21	Pass
230.750	STR-I	1	318.93	147.02	2.17	Pass
231.750	STR-I	1	746.70	151.87	4.92	Pass
234.333	STR-I	1	3111.20	321.44	9.68	Pass
234.602	STR-I	1	3185.85	343.95	9.26	Pass

233/508

Location (ft)	LS	Load Comb	Mr (kip-ft)	Mu (kip-ft)	Mr/Mu	Code
	STR-I	1	3797.81	487.55	7.79	Pass
238.333	STR-I	2	4384.55	702.54	6.24	Pass
239.150	STR-I	2	4282.37	798.91	5.36	Pass
244.750	STR-I	2	4660.47	1409.92	3.31	Pass
247.550	STR-I	1	4733.19	1742.70	2.72	Pass
255.950	STR-I	1	4749.81	2555.78	1.86	Pass
258.750	STR-I	1	4592.90	2717.17	1.69	Pass
264.350	STR-I	1	4495.91	3039.96	1.48	Pass
272.750	STR-I	1	4495.91	3177.42	1.41	Pass
281.150	STR-I	1	4495.91	3008.27	1.49	Pass
286.750	STR-I	1	4592.90	2664.62	1.72	Pass
289.550	STR-I	1	4749.81	2492.80	1.91	Pass
297.950	STR-I	1	4733.19	1662.59	2.85	Pass
300.750	STR-I	2	4660.47	1347.92	3.46	Pass
306.350	STR-I	2	4282.37	751.31	5.70	Pass
307.167	STR-I	2	4384.55	657.41	6.67	Pass
309.167	STR-I	1	3797.81	435.20	8.73	Pass
310.898	STR-I	1	3185.85	307.94	10.35	Pass
311.167	STR-I	1	3111.20	287.95	10.80	Pass
313.750	STR-I	1	746.70	137.27	5.44	Pass
314.750	STR-I	1	318.93	141.30	2.26	Pass
315.750	STR-I	1	624.88	147.43	4.24	Pass
318.333	STR-I	1	2293.49	274.50	8.36	Pass
318.609	STR-I	1	2339.70	292.58	8.00	Pass
320.333	STR-I	1	2764.73	404.72	6.83	Pass
321.025	STR-I	2	2681.67	454.32	5.90	Pass
322.333	STR-I	2	3002.36	590.16	5.09	Pass
325.210	STR-I	2	3250.09	878.84	3.70	Pass
327.300	STR-I	1	3345.53	1096.31	3.05	Pass
333.575	STR-I	1	3453.92	1678.86	2.06	Pass
335.670	STR-I	1	3340.15	1811.24	1.84	Pass
339.850	STR-I	1	3340.15	2075.37	1.61	Pass
346.125	STR-I	1	3298.97	2256.05	1.46	Pass
346.625	STR-I	1	3298.97	2260.47	1.46	Pass
352.400	STR-I	1	3298.97	2252.52	1.46	Pass
356.580	STR-I	1	3298.97	2110.11	1.56	Pass
358.675	STR-I	1	3410.32	2038.73	1.67	Pass
364.950	STR-I	1	3328.21	1618.20	2.06	Pass

234/508

Location (ft)	LS	Load Comb	Mr (kip-ft)	Mu (kip-ft)	Mr/Mu	Code
	STR-I	1	3281.25	1395.10	2.35	Pass
370.917	STR-I	1	2959.69	981.27	3.02	Pass
371.225	STR-I	1	2887.30	941.88	3.07	Pass
372.917	STR-I	1	2487.44	714.32	3.48	Pass
374.650	STR-I	1	2074.27	460.42	4.51	Pass
374.917	STR-I	1	2030.27	420.36	4.83	Pass
377.500	STR-I	1	322.14	0.00	99.00	Pass

NR = Spec check not required at this location

Girder Negative Flexure Analysis

Location (ft)	LS	Load Comb	Mr (kip-ft)	Mu (kip-ft)	Mr/Mu	Code
0.000						NR
2.583						NR
2.850						NR
4.583						NR
6.275						NR
6.583						NR
10.460						NR
12.550						NR
18.825						NR
20.920						NR
25.100						NR
30.875						NR
31.375						NR
37.650						NR
41.830	STR-I	1	-1713.80	-102.43	16.73	Pass
43.925	STR-I	1	-1763.71	-175.79	10.03	Pass
50.200	STR-I	1	-1763.68	-462.69	3.81	Pass
52.290	STR-I	1	-2637.43	-588.43	4.48	Pass
55.167	STR-I	1	-2716.67	-761.48	3.57	Pass
56.475	STR-I	3	-2718.08	-898.81	3.02	Pass
57.167	STR-I	3	-2723.19	-975.34	2.79	Pass
58.891	STR-I	3	-3022.18	-1177.07	2.57	Pass
59.167	STR-I	3	-3021.22	-1209.78	2.50	Pass
61.750	STR-I	3	-2986.37	-1587.24	1.88	Pass
62.750	STR-I	3	-2680.39	-1684.59	1.59	Pass

235/508

Location (ft)	LS	Load Comb	Mr (kip-ft)	Mu (kip-ft)	Mr/Mu	Code
63.750	STR-I	3	-2988.89	-1588.75	1.88	Pass
66.333	STR-I	3	-2723.04	-1168.02	2.33	Pass
66.602	STR-I	3	-2723.77	-1131.37	2.41	Pass
68.333	STR-I	3	-2723.81	-900.24	3.03	Pass
70.333	STR-I	3	-2719.93	-647.34	4.20	Pass
71.150	STR-I	3	-2712.02	-548.66	4.94	Pass
76.750	STR-I	3	-1635.99	-12.62	99.00	Pass
79.550						NR
87.950						NR
90.750						NR
96.350						NR
104.750						NR
113.150						NR
118.750						NR
121.550						NR
129.950						NR
132.750	STR-I	1	-1590.71	-200.64	7.93	Pass
138.350	STR-I	3	-2712.02	-719.19	3.77	Pass
139.167	STR-I	3	-2719.93	-820.20	3.32	Pass
141.167	STR-I	3	-2723.81	-1081.03	2.52	Pass
142.898	STR-I	3	-2723.77	-1323.28	2.06	Pass
143.167	STR-I	3	-2723.04	-1361.41	2.00	Pass
145.750	STR-I	3	-2988.89	-1800.11	1.66	Pass
146.750	STR-I	3	-2680.39	-1902.10	1.41	Pass
147.750	STR-I	3	-2988.89	-1799.62	1.66	Pass
150.333	STR-I	3	-2723.04	-1359.90	2.00	Pass
150.602	STR-I	3	-2723.77	-1321.52	2.06	Pass
152.333	STR-I	3	-2723.81	-1078.30	2.53	Pass
154.333	STR-I	3	-2719.93	-816.00	3.33	Pass
155.150	STR-I	3	-2712.02	-714.32	3.80	Pass
160.750	STR-I	1	-1590.71	-184.75	8.61	Pass
163.550						NR
171.950						NR
174.750						NR
180.350						NR
188.750						NR
197.150						NR
202.750						NR

Location (ft)	LS	Load Comb	Mr (kip-ft)	Mu (kip-ft)	Mr/Mu	Code
205.550						NR
213.950						NR
216.750	STR-I	1	-1590.71	-184.75	8.61	Pass
222.350	STR-I	3	-2712.02	-714.32	3.80	Pass
223.167	STR-I	3	-2719.93	-816.00	3.33	Pass
225.167	STR-I	3	-2723.81	-1078.30	2.53	Pass
226.898	STR-I	3	-2723.77	-1321.52	2.06	Pass
227.167	STR-I	3	-2723.04	-1359.90	2.00	Pass
229.750	STR-I	3	-2988.89	-1799.62	1.66	Pass
230.750	STR-I	3	-2680.39	-1902.10	1.41	Pass
231.750	STR-I	3	-2988.89	-1800.11	1.66	Pass
234.333	STR-I	3	-2723.04	-1361.41	2.00	Pass
234.602	STR-I	3	-2723.77	-1323.28	2.06	Pass
236.333	STR-I	3	-2723.81	-1081.03	2.52	Pass
238.333	STR-I	3	-2719.93	-820.20	3.32	Pass
239.150	STR-I	3	-2712.02	-719.19	3.77	Pass
244.750	STR-I	1	-1590.71	-200.64	7.93	Pass
247.550						NR
255.950						NR
258.750						NR
264.350						NR
272.750						NR
281.150						NR
286.750						NR
289.550						NR
297.950						NR
300.750	STR-I	3	-1590.71	-12.62	99.00	Pass
306.350	STR-I	3	-2712.02	-548.66	4.94	Pass
307.167	STR-I	3	-2719.93	-647.34	4.20	Pass
309.167	STR-I	3	-2723.81	-900.24	3.03	Pass
310.898	STR-I	3	-2723.77	-1131.37	2.41	Pass
311.167	STR-I	3	-2723.04	-1168.02	2.33	Pass
313.750	STR-I	3	-2988.89	-1588.75	1.88	Pass
314.750	STR-I	3	-2680.39	-1684.59	1.59	Pass
315.750	STR-I	3	-2986.37	-1587.24	1.88	Pass
318.333	STR-I	3	-3021.22	-1209.78	2.50	Pass
318.609	STR-I	3	-3022.18	-1177.07	2.57	Pass
320.333	STR-I	3	-2723.19	-975.34	2.79	Pass

237/508

Location (ft)	LS	Load Comb	Mr (kip-ft)	Mu (kip-ft)	Mr/Mu	Code
321.025	STR-I	3	-2718.08	-898.81	3.02	Pass
322.333	STR-I	1	-2716.67	-761.48	3.57	Pass
325.210	STR-I	1	-2637.43	-588.43	4.48	Pass
327.300	STR-I	1	-1763.68	-462.69	3.81	Pass
333.575	STR-I	1	-1763.71	-175.79	10.03	Pass
335.670	STR-I	1	-1713.80	-102.43	16.73	Pass
339.850						NR
346.125						NR
346.625						NR
352.400						NR
356.580						NR
358.675						NR
364.950						NR
367.040						NR
370.917						NR
371.225						NR
372.917						NR
374.650						NR
374.917						NR
377.500						NR

NR = Spec check not required at this location

Girder Shear Analysis

Location (ft)	LS	Load Comb	Av Prov. (in^2/ft)	Concrete Vc (kip)	Reinf. Vs (kip)	Shear Strength Vr (kip)	Factored Shear Vu (kip)	Ratio Vr/Vu	Code
2.850	STR-I	1	0.800	159.172	525.172	615.910	157.610	3.908	Pass
4.583	STR-I	1	0.800	163.646	525.754	620.461	149.159	4.160	Pass
6.275	STR-I	1	0.800	157.862	520.053	610.123	141.007	4.327	Pass
6.583	STR-I	1	0.800	156.849	519.026	608.287	139.527	4.360	Pass
10.460	STR-I	1	0.533	142.194	328.082	423.248	121.174	3.493	Pass
12.550	STR-I	1	0.400	139.445	243.681	344.814	111.280	3.099	Pass
18.825	STR-I	1	0.400	134.766	239.803	337.112	82.587	4.082	Pass
20.920	STR-I	1	0.400	129.031	231.055	324.077	74.009	4.379	Pass
25.100	STR-I	1	0.400	127.794	230.073	322.081	56.895	5.661	Pass
30.875	STR-I	1	0.400	127.729	230.021	321.975	55.865	5.763	Pass
31.375	STR-I	1	0.400	127.688	229.990	321.910	58.141	5.537	Pass

238/508

Location (ft)	LS	Load Comb	Av Prov. (in^2/ft)	Concrete Vc (kip)	Reinf. Vs (kip)	Shear Strength Vr (kip)	Factored Shear Vu (kip)	Ratio Vr/Vu	Code
37.650	STR-I	1	0.400	129.358	231.645	324.902	86.588	3.752	Pass
41.830	STR-I	1	0.400	132.216	233.878	329.485	105.376	3.127	Pass
43.925	STR-I	1	0.400	138.682	243.250	343.739	114.792	2.994	Pass
50.200	STR-I	1	0.400	147.259	248.711	356.373	142.542	2.500	Pass
52.290	STR-II	5	0.600	155.499	377.376	479.588	153.417	3.126	Pass
55.167	STR-II	5	0.800	166.758	525.181	622.745	166.245	3.746	Pass
56.475	STR-II	5	0.800	167.843	526.716	625.103	171.882	3.637	Pass
57.167	STR-II	5	0.800	168.790	527.880	627.004	174.856	3.586	Pass
58.891	STR-II	5	0.800	160.800	524.736	616.983	182.149	3.387	Pass
66.602	STR-I	1	0.800	186.057	515.716	631.596	206.174	3.063	Pass
68.333	STR-I	1	0.800	195.438	504.127	629.608	199.165	3.161	Pass
70.333	STR-I	1	0.800	189.885	506.913	627.119	191.025	3.283	Pass
71.150	STR-I	1	0.800	187.398	508.339	626.164	187.695	3.336	Pass
76.750	STR-I	1	0.400	163.216	251.601	373.335	164.550	2.269	Pass
79.550	STR-I	1	0.400	156.026	248.931	364.461	152.978	2.382	Pass
87.950	STR-I	1	0.400	139.628	242.260	343.700	117.856	2.916	Pass
90.750	STR-I	1	0.400	132.323	232.171	328.045	106.191	3.089	Pass
96.350	STR-I	1	0.400	126.467	225.915	317.144	82.859	3.827	Pass
104.750	STR-I	1	0.400	125.594	225.218	315.731	48.971	6.447	Pass
113.150	STR-I	1	0.400	126.055	225.587	316.478	82.258	3.847	Pass
118.750	STR-I	1	0.400	131.628	231.603	326.908	105.571	3.097	Pass
121.550	STR-I	1	0.400	138.800	241.573	342.335	117.227	2.920	Pass
129.950	STR-I	1	0.400	154.049	248.235	362.055	152.454	2.375	Pass
132.750	STR-I	1	0.400	161.577	251.020	371.337	164.107	2.263	Pass
138.350	STR-II	5	0.800	189.229	506.706	626.342	187.828	3.335	Pass
139.167	STR-II	5	0.800	191.020	505.908	627.235	191.104	3.282	Pass
141.167	STR-II	5	0.800	195.666	503.927	629.634	199.108	3.162	Pass
142.898	STR-I	1	0.800	184.921	516.743	631.498	206.077	3.064	Pass
150.602	STR-I	1	0.800	185.922	515.838	631.584	206.711	3.055	Pass
152.333	STR-I	1	0.800	195.248	504.293	629.587	199.659	3.153	Pass
154.333	STR-I	1	0.800	189.017	507.685	627.032	191.476	3.275	Pass
155.150	STR-I	1	0.800	186.497	509.146	626.079	188.128	3.328	Pass
160.750	STR-I	1	0.400	162.026	251.179	371.885	164.915	2.255	Pass
163.550	STR-I	1	0.400	154.602	248.430	362.729	153.308	2.366	Pass
171.950	STR-I	1	0.400	138.952	241.699	342.586	118.183	2.899	Pass
174.750	STR-I	1	0.400	131.711	231.671	327.043	106.543	3.070	Pass
180.350									

239/508

Location (ft)	LS	Load Comb	Av Prov. (in^2/ft)	Concrete Vc (kip)	Reinf. Vs (kip)	Shear Strength Vr (kip)	Factored Shear Vu (kip)	Ratio Vr/Vu	Code
	STR-I	1	0.400	125.993	225.538	316.378	83.263	3.800	Pass
188.750	STR-I	1	0.400	125.369	225.040	315.368	49.053	6.429	Pass
197.150	STR-I	1	0.400	125.993	225.538	316.378	83.263	3.800	Pass
202.750	STR-I	1	0.400	131.711	231.671	327.043	106.543	3.070	Pass
205.550	STR-I	1	0.400	138.952	241.699	342.586	118.183	2.899	Pass
213.950	STR-I	1	0.400	154.602	248.430	362.729	153.308	2.366	Pass
216.750	STR-I	1	0.400	162.026	251.179	371.885	164.915	2.255	Pass
222.350	STR-I	1	0.800	186.497	509.146	626.079	188.128	3.328	Pass
223.167	STR-I	1	0.800	189.017	507.685	627.032	191.476	3.275	Pass
225.167	STR-I	1	0.800	195.248	504.293	629.587	199.659	3.153	Pass
226.898	STR-I	1	0.800	185.922	515.838	631.584	206.711	3.055	Pass
234.602	STR-I	1	0.800	184.921	516.743	631.498	206.077	3.064	Pass
236.333	STR-II	5	0.800	195.666	503.927	629.634	199.108	3.162	Pass
238.333	STR-II	5	0.800	191.020	505.908	627.235	191.104	3.282	Pass
239.150	STR-II	5	0.800	189.229	506.706	626.342	187.828	3.335	Pass
244.750	STR-I	1	0.400	161.577	251.020	371.337	164.107	2.263	Pass
247.550	STR-I	1	0.400	154.049	248.235	362.055	152.454	2.375	Pass
255.950	STR-I	1	0.400	138.800	241.573	342.335	117.227	2.920	Pass
258.750	STR-I	1	0.400	131.628	231.603	326.908	105.571	3.097	Pass
264.350	STR-I	1	0.400	126.055	225.587	316.478	82.258	3.847	Pass
272.750	STR-I	1	0.400	125.594	225.218	315.731	48.971	6.447	Pass
281.150	STR-I	1	0.400	126.467	225.915	317.144	82.859	3.827	Pass
286.750	STR-I	1	0.400	132.323	232.171	328.045	106.191	3.089	Pass
289.550	STR-I	1	0.400	139.628	242.260	343.700	117.856	2.916	Pass
297.950	STR-I	1	0.400	156.026	248.931	364.461	152.978	2.382	Pass
300.750	STR-I	1	0.400	163.216	251.601	373.335	164.550	2.269	Pass
306.350	STR-I	1	0.800	187.398	508.339	626.164	187.695	3.336	Pass
307.167	STR-I	1	0.800	189.885	506.913	627.119	191.025	3.283	Pass
309.167	STR-I	1	0.800	195.438	504.127	629.608	199.165	3.161	Pass
310.898	STR-I	1	0.800	186.057	515.716	631.596	206.174	3.063	Pass
318.609	STR-II	5	0.800	160.800	524.736	616.983	182.149	3.387	Pass
320.333	STR-II	5	0.800	168.790	527.880	627.004	174.856	3.586	Pass
321.025	STR-II	5	0.800	167.843	526.716	625.103	171.882	3.637	Pass
322.333	STR-II	5	0.800	166.758	525.181	622.745	166.245	3.746	Pass
325.210	STR-II	5	0.800	155.499	503.168	592.801	153.417	3.864	Pass
327.300	STR-I	1	0.400	147.259	248.711	356.373	142.542	2.500	Pass
[illegible]									

240/508

Location (ft)	LS	Load Comb	Av Prov. (in^2/ft)	Concrete Vc (kip)	Reinf. Vs (kip)	Shear Strength Vr (kip)	Factored Shear Vu (kip)	Ratio Vr/Vu	Code
	STR-I	1	0.400	138.682	243.250	343.739	114.792	2.994	Pass
335.670	STR-I	1	0.400	132.216	233.878	329.485	105.376	3.127	Pass
339.850	STR-I	1	0.400	129.358	231.645	324.902	86.588	3.752	Pass
346.125	STR-I	1	0.400	127.688	229.990	321.910	58.141	5.537	Pass
346.625	STR-I	1	0.400	127.729	230.021	321.975	55.865	5.763	Pass
352.400	STR-I	1	0.400	127.794	230.073	322.081	56.895	5.661	Pass
356.580	STR-I	1	0.400	129.031	231.055	324.077	74.009	4.379	Pass
358.675	STR-I	1	0.400	134.766	239.803	337.112	82.587	4.082	Pass
364.950	STR-I	1	0.400	139.445	243.681	344.814	111.280	3.099	Pass
367.040	STR-I	1	0.400	142.194	246.061	349.430	121.174	2.884	Pass
370.917	STR-I	1	0.800	156.849	519.026	608.287	139.527	4.360	Pass
371.225	STR-I	1	0.800	157.862	520.053	610.123	141.007	4.327	Pass
372.917	STR-I	1	0.800	163.646	525.754	620.461	149.159	4.160	Pass
374.650	STR-I	1	0.800	159.172	525.172	615.910	157.610	3.908	Pass

Girder Minimum Transverse Reinforcement

(Article 5.8.2.5)

Location (ft)	LS	Load Comb	Av Prov. (in^2/ft)	Av Req. (in^2/ft)	Ratio Av Prov/Av Req	Code
2.850	STR-I	1	0.800	0.147	5.427	Pass
4.583	STR-I	1	0.800	0.147	5.427	Pass
6.275	STR-I	1	0.800	0.147	5.427	Pass
6.583	STR-I	1	0.800	0.147	5.427	Pass
10.460	STR-I	1	0.533	0.147	3.618	Pass
12.550	STR-I	1	0.400	0.147	2.714	Pass
18.825	STR-I	1	0.400	0.147	2.714	Pass
20.920	STR-I	1	0.400	0.147	2.714	Pass
25.100	STR-I	1	0.400	0.000	99.000	NR
30.875	STR-I	1	0.400	0.000	99.000	NR
31.375	STR-I	1	0.400	0.147	2.714	Pass
37.650	STR-I	1	0.400	0.147	2.714	Pass
41.830	STR-I	1	0.400	0.147	2.714	Pass
43.925	STR-I	1	0.400	0.147	2.714	Pass
50.200	STR-I	1	0.400	0.147	2.714	Pass
52.290	STR-I	1	0.600	0.147	4.070	Pass
55.167	STR-I	1	0.800	0.147	5.427	Pass

241/508

Location (ft)	LS	Load Comb	Av Prov. (in^2/ft)	Av Req. (in^2/ft)	Ratio Av Prov/Av Req	Code
56.475	STR-I	1	0.800	0.147	5.427	Pass
57.167	STR-I	1	0.800	0.147	5.427	Pass
58.891	STR-I	1	0.800	0.147	5.427	Pass
66.602	STR-I	1	0.800	0.147	5.427	Pass
68.333	STR-I	1	0.800	0.147	5.427	Pass
70.333	STR-I	1	0.800	0.147	5.427	Pass
71.150	STR-I	1	0.800	0.147	5.427	Pass
76.750	STR-I	1	0.400	0.147	2.714	Pass
79.550	STR-I	1	0.400	0.147	2.714	Pass
87.950	STR-I	1	0.400	0.147	2.714	Pass
90.750	STR-I	1	0.400	0.147	2.714	Pass
96.350	STR-I	1	0.400	0.147	2.714	Pass
104.750	STR-I	1	0.400	0.000	99.000	NR
113.150	STR-I	1	0.400	0.147	2.714	Pass
118.750	STR-I	1	0.400	0.147	2.714	Pass
121.550	STR-I	1	0.400	0.147	2.714	Pass
129.950	STR-I	1	0.400	0.147	2.714	Pass
132.750	STR-I	1	0.400	0.147	2.714	Pass
138.350	STR-I	1	0.800	0.147	5.427	Pass
139.167	STR-I	1	0.800	0.147	5.427	Pass
141.167	STR-I	1	0.800	0.147	5.427	Pass
142.898	STR-I	1	0.800	0.147	5.427	Pass
150.602	STR-I	1	0.800	0.147	5.427	Pass
152.333	STR-I	1	0.800	0.147	5.427	Pass
154.333	STR-I	1	0.800	0.147	5.427	Pass
155.150	STR-I	1	0.800	0.147	5.427	Pass
160.750	STR-I	1	0.400	0.147	2.714	Pass
163.550	STR-I	1	0.400	0.147	2.714	Pass
171.950	STR-I	1	0.400	0.147	2.714	Pass
174.750	STR-I	1	0.400	0.147	2.714	Pass
180.350	STR-I	1	0.400	0.147	2.714	Pass
188.750	STR-I	1	0.400	0.000	99.000	NR
197.150	STR-I	1	0.400	0.147	2.714	Pass
202.750	STR-I	1	0.400	0.147	2.714	Pass
205.550	STR-I	1	0.400	0.147	2.714	Pass
213.950	STR-I	1	0.400	0.147	2.714	Pass
216.750	STR-I	1	0.400	0.147	2.714	Pass
222.350	STR-I	1	0.800	0.147	5.427	Pass

242/508

Location (ft)	LS	Load Comb	Av Prov. (in^2/ft)	Av Req. (in^2/ft)	Ratio Av Prov/Av Req	Code
	STR-I	1	0.800	0.147	5.427	Pass
225.167	STR-I	1	0.800	0.147	5.427	Pass
226.898	STR-I	1	0.800	0.147	5.427	Pass
234.602	STR-I	1	0.800	0.147	5.427	Pass
236.333	STR-I	1	0.800	0.147	5.427	Pass
238.333	STR-I	1	0.800	0.147	5.427	Pass
239.150	STR-I	1	0.800	0.147	5.427	Pass
244.750	STR-I	1	0.400	0.147	2.714	Pass
247.550	STR-I	1	0.400	0.147	2.714	Pass
255.950	STR-I	1	0.400	0.147	2.714	Pass
258.750	STR-I	1	0.400	0.147	2.714	Pass
264.350	STR-I	1	0.400	0.147	2.714	Pass
272.750	STR-I	1	0.400	0.000	99.000	NR
281.150	STR-I	1	0.400	0.147	2.714	Pass
286.750	STR-I	1	0.400	0.147	2.714	Pass
289.550	STR-I	1	0.400	0.147	2.714	Pass
297.950	STR-I	1	0.400	0.147	2.714	Pass
300.750	STR-I	1	0.400	0.147	2.714	Pass
306.350	STR-I	1	0.800	0.147	5.427	Pass
307.167	STR-I	1	0.800	0.147	5.427	Pass
309.167	STR-I	1	0.800	0.147	5.427	Pass
310.898	STR-I	1	0.800	0.147	5.427	Pass
318.609	STR-I	1	0.800	0.147	5.427	Pass
320.333	STR-I	1	0.800	0.147	5.427	Pass
321.025	STR-I	1	0.800	0.147	5.427	Pass
322.333	STR-I	1	0.800	0.147	5.427	Pass
325.210	STR-I	1	0.800	0.147	5.427	Pass
327.300	STR-I	1	0.400	0.147	2.714	Pass
333.575	STR-I	1	0.400	0.147	2.714	Pass
335.670	STR-I	1	0.400	0.147	2.714	Pass
339.850	STR-I	1	0.400	0.147	2.714	Pass
346.125	STR-I	1	0.400	0.147	2.714	Pass
346.625	STR-I	1	0.400	0.000	99.000	NR
352.400	STR-I	1	0.400	0.000	99.000	NR
356.580	STR-I	1	0.400	0.147	2.714	Pass
358.675	STR-I	1	0.400	0.147	2.714	Pass
364.950	STR-I	1	0.400	0.147	2.714	Pass
367.040	STR-I	1	0.400	0.147	2.714	Pass

243/508

Location (ft)	LS	Load Comb	Av Prov. (in^2/ft)	Av Req. (in^2/ft)	Ratio Av Prov/Av Req	Code
	STR-I	1	0.800	0.147	5.427	Pass
371.225	STR-I	1	0.800	0.147	5.427	Pass
372.917	STR-I	1	0.800	0.147	5.427	Pass
374.650	STR-I	1	0.800	0.147	5.427	Pass

Girder Maximum Spacing of Transverse Reinforcement

(Article 5.8.2.7)

Location (ft)	LS	Load Comb	Spacing (ft)	Code
2.850	STR-I	1	0.667	Pass
4.583	STR-I	1	0.667	Pass
6.275	STR-I	1	0.667	Pass
6.583	STR-I	1	0.667	Pass
10.460	STR-I	1	0.667	Pass
12.550	STR-I	1	0.667	Pass
18.825	STR-I	1	0.667	Pass
20.920	STR-I	1	0.667	Pass
25.100	STR-I	1	0.667	Pass
30.875	STR-I	1	0.667	Pass
31.375	STR-I	1	0.667	Pass
37.650	STR-I	1	0.667	Pass
41.830	STR-I	1	0.667	Pass
43.925	STR-I	1	0.667	Pass
50.200	STR-I	1	0.667	Pass
52.290	STR-I	1	0.667	Pass
55.167	STR-I	1	0.667	Pass
56.475	STR-I	1	0.667	Pass
57.167	STR-I	1	0.667	Pass
58.891	STR-I	1	0.667	Pass
66.602	STR-I	1	0.667	Pass
68.333	STR-I	1	0.667	Pass
70.333	STR-I	1	0.667	Pass
71.150	STR-I	1	0.667	Pass
76.750	STR-I	1	0.667	Pass
79.550	STR-I	1	0.667	Pass
87.950	STR-I	1	0.667	Pass
90.750	STR-I	1	0.667	Pass

244/508

Location (ft)	LS	Load Comb	Spacing (ft)	Code
96.350	STR-I	1	0.667	Pass
104.750	STR-I	1	0.667	Pass
113.150	STR-I	1	0.667	Pass
118.750	STR-I	1	0.667	Pass
121.550	STR-I	1	0.667	Pass
129.950	STR-I	1	0.667	Pass
132.750	STR-I	1	0.667	Pass
138.350	STR-I	1	0.667	Pass
139.167	STR-I	1	0.667	Pass
141.167	STR-I	1	0.667	Pass
142.898	STR-I	1	0.667	Pass
150.602	STR-I	1	0.667	Pass
152.333	STR-I	1	0.667	Pass
154.333	STR-I	1	0.667	Pass
155.150	STR-I	1	0.667	Pass
160.750	STR-I	1	0.667	Pass
163.550	STR-I	1	0.667	Pass
171.950	STR-I	1	0.667	Pass
174.750	STR-I	1	0.667	Pass
180.350	STR-I	1	0.667	Pass
188.750	STR-I	1	0.667	Pass
197.150	STR-I	1	0.667	Pass
202.750	STR-I	1	0.667	Pass
205.550	STR-I	1	0.667	Pass
213.950	STR-I	1	0.667	Pass
216.750	STR-I	1	0.667	Pass
222.350	STR-I	1	0.667	Pass
223.167	STR-I	1	0.667	Pass
225.167	STR-I	1	0.667	Pass
226.898	STR-I	1	0.667	Pass
234.602	STR-I	1	0.667	Pass
236.333	STR-I	1	0.667	Pass
238.333	STR-I	1	0.667	Pass
239.150	STR-I	1	0.667	Pass
244.750	STR-I	1	0.667	Pass
247.550	STR-I	1	0.667	Pass
255.950	STR-I	1	0.667	Pass
258.750	STR-I	1	0.667	Pass

245/508

Location (ft)	LS	Load Comb	Spacing (ft)	Code
	STR-I	1	0.667	Pass
272.750	STR-I	1	0.667	Pass
281.150	STR-I	1	0.667	Pass
286.750	STR-I	1	0.667	Pass
289.550	STR-I	1	0.667	Pass
297.950	STR-I	1	0.667	Pass
300.750	STR-I	1	0.667	Pass
306.350	STR-I	1	0.667	Pass
307.167	STR-I	1	0.667	Pass
309.167	STR-I	1	0.667	Pass
310.898	STR-I	1	0.667	Pass
318.609	STR-I	1	0.667	Pass
320.333	STR-I	1	0.667	Pass
321.025	STR-I	1	0.667	Pass
322.333	STR-I	1	0.667	Pass
325.210	STR-I	1	0.667	Pass
327.300	STR-I	1	0.667	Pass
333.575	STR-I	1	0.667	Pass
335.670	STR-I	1	0.667	Pass
339.850	STR-I	1	0.667	Pass
346.125	STR-I	1	0.667	Pass
346.625	STR-I	1	0.667	Pass
352.400	STR-I	1	0.667	Pass
356.580	STR-I	1	0.667	Pass
358.675	STR-I	1	0.667	Pass
364.950	STR-I	1	0.667	Pass
367.040	STR-I	1	0.667	Pass
370.917	STR-I	1	0.667	Pass
371.225	STR-I	1	0.667	Pass
372.917	STR-I	1	0.667	Pass
374.650	STR-I	1	0.667	Pass

Girder Longitudinal Reinforcement

(Article 5.8.3.5)

Location (ft)	LS	Load Comb	Left Term (kip)	Right Term (kip)	Ratio	Code
2.850	STR-I	1	1116.167	415.212	2.688	Pass

246/508

Location (ft)	LS	Load Comb	Left Term (kip)	Right Term (kip)	Ratio	Code
4.583	STR-I	1	1323.834	508.219	2.605	Pass
6.275	STR-I	1	1312.101	588.182	2.231	Pass
6.583	STR-I	1	1310.304	602.054	2.176	Pass
10.460	STR-I	1	1298.919	762.784	1.703	Pass
12.550	STR-I	1	1297.950	841.682	1.542	Pass
18.825	STR-I	1	1296.428	977.280	1.327	Pass
20.920	STR-I	1	1294.825	1023.845	1.265	Pass
25.100	STR-I	1	1294.825	1061.662	1.220	Pass
30.875	STR-I	1	1294.825	1063.677	1.217	Pass
31.375	STR-I	1	1294.825	1064.910	1.216	Pass
37.650	STR-I	1	1307.644	1023.982	1.277	Pass
41.830	STR-I	1	1307.644	936.800	1.396	Pass
43.925	STR-I	1	1309.634	870.690	1.504	Pass
50.200	STR-I	1	1311.661	668.856	1.961	Pass
52.290	STR-I	1	1323.104	585.287	2.261	Pass
55.167	STR-I	1	1331.852	463.231	2.875	Pass
56.475	STR-I	1	1337.735	433.747	3.084	Pass
57.167	STR-I	1	1432.265	420.217	3.408	Pass
58.891	STR-I	1	1215.886	381.651	3.186	Pass
66.602	STR-I	1	1755.573	425.629	4.125	Pass
68.333	STR-I	1	1962.830	462.882	4.240	Pass
70.333	STR-I	1	1950.316	529.589	3.683	Pass
71.150	STR-I	1	1856.272	559.647	3.317	Pass
76.750	STR-I	1	1827.644	818.465	2.233	Pass
79.550	STR-I	1	1826.359	936.063	1.951	Pass
87.950	STR-I	1	1826.079	1234.256	1.479	Pass
90.750	STR-I	1	1823.975	1326.926	1.375	Pass
96.350	STR-I	1	1808.383	1460.627	1.238	Pass
104.750	STR-I	1	1808.383	1488.489	1.215	Pass
113.150	STR-I	1	1808.383	1473.779	1.227	Pass
118.750	STR-I	1	1823.975	1348.866	1.352	Pass
121.550	STR-I	1	1826.079	1259.777	1.450	Pass
129.950	STR-I	1	1826.359	968.876	1.885	Pass
132.750	STR-I	1	1827.644	845.636	2.161	Pass
138.350	STR-I	1	1856.272	575.914	3.223	Pass
139.167	STR-I	1	1950.316	544.918	3.579	Pass
141.167	STR-I	1	1962.830	484.843	4.048	Pass
142.898	STR-I	1	1755.573	440.736	3.983	Pass

247/508

Location (ft)	LS	Load Comb	Left Term (kip)	Right Term (kip)	Ratio	Code
	STR-I	1	1755.573	427.427	4.107	Pass
152.333	STR-I	1	1962.830	465.436	4.217	Pass
154.333	STR-I	1	1950.316	541.307	3.603	Pass
155.150	STR-I	1	1856.272	571.827	3.246	Pass
160.750	STR-I	1	1827.644	838.191	2.180	Pass
163.550	STR-I	1	1826.359	959.687	1.903	Pass
171.950	STR-I	1	1826.079	1255.088	1.455	Pass
174.750	STR-I	1	1823.975	1346.252	1.355	Pass
180.350	STR-I	1	1808.383	1475.756	1.225	Pass
188.750	STR-I	1	1808.383	1495.672	1.209	Pass
197.150	STR-I	1	1808.383	1475.756	1.225	Pass
202.750	STR-I	1	1823.975	1346.252	1.355	Pass
205.550	STR-I	1	1826.079	1255.088	1.455	Pass
213.950	STR-I	1	1826.359	959.687	1.903	Pass
216.750	STR-I	1	1827.644	838.191	2.180	Pass
222.350	STR-I	1	1856.272	571.827	3.246	Pass
223.167	STR-I	1	1950.316	541.307	3.603	Pass
225.167	STR-I	1	1962.830	465.436	4.217	Pass
226.898	STR-I	1	1755.573	427.427	4.107	Pass
234.602	STR-I	1	1755.573	440.736	3.983	Pass
236.333	STR-I	1	1962.830	484.843	4.048	Pass
238.333	STR-I	1	1950.316	544.918	3.579	Pass
239.150	STR-I	1	1856.272	575.914	3.223	Pass
244.750	STR-I	1	1827.644	845.636	2.161	Pass
247.550	STR-I	1	1826.359	968.876	1.885	Pass
255.950	STR-I	1	1826.079	1259.777	1.450	Pass
258.750	STR-I	1	1823.975	1348.866	1.352	Pass
264.350	STR-I	1	1808.383	1473.779	1.227	Pass
272.750	STR-I	1	1808.383	1488.489	1.215	Pass
281.150	STR-I	1	1808.383	1460.627	1.238	Pass
286.750	STR-I	1	1823.975	1326.926	1.375	Pass
289.550	STR-I	1	1826.079	1234.256	1.479	Pass
297.950	STR-I	1	1826.359	936.063	1.951	Pass
300.750	STR-I	1	1827.644	818.465	2.233	Pass
306.350	STR-I	1	1856.272	559.647	3.317	Pass
307.167	STR-I	1	1950.316	529.589	3.683	Pass
309.167	STR-I	1	1962.830	462.882	4.240	Pass
310.898	STR-I	1	1755.573	425.629	4.125	Pass

248/508

Location (ft)	LS	Load Comb	Left Term (kip)	Right Term (kip)	Ratio	Code
	STR-I	1	1215.886	381.651	3.186	Pass
320.333	STR-I	1	1432.265	420.217	3.408	Pass
321.025	STR-I	1	1337.735	433.747	3.084	Pass
322.333	STR-I	1	1331.852	463.231	2.875	Pass
325.210	STR-I	1	1323.104	585.287	2.261	Pass
327.300	STR-I	1	1311.661	668.856	1.961	Pass
333.575	STR-I	1	1309.634	870.690	1.504	Pass
335.670	STR-I	1	1307.644	936.800	1.396	Pass
339.850	STR-I	1	1307.644	1023.982	1.277	Pass
346.125	STR-I	1	1294.825	1064.910	1.216	Pass
346.625	STR-I	1	1294.825	1063.677	1.217	Pass
352.400	STR-I	1	1294.825	1061.662	1.220	Pass
356.580	STR-I	1	1294.825	1023.845	1.265	Pass
358.675	STR-I	1	1296.428	977.280	1.327	Pass
364.950	STR-I	1	1297.950	841.682	1.542	Pass
367.040	STR-I	1	1298.919	762.784	1.703	Pass
370.917	STR-I	1	1310.304	602.054	2.176	Pass
371.225	STR-I	1	1312.101	588.182	2.231	Pass
372.917	STR-I	1	1323.834	508.219	2.605	Pass
374.650	STR-I	1	1116.167	415.212	2.688	Pass

Deflection

(Article 2.5.2.6.2)

Location (ft)	Vehicle	Vehicular Load Combination	Span Length (ft)	Deflection (in)	Deflection Limit (in)	Ratio	Code
0.000			62.750	0.000000	0.000000	99.000	Pass
2.583	HL-93 (US)	Design Truck	62.750	-0.010976	0.941250	85.755	Pass
4.583	HL-93 (US)	Design Truck	62.750	-0.019350	0.941250	48.644	Pass
6.275	HL-93 (US)	Design Truck	62.750	-0.026274	0.941250	35.824	Pass
6.583	HL-93 (US)	Design Truck	62.750	-0.027516	0.941250	34.208	Pass
10.460	HL-93 (US)	Design Truck	62.750	-0.042022	0.941250	22.399	Pass
12.550	HL-93 (US)	Design Truck	62.750	-0.049842	0.941250	18.885	Pass
18.825	HL-93 (US)	Design Truck	62.750	-0.066983	0.941250	14.052	Pass
20.920	HL-93 (US)	Design Truck	62.750	-0.070698	0.941250	13.314	Pass
25.100	HL-93 (US)	Design Truck	62.750	-0.078110	0.941250	12.050	Pass
30.875	HL-93 (US)	Design Truck	62.750	-0.080213	0.941250	11.734	Pass
31.375	HL-93 (US)	Design Truck	62.750	-0.080065	0.941250	11.756	Pass

249/508

Location (ft)	Vehicle	Vehicular Load Combination	Span Length (ft)	Deflection (in)	Deflection Limit (in)	Ratio	Code
37.650	HL-93 (US)	Design Truck	62.750	-0.073640	0.941250	12.782	Pass
41.830	HL-93 (US)	Design Truck	62.750	-0.064534	0.941250	14.585	Pass
43.925	HL-93 (US)	Design Truck	62.750	-0.059970	0.941250	15.695	Pass
50.200	HL-93 (US)	Design Truck	62.750	-0.040882	0.941250	23.023	Pass
52.290	HL-93 (US)	Design Truck	62.750	-0.033886	0.941250	27.777	Pass
55.167	HL-93 (US)	Design Truck	62.750	-0.024255	0.941250	38.806	Pass
56.475	HL-93 (US)	Design Truck	62.750	-0.019863	0.941250	47.386	Pass
57.167	HL-93 (US)	Design Truck	62.750	-0.017559	0.941250	53.606	Pass
59.167	HL-93 (US)	Design Truck	62.750	0.011761	0.941250	80.031	Pass
61.750			62.750	0.000000	0.000000	99.000	Pass
62.750			62.750	0.000000	0.000000	99.000	Pass
63.750			84.000	0.000000	0.000000	99.000	Pass
66.333	HL-93 (US)	Design Truck	84.000	-0.013752	1.260000	91.620	Pass
68.333	HL-93 (US)	Design Truck	84.000	-0.022114	1.260000	56.978	Pass
70.333	HL-93 (US)	Design Truck	84.000	-0.030827	1.260000	40.873	Pass
71.150	HL-93 (US)	Design Truck	84.000	-0.034461	1.260000	36.563	Pass
76.750	HL-93 (US)	Design Truck	84.000	-0.059748	1.260000	21.089	Pass
79.550	HL-93 (US)	Design Truck	84.000	-0.072391	1.260000	17.405	Pass
87.950	HL-93 (US)	Design Truck	84.000	-0.105608	1.260000	11.931	Pass
90.750	HL-93 (US)	Design Truck	84.000	-0.113329	1.260000	11.118	Pass
96.350	HL-93 (US)	Design Truck	84.000	-0.128771	1.260000	9.785	Pass
104.750	HL-93 (US)	Design Truck	84.000	-0.137647	1.260000	9.154	Pass
113.150	HL-93 (US)	Design Truck	84.000	-0.129711	1.260000	9.714	Pass
118.750	HL-93 (US)	Design Truck	84.000	-0.114677	1.260000	10.987	Pass
121.550	HL-93 (US)	Design Truck	84.000	-0.107160	1.260000	11.758	Pass
129.950	HL-93 (US)	Design Truck	84.000	-0.074233	1.260000	16.974	Pass
132.750	HL-93 (US)	Design Truck	84.000	-0.061408	1.260000	20.519	Pass
138.350	HL-93 (US)	Design Truck	84.000	-0.035758	1.260000	35.237	Pass
139.167	HL-93 (US)	Design Truck	84.000	-0.032034	1.260000	39.333	Pass
141.167	HL-93 (US)	Design Truck	84.000	-0.023068	1.260000	54.620	Pass
143.167	HL-93 (US)	Design Truck	84.000	-0.014409	1.260000	87.445	Pass
145.750			84.000	0.000000	0.000000	99.000	Pass
146.750			84.000	0.000000	0.000000	99.000	Pass
147.750			84.000	0.000000	0.000000	99.000	Pass
150.333	HL-93 (US)	Design Truck	84.000	-0.014563	1.260000	86.521	Pass
152.333	HL-93 (US)	Design Truck	84.000	-0.023323	1.260000	54.024	Pass
154.333	HL-93 (US)	Design Truck	84.000	-0.032398	1.260000	38.892	Pass

250/508

Location (ft)	Vehicle	Vehicular Load Combination	Span Length (ft)	Deflection (in)	Deflection Limit (in)	Ratio	Code
155.150	HL-93 (US)	Design Truck	84.000	-0.036169	1.260000	34.837	Pass
160.750	HL-93 (US)	Design Truck	84.000	-0.062181	1.260000	20.263	Pass
163.550	HL-93 (US)	Design Truck	84.000	-0.075187	1.260000	16.758	Pass
171.950	HL-93 (US)	Design Truck	84.000	-0.108868	1.260000	11.574	Pass
174.750	HL-93 (US)	Design Truck	84.000	-0.116601	1.260000	10.806	Pass
180.350	HL-93 (US)	Design Truck	84.000	-0.132068	1.260000	9.541	Pass
188.750	HL-93 (US)	Design Truck	84.000	-0.140635	1.260000	8.959	Pass
197.150	HL-93 (US)	Design Truck	84.000	-0.132068	1.260000	9.541	Pass
202.750	HL-93 (US)	Design Truck	84.000	-0.116601	1.260000	10.806	Pass
205.550	HL-93 (US)	Design Truck	84.000	-0.108868	1.260000	11.574	Pass
213.950	HL-93 (US)	Design Truck	84.000	-0.075187	1.260000	16.758	Pass
216.750	HL-93 (US)	Design Truck	84.000	-0.062181	1.260000	20.263	Pass
222.350	HL-93 (US)	Design Truck	84.000	-0.036169	1.260000	34.837	Pass
223.167	HL-93 (US)	Design Truck	84.000	-0.032398	1.260000	38.892	Pass
225.167	HL-93 (US)	Design Truck	84.000	-0.023323	1.260000	54.024	Pass
227.167	HL-93 (US)	Design Truck	84.000	-0.014563	1.260000	86.521	Pass
229.750			84.000	0.000000	0.000000	99.000	Pass
230.750			84.000	0.000000	0.000000	99.000	Pass
231.750			84.000	0.000000	0.000000	99.000	Pass
234.333	HL-93 (US)	Design Truck	84.000	-0.014409	1.260000	87.445	Pass
236.333	HL-93 (US)	Design Truck	84.000	-0.023068	1.260000	54.620	Pass
238.333	HL-93 (US)	Design Truck	84.000	-0.032034	1.260000	39.333	Pass
239.150	HL-93 (US)	Design Truck	84.000	-0.035758	1.260000	35.237	Pass
244.750	HL-93 (US)	Design Truck	84.000	-0.061408	1.260000	20.519	Pass
247.550	HL-93 (US)	Design Truck	84.000	-0.074233	1.260000	16.974	Pass
255.950	HL-93 (US)	Design Truck	84.000	-0.107160	1.260000	11.758	Pass
258.750	HL-93 (US)	Design Truck	84.000	-0.114677	1.260000	10.987	Pass
264.350	HL-93 (US)	Design Truck	84.000	-0.129711	1.260000	9.714	Pass
272.750	HL-93 (US)	Design Truck	84.000	-0.137647	1.260000	9.154	Pass
281.150	HL-93 (US)	Design Truck	84.000	-0.128771	1.260000	9.785	Pass
286.750	HL-93 (US)	Design Truck	84.000	-0.113329	1.260000	11.118	Pass
289.550	HL-93 (US)	Design Truck	84.000	-0.105608	1.260000	11.931	Pass
297.950	HL-93 (US)	Design Truck	84.000	-0.072391	1.260000	17.405	Pass
300.750	HL-93 (US)	Design Truck	84.000	-0.059748	1.260000	21.089	Pass
306.350	HL-93 (US)	Design Truck	84.000	-0.034461	1.260000	36.563	Pass
307.167	HL-93 (US)	Design Truck	84.000	-0.030827	1.260000	40.873	Pass
309.167	HL-93 (US)	Design Truck	84.000	-0.022114	1.260000	56.978	Pass

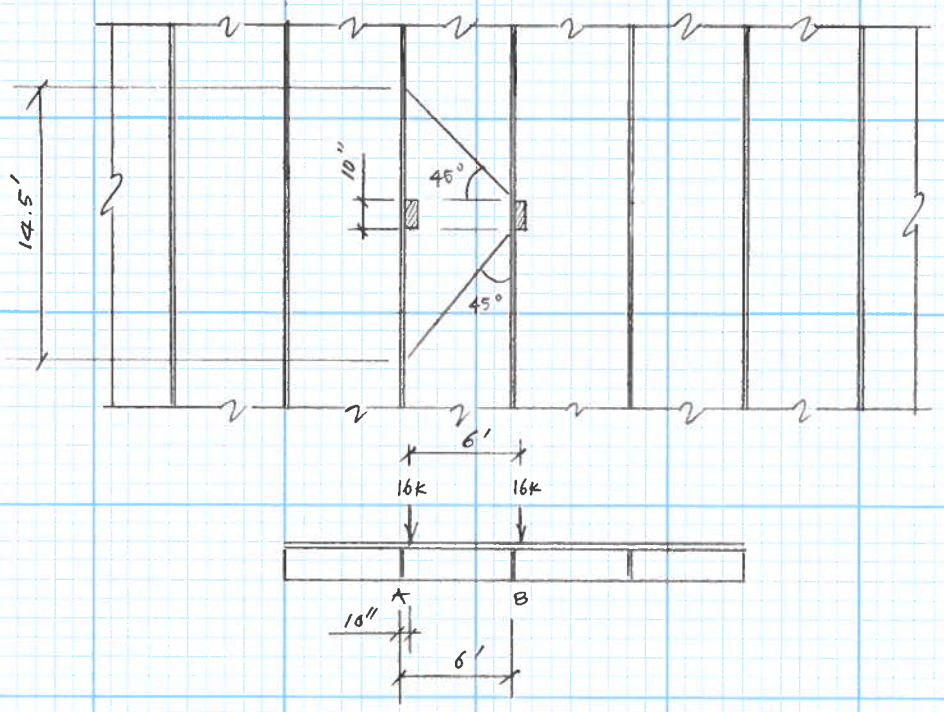
251 1/508

Location (ft)	Vehicle	Vehicular Load Combination	Span Length (ft)	Deflection (in)	Deflection Limit (in)	Ratio	Code
311.167	HL-93 (US)	Design Truck	84.000	-0.013752	1.260000	91.620	Pass
313.750			84.000	0.000000	0.000000	99.000	Pass
314.750			84.000	0.000000	0.000000	99.000	Pass
315.750			62.750	0.000000	0.000000	99.000	Pass
318.333	HL-93 (US)	Design Truck	62.750	0.011761	0.941250	80.031	Pass
320.333	HL-93 (US)	Design Truck	62.750	-0.017559	0.941250	53.606	Pass
321.025	HL-93 (US)	Design Truck	62.750	-0.019863	0.941250	47.386	Pass
322.333	HL-93 (US)	Design Truck	62.750	-0.024255	0.941250	38.806	Pass
325.210	HL-93 (US)	Design Truck	62.750	-0.033886	0.941250	27.777	Pass
327.300	HL-93 (US)	Design Truck	62.750	-0.040882	0.941250	23.023	Pass
333.575	HL-93 (US)	Design Truck	62.750	-0.059970	0.941250	15.695	Pass
335.670	HL-93 (US)	Design Truck	62.750	-0.064534	0.941250	14.585	Pass
339.850	HL-93 (US)	Design Truck	62.750	-0.073640	0.941250	12.782	Pass
346.125	HL-93 (US)	Design Truck	62.750	-0.080065	0.941250	11.756	Pass
346.625	HL-93 (US)	Design Truck	62.750	-0.080213	0.941250	11.734	Pass
352.400	HL-93 (US)	Design Truck	62.750	-0.078110	0.941250	12.050	Pass
356.580	HL-93 (US)	Design Truck	62.750	-0.070698	0.941250	13.314	Pass
358.675	HL-93 (US)	Design Truck	62.750	-0.066983	0.941250	14.052	Pass
364.950	HL-93 (US)	Design Truck	62.750	-0.049842	0.941250	18.885	Pass
367.040	HL-93 (US)	Design Truck	62.750	-0.042022	0.941250	22.399	Pass
370.917	HL-93 (US)	Design Truck	62.750	-0.027516	0.941250	34.208	Pass
371.225	HL-93 (US)	Design Truck	62.750	-0.026274	0.941250	35.824	Pass
372.917	HL-93 (US)	Design Truck	62.750	-0.019350	0.941250	48.644	Pass
374.917	HL-93 (US)	Design Truck	62.750	-0.010976	0.941250	85.755	Pass
377.500			62.750	0.000000	0.000000	99.000	Pass

252/508

DECK REINFORCING DESIGN

TRANSVERSE DIRECTION



$$R_A = 16\left(\frac{6-0.833}{6}\right) + 16\left(\frac{6-5.167}{6}\right)\frac{0.833}{14.5} = 13.91\ k \text{ per } 10'' \text{ strip}$$

The nominal shear resistance of the interface plane

$$V_n = cA_{cv} + \mu\left(A_{vf} f_y + P_c\right) \qquad (5.8.4.1\text{-}3)$$

Roughen Surface (0.25" amplitude) → $c = 0.28$ ksi, $\mu = 1.0$ (5.8.4.3)

$P_c = 0$, $f_y = 60$ ksi, $A_{vc} = 5(10) = 50\ in^2$

$$13.91(1.75)(1.33) = 0.9\left[0.28(50) + 1.0\,A_{vf}\,60\right]$$

$$\frac{32.376}{0.9} - 14 = 60\,A_{vf}$$

$$\frac{21.973}{60} = A_{vf}$$

$A_{vf} \geq 0.367\ in^2$ per 10" or $A_{vf} \geq 0.44\ in^2$ per ft

Use #5 @ $\frac{0.31(12)}{0.44} = 8.4''$ Use #5 @ 7"

By: HB Date 7/13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: JE Date 8/13	Structure no. B-16-EV	Sheet 253 of 508

LONGITUDINAL DIRECTION (9.7.3.2)

Percentage of longidinal reinforcement

$\frac{200}{\sqrt{S}} \leq 67\%$, $S = 6.167'$

$\frac{200}{\sqrt{6.167}} = 80.5\% > 67\%$ use 67%

Transverse Reinforcing = 67% of #5 @ 7" (0.531 in^2/ft)

$\Rightarrow 0.67(0.531) = 0.356\ in^2$ per ft

Use #4 @ 6" (0.4 in^2 per ft)

Negative moment reinforcing is designed by Conspan & Opis Use #10 bundle with #4 @ 6" over each pier. A design check for negative moment reinforcing at pier 3 or 4 is shown in pg 255.1 & 255.2

By: HB Date 7/13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: JE Date 8/13	Structure no. B-16-EV	Sheet 254 of 508

Ultimate Moment Using Strain Compatibility

Project Number: FBR 0142-055
Negative Moment Capacity over Pier
Hoang Bui, 12/14/2012

Concrete	Depth (Fr. Top)	Width
	38.00	72.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00

Mill Reinforcing	Depth (Fr. Top)	Area
	34.74	17.64
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00

← #4 bundle with #10 @6"
=> 12-#4 + 12-#10 = 17.64 in²

Pre-tension Steel	Depth (Fr. Top)	Area
T1	0.00	0.00
T2	0.00	0.00
T3	0.00	0.00

Material Properties		
Percent of Jacking =	75	%
Final Losses =	20	%
E_{ps} =	28500	ksi
fy (Prestressed Steel) =	270	ksi
E_s =	29000	ksi
fy (Mill Steel) =	60	ksi
f'c =	4.5	ksi

strength I : Negative Moment @ P3 & P4 = 2059.3 k.ft

OT 4.74

ULTIMATE MOMENT CAPACITY

Pj (T1)=	0.00	(Jacking Force after Losses)
Pj (T2)=	0.00	(Jacking Force after Losses)
Pj (T3)=	0.00	(Jacking Force after Losses)
Trial distance from the top to the N.A. (in) =	4.66	
a =	3.84	

Concrete	Depth (Fr. Top)	Width	Block Thickness	Arm (fr. N.A.)	Block Area	Arm x Area
	38.00	72.00	3.84	2.74	276.71	757.28
	0.00	0.00	-38.00	-14.34	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
					276.71	757.28

Centroid of Compression Block (From Top) = 1.922

									(1)		(1)		(2)	(2)	(2)	(2)
Mill Reinforcing	Depth (Fr. Top)	Area	Yi (fr. N.A.)	Strain (Tension)	Strain (Comp.)	* Stress (Ten.)	Stress (Comp.)	Tension (Ti)	Ti x Yi	Comp. (Ci)	Ci x Yi	Ti x di	Ti x Arm	Ci x Arm	Ti x Arm x Phi	Ci x Arm x Phi
	34.74	17.64	30.08	0.01937	0.00000	60.00	0.00	1058.40	31838.42	0.00	0.00	36768.82	34735.03	0.00	31261.52	0.00
	0.00	0.00	4.66	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	4.66	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	4.66	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	4.66	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	4.66	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	4.66	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	4.66	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	4.66	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T1	0.00	0.00	4.66	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T2	0.00	0.00	4.66	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T3	0.00	0.00	4.66	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
								1058.40	31838.42	0.00	0.00	36768.82	34735.03	0.00	31261.52	0.00

Press to solve for Mn 0.000000000

d_t = 34.74

Mn = 2894.59 K.ft

Mr = 2605.13 K.ft

C/d_t = 0.13 OK

Resistance Factor for Mill Steel = 0.90 TENSION CONTROLLED

Resistance Factor for Prestressed Steel = 1.00 TENSION CONTROLLED

* Not exceed the yield point stress in the tension prestressing steel by Collins & Mitchell equation (Prestressed Concrete Structures, eq. 3-26)

(1) Moment about N.A.

(2) Moment about Centroid of Compession Bock(s)

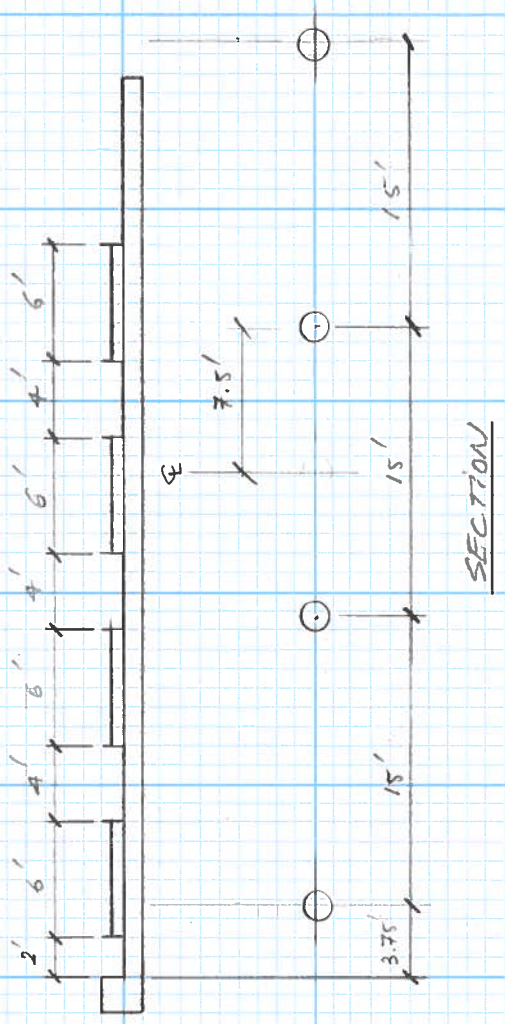
Girder 9, Span 3

Strength I : Negative Moment @ P3 & P4 = 2059.3 k.ft

2605.13 k.ft > 2059.3 k.ft OK

ABUTMENT CAISSON DESIGN FOR AXIAL LOADS

CONSTRUCTION PHASE I



SECTION

By: HB Date 7-13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 6-13	Structure no. B-16-EV	Sheet 256 of 508

Description:

HL-93 lane load on elastic approach slab foundation
Assume Kv = 30 tons/ft^3

Units: English

Properties - X = feet, E = ksi, I = in^4
X = 0; E = 4067; I = 207360;
/Approach Slab 12' wide, 1' thick
X = 20; E = 4067; I = 207360;

Moment Releases - X = feet

Supports - X = feet, Displacement = inches, Rotation = radians
X = 0; Disp = 0;

Springs - X = feet, VSpring = kip/inch, RSpring = kip in/rad
X = 2.5; VSpring = 3000;
X = 7.5; VSpring = 3000;
X = 12.5; VSpring = 3000;
X = 17.5; VSpring = 3000;

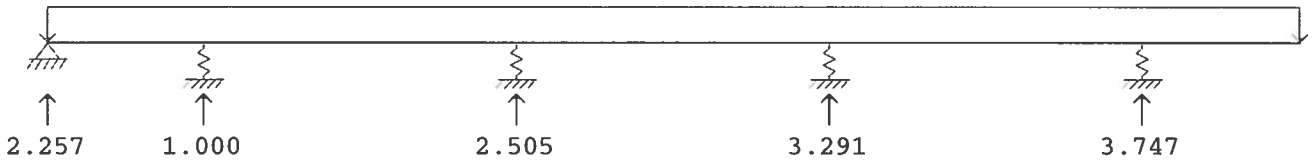
Point Loads - X = feet, PLoad = kips, Moment = kip ft

Uniform Loads - XStart & XEnd = feet, UStart & UEnd = kip/ft
XStart = 0; XEnd = 20; UStart = -0.64; UEnd = -0.64;
/HL-93 Lane Load

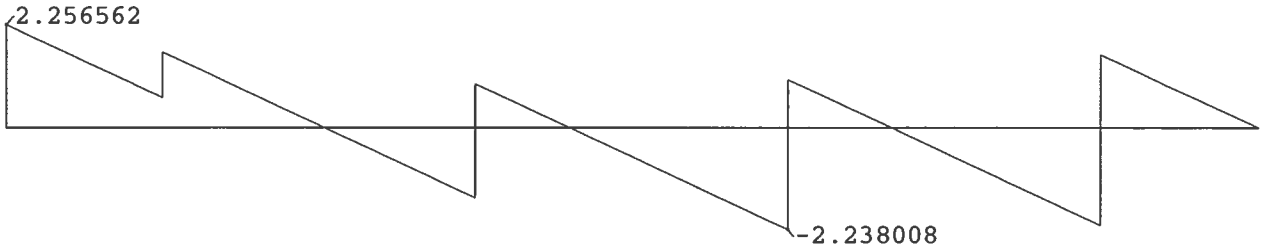
WinBeam

Project:				
y:	Date:	Checked:	Date:	Page:

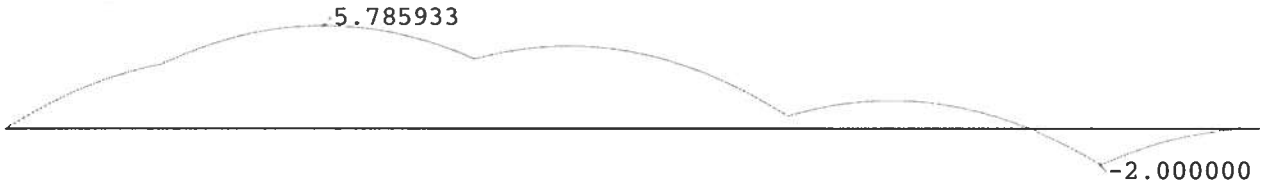
Reactions - kips, kip ft



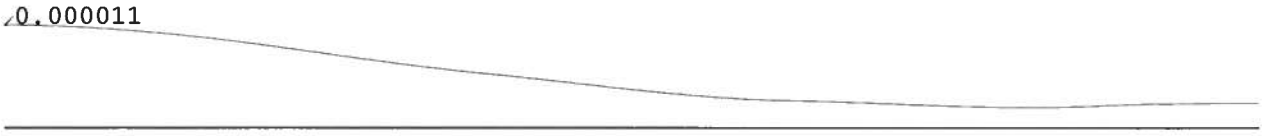
Shear - kips



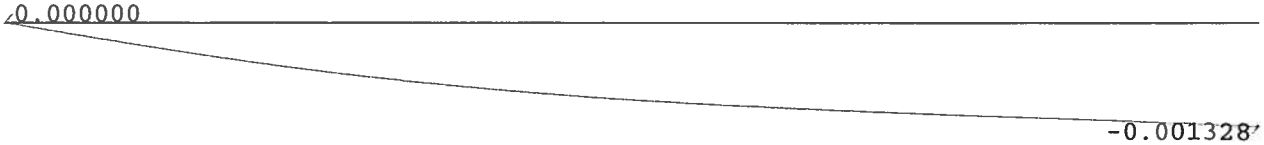
Moment - kip ft



Rotation - radians



Deflection - inches



Live Load (QCon)

Untitled

Live Load Envelopes (Per Lane)

Span	Point	Min Shear(lbs)	Max Shear(lbs)	Min Moment(ft-lbs)	Max Moment(ft-lbs)
1	0	-15.398e+03	98.551e+03	0.000e+00	0.000e+00
1	1	-15.644e+03	83.261e+03	-96.624e+03	533.512e+03
1	2	-18.861e+03	68.795e+03	-193.248e+03	901.381e+03
1	3	-27.944e+03	55.275e+03	-289.872e+03	1.112e+06
1	4	-38.189e+03	42.838e+03	-386.496e+03	1.212e+06
1	5	-50.870e+03	31.547e+03	-483.120e+03	1.198e+06
1	6	-64.137e+03	21.913e+03	-579.744e+03	1.097e+06
1	7	-77.187e+03	14.876e+03	-676.368e+03	877.592e+03
1	8	-89.851e+03	8.892e+03	-772.992e+03	562.061e+03
1	9	-101.948e+03	4.205e+03	-938.852e+03	261.695e+03
1	10	-113.309e+03	4.084e+03	-1.373e+06	256.857e+03
2	0	-13.736e+03	116.273e+03	-1.373e+06	256.857e+03
2	1	-13.923e+03	104.864e+03	-793.870e+03	281.660e+03
2	2	-14.533e+03	90.278e+03	-477.324e+03	631.252e+03
2	3	-21.313e+03	75.303e+03	-417.924e+03	1.039e+06
2	4	-32.404e+03	60.449e+03	-369.151e+03	1.300e+06
2	5	-45.307e+03	46.210e+03	-372.714e+03	1.384e+06
2	6	-59.402e+03	33.021e+03	-469.864e+03	1.333e+06
2	7	-74.226e+03	21.581e+03	-567.014e+03	1.105e+06
2	8	-89.304e+03	13.589e+03	-666.536e+03	718.167e+03
2	9	-104.136e+03	10.736e+03	-937.988e+03	339.297e+03
2	10	-118.164e+03	10.535e+03	-1.557e+06	272.267e+03
3	0	-13.697e+03	116.228e+03	-1.557e+06	272.267e+03
3	1	-13.894e+03	105.024e+03	-932.381e+03	328.627e+03
3	2	-14.531e+03	90.322e+03	-648.591e+03	698.462e+03
3	3	-22.177e+03	75.344e+03	-563.171e+03	1.098e+06
3	4	-33.429e+03	60.566e+03	-482.289e+03	1.342e+06
3	5	-46.461e+03	46.461e+03	-401.408e+03	1.409e+06
3	6	-60.566e+03	33.429e+03	-482.289e+03	1.342e+06
3	7	-75.344e+03	22.177e+03	-563.171e+03	1.098e+06
3	8	-90.322e+03	14.531e+03	-648.591e+03	698.462e+03
3	9	-105.024e+03	13.894e+03	-932.381e+03	328.627e+03
3	10	-118.895e+03	13.697e+03	-1.557e+06	272.267e+03
4	0	-10.535e+03	115.446e+03	-1.557e+06	272.267e+03
4	1	-10.736e+03	104.136e+03	-937.988e+03	339.297e+03
4	2	-13.589e+03	89.304e+03	-666.536e+03	718.167e+03
4	3	-21.581e+03	74.226e+03	-567.014e+03	1.105e+06
4	4	-33.021e+03	59.402e+03	-469.864e+03	1.333e+06
4	5	-46.210e+03	45.307e+03	-372.714e+03	1.384e+06
4	6	-60.449e+03	32.404e+03	-369.151e+03	1.300e+06
4	7	-75.303e+03	21.313e+03	-417.924e+03	1.039e+06
4	8	-90.278e+03	14.533e+03	-477.324e+03	631.252e+03
4	9	-104.864e+03	13.923e+03	-793.870e+03	281.660e+03
4	10	-118.534e+03	13.736e+03	-1.373e+06	256.857e+03
5	0	-4.084e+03	109.641e+03	-1.373e+06	256.857e+03
5	1	-4.205e+03	101.948e+03	-938.852e+03	261.695e+03
5	2	-8.892e+03	89.851e+03	-772.992e+03	562.061e+03
5	3	-14.876e+03	77.187e+03	-676.368e+03	877.592e+03
5	4	-21.913e+03	64.137e+03	-579.744e+03	1.097e+06
5	5	-31.547e+03	50.870e+03	-483.120e+03	1.198e+06
5	6	-42.838e+03	38.189e+03	-386.496e+03	1.212e+06
5	7	-55.275e+03	27.944e+03	-289.872e+03	1.112e+06
5	8	-68.795e+03	18.861e+03	-193.248e+03	901.381e+03
5	9	-83.261e+03	15.644e+03	-96.624e+03	533.512e+03
5	10	-98.551e+03	15.398e+03	0.000e+00	0.000e+00

Live Load Envelopes (Per Lane)

Pier	FxMin(lbs)	FxMax(lbs)	FyMin(lbs)	FyMax(lbs)	MzMin(ft-lbs)	MzMax(ft-lbs)
1	0.000e+00	0.000e+00	-15.398e+03	98.551e+03	0.000e+00	0.000e+00
2	0.000e+00	0.000e+00	-17.829e+03	156.819e+03	0.000e+00	0.000e+00
3	0.000e+00	0.000e+00	-19.447e+03	166.922e+03	0.000e+00	0.000e+00
4	0.000e+00	0.000e+00	-19.447e+03	166.922e+03	0.000e+00	0.000e+00
5	0.000e+00	0.000e+00	-17.829e+03	156.819e+03	0.000e+00	0.000e+00
6	0.000e+00	0.000e+00	-15.398e+03	98.551e+03	0.000e+00	0.000e+00

98.551 + 2.257 = 100.81 k
(including Lane Load on approach slab)

258.1/508

DEAD LOADS

* Simple Span DL (8 precast girders + Plastic Concrete)

Hollow Girders : $\frac{978}{144}(8)(0.15)$ = 8.15 k/ft

End Block Girders : $\frac{72 \times 30}{144}(8)(0.15)$ = 18.0 k/ft

Deck $\frac{5}{12}(48.833)(0.15)$ = 3.052 k/ft

Haunch : $\frac{1}{12}(48.833)(0.15)$ = 0.610 k/ft

W_1 = 8.15 + 3.052 + 0.61 = 11.812 k/ft

W_2 = 18.0 + 3.052 + 0.61 = 21.662 k/ft

* Continuous Span DL (Composite Dead Loads)

Bridge rails : 0.59 + 0.6 = 1.19 k/ft

Sidewalk $\left\{\left[0.75 + 8(0.04)\right] + 0.75\right\}\frac{1}{2}(8)(0.15)$ = 1.092 k/ft

Asphalt 0.036 (38.83) = 1.398 k/ft

W_3 = 1.19 + 1.092 + 1.398 = 3.68 k/ft

* Abutment Dead Load

Abutment Cap $\frac{87 \times 36}{144}(54.5)(0.15)$ = 177.8 k

Approach Slab $20(1)(46.83)(0.15)\frac{1}{2}$ = 70.25 k

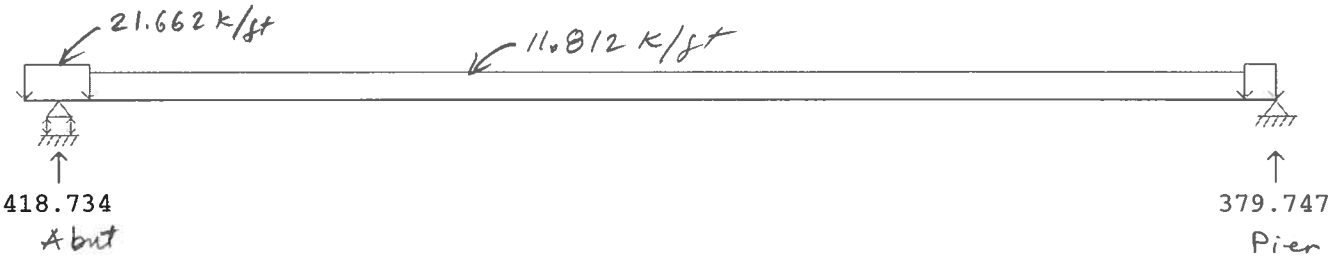
By: HB Date 7-13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8-13	Structure no. B-16-EV	Sheet 259 of 508

WinBeam

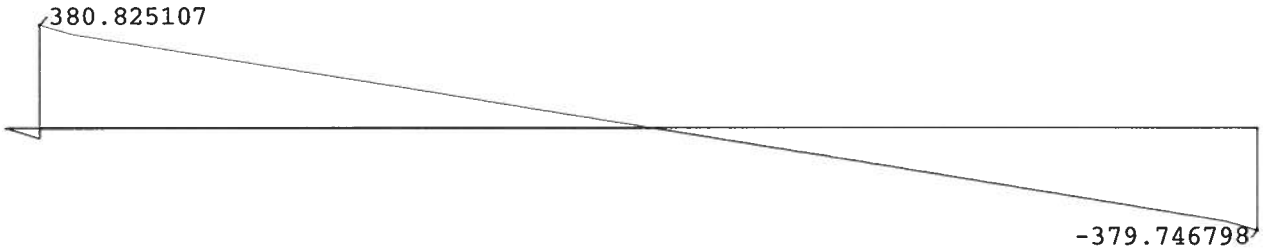
Project:				
By:	Date:	Checked:	Date:	Page:

Reactions - kips, kip ft

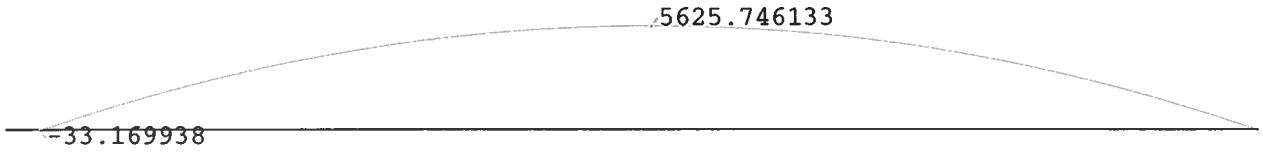
Simple Span DL



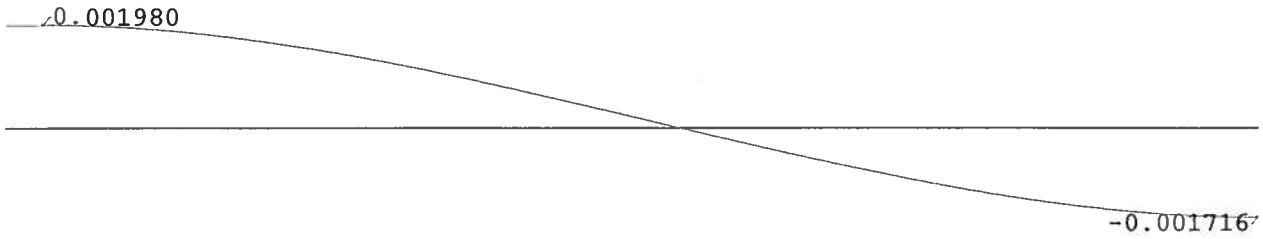
Shear - kips



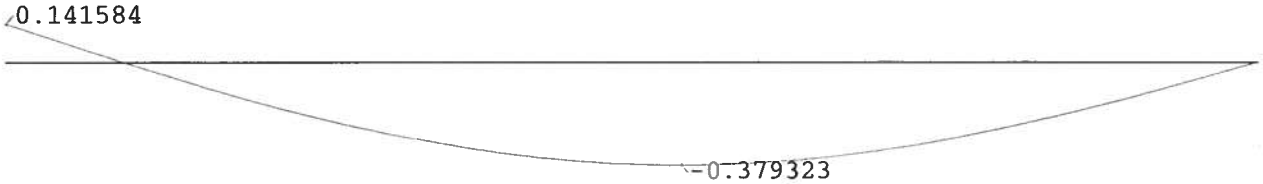
Moment - kip ft



Rotation - radians



Deflection - inches

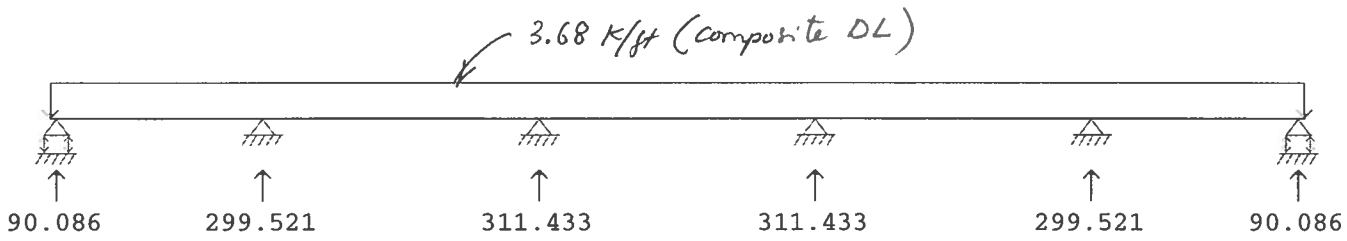


260/508

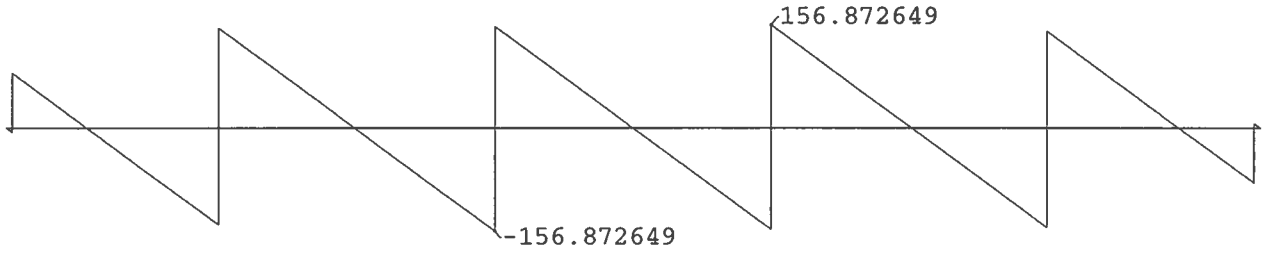
WinBeam

Project:				
/:	Date:	Checked:	Date:	Page:

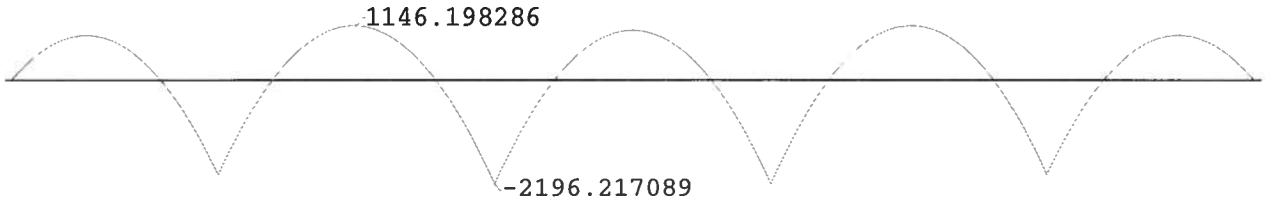
Reactions - kips, kip ft



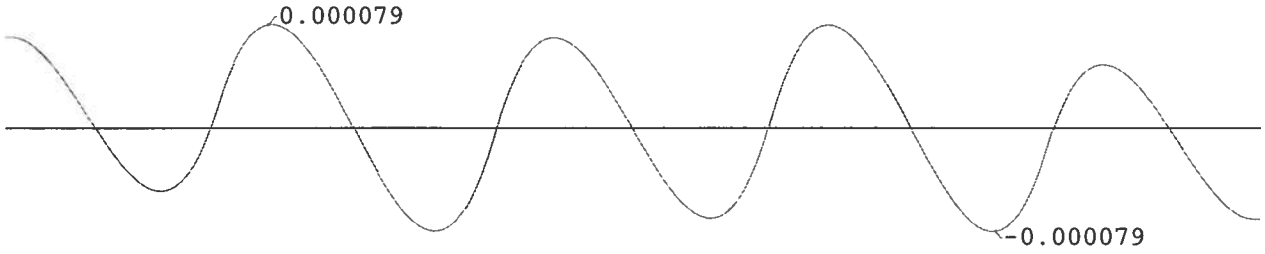
Shear - kips



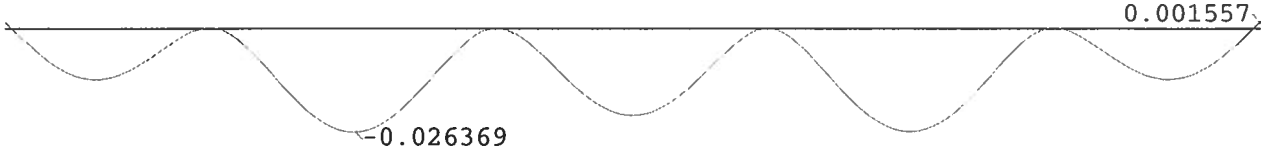
Moment - kip ft



Rotation - radians



Deflection - inches



Total unfactored Load on Abutment

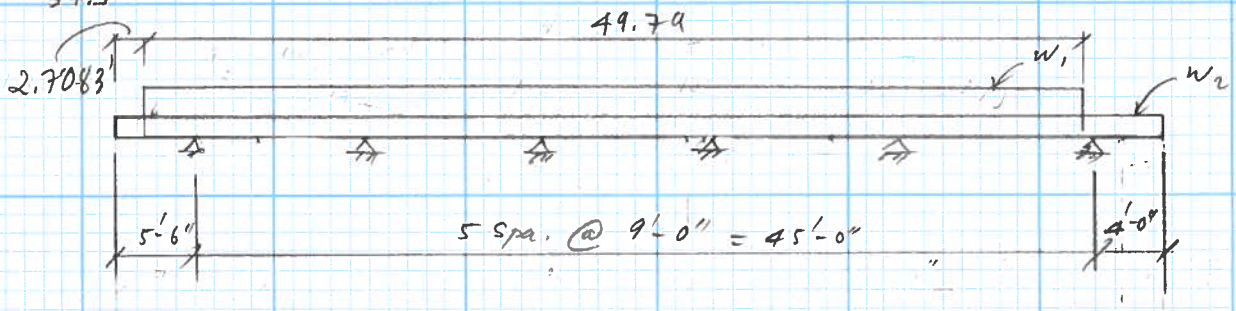
418.734 + 90.086 + 328.342 = 837.163 K/Abut

Total factored DL Load on abutment bearing

$W_1 = 418.734\ (1.25) + 90.086\ \frac{3.68 - 1.398}{3.68}(1.25) + 90.086\ \frac{1.398}{3.68}(1.5) + 70.25\ (1.25)$

$= 732.393 / 48.58 = 15.08$ K/ft

$W_2 = \frac{177.8}{54.5}(1.25) = 4.08$ K/ft



Total Unfactored DL on abutment bearing

$W_1 = (418.734 + 90.86 + 70.25) / 48.58 = 11.92$ K/ft

$W_2 = \frac{177.8}{54.5} = 3.26$ K/ft

By: HB Date 7-13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8-13	Structure no. B-16-EV	Sheet 262 of 508

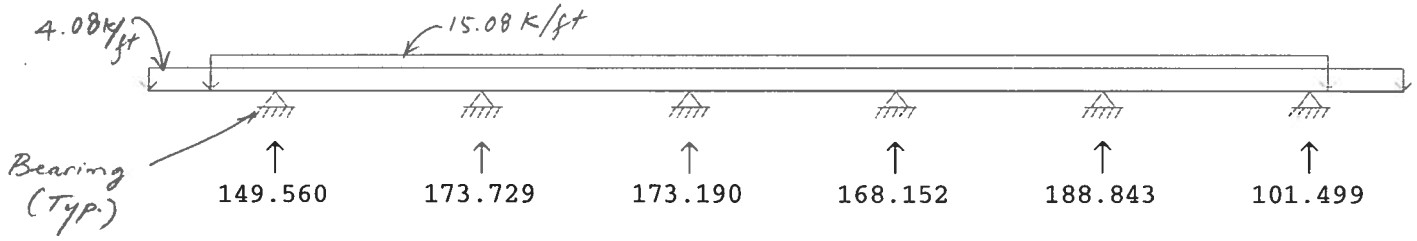
WinBeam

Project:

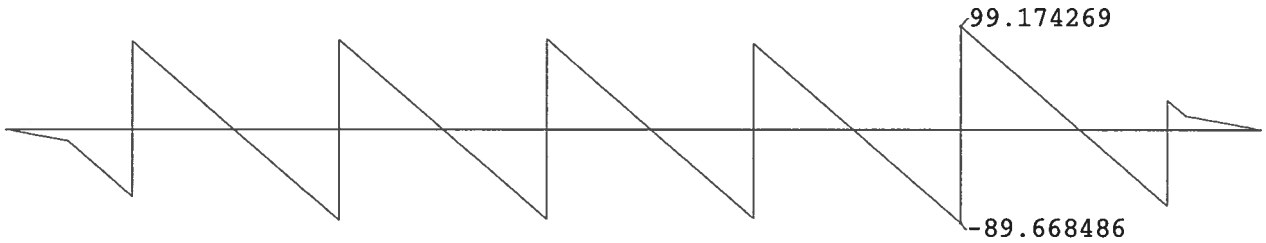
By: **Date:** **Checked:** **Date:** **Page:**

Reactions - kips, kip ft

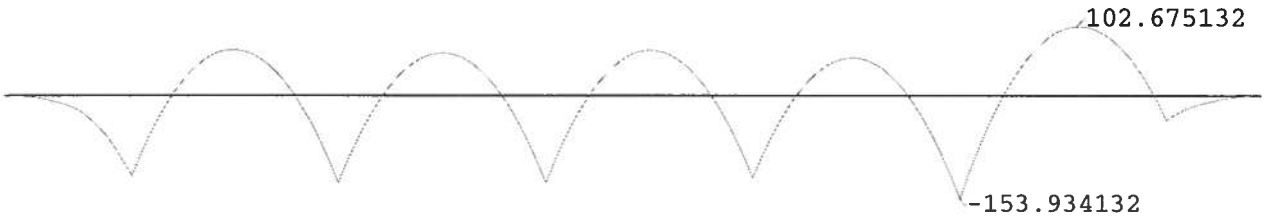
Factored DL



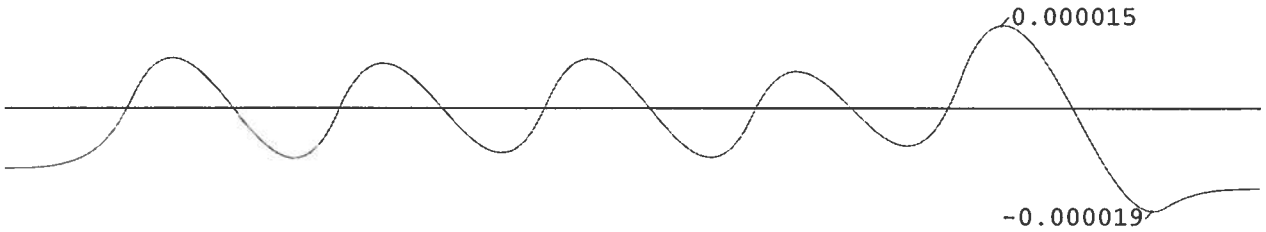
Shear - kips



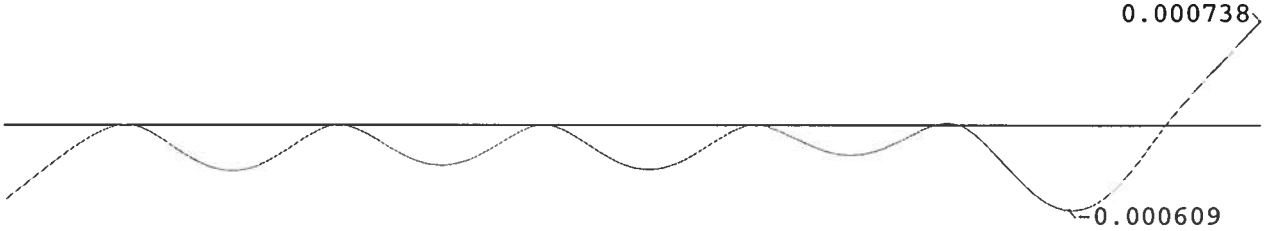
Moment - kip ft



Rotation - radians



Deflection - inches



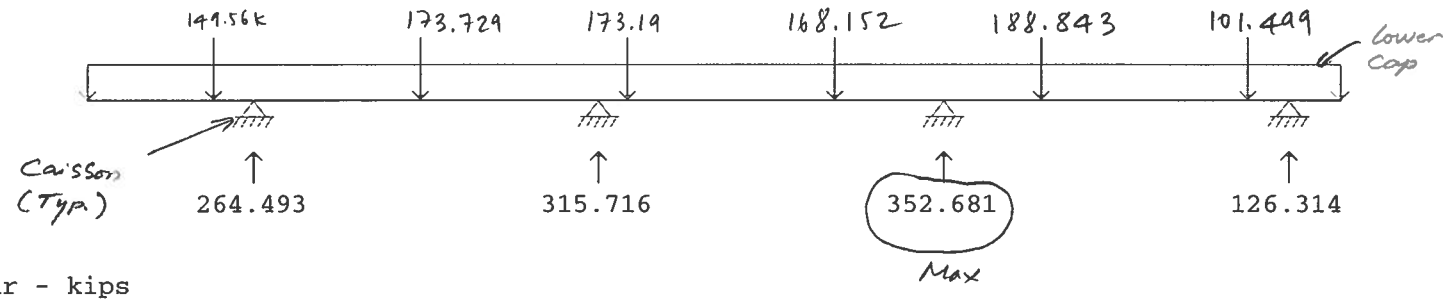
263/508

WinBeam

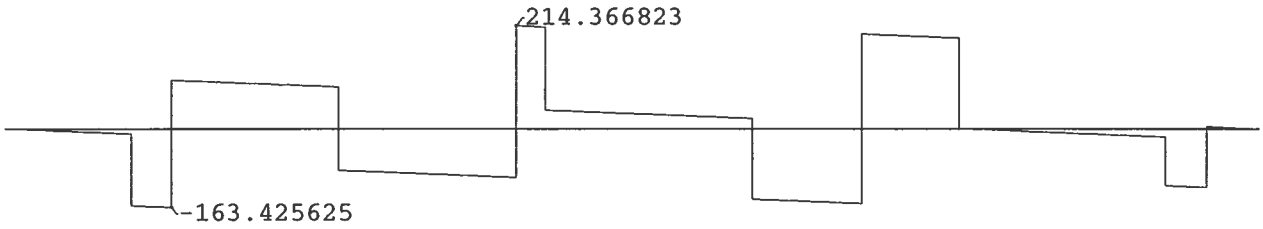
Project:				
By:	Date:	Checked:	Date:	Page:

Reactions - kips, kip ft

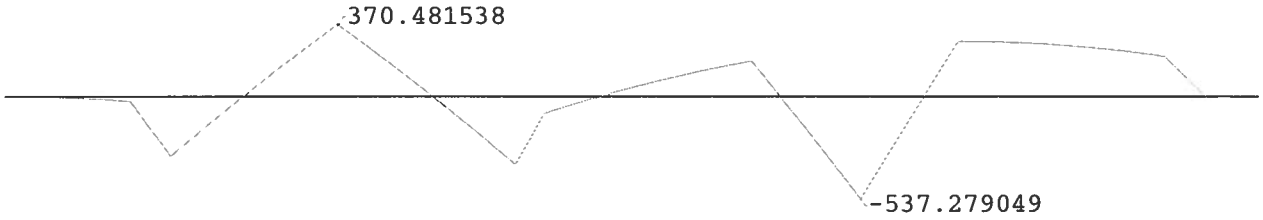
Factored DL



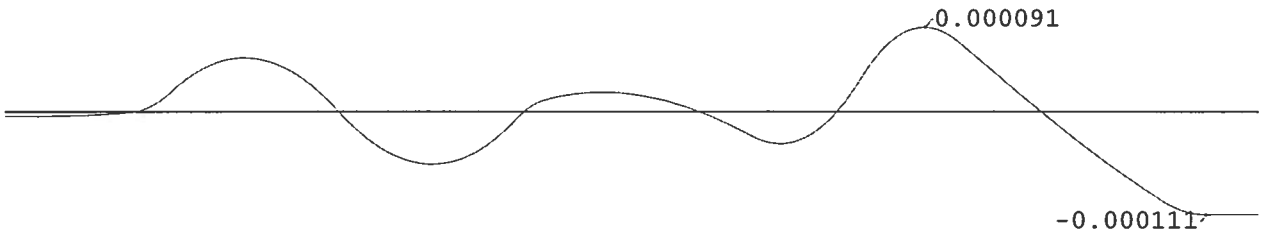
Shear - kips



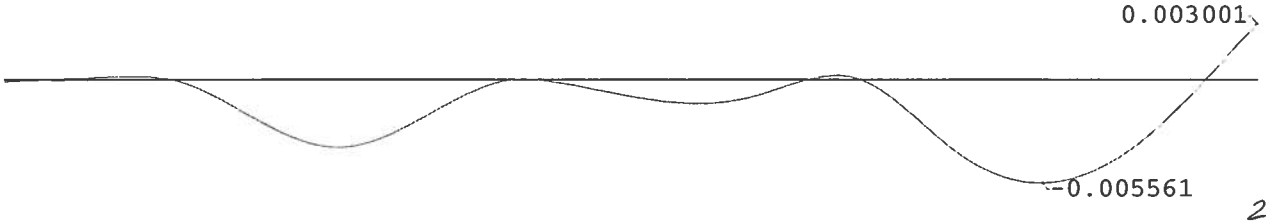
Moment - kip ft



Rotation - radians



Deflection - inches



264/508

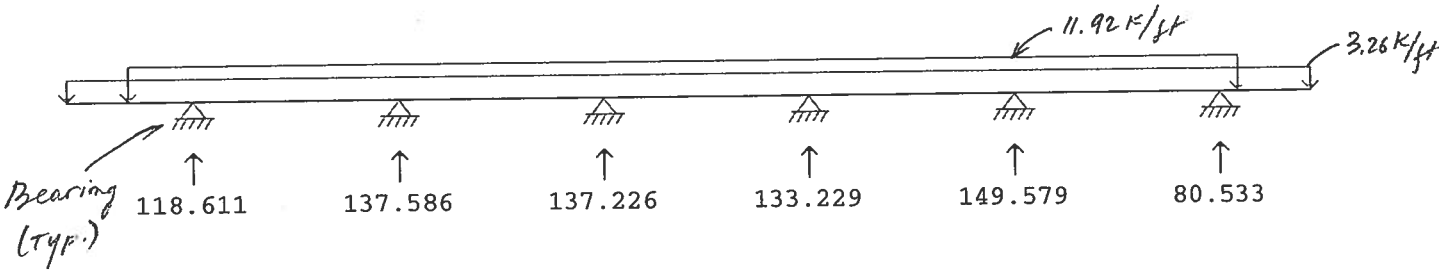
WinBeam

Project:

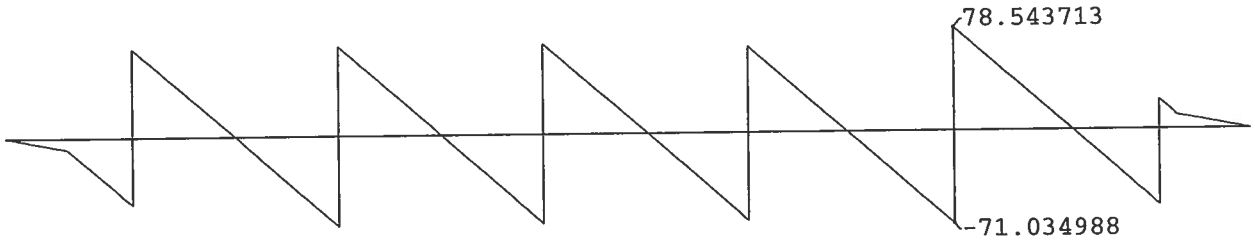
Date: **Checked:** **Date:** **Page:**

Reactions - kips, kip ft

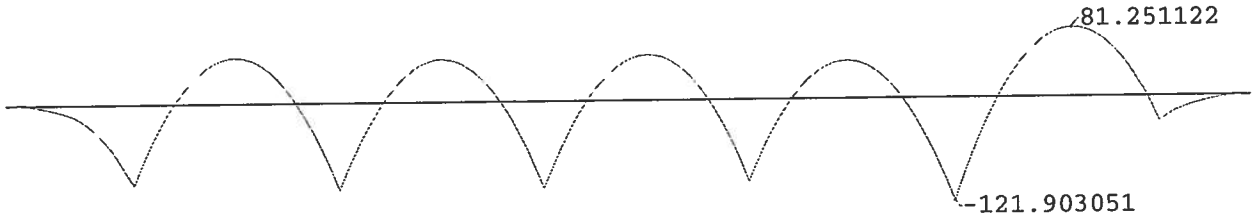
Unfactored DL



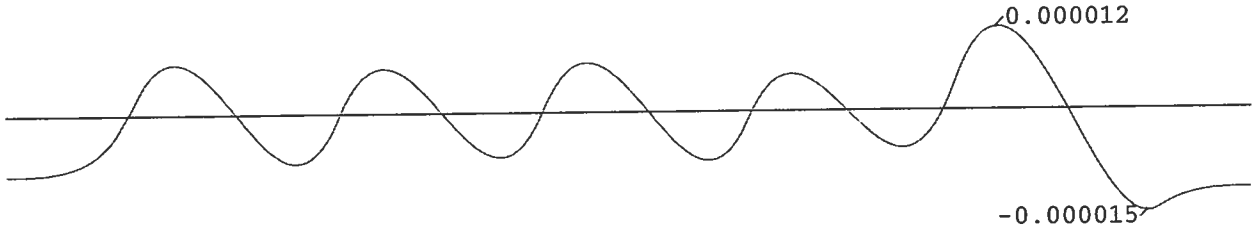
Shear - kips



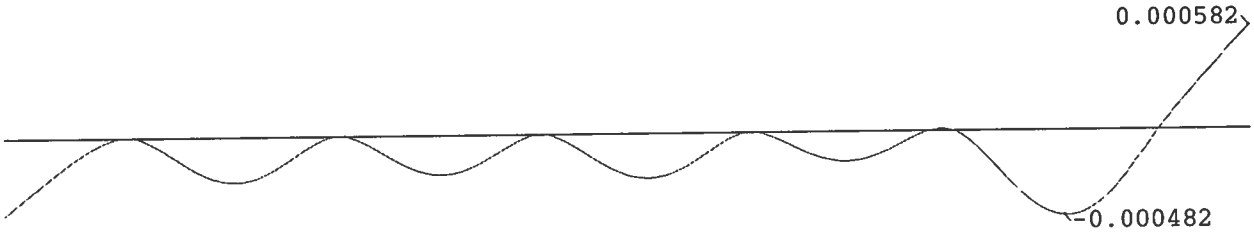
Moment - kip ft



Rotation - radians



Deflection - inches



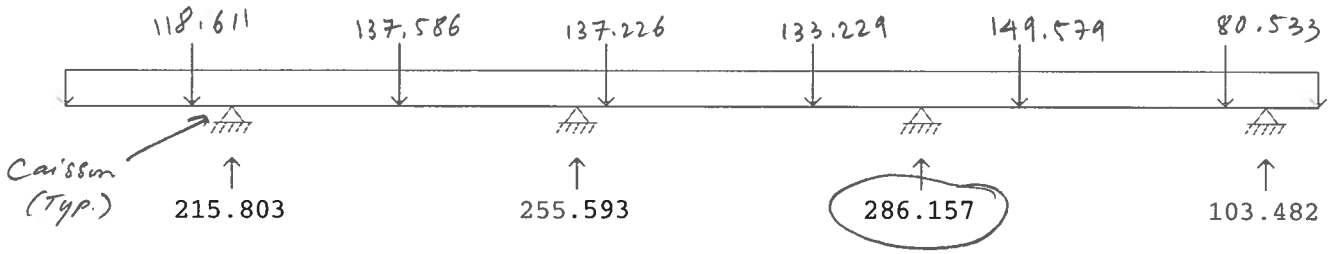
265/508

WinBeam

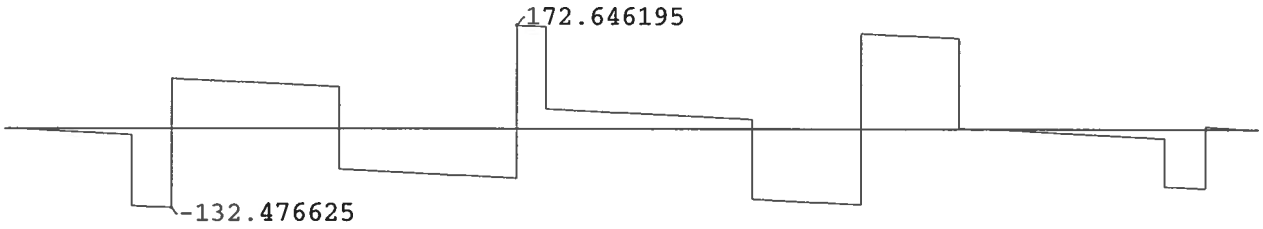
Unfactored DL

Project:				
By:	Date:	Checked:	Date:	Page:

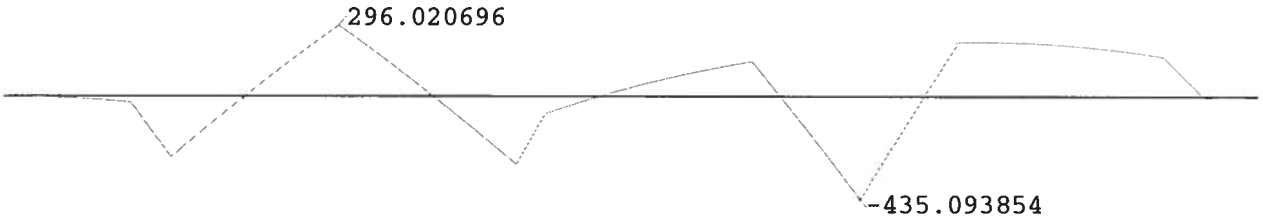
Reactions - kips, kip ft



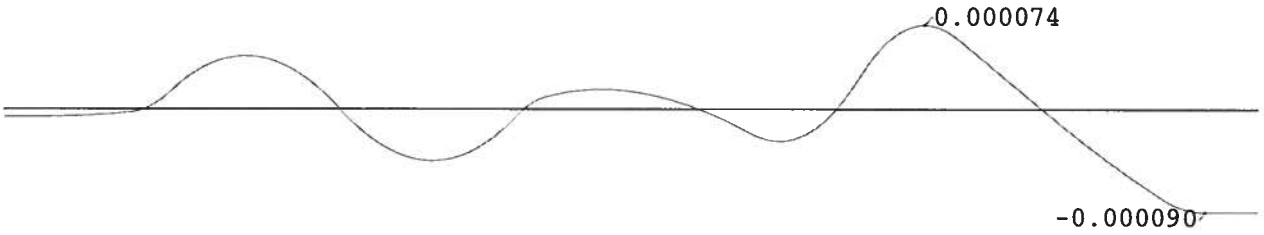
Shear - kips



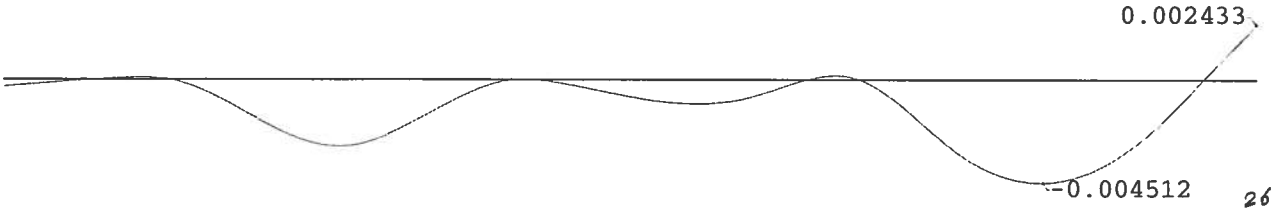
Moment - kip ft



Rotation - radians



Deflection - inches



266/508

ABUTMENT CAISSON DESIGN FOR AXIAL LOADS - PHASE I
SH 14 OVER POUDRE RIVER

NUMBER OF CAISSON = 4

10 LEFT	9 LEFT	8 LEFT	7 LEFT	6 LEFT	5 LEFT	4 LEFT	3 LEFT	2 LEFT	1 LEFT	CL	1 RIGHT	2 RIGHT	3 RIGHT	4 RIGHT	5 RIGHT	6 RIGHT	7 RIGHT	8 RIGHT	9 RIGHT	10 RIGHT
0	0	0	0	0	0	0	0	15	7.5	0	7.5	15	0	0	0	0	0	0	0	0
22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	7.5	0	7.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
0	0	0	0	0	0	0	0	506.25	56.25	0	56.25	506.25	0	0	0	0	0	0	0	0

I = 1125
C = 22.5
S = I / C = 50.00

MULTIPLE PRESENCE FACTOR, m

NO. LANES	FACTOR
1	1.20
2	1.00
3	0.85
>3	0.65

ROADWAY WIDTH (CURB TO CURB) =	120	FT.
LEFT CURB OFFSET FROM CL =	60	FT.
RIGHT CURB OFFSET FROM CL =	60	FT.
UNFACTORED LL REACTION AT ABUT. PER LANE =	100.81	K (FR. QCON)
MAXIMUM FACTORED DL ON CAISSON =	352.681	K
MAXIMUM UNFACTORED DL ON CAISSON =	286.157	K
CAISSON DIAMETER =	2.5	FT.
ULTIMATE END BEARING =	150	KSF
ULTIMATE SIDE SHEAR =	15	KSF
END BEARING RESISTANCE FACTOR =	0.5	
SIDE SHEAR RESISTANCE FACTOR =	0.5	
TOP OF CAISSON ELEVATION =	4935.08	FT.
BEDROCK ELEVATION =	4925	FT.
CAISSON TIP ELEVATION =	4912.5	FT.
FACTORED CAISSON WEIGHT =	20.78	K PER CAISSON
UNFACTORED CAISSON WEIGHT =	16.63	K PER CAISSON
NUMBER OF CAISSON DIAMETER EMBED INTO BEDROCK =	5	
CAISSON CROSS SECTION AREA =	4.91	SQ. FT.
CAISSON EMBEDMENT =	12.50	FT.
CAISSON PARAMETER =	7.85	FT.
SURFACE AREA FOR SIDE SHEAR =	58.90	SQ. FT.
CAISSON CAPACITY =	809.94	K

LANE WIDTH = 10 FT.
LOCATION OF THE FIRST VEHICLE ON THE LEFT = 21.25 FT.

NO. TRUCKS	GROUP POSITION	LIVE LOAD	LL ON CAISSON
1	21.25	1.2	0.81
2	16.25	2	1.15
3	11.25	2.55	1.21
4	6.25	2.6	0.98
5	1.25	3.25	0.89
6	-3.75	3.9	0.00
7	-8.75	4.55	0.00
8	-13.75	5.2	0.00
9	-18.75	5.85	0.00
10	-23.75	6.5	0.00
11	-28.75	7.15	0.00
12	-33.75	7.8	0.00
13	-38.75	8.45	0.00
14	-43.75	9.1	0.00
15	-48.75	9.75	0.00
16	-53.75	10.4	0.00
17	-58.75	11.05	0.00
18	-63.75	11.7	0.00
19	-68.75	12.35	0.00
		USE	1.21

MAXIMUM AXIAL UNFACTORED LIVE LOAD PER CAISSON = 122.11
UNFACTORED DEAD LOAD PER CAISSON = 302.78
TOTAL = 424.89

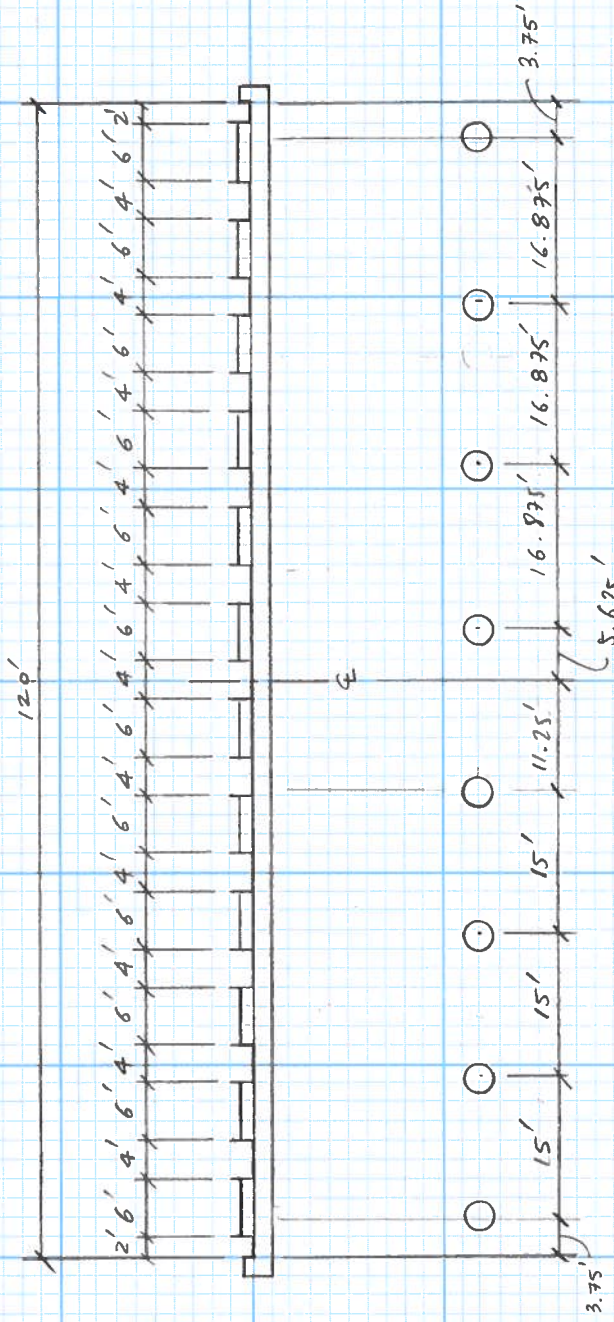
MAXIMUM AXIAL FACTORED LIVE LOAD PER CAISSON = 213.69
FACTORED DEAD LOAD PER CAISSON = 369.31
TOTAL = 582.99 OK

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)

ABUTMENT CAISSON DESIGN FOR AXIAL LOADS

CONSTRUCTION PHASE II (FINISHED)



SECTION

By: HB Date 7/2013	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8/2013	Structure no. B-16-EV	Sheet 268 of 508

DEAD LOAD ANALYSIS

Dead Loads

* Simple Span DL (precast Girders + Plastic Concrete)

Concrete Box Girders: $\frac{978}{144}(20)(0.15) = 20.375$ klf

End block Girders: $\frac{72 \times 30}{144}(20)(0.15) = 45$ klf

Deck: $\frac{5}{12}(124)(0.15) = 7.75$ klf

Haunch: $\frac{1}{12}(124)(0.15) = 1.55$ klf

$W_1 = 20.375 + 7.75 + 1.55 = 29.675$ klf

$W_2 = 45 + 7.75 + 1.55 = 54.3$ klf

* Continuous Span DL (Composite dead Loads)

Pedestrian Rails + Bridge Rails: $0.68(2) = 1.36$ klf

Rail at Median $= 0.05$ klf (Assumed)

Landscaping Loads (See sheet x x)

Sidewalks $\left\{\left[0.75 + 8(0.04)\right] + 0.75\right\}\left(\frac{1}{2}\right)(8)(0.15)(2) = 2.184$ klf

Median: $0.75(26)(0.15) = 2.925$ klf

Asphalt: $0.036(78) = 2.808$ klf

$W_3 = 1.36 + 0.05 + 2.184 + 2.925 + 2.808 = 9.327$ klf $\begin{cases} DC = 6.519 \text{ k/ft} \\ AS = 2.808 \text{ k/ft} \end{cases}$

* Abutment Dead Loads

Abutment Cap: $\frac{87 \times 36}{144}(127)(0.15) = 414.3$ k

Approach Slab $20(1)(124)(0.15)\frac{1}{2} = 186$ k

By: HB Date 7/2013	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: KLP Date 8-13	Structure no. B-16-EV	Sheet 269 of 508	

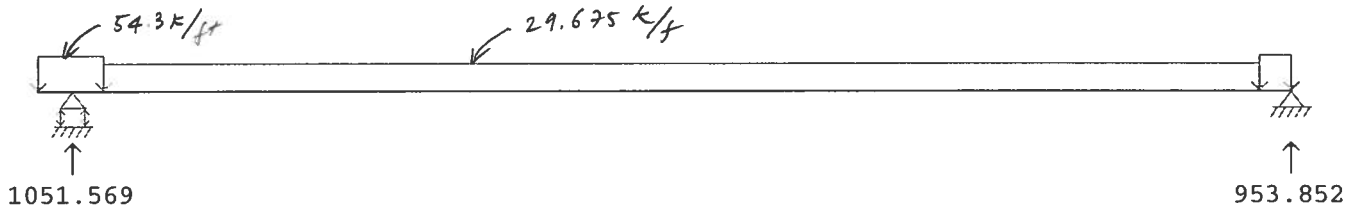
CDOT Form #1034 3/02

WinBeam

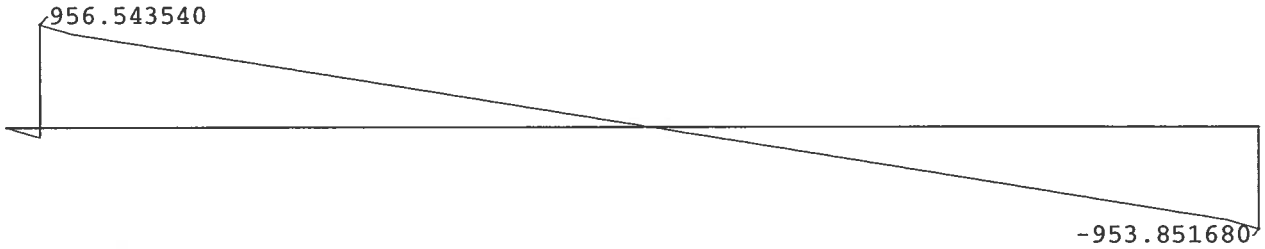
Project:				
By:	Date:	Checked:	Date:	Page:

Reactions - kips, kip ft

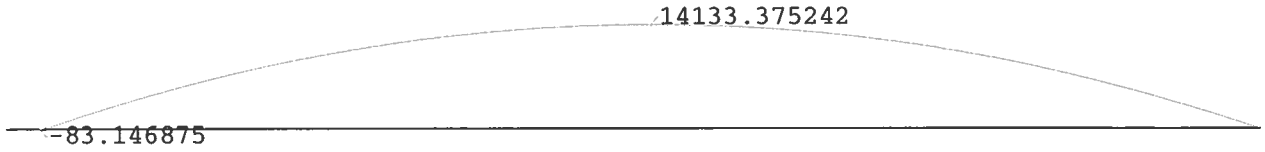
Simple Span DL



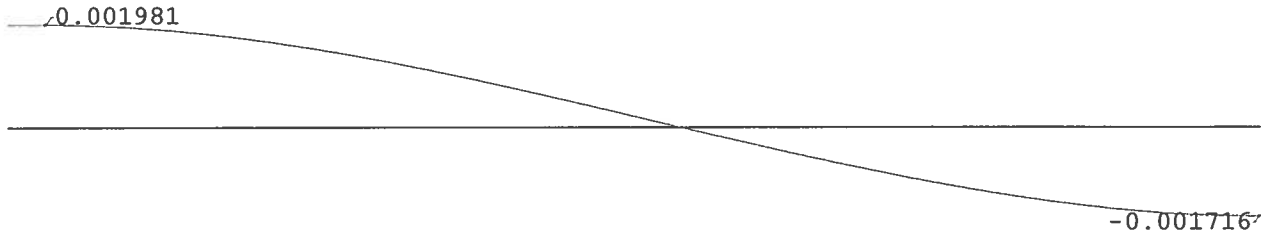
Shear - kips



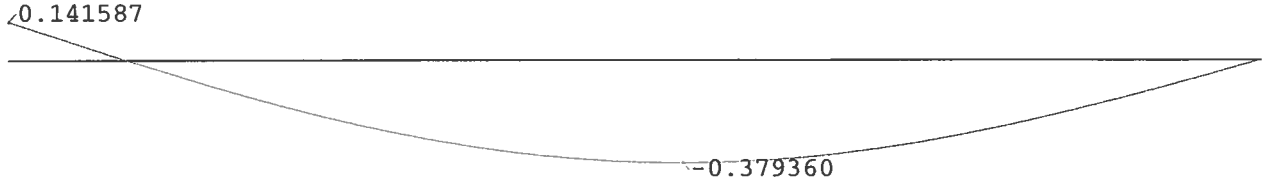
Moment - kip ft



Rotation - radians



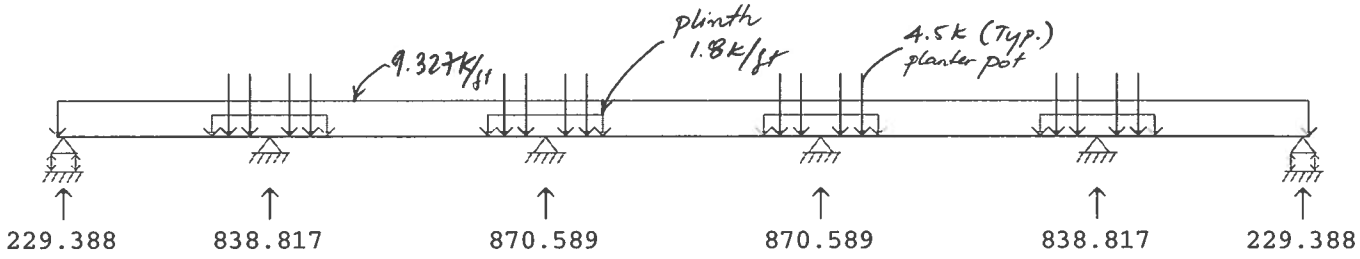
Deflection - inches



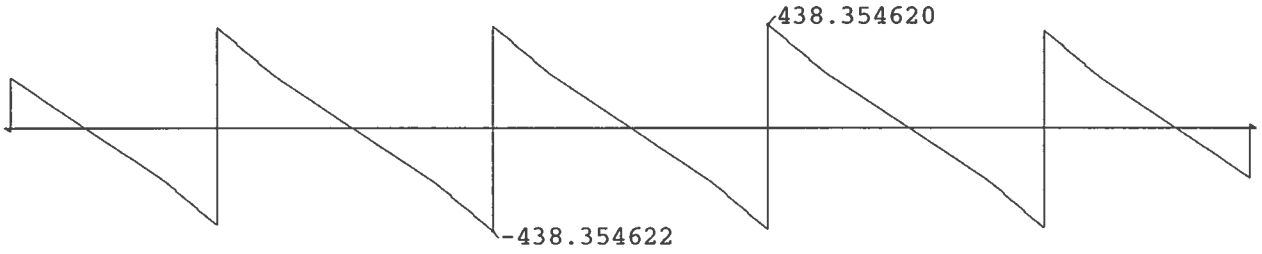
WinBeam

Project:				
/:	Date:	Checked:	Date:	Page:

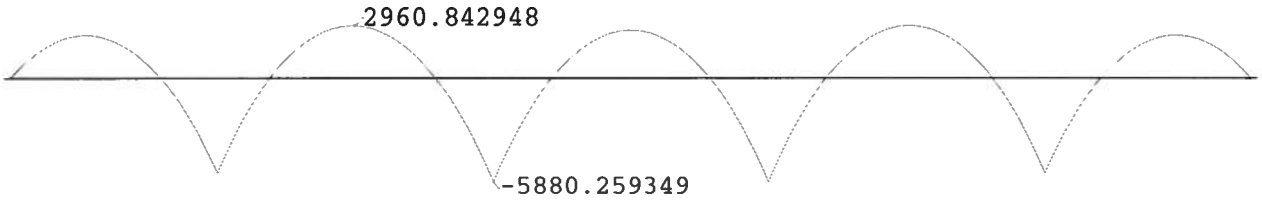
Reactions - kips, kip ft



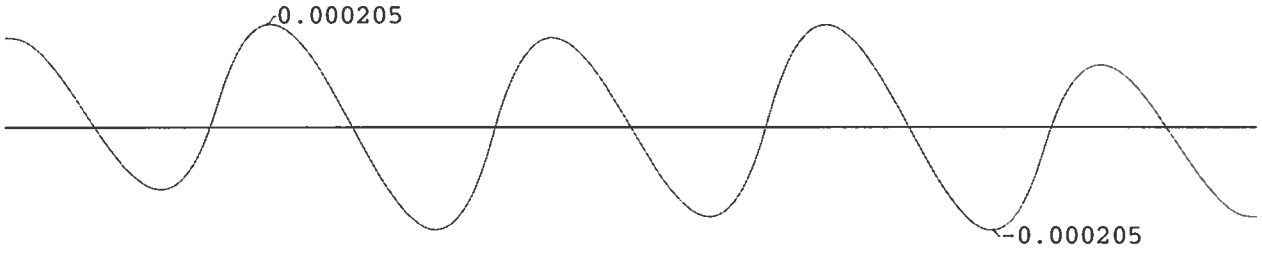
Shear - kips



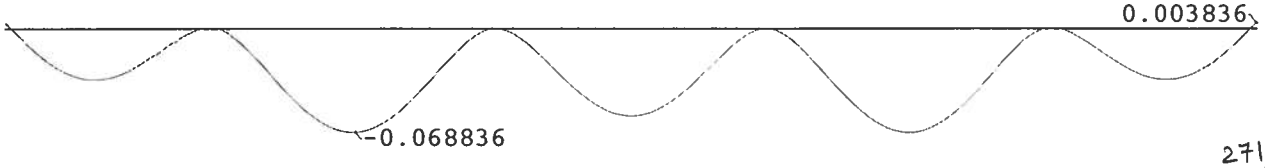
Moment - kip ft

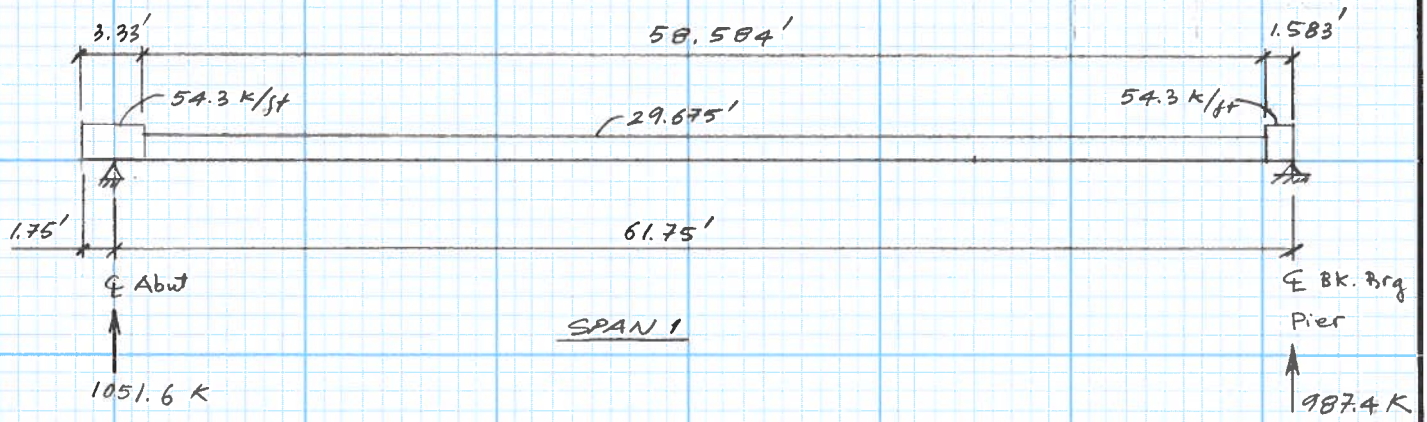


Rotation - radians



Deflection - inches





SPAN 1

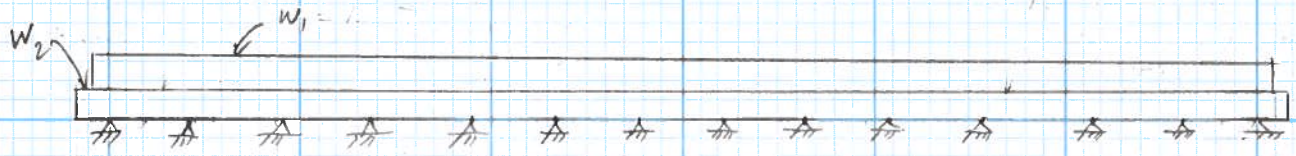
Total unfactored Load on abutment:

$W_1 = \frac{1051.6 + 229.4 + 186}{121.583} = 12.07$ K/ft $W_2 = \frac{414.3}{127} = 3.26$ K/ft

Total factored Load on abutment

$W_1 = 1051.6(1.25) + 229.4\left(\frac{2.808}{9.327}\right)(1.5) + \left(\frac{9.327 - 2.808}{9.327}\right)229.4(1.25) + 186(1.25)$

$= 1851 / 121.583 = 15.22$ K/ft



ABUTMENT CAP

$W_2 = 3.26(1.25) = 4.08$ K/ft

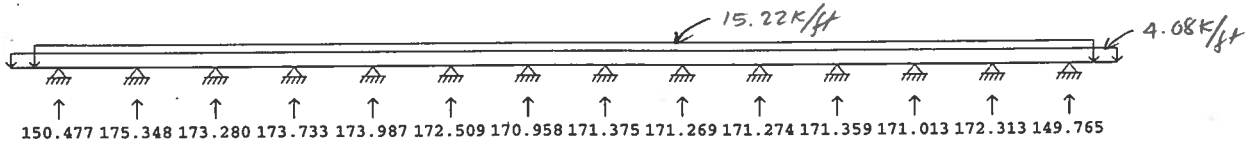
By: HB Date 7/2013	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8/20 13	Structure no. B-16-EV	Sheet 272 of 508

WinBeam

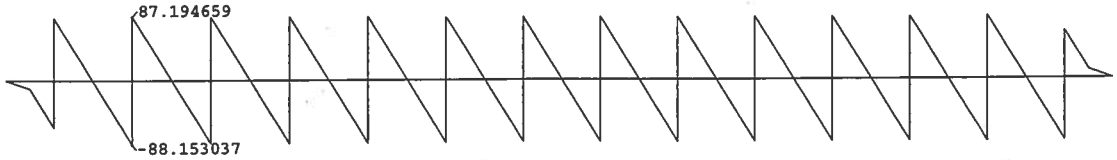
Factored DL on bearings

Project:				
By:	Date:	Checked:	Date:	Page:

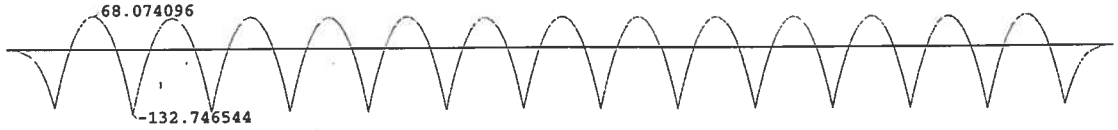
Reactions - kips, kip ft



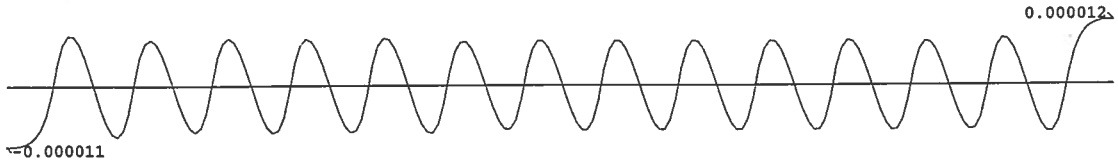
Shear - kips



Moment - kip ft



Rotation - radians



Deflection - inches

273/508

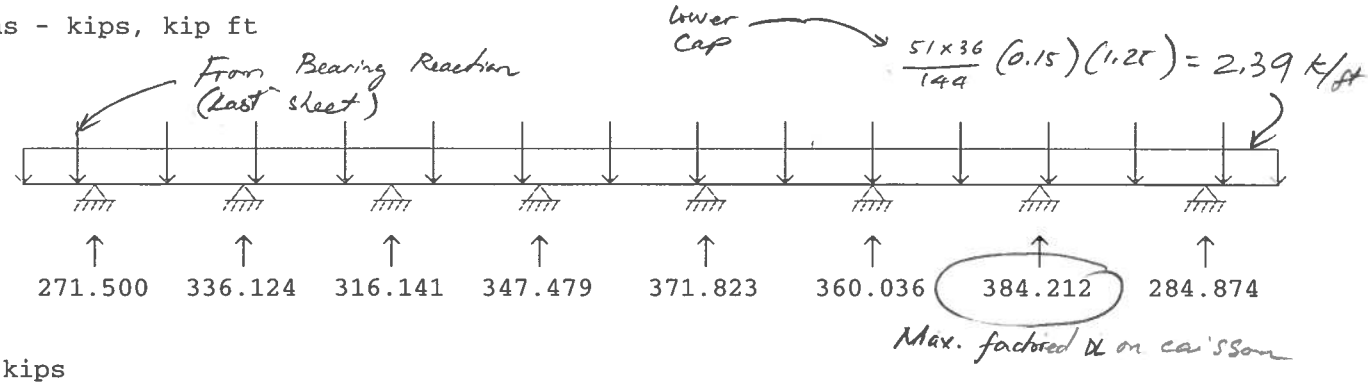
WinBeam

Factored DL on Caisson

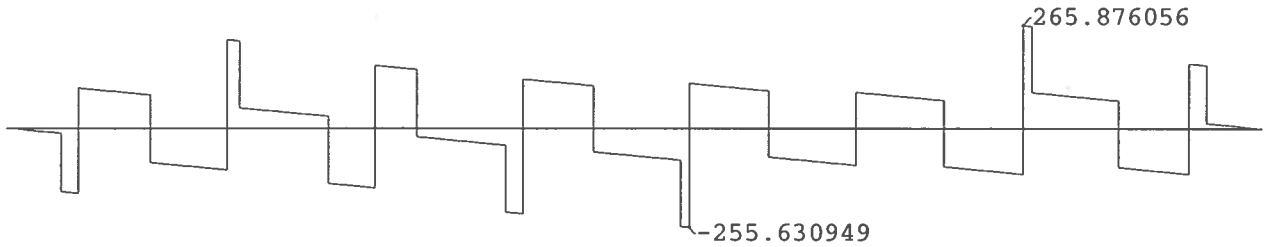
Project:

By: **Date:** **Checked:** **Date:** **Page:**

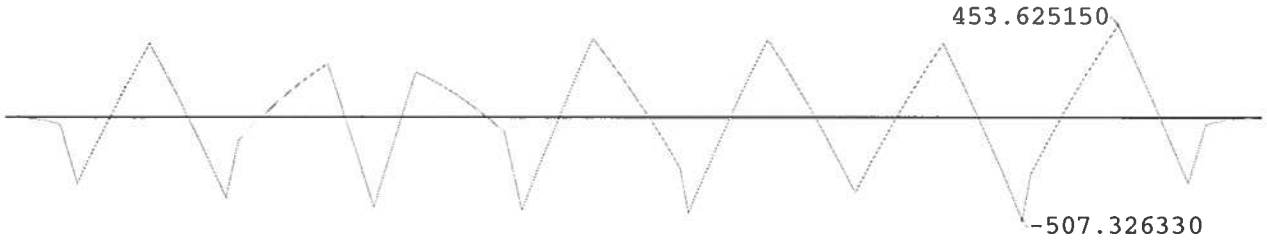
Reactions - kips, kip ft



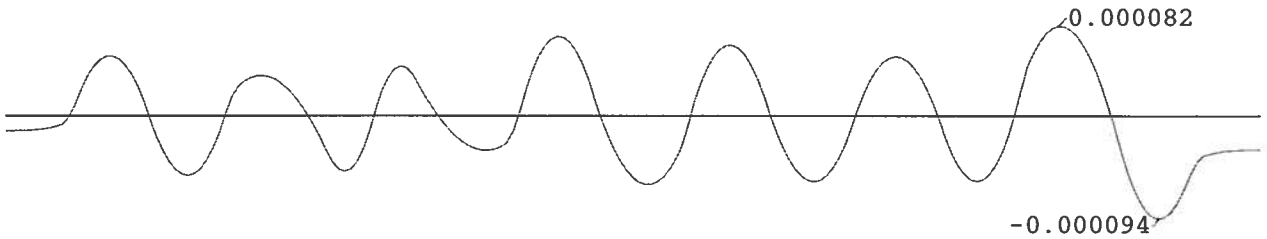
Shear - kips



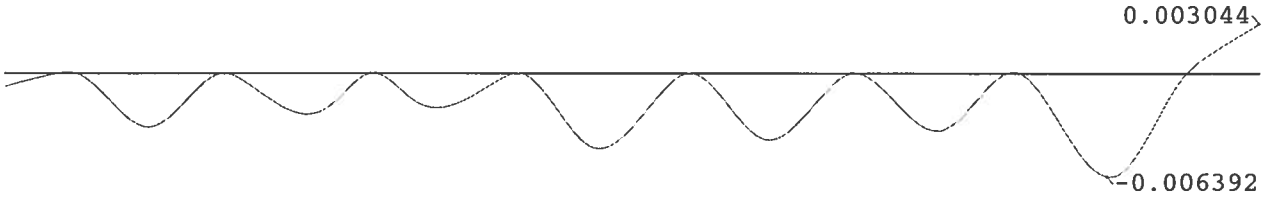
Moment - kip ft



Rotation - radians



Deflection - inches

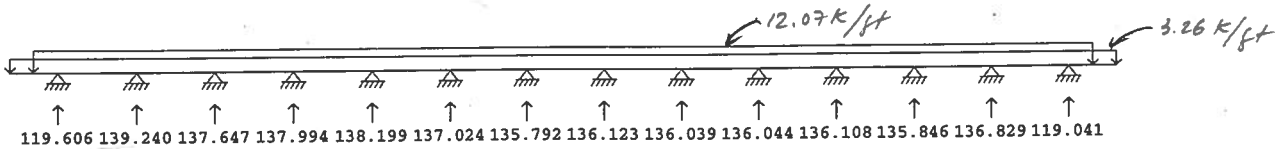


WinBeam

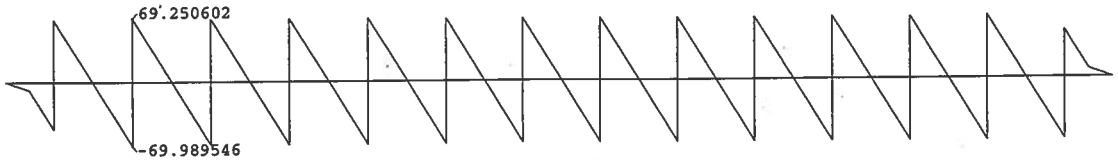
Unfactored DL on bearings

Project:				
By:	Date:	Checked:	Date:	Page:

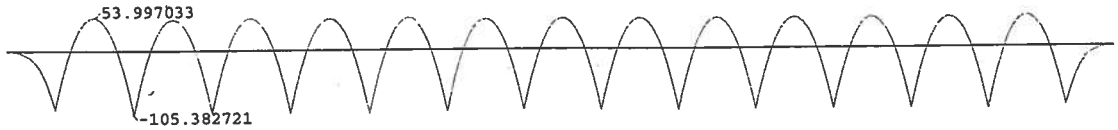
Reactions - kips, kip ft



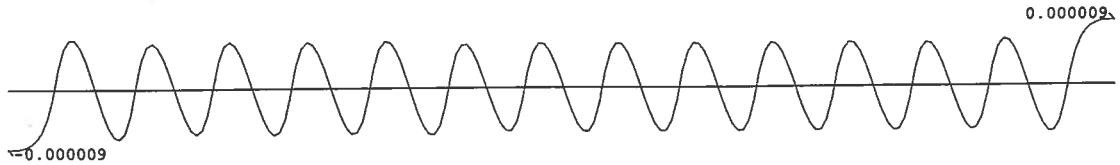
Shear - kips



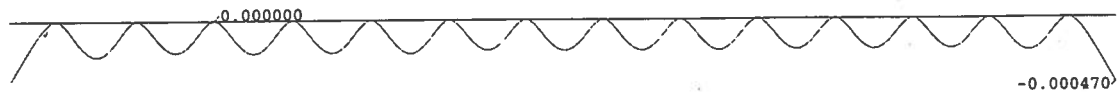
Moment - kip ft



Rotation - radians



Deflection - inches



805/575

WinBeam

Unfactored DL

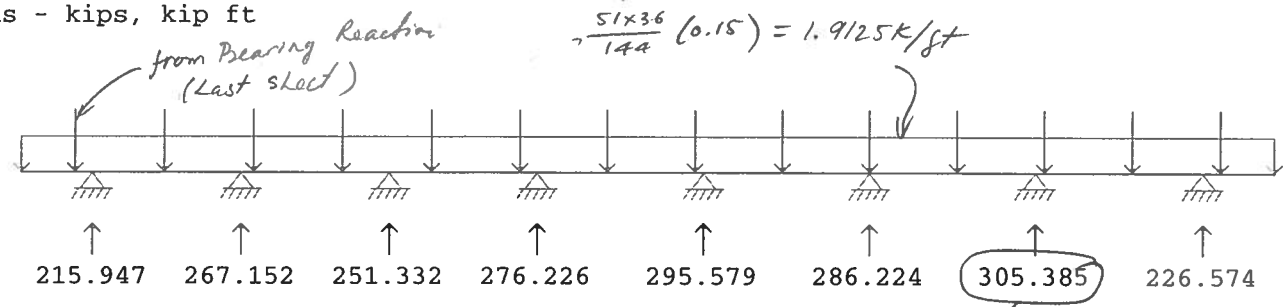
Project:

By: **Date:** **Checked:** **Date:** **Page:**

lower cap

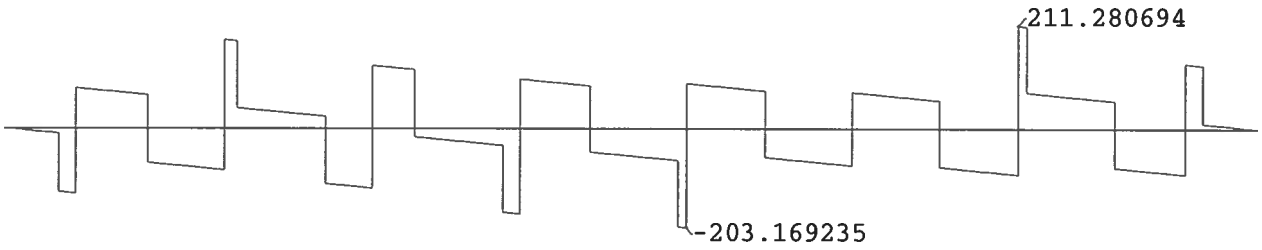
$\frac{51 \times 3.6}{144}(0.15) = 1.9125 k/ft$

Reactions - kips, kip ft

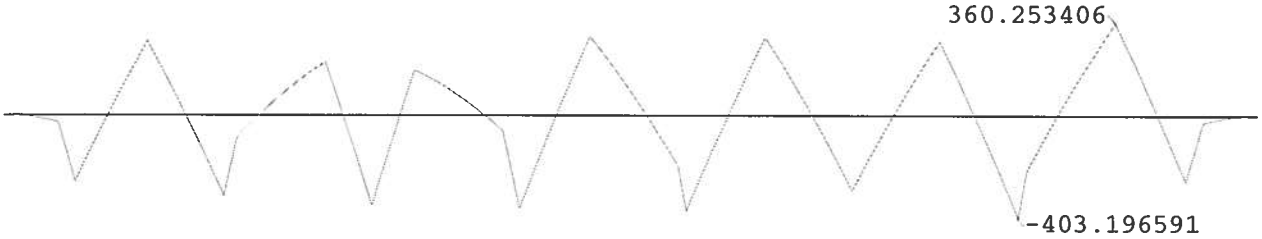


Max. Unfactored DL Caisson

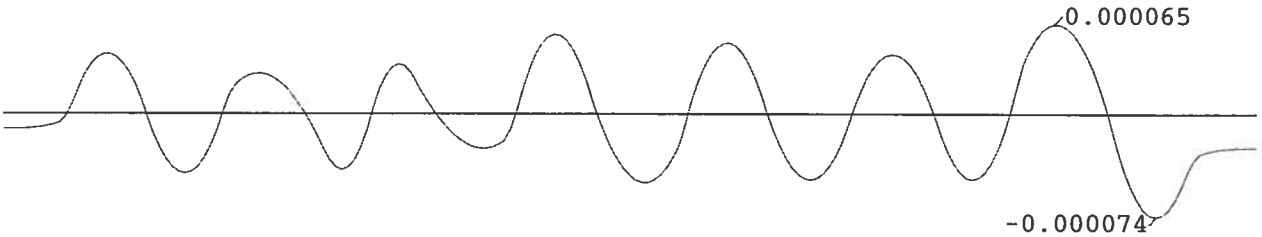
Shear - kips



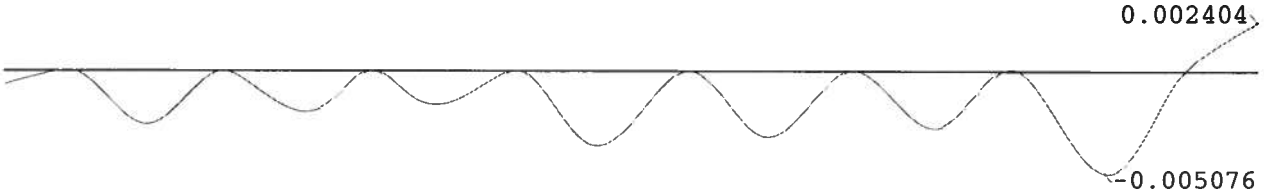
Moment - kip ft



Rotation - radians



Deflection - inches



ABUTMENT CAISSON DESIGN FOR AXIAL LOADS - PHASE II
SH 14 OVER POUDRE RIVER

NUMBER OF CAISSON = 8

10 LEFT	9 LEFT	8 LEFT	7 LEFT	6 LEFT	5 LEFT	4 LEFT	3 LEFT	2 LEFT	1 LEFT	CL	1 RIGHT	2 RIGHT	3 RIGHT	4 RIGHT	5 RIGHT	6 RIGHT	7 RIGHT	8 RIGHT	9 RIGHT	10 RIGHT
0	0	0	0	0	0	15	15	15	11.25	0	5.625	16.875	16.875	16.875	0	0	0	0	0	0
56.25	56.25	56.25	56.25	56.25	56.25	56.25	41.25	26.25	11.25	0	5.625	22.5	39.375	56.25	56.25	56.25	56.25	56.25	56.25	56.25
0	0	0	0	0	0	3164.0625	1701.5625	689.0625	126.5625	0	31.640625	506.25	1550.39063	3164.0625	0	0	0	0	0	0

I = 10933.5938
C = 56.25
S = I / C = 194.38

MULTIPLE PRESENCE FACTOR, m

NO. LANES	FACTOR
1	1.20
2	1.00
3	0.85
>3	0.65

ROADWAY WIDTH (CURB TO CURB) = 120 FT.
LEFT CURB OFFSET FROM CL = 60 FT.
RIGHT CURB OFFSET FROM CL = 60 FT.
UNFACTORED LL REACTION AT ABUT. PER LANE = 100.81 K (FR. QCON)
LANE WIDTH = 10 FT.
MAXIMUM FACTORED DL ON CAISSON = 384.212 K
LOCATION OF THE FIRST VEHICLE ON THE LEFT = 55 FT.
MAXIMUM UNFACTORED DL ON CAISSON = 305.385 K
CAISSON DIAMETER = 2.5 FT.
ULTIMATE END BEARING = 150 KSF
ULTIMATE SIDE SHEAR = 15 KSF
END BEARING RESISTANCE FACTOR = 0.5
SIDE SHEAR RESISTANCE FACTOR = 0.5
TOP OF CAISSON ELEVATION = 4935.08 FT.
BEDROCK ELEVATION = 4925 FT.
CAISSON TIP ELEVATION = 4912.5 FT.
FACTORED CAISSON WEIGHT = 20.78 K PER CAISSON
UNFACTORED CAISSON WEIGHT = 16.63 K PER CAISSON
NUMBER OF CAISSON DIAMETER EMBED INTO BEDROCK = 5
CAISSON CROSS SECTION AREA = 4.91 SQ. FT.
CAISSON EMBEDMENT = 12.50 FT.
CAISSON PARAMETER = 7.85 FT.
SURFACE AREA FOR SIDE SHEAR = 58.90 SQ. FT.
CAISSON CAPACITY = 809.94 K

NO. TRUCKS	GROUP POSITION	LIVE LOAD	LL ON CAISSON
1	55	1.2	0.49
2	50	2	0.76
3	45	2.55	0.91
4	40	2.6	0.86
5	35	3.25	0.99
6	30	3.9	1.09
7	25	4.55	1.15
8	20	5.2	1.19
9	15	5.85	1.18
10	10	6.5	1.15
11	5	7.15	1.08
12	0	7.8	0.98
13	-5	8.45	0.00
14	-10	9.1	0.00
15	-15	9.75	0.00
16	-20	10.4	0.00
17	-25	11.05	0.00
18	-30	11.7	0.00
19	-35	12.35	0.00
		USE	1.19

MAXIMUM UNFACTORED AXIAL LIVE LOAD PER CAISSON = 119.46
UNFACTORED AXIAL DEAD LOAD PER CAISSON = 322.01
TOTAL = 441.48 K

MAXIMUM FACTORED AXIAL LIVE LOAD PER CAISSON = 209.06
FACTORED AXIAL DEAD LOAD PER CAISSON = 400.84
TOTAL = 609.90 K OK

BEARING TYPE I, CONSTRUCTION PHASE 1

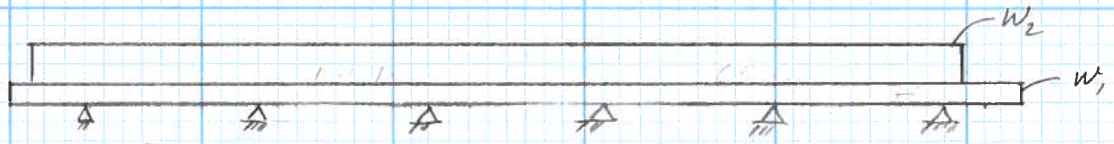
Service DL

Simple Span = 418.7 K/Abut

Continuous Span = 90.1 K/Abut

Abutment Cap = $\frac{87 \times 36}{144}(54.5)(0.15)$ = 177.8 K/Abut.

Approach Slab = 70.25 K/Abut



$W_1 = 177.8/54.5 = 3.26$ K/ft

W_2 (Min w/o approach slab) = $\frac{418.7 + 90.1}{48.58}$ = 10.47 K/ft

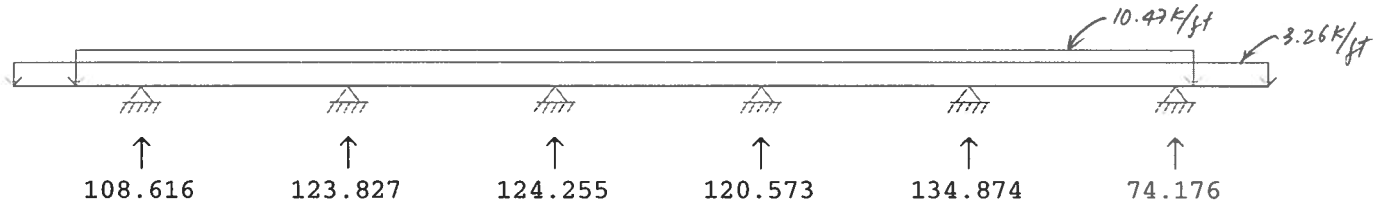
W_2 (Max with approach slab) = $\frac{418.7 + 90.1 + 70.25}{48.58}$ = 11.92 K/ft

By: HB Date 7-13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8-13	Structure no. B-16-EV	Sheet 278 of 508

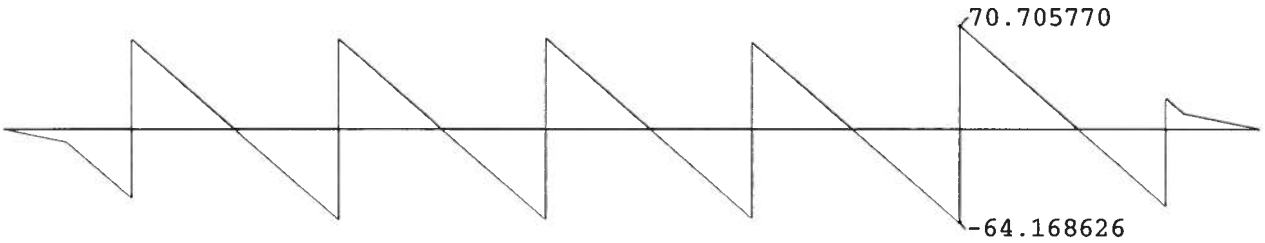
WinBeam

Project:				
By:	Date:	Checked:	Date:	Page:

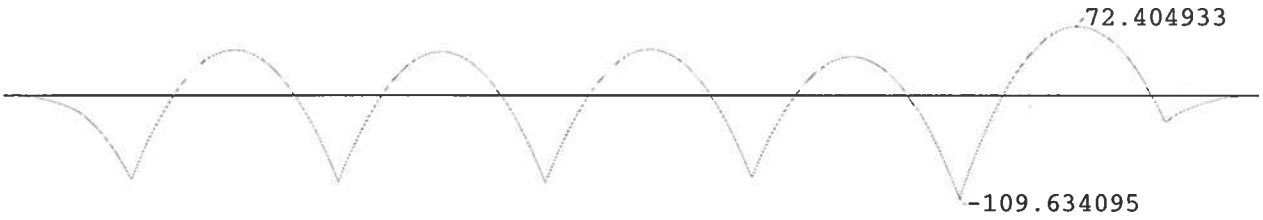
Reactions - kips, kip ft



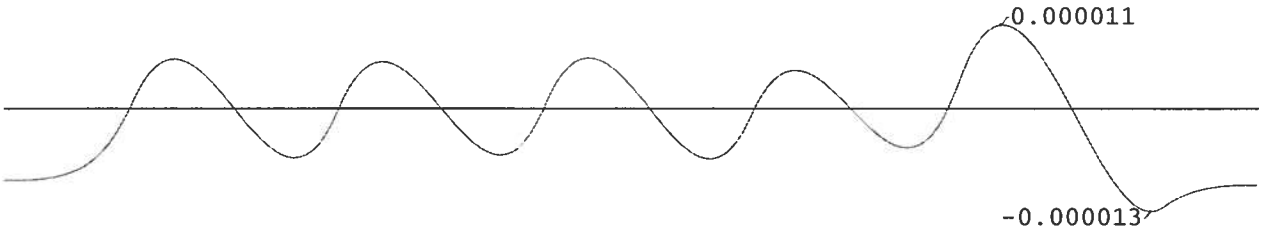
Shear - kips



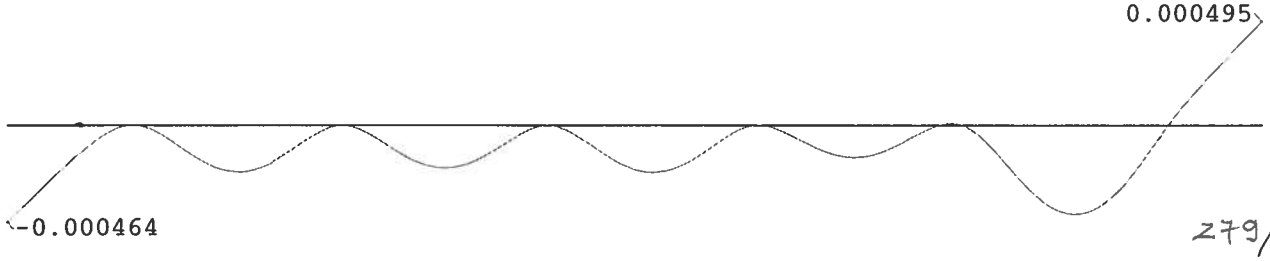
Moment - kip ft



Rotation - radians



Deflection - inches



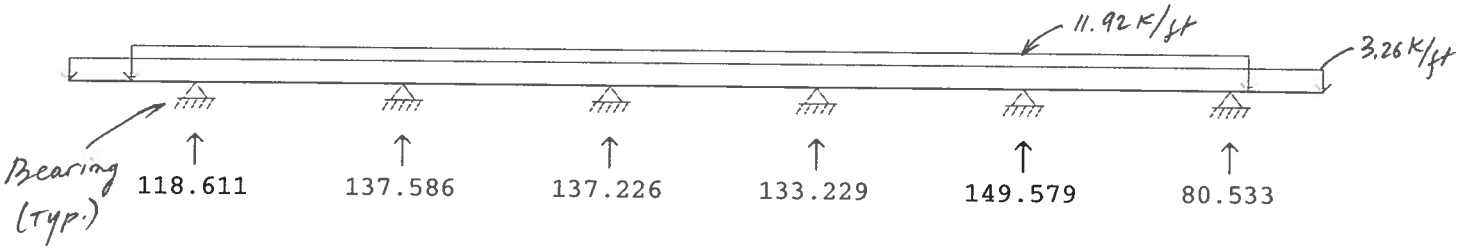
279/508

WinBeam

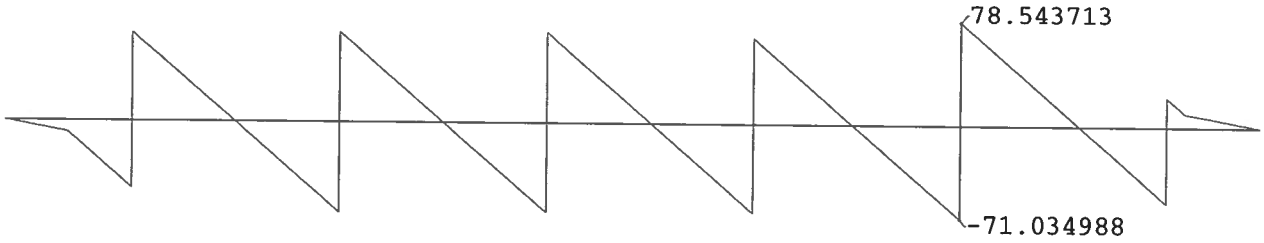
Project:

By: **Date:** **Checked:** **Date:** **Page:**

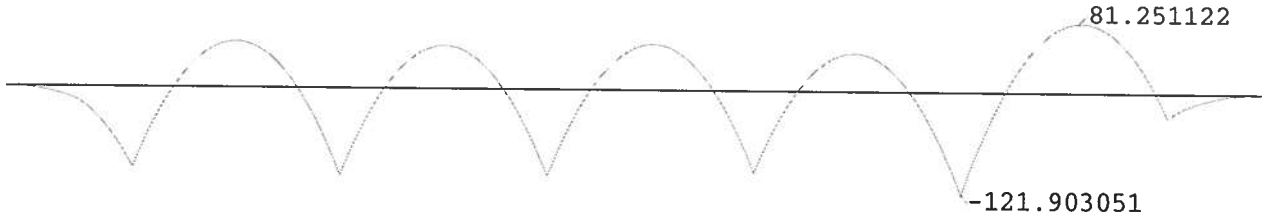
Reactions - kips, kip ft



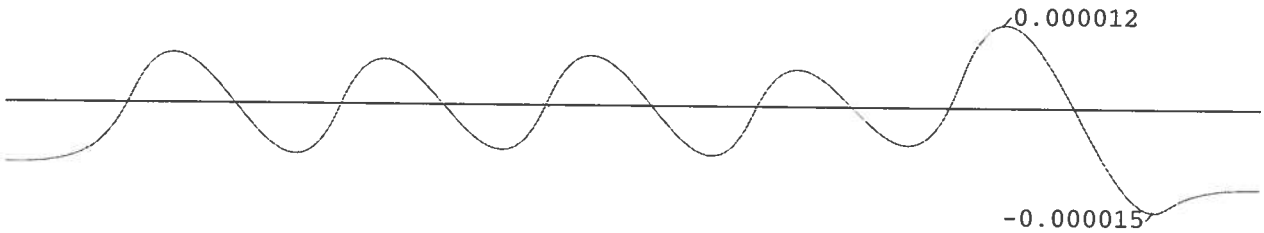
Shear - kips



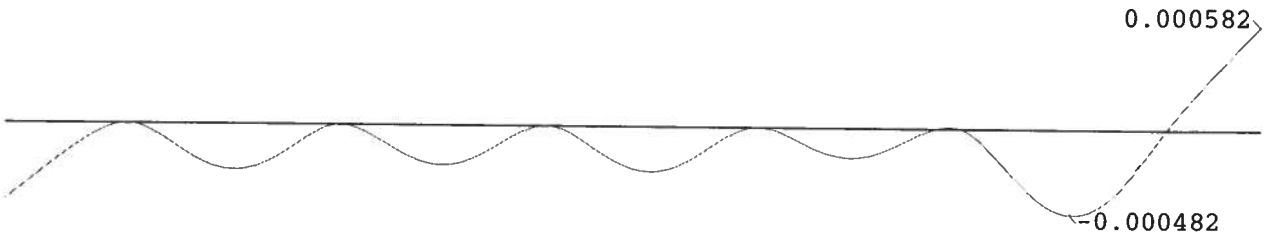
Moment - kip ft



Rotation - radians



Deflection - inches



280/508

ABUTMENT BEARING DESIGN FOR AXIAL LOADS - PHASE I
SH 14 OVER POUDRE RIVER

NUMBER OF BEARING = 6

10 LEFT	9 LEFT	8 LEFT	7 LEFT	6 LEFT	5 LEFT	4 LEFT	3 LEFT	2 LEFT	1 LEFT	CL	1 RIGHT	2 RIGHT	3 RIGHT	4 RIGHT	5 RIGHT	6 RIGHT	7 RIGHT	8 RIGHT	9 RIGHT	10 RIGHT
0	0	0	0	0	0	0	22.5	13.5	4.5	0	4.5	13.5	22.5	0	0	0	0	0	0	0
40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	18	4.5	0	4.5	18	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5
0	0	0	0	0	0	0	1640.25	324	20.25	0	20.25	324	1640.25	0	0	0	0	0	0	0

I = 3969
C = 40.5
S = I / C = 98.00

ROADWAY WIDTH (CURB TO CURB) = 120 FT.
LEFT CURB OFFSET FROM CL = 60 FT.
RIGHT CURB OFFSET FROM CL = 60 FT.
UNFACTORED LL REACTION AT ABUT. PER LANE = 100.81 K (FR. QCON)
MAXIMUM UNFACTORED DL ON BEARING = 149.6 K
MINIMUM UNFACTORED DL ON BEARING = 118.6 K

MAXIMUM AXIAL UNFACTORED LIVE LOAD PER CAISSON = 67.76
TOTAL (MAX) = 217.36
TOTAL (MIN) = 186.36

MULTIPLE PRESENCE FACTOR, m

NO. LANES	FACTOR
1	1.20
2	1.00
3	0.85
>3	0.65

LANE WIDTH = 10 FT.
LOCATION OF THE FIRST VEHICLE ON THE LEFT = 19.5 FT.

NO. TRUCKS	GROUP POSITION	LIVE LOAD	LL ON CAISSON
1	19.5	1.2	0.44
2	14.5	2	0.63
3	9.5	2.55	0.67
4	4.5	2.6	0.55
5	-0.5	3.25	0.00
6	-5.5	3.9	0.00
7	-10.5	4.55	0.00
8	-15.5	5.2	0.00
9	-20.5	5.85	0.00
10	-25.5	6.5	0.00
11	-30.5	7.15	0.00
12	-35.5	7.8	0.00
13	-40.5	8.45	0.00
14	-45.5	9.1	0.00
15	-50.5	9.75	0.00
16	-55.5	10.4	0.00
17	-60.5	11.05	0.00
18	-65.5	11.7	0.00
19	-70.5	12.35	0.00
		USE	0.67

MAXIMUM AXIAL FACTORED LIVE LOAD PER CAISSON = 118.59

28/108

STEEL REINFORCED RECTANGULAR ELASTOMERIC BEARING DESIGN

METHOD A

CONSTRUCTION PHASE 1, WHEN G (0.10 KSI) HAS A RANGE +15% = 0.115 KSI

1. COMPRESSIVE STRESS:

$ksi := 1000 \cdot \frac{lb}{in^2}$ $kip := 1000 \cdot lb$

$V_{LL} := 67.76 \cdot kip$ Service limit state (live load)

$V_{Total} := 217.36kip$ Service limit state (total loads)

$G := 0.115 \cdot ksi$ 14.7.6.2 (first paragraph)

$L := 16.5 \cdot in$ Length of bearing (longitudinal)

$W := 16.5 \cdot in$ Width of bearing (transverse)

$h_{ri} := .5 \cdot in$ Thickness of i^{th} elastomeric layer

$n := 8$ Number of elastomeric layers

$S := \frac{(L \cdot W)}{2 \cdot h_{ri} \cdot (L + W)}$ $S = 8.25$ Shape factor of a layer 14.7.5.1-1

$\sigma_s := \frac{V_{Total}}{L \cdot W}$ $\sigma_L := \frac{V_{LL}}{L \cdot W}$ $\frac{S^2}{n} = 8.508$ OK

$\sigma_s = 0.798 \cdot ksi$ $\sigma_L = 0.249 \cdot ksi$

Compressive_Stress1 := "Good" if $\sigma_s \le 1.25 \cdot ksi \wedge \sigma_s \le 1.25 \cdot G \cdot S$ 14.7.6.3.2-6 & 7
"No Good" otherwise

Compressive_Stress1 = "Good"

2. ROTATION OF STEEL REINFORCED ELASTOMERIC BEARING

$\theta_{LL} := 0.005 \cdot rad$ Rotation due to total load on traffic direction

$\theta_{TCS} := 0.000 \cdot rad$ Rotation from temp. + creep + shrinkage on traffic direction

$\theta_{unk} := 0.005 \cdot rad$ Fabrication and construction tolerances on traffic direction

$\theta_{sx} := \theta_{LL} + \theta_{TCS} + \theta_{unk}$ $\theta_{sx} = 0.01 \cdot rad$

Satisfy := "Good" if $\sigma_s \ge 0.5 \cdot G \cdot S \cdot \left(\frac{L}{h_{ri}}\right)^2 \cdot \frac{\theta_{sx}}{n}$ 14.7.6.3.5d-1
"No Good" otherwise

Satisfy = "Good" $0.5 \cdot G \cdot S \cdot \left(\frac{L}{h_{ri}}\right)^2 \cdot \frac{\theta_{sx}}{n} = 0.646 \cdot ksi$

3. SHEAR

a. Temperature, Creep & Shrinkage:

$\alpha := \frac{0.000006}{deg}$ $\Delta T := 60 \cdot deg$ Max. dropped temperature

$\varepsilon_{Temp} := \alpha \cdot \Delta T$ $\varepsilon_{Temp} = 3.6 \times 10^{-4}$

$\varepsilon_{Creep} := 0.0002705$

$\varepsilon_{Shrinkage} := 0.0001176$

Movement Factor (Service 1) $\gamma_{TU} := 1.2$ $\gamma_{CR} := 1.0$ $\gamma_{SH} := 1.0$

$Length := 2265 \cdot in$ $\Delta_s := Length \cdot (\varepsilon_{Temp} \cdot \gamma_{TU} + \varepsilon_{Creep} \cdot \gamma_{CR} + \varepsilon_{Shrinkage} \cdot \gamma_{SH})$

$\Delta_s = 1.858 \cdot in$

$Satisfy1 := \begin{cases} \text{"Good"} & \text{if } n \cdot h_{ri} \geq 2 \cdot \Delta_s \\ \text{"No Good"} & \text{otherwise} \end{cases}$ 14.7.6.3.4-1

$Satisfy1 = \text{"Good"}$ $n \cdot h_{ri} = 4 \cdot in$

For sliding check, we can check with temperature movement

$\Delta_T := Length \cdot \varepsilon_{Temp} \cdot \gamma_{TU}$ $\Delta_T = 0.978 \cdot in$

$\mu := 0.075$ $V_{min} := 108.6 \cdot kip$ Consider No LiveLoad $A := L \cdot W$

$Satisfy2 := \begin{cases} \text{"No Sliding"} & \text{if } \frac{(\mu \cdot V_{min} \cdot n \cdot h_{ri})}{A \cdot G} \geq \Delta_T \\ \text{"No Good"} & \text{otherwise} \end{cases}$ $A = 1.891\ ft^2$

$Satisfy2 = \text{"No Sliding"}$

$SF := \frac{(\mu \cdot V_{min} \cdot n \cdot h_{ri})}{A \cdot G \cdot \Delta_T}$ $SF = 1.063$ Use retainer (recess seat)

4. REINFORCEMENT

$F_y := 36 \cdot ksi$

$\Delta F_{TH} := 24 \cdot ksi$ Table 6.6.1.2.5-3

$h_s := 0.125 \cdot in$ $h_{max} := h_{ri}$ $h_{max} = 0.5 \cdot in$

$$\text{Satisfy3} := \begin{cases} \text{"Good"} & \text{if } h_s \geq \left(\frac{3 \cdot h_{ri} \cdot \sigma_s}{F_y}\right) \wedge h_s \geq \left(\frac{2 \cdot h_{ri} \cdot \sigma_L}{\Delta F_{TH}}\right) \\ \text{"No Good"} & \text{otherwise} \end{cases} \qquad 14.7.5.3.5\text{-}1 \text{ \& } 2$$

Satisfy3 = "Good"

5. BEARING THICKNESS

Exterior_Thickness := 0.125·in

Bearing_Thickness := 2·Exterior_Thickness + n·h_{ri} + (n + 1)·h_s

Bearing_Thickness = 5.375·in

6. STABILITY 14.7.6.3.6

$$\text{Satisfy4} := \begin{cases} \text{"Good"} & \text{if Bearing\_Thickness} \leq \left(\frac{L}{3}\right) \wedge \text{Bearing\_Thickness} \leq \left(\frac{W}{3}\right) \\ \text{"No Good"} & \text{otherwise} \end{cases}$$

Satisfy4 = "Good"

7. COMPRESSIVE DEFLECTION

From figure C14.7.6.3.3-1 Stress-Strain Curves for 50 durometer

ε_i := 0.048

$$\text{Satisfy5} := \begin{cases} \text{"Good"} & \text{if } \varepsilon_i \leq 0.07 \\ \text{"No Good"} & \text{otherwise} \end{cases}$$

Satisfy5 = "Good"

STEEL REINFORCED RECTANGULAR ELASTOMERIC BEARING DESIGN

METHOD A

CONSTRUCTION PHASE 1, WHEN G (0.10 KSI) HAS A RANGE -15% = 0.085 KSI

1. COMPRESSIVE STRESS:

$ksi := 1000 \cdot \frac{lb}{in^2}$ $kip := 1000 \cdot lb$

$V_{LL} := 67.76 \cdot kip$ Service limit state (live load)

$V_{Total} := 217.36 kip$ Service limit state (total loads)

$G := 0.085 \cdot ksi$ 14.7.6.2 (first paragraph)

$L := 16.5 \cdot in$ Length of bearing (longitudinal)

$W := 16.5 \cdot in$ Width of bearing (transverse)

$h_{ri} := .5 \cdot in$ Thickness of i^{th} elastomeric layer

$n := 8$ Number of elastomeric layers

$S := \frac{(L \cdot W)}{2 \cdot h_{ri} \cdot (L + W)}$ $S = 8.25$ Shape factor of a layer 14.7.5.1-1

$\sigma_s := \frac{V_{Total}}{L \cdot W}$ $\sigma_L := \frac{V_{LL}}{L \cdot W}$ $\frac{S^2}{n} = 8.508$ OK

$\sigma_s = 0.798 \cdot ksi$ $\sigma_L = 0.249 \cdot ksi$

Compressive_Stress1 := "Good" if $\sigma_s \le 1.25 \cdot ksi \wedge \sigma_s \le 1.25 \cdot G \cdot S$; "No Good" otherwise 14.7.6.3.2-6 & 7

Compressive_Stress1 = "Good"

2. ROTATION OF STEEL REINFORCED ELASTOMERIC BEARING

$\theta_{LL} := 0.005 \cdot rad$ Rotation due to total load on traffic direction

$\theta_{TCS} := 0.000 \cdot rad$ Rotation from temp. + creep + shrinkage on traffic direction

$\theta_{unk} := 0.005 \cdot rad$ Fabrication and construction tolerances on traffic direction

$\theta_{sx} := \theta_{LL} + \theta_{TCS} + \theta_{unk}$ $\theta_{sx} = 0.01 \cdot rad$

Satisfy := "Good" if $\sigma_s \ge 0.5 \cdot G \cdot S \cdot \left(\frac{L}{h_{ri}}\right)^2 \cdot \frac{\theta_{sx}}{n}$; "No Good" otherwise 14.7.6.3.5d-1

Satisfy = "Good" $0.5 \cdot G \cdot S \cdot \left(\frac{L}{h_{ri}}\right)^2 \cdot \frac{\theta_{sx}}{n} = 0.477 \cdot ksi$

284.1/508

3. SHEAR

a. Temperature, Creep & Shrinkage:

$\alpha := \frac{0.000006}{deg}$ $\Delta T := 60 \cdot deg$ Max. dropped temperature

$\varepsilon_{Temp} := \alpha \cdot \Delta T$ $\varepsilon_{Temp} = 3.6 \times 10^{-4}$

$\varepsilon_{Creep} := 0.0002705$

$\varepsilon_{Shrinkage} := 0.0001176$

Movement Factor (Service 1) $\gamma_{TU} := 1.2$ $\gamma_{CR} := 1.0$ $\gamma_{SH} := 1.0$

$Length := 2265 \cdot in$ $\Delta_s := Length \cdot (\varepsilon_{Temp} \cdot \gamma_{TU} + \varepsilon_{Creep} \cdot \gamma_{CR} + \varepsilon_{Shrinkage} \cdot \gamma_{SH})$

$\Delta_s = 1.858 \cdot in$

$Satisfy1 := \begin{cases} \text{"Good"} & \text{if } n \cdot h_{ri} \geq 2 \cdot \Delta_s \\ \text{"No Good"} & \text{otherwise} \end{cases}$ 14.7.6.3.4-1

Satisfy1 = "Good" $n \cdot h_{ri} = 4 \cdot in$

For sliding check, we can check with temperature movement

$\Delta_T := Length \cdot \varepsilon_{Temp} \cdot \gamma_{TU}$ $\Delta_T = 0.978 \cdot in$

$\mu := 0.075$ $V_{min} := 108.6 \cdot kip$ Consider No LiveLoad $A := L \cdot W$

$Satisfy2 := \begin{cases} \text{"No Sliding"} & \text{if } \frac{(\mu \cdot V_{min} \cdot n \cdot h_{ri})}{A \cdot G} \geq \Delta_T \\ \text{"No Good"} & \text{otherwise} \end{cases}$ $A = 1.891\ ft^2$

Satisfy2 = "No Sliding"

$SF := \frac{(\mu \cdot V_{min} \cdot n \cdot h_{ri})}{A \cdot G \cdot \Delta_T}$ $SF = 1.439$ Use retainer (recess seat)

4. REINFORCEMENT

$F_y := 36 \cdot ksi$

$\Delta F_{TH} := 24 \cdot ksi$ Table 6.6.1.2.5-3

$h_s := 0.125 \cdot in$ $h_{max} := h_{ri}$ $h_{max} = 0.5 \cdot in$

$$\text{Satisfy3} := \begin{cases} \text{"Good"} & \text{if } h_s \geq \left(\frac{3 \cdot h_{ri} \cdot \sigma_s}{F_y}\right) \wedge h_s \geq \left(\frac{2 \cdot h_{ri} \cdot \sigma_L}{\Delta F_{TH}}\right) \\ \text{"No Good"} & \text{otherwise} \end{cases} \qquad \text{14.7.5.3.5-1 \& 2}$$

Satisfy3 = "Good"

5. BEARING THICKNESS

Exterior_Thickness := 0.125·in

Bearing_Thickness := 2·Exterior_Thickness + n·h_{ri} + (n + 1)·h_s

Bearing_Thickness = 5.375·in

6. STABILITY 14.7.6.3.6

$$\text{Satisfy4} := \begin{cases} \text{"Good"} & \text{if Bearing\_Thickness} \leq \left(\frac{L}{3}\right) \wedge \text{Bearing\_Thickness} \leq \left(\frac{W}{3}\right) \\ \text{"No Good"} & \text{otherwise} \end{cases}$$

Satisfy4 = "Good"

7. COMPRESSIVE DEFLECTION

From figure C14.7.6.3.3-1 Stress-Strain Curves for 50 durometer

$\varepsilon_i := 0.048$

$$\text{Satisfy5} := \begin{cases} \text{"Good"} & \text{if } \varepsilon_i \leq 0.07 \\ \text{"No Good"} & \text{otherwise} \end{cases}$$

Satisfy5 = "Good"

BEARING TYE I , CONSTRUCTION PHASE 2

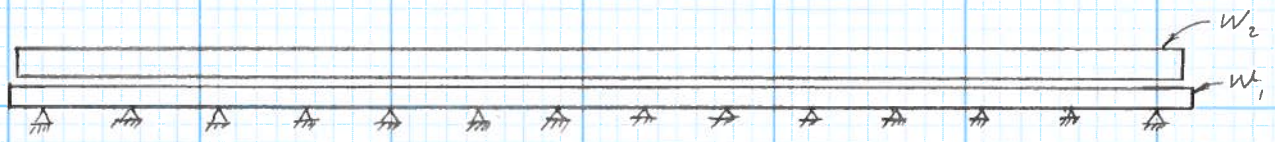
Service DL

Simple Span = 1051.6 K/Abut

Composite Continuous Span = 229.4 K/Abut

Abutment Cap = $\frac{87 \times 36}{144}(127)(0.15) = 414.34$ K/Abut

Approach Slab = 186 K



$W_1 = 414.34/127 = 3.26$ K/ft

W_2 (Min. w/o approach slab) $= \frac{1051.6 + 229.4}{121.583} = 10.54$ K/ft

W_2 (Max. with approach slab) $= \frac{1051.6 + 229.4 + 186}{121.583} = 12.07$ K/ft

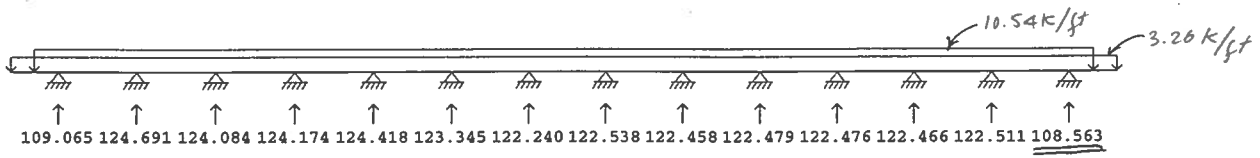
By: JB Date 7-13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8-13	Structure no. B-16-EV	Sheet 287 of 508

WinBeam

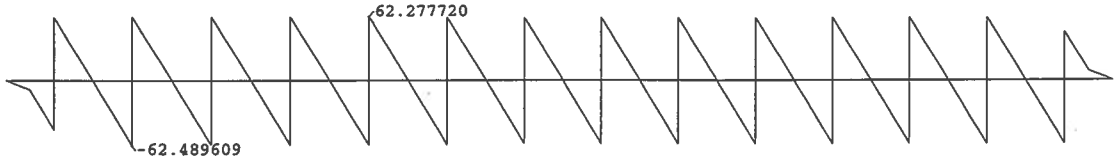
Project:

By: **Date:** **Checked:** **Date:** **Page:**

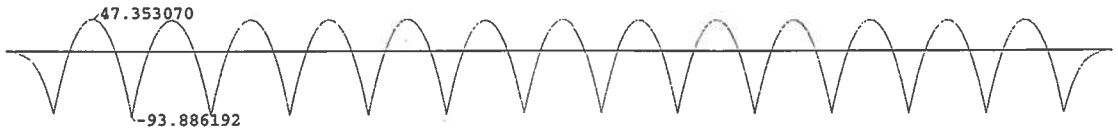
Reactions - kips, kip ft



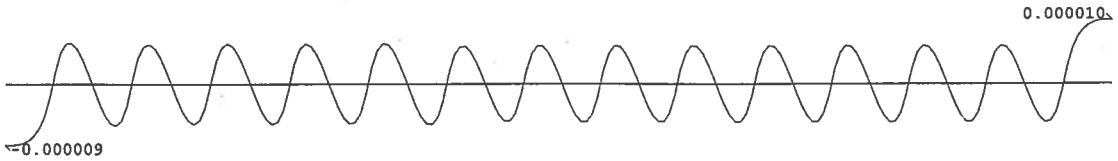
Shear - kips



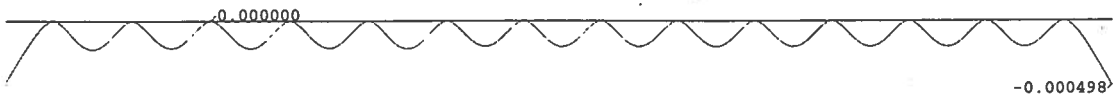
Moment - kip ft



Rotation - radians



Deflection - inches

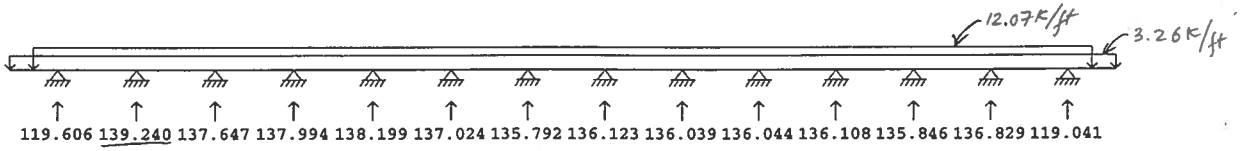


805/882

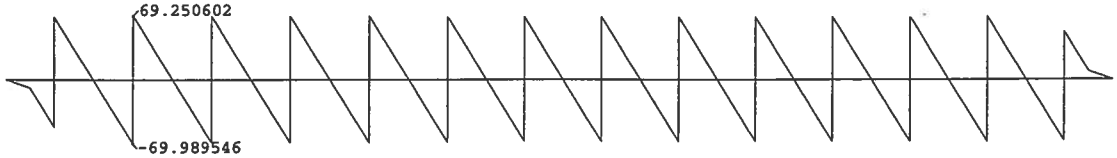
WinBeam

Project:				
By:	Date:	Checked:	Date:	Page:

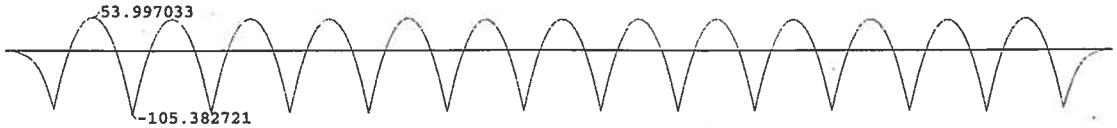
Reactions - kips, kip ft



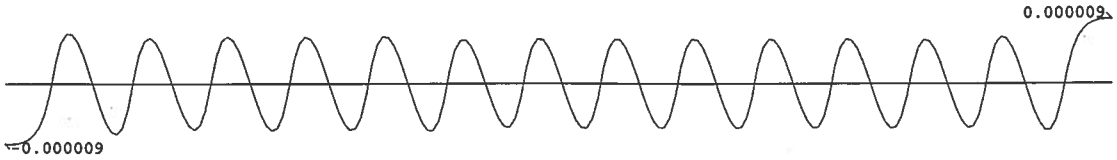
Shear - kips



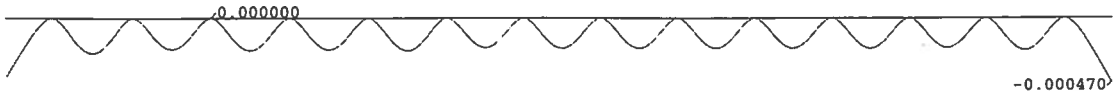
Moment - kip ft



Rotation - radians



Deflection - inches



805/282

ABUTMENT BEARING DESIGN FOR AXIAL LOADS - PHASE II
SH 14 OVER POUDRE RIVER

NUMBER OF BEARING = 14

10 LEFT	9 LEFT	8 LEFT	7 LEFT	6 LEFT	5 LEFT	4 LEFT	3 LEFT	2 LEFT	1 LEFT	CL	1 RIGHT	2 RIGHT	3 RIGHT	4 RIGHT	5 RIGHT	6 RIGHT	7 RIGHT	8 RIGHT	9 RIGHT	10 RIGHT
0	0	0	58	49	40	31	22	13	4.125	0	4.75	13.625	22.5	31.375	42.25	49.125	58	0	0	0
217.125	217.125	217.125	217.125	159.125	110.125	70.125	39.125	17.125	4.125	0	4.75	18.375	40.875	72.25	114.5	163.625	221.625	221.625	221.625	221.625
0	0	0	47143.2656	25320.7656	12127.5156	4917.51563	1530.76563	293.265625	17.015625	0	22.5625	337.640625	1670.76563	5220.0625	13110.25	26773.1406	49117.6406	0	0	0

I = 187602.172
C = 217.125
S = I / C = 864.03

ROADWAY WIDTH (CURB TO CURB) = 120 FT.
LEFT CURB OFFSET FROM CL = 60 FT.
RIGHT CURB OFFSET FROM CL = 60 FT.
UNFACTORED LL REACTION AT ABUT. PER LANE = 100.81 K (FR. QCON)
MAXIMUM UNFACTORED DL ON BEARING = 139.2 K
MINIMUM UNFACTORED DL ON BEARING = 108.6 K

MAXIMUM AXIAL UNFACTORED LIVE LOAD PER CAISSON = 56.17
TOTAL (MAX) = 195.37
TOTAL (MIN) = 164.77

MULTIPLE PRESENCE FACTOR, m

NO. LANES	FACTOR
1	1.20
2	1.00
3	0.85
>3	0.65

LANE WIDTH = 10 FT.
LOCATION OF THE FIRST VEHICLE ON THE LEFT = 55 FT.

NO. TRUCKS	GROUP POSITION	LIVE LOAD	LL ON CAISSON
1	55	1.2	0.16
2	50	2	0.26
3	45	2.55	0.31
4	40	2.6	0.31
5	35	3.25	0.36
6	30	3.9	0.41
7	25	4.55	0.46
8	20	5.2	0.49
9	15	5.85	0.52
10	10	6.5	0.54
11	5	7.15	0.55
12	0	7.8	0.56
13	-5	8.45	0.00
14	-10	9.1	0.00
15	-15	9.75	0.00
16	-20	10.4	0.00
17	-25	11.05	0.00
18	-30	11.7	0.00
19	-35	12.35	0.00
		USE	0.56

MAXIMUM AXIAL FACTORED LIVE LOAD PER CAISSON = 98.29

STEEL REINFORCED RECTANGULAR ELASTOMERIC BEARING DESIGN

METHOD A

CONSTRUCTION PHASE 2, WHEN G (0.10 KSI) HAS A RANGE +15% = 0.115 KSI

1. COMPRESSIVE STRESS:

$ksi := 1000 \cdot \frac{lb}{in^2}$ $kip := 1000 \cdot lb$

$V_{LL} := 56.17 \cdot kip$ Service limit state (live load)

$V_{Total} := 195.37 kip$ Service limit state (total loads)

$G := 0.115 \cdot ksi$ 14.7.6.2 (first paragraph)

$L := 16.5 \cdot in$ Length of bearing (longitudinal)

$W := 16.5 \cdot in$ Width of bearing (transverse)

$h_{ri} := .5 \cdot in$ Thickness of i^{th} elastomeric layer

$n := 8$ Number of elastomeric layers

$S := \frac{(L \cdot W)}{2 \cdot h_{ri} \cdot (L + W)}$ $S = 8.25$ Shape factor of a layer 14.7.5.1-1

$\sigma_s := \frac{V_{Total}}{L \cdot W}$ $\sigma_L := \frac{V_{LL}}{L \cdot W}$ $\frac{S^2}{n} = 8.508$ OK

$\sigma_s = 0.718 \cdot ksi$ $\sigma_L = 0.206 \cdot ksi$

Compressive_Stress1 := "Good" if $\sigma_s \le 1.25 \cdot ksi \wedge \sigma_s \le 1.25 \cdot G \cdot S$ 14.7.6.3.2-6 & 7

"No Good" otherwise

Compressive_Stress1 = "Good"

2. ROTATION OF STEEL REINFORCED ELASTOMERIC BEARING

$\theta_{LL} := 0.005 \cdot rad$ Rotation due to total load on traffic direction

$\theta_{TCS} := 0.000 \cdot rad$ Rotation from temp. + creep + shrinkage on traffic direction

$\theta_{unk} := 0.005 \cdot rad$ Fabrication and construction tolerances on traffic direction

$\theta_{sx} := \theta_{LL} + \theta_{TCS} + \theta_{unk}$ $\theta_{sx} = 0.01 \cdot rad$

Satisfy := "Good" if $\sigma_s \ge 0.5 \cdot G \cdot S \cdot \left(\frac{L}{h_{ri}}\right)^2 \cdot \frac{\theta_{sx}}{n}$ 14.7.6.3.5d-1

"No Good" otherwise

Satisfy = "Good" $0.5 \cdot G \cdot S \cdot \left(\frac{L}{h_{ri}}\right)^2 \cdot \frac{\theta_{sx}}{n} = 0.646 \cdot ksi$

3. SHEAR

a. Temperature, Creep & Shrinkage:

$\alpha := \frac{0.000006}{deg}$ $\Delta T := 60 \cdot deg$ Max. dropped temperature

$\varepsilon_{Temp} := \alpha \cdot \Delta T$ $\varepsilon_{Temp} = 3.6 \times 10^{-4}$

$\varepsilon_{Creep} := 0.0002705$

$\varepsilon_{Shrinkage} := 0.0001176$

Movement Factor (Service 1) $\gamma_{TU} := 1.2$ $\gamma_{CR} := 1.0$ $\gamma_{SH} := 1.0$

$Length := 2265 \cdot in$ $\Delta_s := Length \cdot (\varepsilon_{Temp} \cdot \gamma_{TU} + \varepsilon_{Creep} \cdot \gamma_{CR} + \varepsilon_{Shrinkage} \cdot \gamma_{SH})$

$\Delta_s = 1.858 \cdot in$

$Satisfy1 := \begin{cases} \text{"Good"} & \text{if } n \cdot h_{ri} \geq 2 \cdot \Delta_s \\ \text{"No Good"} & \text{otherwise} \end{cases}$ 14.7.6.3.4-1

Satisfy1 = "Good" $n \cdot h_{ri} = 4 \cdot in$

For sliding check, we can check with temperature movement

$\Delta_T := Length \cdot \varepsilon_{Temp} \cdot \gamma_{TU}$ $\Delta_T = 0.978 \cdot in$

$\mu := 0.075$ $V_{min} := 108.6 \cdot kip$ Consider No LiveLoad $A := L \cdot W$

$Satisfy2 := \begin{cases} \text{"No Sliding"} & \text{if } \frac{(\mu \cdot V_{min} \cdot n \cdot h_{ri})}{A \cdot G} \geq \Delta_T \\ \text{"No Good"} & \text{otherwise} \end{cases}$ $A = 1.891\,ft^2$

Satisfy2 = "No Sliding"

$SF := \frac{(\mu \cdot V_{min} \cdot n \cdot h_{ri})}{A \cdot G \cdot \Delta_T}$ $SF = 1.063$ Use retainer (recess seat)

4. REINFORCEMENT

$F_y := 36 \cdot ksi$

$\Delta F_{TH} := 24 \cdot ksi$ Table 6.6.1.2.5-3

$h_s := 0.125 \cdot in$ $h_{max} := h_{ri}$ $h_{max} = 0.5 \cdot in$

$$\text{Satisfy3} := \begin{cases} \text{"Good"} & \text{if } h_s \geq \left(\frac{3 \cdot h_{ri} \cdot \sigma_s}{F_y}\right) \wedge h_s \geq \left(\frac{2 \cdot h_{ri} \cdot \sigma_L}{\Delta F_{TH}}\right) \\ \text{"No Good"} & \text{otherwise} \end{cases} \qquad \text{14.7.5.3.5-1 \& 2}$$

Satisfy3 = "Good"

5. BEARING THICKNESS

$\text{Exterior\_Thickness} := 0.125 \cdot \text{in}$

$\text{Bearing\_Thickness} := 2 \cdot \text{Exterior\_Thickness} + n \cdot h_{ri} + (n + 1) \cdot h_s$

$\text{Bearing\_Thickness} = 5.375 \cdot \text{in}$

6. STABILITY 14.7.6.3.6

$$\text{Satisfy4} := \begin{cases} \text{"Good"} & \text{if Bearing\_Thickness} \leq \left(\frac{L}{3}\right) \wedge \text{Bearing\_Thickness} \leq \left(\frac{W}{3}\right) \\ \text{"No Good"} & \text{otherwise} \end{cases}$$

Satisfy4 = "Good"

7. COMPRESSIVE DEFLECTION

From figure C14.7.6.3.3-1 Stress-Strain Curves for 50 durometer

$\varepsilon_i := 0.048$

$$\text{Satisfy5} := \begin{cases} \text{"Good"} & \text{if } \varepsilon_i \leq 0.07 \\ \text{"No Good"} & \text{otherwise} \end{cases}$$

Satisfy5 = "Good"

STEEL REINFORCED RECTANGULAR ELASTOMERIC BEARING DESIGN

METHOD A

CONSTRUCTION PHASE 2, WHEN G (0.10 KSI) HAS A RANGE -15% = 0.085 KSI

1. COMPRESSIVE STRESS:

$ksi := 1000 \cdot \frac{lb}{in^2}$ $kip := 1000 \cdot lb$

$V_{LL} := 56.17 \cdot kip$ Service limit state (live load)

$V_{Total} := 195.37kip$ Service limit state (total loads)

$G := 0.085 \cdot ksi$ 14.7.6.2 (first paragraph)

$L := 16.5 \cdot in$ Length of bearing (longitudinal)

$W := 16.5 \cdot in$ Width of bearing (transverse)

$h_{ri} := .5 \cdot in$ Thickness of i^{th} elastomeric layer

$n := 8$ Number of elastomeric layers

$S := \frac{(L \cdot W)}{2 \cdot h_{ri} \cdot (L + W)}$ $S = 8.25$ Shape factor of a layer 14.7.5.1-1

$\sigma_s := \frac{V_{Total}}{L \cdot W}$ $\sigma_L := \frac{V_{LL}}{L \cdot W}$ $\frac{S^2}{n} = 8.508$ OK

$\sigma_s = 0.718 \cdot ksi$ $\sigma_L = 0.206 \cdot ksi$

Compressive_Stress1 := "Good" if $\sigma_s \le 1.25 \cdot ksi \wedge \sigma_s \le 1.25 \cdot G \cdot S$ 14.7.6.3.2-6 & 7

"No Good" otherwise

Compressive_Stress1 = "Good"

2. ROTATION OF STEEL REINFORCED ELASTOMERIC BEARING

$\theta_{LL} := 0.005 \cdot rad$ Rotation due to total load on traffic direction

$\theta_{TCS} := 0.000 \cdot rad$ Rotation from temp. + creep + shrinkage on traffic direction

$\theta_{unk} := 0.005 \cdot rad$ Fabrication and construction tolerances on traffic direction

$\theta_{sx} := \theta_{LL} + \theta_{TCS} + \theta_{unk}$ $\theta_{sx} = 0.01 \cdot rad$

Satisfy := "Good" if $\sigma_s \ge 0.5 \cdot G \cdot S \cdot \left(\frac{L}{h_{ri}}\right)^2 \cdot \frac{\theta_{sx}}{n}$ 14.7.6.3.5d-1

"No Good" otherwise

Satisfy = "Good" $0.5 \cdot G \cdot S \cdot \left(\frac{L}{h_{ri}}\right)^2 \cdot \frac{\theta_{sx}}{n} = 0.477 \cdot ksi$

3. SHEAR

a. Temperature, Creep & Shrinkage:

$\alpha := \frac{0.000006}{deg}$ $\Delta T := 60 \cdot deg$ Max. dropped temperature

$\varepsilon_{Temp} := \alpha \cdot \Delta T$ $\varepsilon_{Temp} = 3.6 \times 10^{-4}$

$\varepsilon_{Creep} := 0.0002705$

$\varepsilon_{Shrinkage} := 0.0001176$

Movement Factor (Service 1) $\gamma_{TU} := 1.2$ $\gamma_{CR} := 1.0$ $\gamma_{SH} := 1.0$

$Length := 2265 \cdot in$ $\Delta_s := Length \cdot (\varepsilon_{Temp} \cdot \gamma_{TU} + \varepsilon_{Creep} \cdot \gamma_{CR} + \varepsilon_{Shrinkage} \cdot \gamma_{SH})$

$\Delta_s = 1.858 \cdot in$

$Satisfy1 := \begin{cases} \text{"Good"} & \text{if } n \cdot h_{ri} \geq 2 \cdot \Delta_s \\ \text{"No Good"} & \text{otherwise} \end{cases}$ 14.7.6.3.4-1

$Satisfy1 = \text{"Good"}$ $n \cdot h_{ri} = 4 \cdot in$

For sliding check, we can check with temperature movement

$\Delta_T := Length \cdot \varepsilon_{Temp} \cdot \gamma_{TU}$ $\Delta_T = 0.978 \cdot in$

$\mu := 0.075$ $V_{min} := 108.6 \cdot kip$ Consider No LiveLoad $A := L \cdot W$

$Satisfy2 := \begin{cases} \text{"No Sliding"} & \text{if } \frac{(\mu \cdot V_{min} \cdot n \cdot h_{ri})}{A \cdot G} \geq \Delta_T \\ \text{"No Good"} & \text{otherwise} \end{cases}$ $A = 1.891\ ft^2$

$Satisfy2 = \text{"No Sliding"}$

$SF := \frac{(\mu \cdot V_{min} \cdot n \cdot h_{ri})}{A \cdot G \cdot \Delta_T}$ $SF = 1.439$ Use retainer (recess seat)

4. REINFORCEMENT

$F_y := 36 \cdot ksi$

$\Delta F_{TH} := 24 \cdot ksi$ Table 6.6.1.2.5-3

$h_s := 0.125 \cdot in$ $h_{max} := h_{ri}$ $h_{max} = 0.5 \cdot in$

$$\text{Satisfy3} := \begin{cases} \text{"Good"} & \text{if } h_s \geq \left(\frac{3 \cdot h_{ri} \cdot \sigma_s}{F_y}\right) \wedge h_s \geq \left(\frac{2 \cdot h_{ri} \cdot \sigma_L}{\Delta F_{TH}}\right) \\ \text{"No Good"} & \text{otherwise} \end{cases} \qquad \text{14.7.5.3.5-1 \& 2}$$

Satisfy3 = "Good"

5. BEARING THICKNESS

Exterior_Thickness := 0.125·in

$\text{Bearing\_Thickness} := 2 \cdot \text{Exterior\_Thickness} + n \cdot h_{ri} + (n + 1) \cdot h_s$

Bearing_Thickness = 5.375·in

6. STABILITY 14.7.6.3.6

$$\text{Satisfy4} := \begin{cases} \text{"Good"} & \text{if Bearing\_Thickness} \leq \left(\frac{L}{3}\right) \wedge \text{Bearing\_Thickness} \leq \left(\frac{W}{3}\right) \\ \text{"No Good"} & \text{otherwise} \end{cases}$$

Satisfy4 = "Good"

7. COMPRESSIVE DEFLECTION

From figure C14.7.6.3.3-1 Stress-Strain Curves for 50 durometer

$\epsilon_i := 0.048$

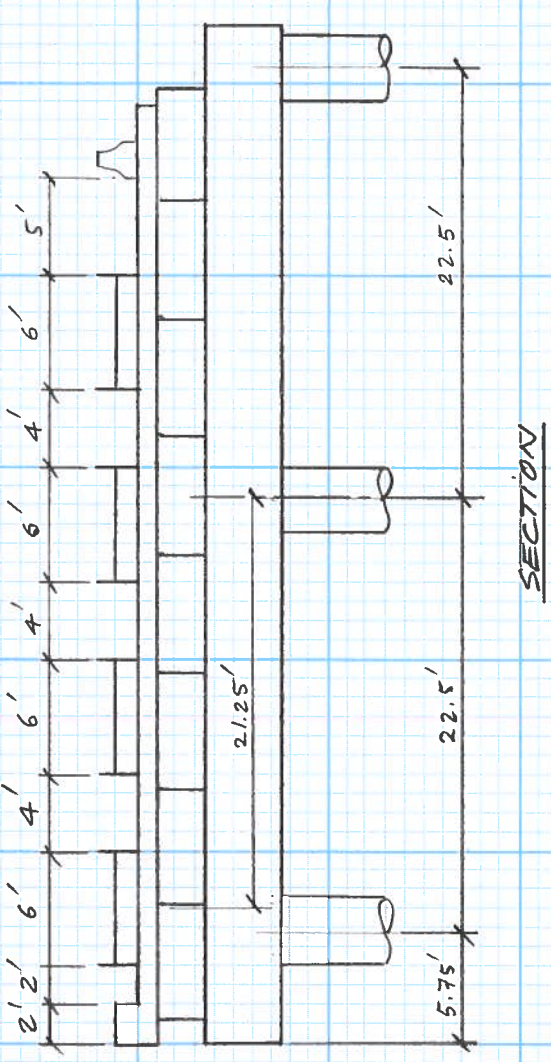
$$\text{Satisfy5} := \begin{cases} \text{"Good"} & \text{if } \epsilon_i \leq 0.07 \\ \text{"No Good"} & \text{otherwise} \end{cases}$$

Satisfy5 = "Good"

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)

PIER CAISSON DESIGN FOR AXIAL LOADS _ CONSTRUCTION PHASE I



SECTION

By: MB Date 7-13	Project no.	FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8-13	Structure no.	B-16-EV	Sheet 297 of 508

Dead Loads:

* Simple Span DL (8 precast Girders & plastic Concrete)

$W_1 = 11.812$ K/ft
$W_2 = 21.662$ K/ft
} From Wimbeam, Max. pier Reaction = 521.5 (2) = 1043.1 K

* Continuous Span DL (Composite Dead Loads)

$W_3 = 3.68$ K/ft Max. Pier Reaction = 311.4 K

* Pier dead Load

$4(4+5.06)0.5(53)(0.15) = 144.05$ K

Total Unfactored DL on pier

$1043.1 + 311.4 + 144.05 = 1498.55$ K, $1498.55 / 48.5717 = 30.85$ K/ft

Total factored DL on pier

$1043.1(1.25) + 311.4\left(\frac{1.399}{3.68}\right)(1.5) + 311.4\left(\frac{3.68-1.398}{3.68}\right)(1.25) + 144.05(1.25) = 1902.8$ K

$1902.8 / 48.5717 = 39.18$ K/ft

By: HB Date 7-13	Project no.	FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8-13	Structure no.	B-16-EV	Sheet 298 of 508

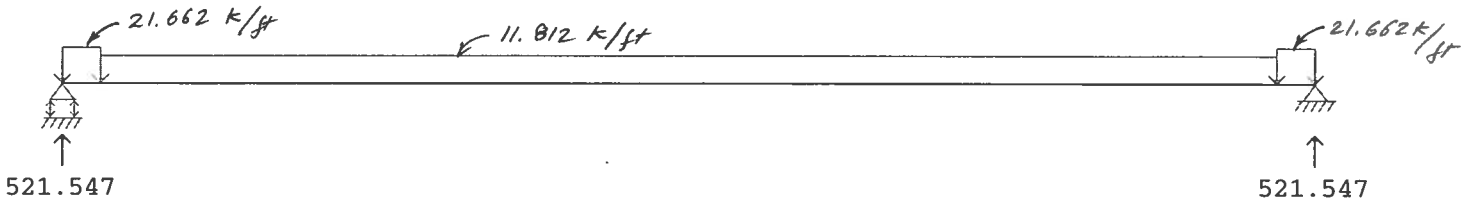
WinBeam

Project:

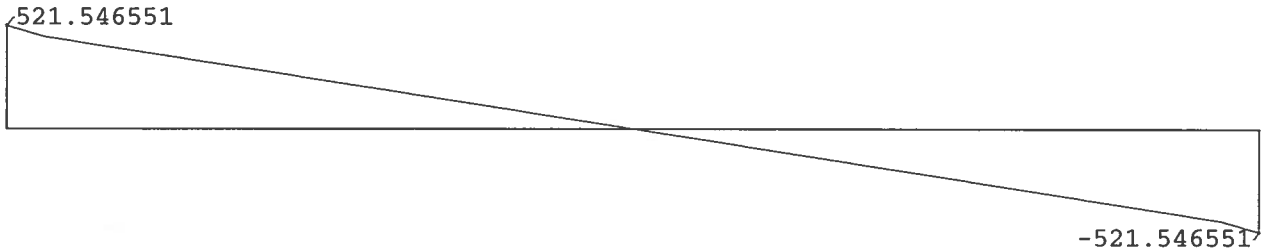
/: **Date:** **Checked:** **Date:** **Page:**

Reactions - kips, kip ft

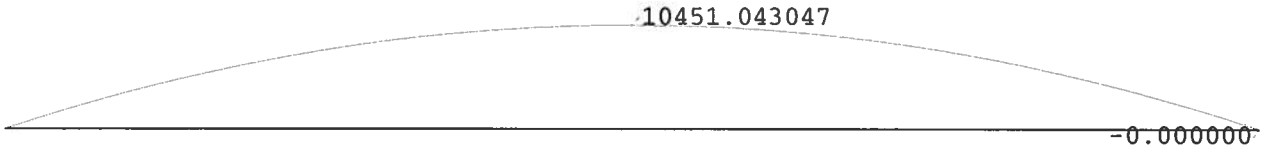
SIMPLE SPAN DL



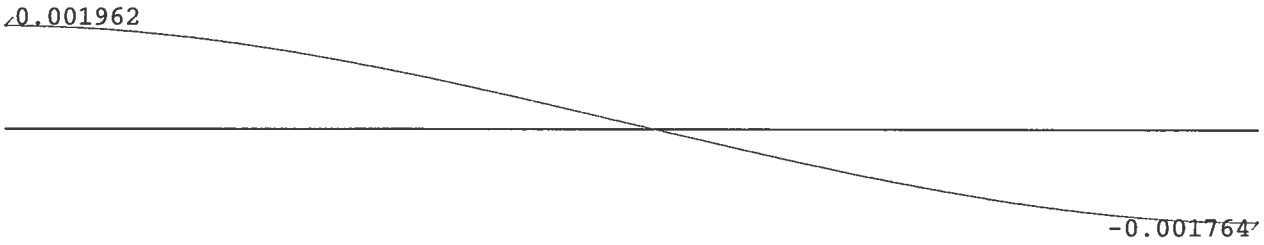
Shear - kips



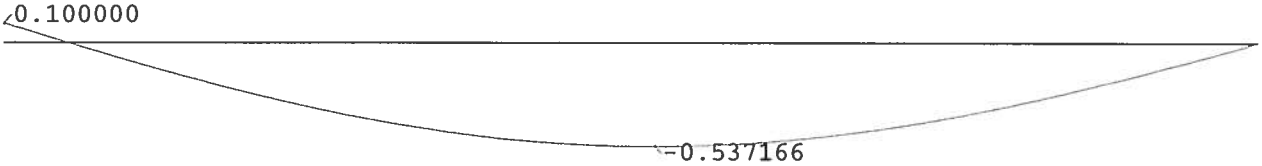
Moment - kip ft



Rotation - radians



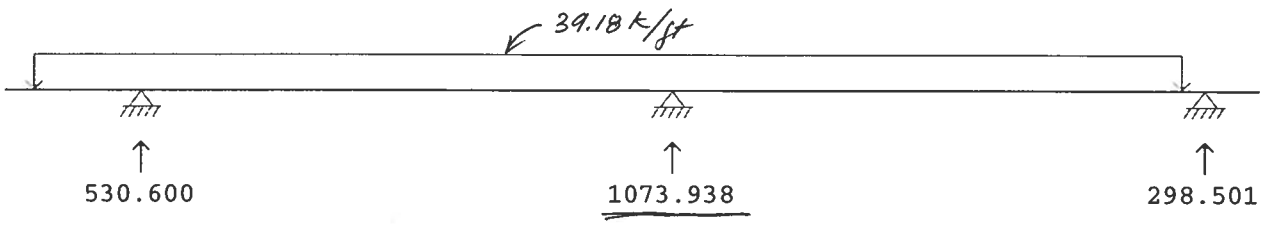
Deflection - inches



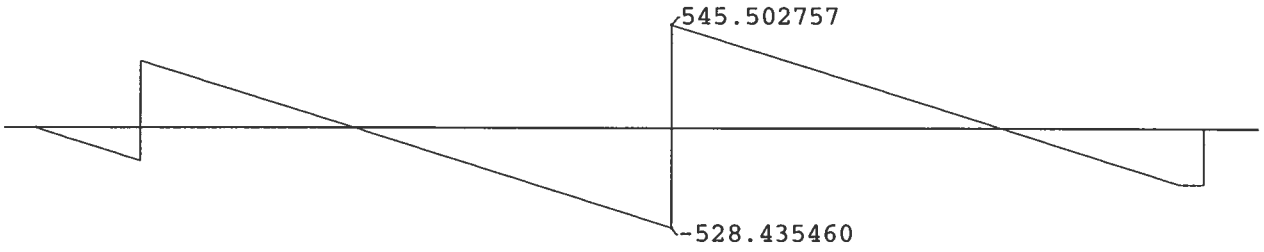
WinBeam

Project:				
/:	Date:	Checked:	Date:	Page:

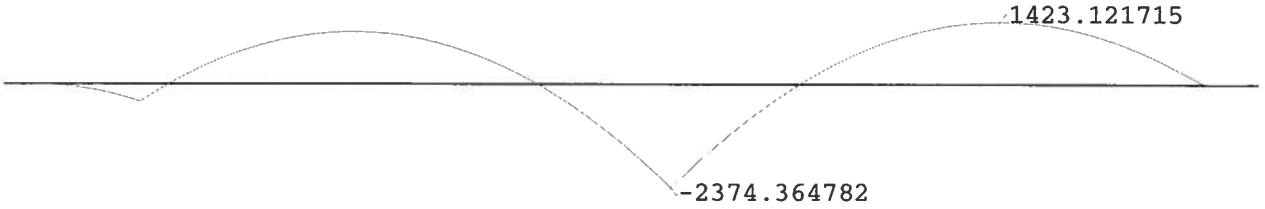
Reactions - kips, kip ft Factored DL



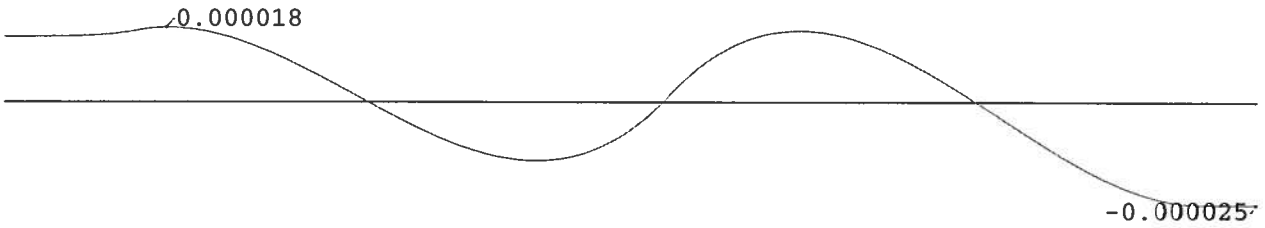
Shear - kips



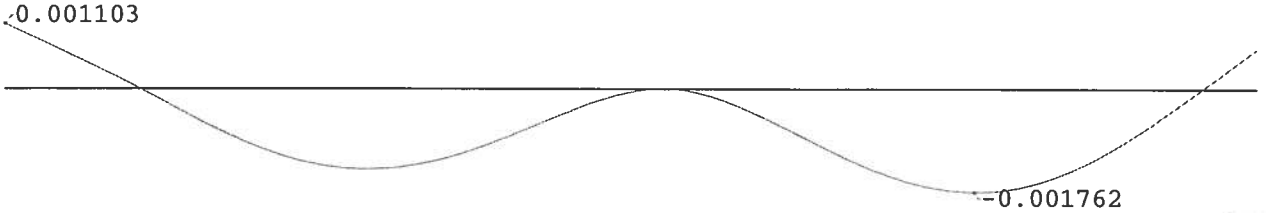
Moment - kip ft



Rotation - radians



Deflection - inches



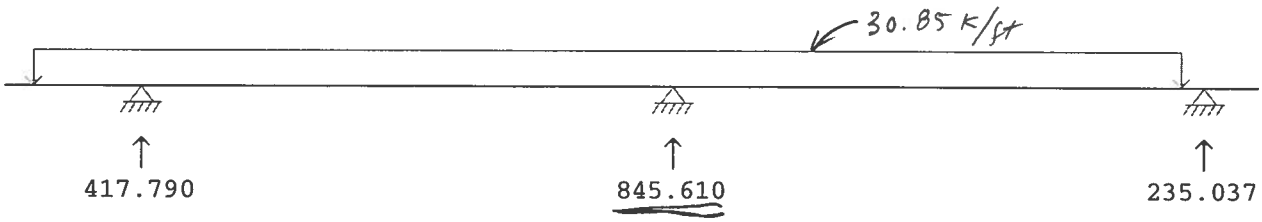
300/508

WinBeam

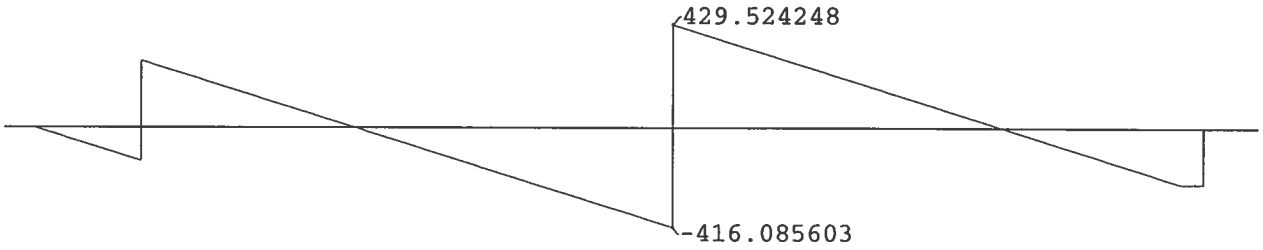
Project:				
/:	Date:	Checked:	Date:	Page:

Reactions - kips, kip ft

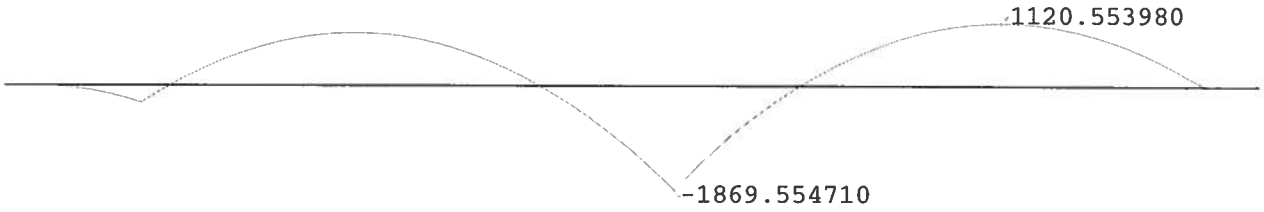
Unfactored DL



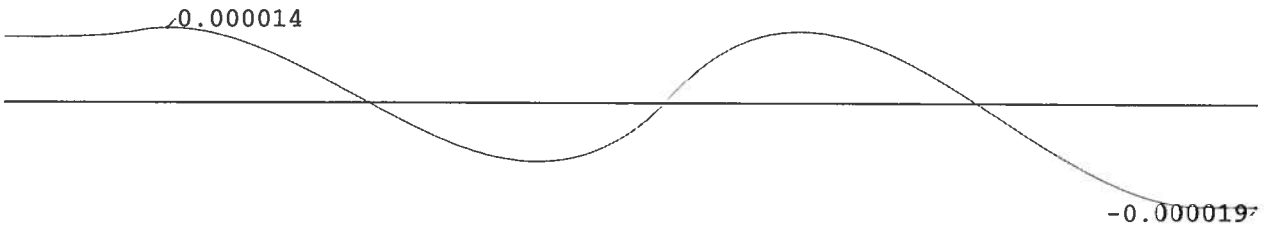
Shear - kips



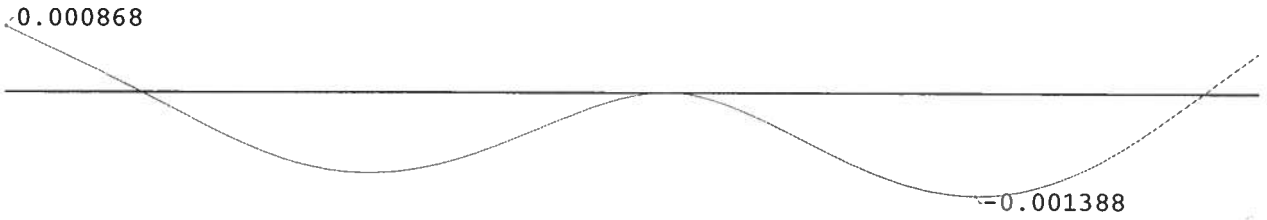
Moment - kip ft



Rotation - radians



Deflection - inches



PIER CAISSON DESIGN FOR AXIAL LOADS - PHASE I (1)
SH 14 OVER POUDRE RIVER

NUMBER OF CAISSON = 3

10 LEFT	9 LEFT	8 LEFT	7 LEFT	6 LEFT	5 LEFT	4 LEFT	3 LEFT	2 LEFT	1 LEFT	CL	1 RIGHT	2 RIGHT	3 RIGHT	4 RIGHT	5 RIGHT	6 RIGHT	7 RIGHT	8 RIGHT	9 RIGHT	10 RIGHT
0	0	0	0	0	0	0	0	0	22.5	0	22.5	0	0	0	0	0	0	0	0	0
22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	0	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
0	0	0	0	0	0	0	0	0	506.25	0	506.25	0	0	0	0	0	0	0	0	0

I = 1012.5
C = 22.5
S = I / C = 45.00

ROADWAY WIDTH (CURB TO CURB) =	120	FT.	
LEFT CURB OFFSET FROM CL =	60	FT.	
RIGHT CURB OFFSET FROM CL =	60	FT.	
UNFACTORED LL REACTION AT ABUT. PER LANE =	166.922	K (FR. QCON)	
MAXIMUM FACTORED DL ON CAISSON =	1073.938	K	
MAXIMUM UNFACTORED DL ON CAISSON =	845.61	K	
COLUMN DIAMETER =	3.5	FT.	
CAISSON DIAMETER =	4	FT.	
ULTIMATE END BEARING =	150	KSF	
ULTIMATE SIDE SHEAR =	15	KSF	
END BEARING RESISTANCE FACTOR =	0.5		
SIDE SHEAR RESISTANCE FACTOR =	0.5		
TOP OF COLUMN ELEVATION =	4939.64	FT.	
TOP OF CAISSON ELEVATION =	4925	FT.	
BEDROCK ELEVATION =	4925	FT.	
CAISSON TIP ELEVATION =	4903	FT.	
FACTORED CAISSON AND COLUMN WEIGHT =	78.25	K PER CAISSON	
UNFACTORED CAISSON AND COLUMN WEIGHT =	62.60	K PER CAISSON	
NUMBER OF CAISSON DIAMETER EMBED INTO BEDROCK =	5.5		
COLUMN CROSS SECTION AREA =	9.62	SQ. FT.	
CAISSON CROSS SECTION AREA =	12.57	SQ. FT.	
CAISSON EMBEDMENT =	22.00	FT.	
CAISSON PARAMETER =	12.57	FT.	
SURFACE AREA FOR SIDE SHEAR =	213.63	SQ. FT.	
CAISSON CAPACITY =	2544.69	K	

MULTIPLE PRESENCE FACTOR, m

NO. LANES	FACTOR
1	1.20
2	1.00
3	0.85
>3	0.65

LANE WIDTH = 10 FT.
LOCATION OF THE FIRST VEHICLE ON THE LEFT = 21.25 FT.

NO. TRUCKS	GROUP POSITION	LIVE LOAD	LL ON CAISSON
1	21.25	1.2	0.97
2	16.25	2	1.39
3	11.25	2.55	1.49
4	6.25	2.6	1.23
5	1.25	3.25	1.17
6	-3.75	3.9	0.00
7	-8.75	4.55	0.00
8	-13.75	5.2	0.00
9	-18.75	5.85	0.00
10	-23.75	6.5	0.00
11	-28.75	7.15	0.00
12	-33.75	7.8	0.00
13	-38.75	8.45	0.00
14	-43.75	9.1	0.00
15	-48.75	9.75	0.00
16	-53.75	10.4	0.00
17	-58.75	11.05	0.00
18	-63.75	11.7	0.00
19	-68.75	12.35	0.00
		USE	1.49

MAXIMUM AXIAL UNFACTORED LIVE LOAD PER CAISSON =	248.30	MAXIMUM AXIAL FACTORED LIVE LOAD PER CAISSON =	434.52
UNFACTORED DEAD LOAD PER CAISSON =	908.21	FACTORED DEAD LOAD PER CAISSON =	1136.54
TOTAL =	1156.50 K	TOTAL =	1571.05 K

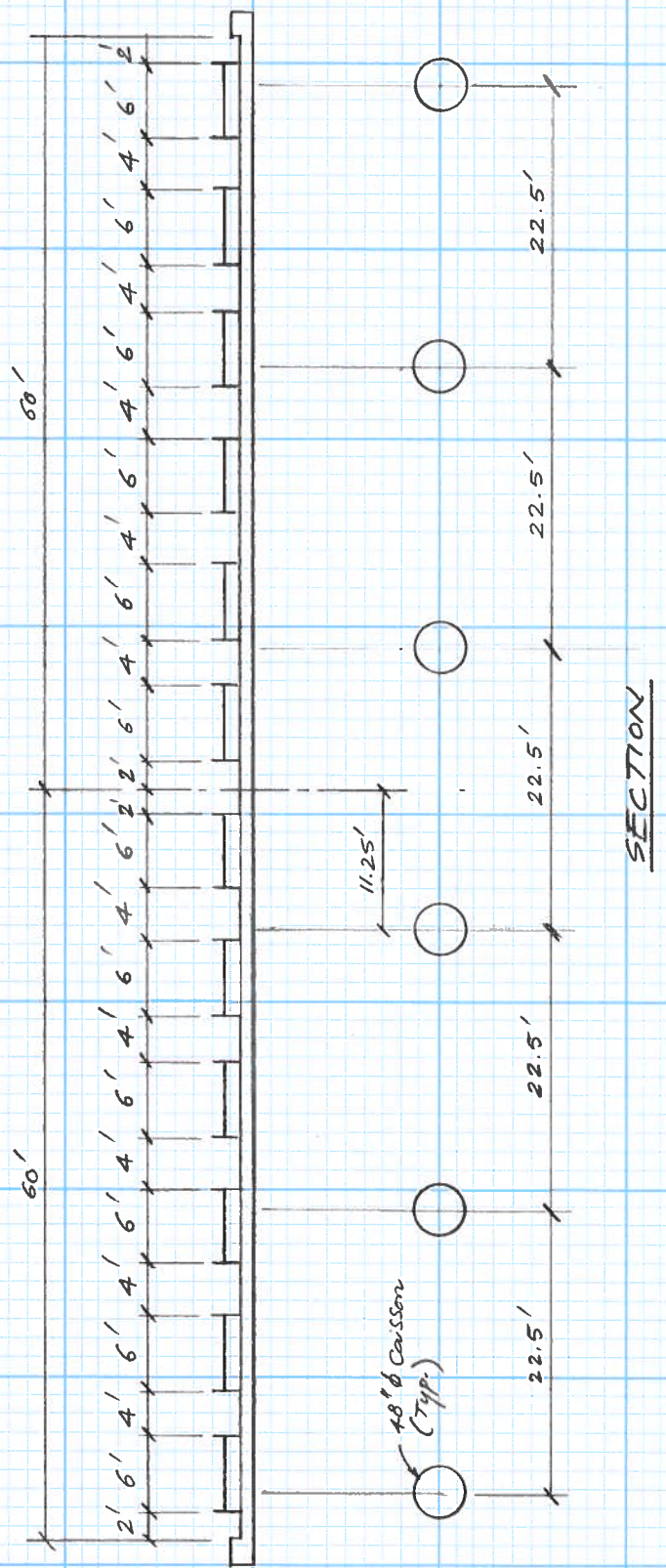
OK

302/508

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)

PIER CAISSON DESIGN FOR AXIAL LOADS - CONST. PHASE II



SECTION

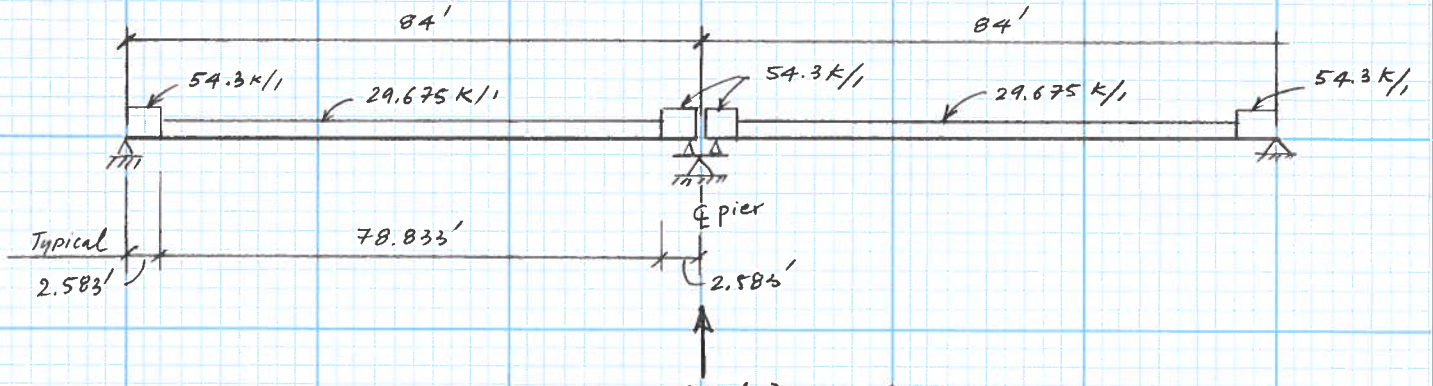
By: HB Date 7-13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8-13	Structure no. B-16-EV	Sheet 303 of 508

CDOT Form #1034 3/02

Dead Loads:

* Simple Span DL (20 Precast Girders & Plastic Concrete)

$W_1' = 29.675$ K/ft
$W_2' = 54.3$ K/ft
} See Abutment Phase 2



1310 (2) = 2620K

* Continuous Span DL (Composite dead Loads)

$W_3 = 9.327$ K/ft (see Abutment phase 2)

Max. Pier Reaction = 870.6 K (see Abutment phase 2)

* Pier Cap DL

Pier Cap $\left[4\,(4+5.36)\,0.5\,(68) + 4\,(5.36+4.24)\,0.5\,(56)\right](0.15) = 352.2$ K

Total Unfactored DL on pier

2620 + 870.6 + 352.2 = 3842.8 K

Total factored DL on pier

$$2620\,(1.25) + 870.6\left(\frac{2.808}{9.327}\right)(1.5) + \left(\frac{9.327-2.808}{9.327}\right)870.6\,(1.25) + 352.2\,(1.25)$$

$$= 4869.0 \text{ K}$$

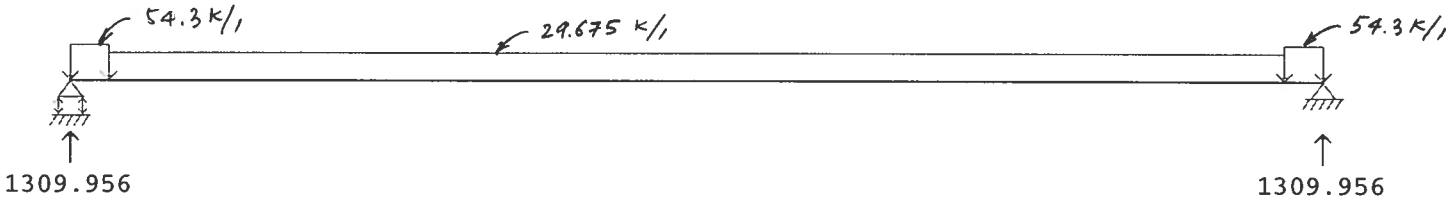
By: HB Date 7-13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: KLP Date 8-13	Structure no. B-16-EV	Sheet 304 of 508	

WinBeam

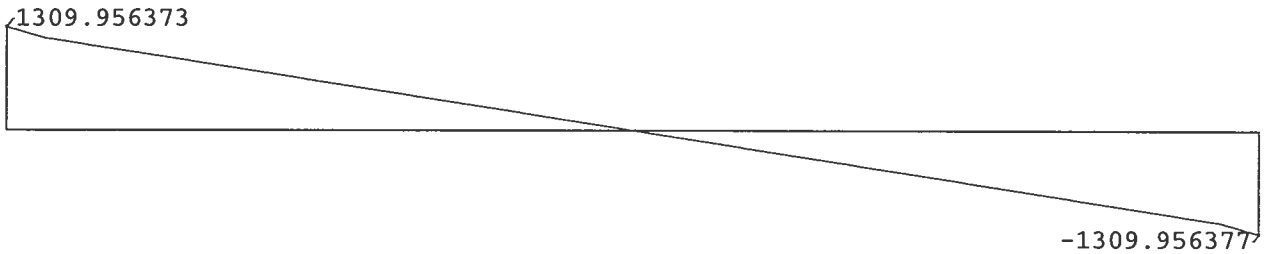
Project:				
':	Date:	Checked:	Date:	Page:

Reactions - kips, kip ft

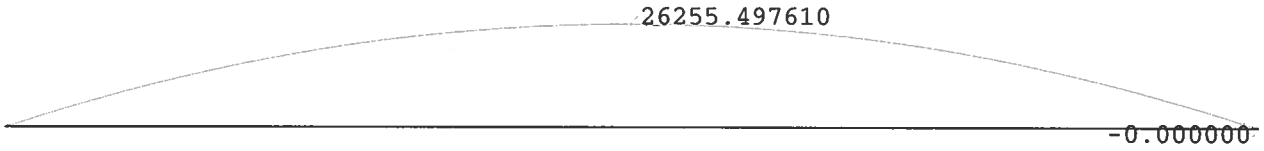
Simple Span DL



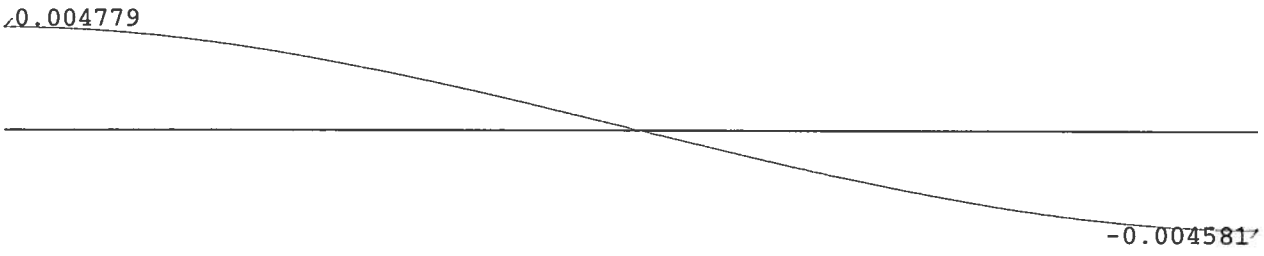
Shear - kips



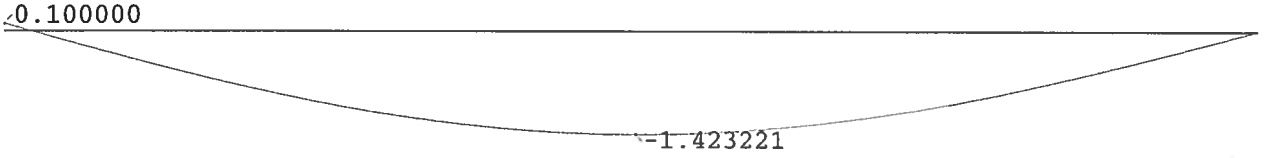
Moment - kip ft



Rotation - radians

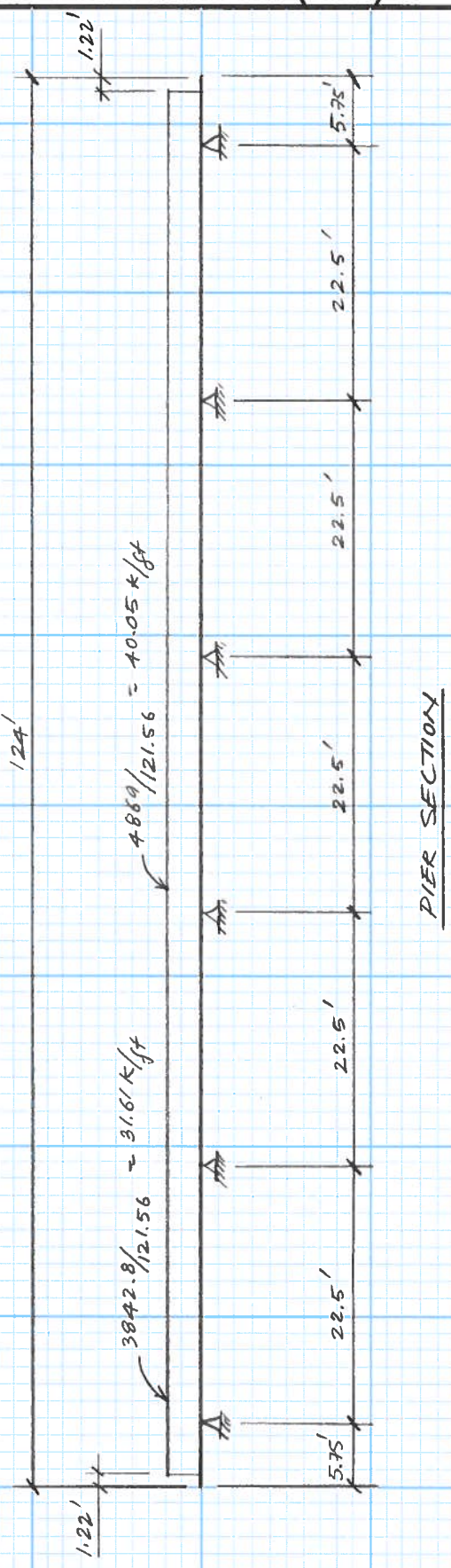


Deflection - inches



COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)



PIER SECTION

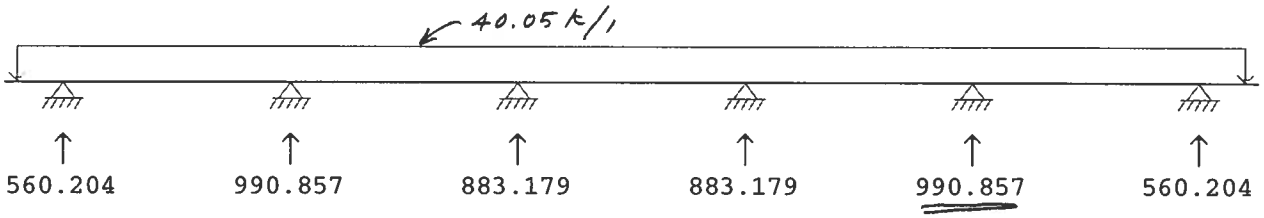
By: HB Date 7-13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8-13	Structure no. B-16-EV	Sheet 306 of 508

WinBeam

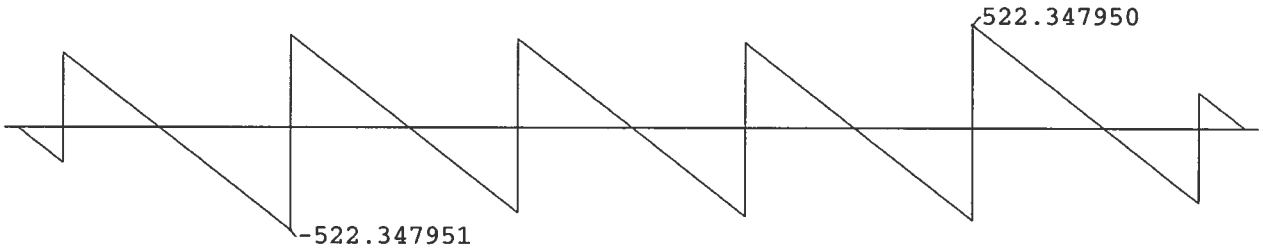
Project:				
/:	Date:	Checked:	Date:	Page:

Reactions - kips, kip ft

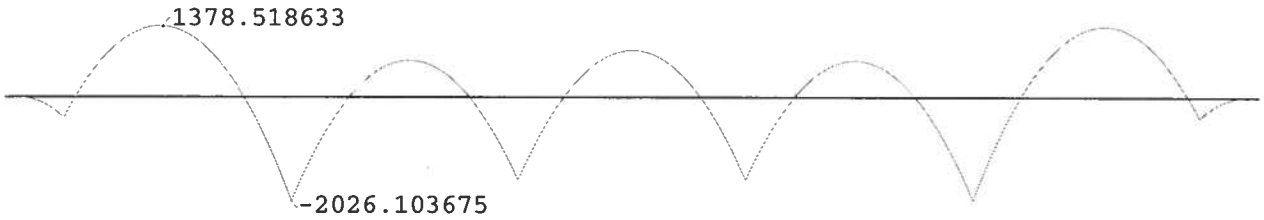
Factored DL



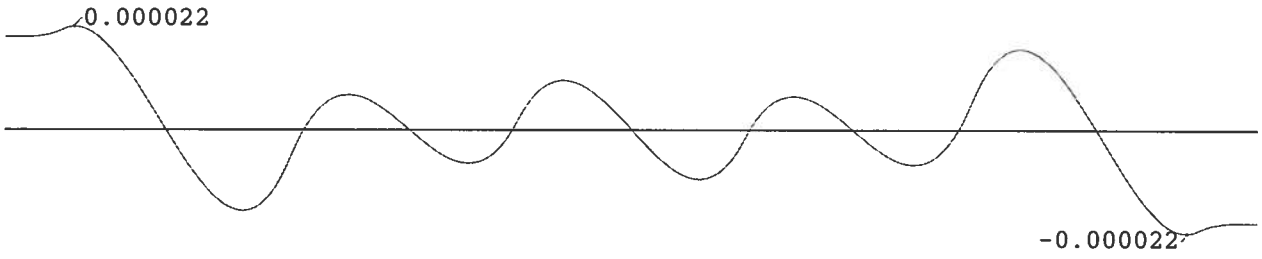
Shear - kips



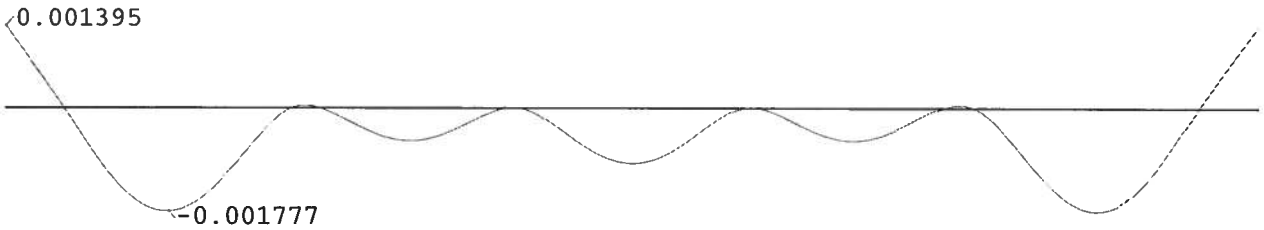
Moment - kip ft



Rotation - radians



Deflection - inches

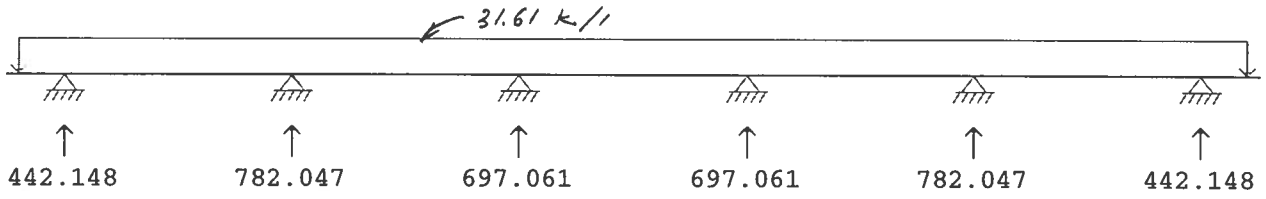


WinBeam

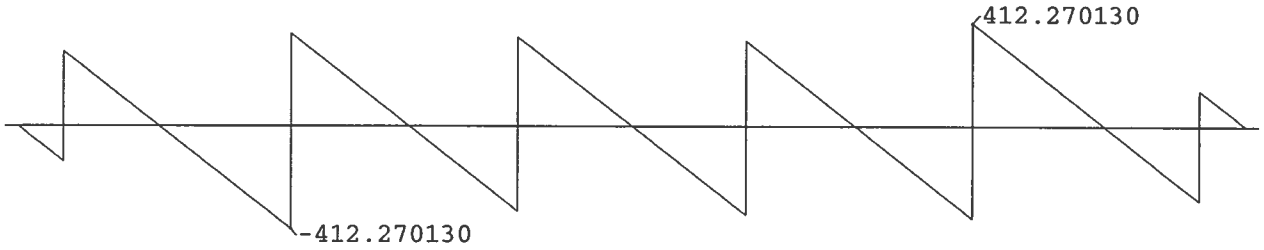
Project:				
/:	Date:	Checked:	Date:	Page:

Reactions - kips, kip ft

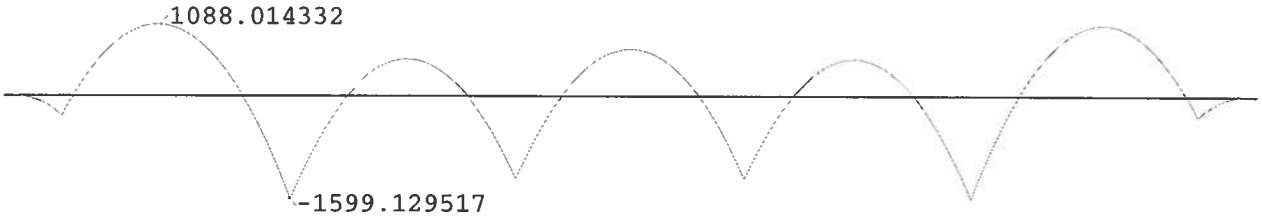
Unfactored DL



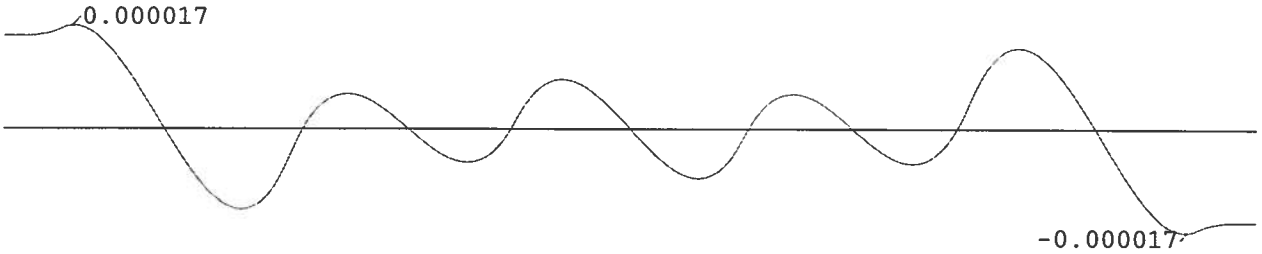
Shear - kips



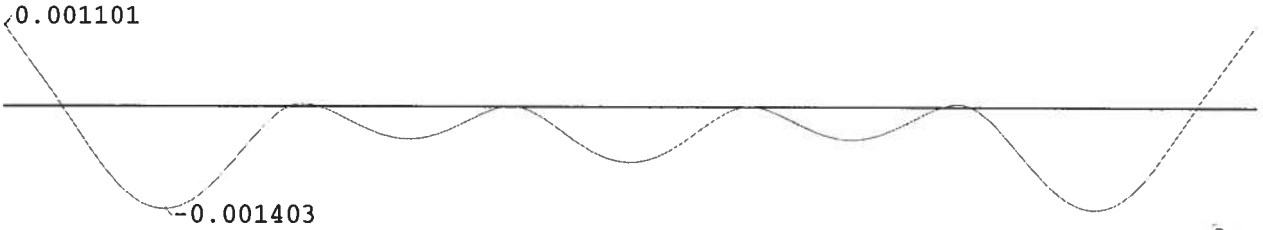
Moment - kip ft



Rotation - radians



Deflection - inches



308/508

PIER CAISSON DESIGN FOR AXIAL LOADS - PHASE II
SH 14 OVER POUDRE RIVER

NUMBER OF CAISSON = 6

	10 LEFT	9 LEFT	8 LEFT	7 LEFT	6 LEFT	5 LEFT	4 LEFT	3 LEFT	2 LEFT	1 LEFT	CL	1 RIGHT	2 RIGHT	3 RIGHT	4 RIGHT	5 RIGHT	6 RIGHT	7 RIGHT	8 RIGHT	9 RIGHT	10 RIGHT
	0	0	0	0	0	0	0	22.5	22.5	11.25	0	11.25	22.5	22.5	0	0	0	0	0	0	0
	56.25	56.25	56.25	56.25	56.25	56.25	56.25	56.25	33.75	11.25	0	11.25	33.75	56.25	56.25	56.25	56.25	56.25	56.25	56.25	56.25
	0	0	0	0	0	0	0	3164.0625	1139.0625	126.5625	0	126.5625	1139.0625	3164.0625	0	0	0	0	0	0	0

I = 8859.375
C = 56.25
S = I / C = 157.50

MULTIPLE PRESENCE FACTOR, m

NO. LANES	FACTOR
1	1.20
2	1.00
3	0.85
>3	0.65

ROADWAY WIDTH (CURB TO CURB) =	120	FT.
LEFT CURB OFFSET FROM CL =	60	FT.
RIGHT CURB OFFSET FROM CL =	60	FT.
UNFACTORED LL REACTION AT ABUT. PER LANE =	166.922	K (FR. QCON)
MAXIMUM FACTORED DL ON CAISSON =	990.857	K
MAXIMUM UNFACTORED DL ON CAISSON =	782.047	K
COLUMN DIAMETER =	3.5	FT.
CAISSON DIAMETER =	4	FT.
ULTIMATE END BEARING =	150	KSF
ULTIMATE SIDE SHEAR =	15	KSF
END BEARING RESISTANCE FACTOR =	0.5	
SIDE SHEAR RESISTANCE FACTOR =	0.5	
TOP OF COLUMN ELEVATION =	4937.458	FT. AT PIER 4
TOP OF CAISSON ELEVATION =	4923.9	FT.
BEDROCK ELEVATION =	4918	FT. AT PIER 4
CAISSON TIP ELEVATION =	4896	FT.
FACTORED CAISSON AND COLUMN WEIGHT =	90.20	K PER CAISSON
UNFACTORED CAISSON AND COLUMN WEIGHT =	72.16	K PER CAISSON
NUMBER OF CAISSON DIAMETER EMBED INTO BEDROCK =	5.5	
COLUMN CROSS SECTION AREA =	9.62	SQ. FT.
CAISSON CROSS SECTION AREA =	12.57	SQ. FT.
CAISSON EMBEDMENT =	22.00	FT.
CAISSON PARAMETER =	12.57	FT.
SURFACE AREA FOR SIDE SHEAR =	213.63	SQ. FT.
CAISSON CAPACITY =	2544.69	K

LANE WIDTH = 10 FT.
LOCATION OF THE FIRST VEHICLE ON THE LEFT = 55 FT.

NO. TRUCKS	GROUP POSITION	LIVE LOAD	LL ON CAISSON
1	55	1.2	0.62
2	50	2	0.97
3	45	2.55	1.15
4	40	2.6	1.09
5	35	3.25	1.26
6	30	3.9	1.39
7	25	4.55	1.48
8	20	5.2	1.53
9	15	5.85	1.53
10	10	6.5	1.50
11	5	7.15	1.42
12	0	7.8	1.30
13	-5	8.45	0.00
14	-10	9.1	0.00
15	-15	9.75	0.00
16	-20	10.4	0.00
17	-25	11.05	0.00
18	-30	11.7	0.00
19	-35	12.35	0.00
		USE	1.53

MAXIMUM AXIAL UNFACTORED LIVE LOAD PER CAISSON = 255.75
UNFACTORED DEAD LOAD PER CAISSON = 854.20
TOTAL = 1109.95 K

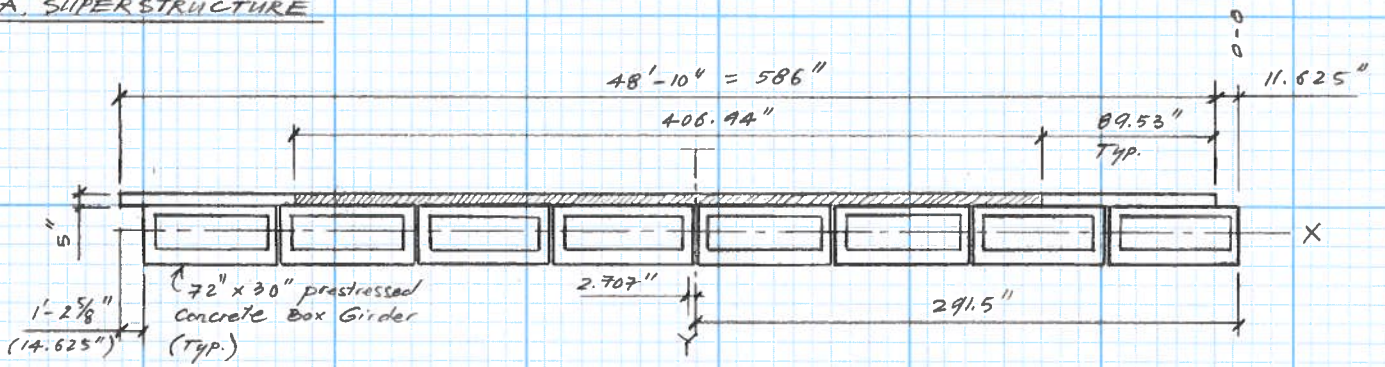
MAXIMUM AXIAL FACTORED LIVE LOAD PER CAISSON = 447.56
FACTORED DEAD LOAD PER CAISSON = 1063.01
TOTAL = 1510.57 K

OK

309/508

STRUCTURE FINITE ELEMENT ANALYSIS WITH CSI SOFTWARE
PHASE I CONSTRUCTION (PHASE II TRAFFIC)

A. SUPERSTRUCTURE



Girder properties (From Conspan)

$E_{c,G} = 33{,}000(.155)^{1.5}\sqrt{8.5} = 5871.12$ ksi

Area = 978 in² /each

I_{xx} = 120,856 in⁴ /each

I_{yy} = 588,267 in⁴ /each

C_g = 13.79 in

Deck properties

$E_{c,D} = 33{,}000(.15)^{1.5}\sqrt{4.5} = 4066.84$ ksi

Area = 406.94(5) = 2034.7 in²

$n = \frac{E_{c,G}}{E_{c,D}} = \frac{5871.12}{4066.84} = 1.44$, $A = 978(8) + 406.94(5) = 9858.7$ in²

$W = \frac{48.83}{1.44} = 33.91' = 406.92''$, $T = \frac{5}{1.44} = 3.47''$

Deck: $I_x = \frac{(33.91)12(5)^3}{12} = 4238.75$ in⁴

$I_Y = \frac{(48.83\times12)^3(3.47)}{12} = 58{,}177{,}109.5$ in⁴

Composite Superstructure

$Y_{bottom} = \frac{8(978)(13.79)+(33.91)(12)(5)(30+5/2)}{8(978)+(33.91)(12)(5)} = 17.651$ in

$dY_G = 17.651 - 13.79 = 3.861$ in

$dY_D = 30 + 5/2 - 17.651 = 14.849$ in

$I_x = 4238.75 + (406.92)(5)(14.849)^2 + 8[120{,}856 + 978(3.861)^2] = 1{,}536{,}034.2$ in⁴

$S_x = \frac{1{,}536{,}034.2}{17.651} = 87022.5$ in³

By: #8 Date 12/12	Project no. FBR-0142-055	Project code (SA#): 18085	
Chk'd: JE Date 8-13	Structure no. B-16-EV	Sheet 3/0 of 508	

Shear area in Y direction (2)

Deck = $\frac{5}{6}(406.94)\,5 = 1695.58\ in^2$

Box Girders = $2(30)(6)(8) = 2880.0\ in^2$

$4575.58\ in^2$

Shear area in X direction (3)

Deck = $5/6\,(406.94)\,5 = 1695.58\ in^2$

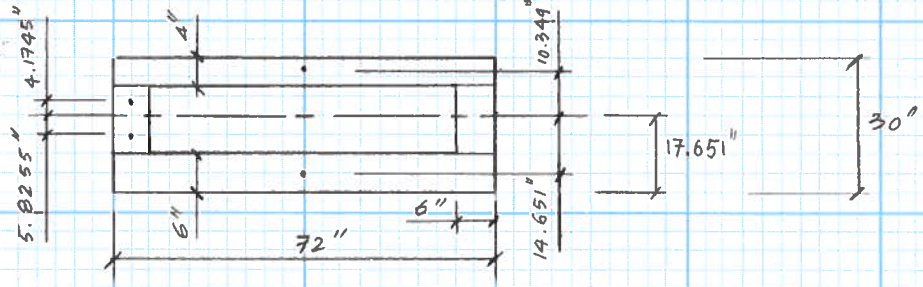
Box Girders = $8(72\times 6 + 72\times 4) = 5760\ in^2$

$7455.58\ in^2$

plastic Modulus about X axis (3)

Deck : $(406.94)\,5\,(35 - 17.151 - 5/2) = 30,213.26\ in^3$

Box Girders :



$\left[72(4)(10.349) + 2(6)(4.1745)^2(2) + 2(6)(5.8255)^2(2) + 72(6)(14.651)\right]8 = 84,339.6\ in^3$

Total = $30,213.26 + 84,339.6 = 114,552.9\ in^3$

plastic Modulus about Y axis (3)

Deck : $2\,\frac{406.94}{2}(5)\,\frac{406.94}{4} = 207,000.2\ in^3$

$(978)\left[33.793 + 106.793 + 179.793 + 252.793 + 39.207 + 112.207 + 185.207 + 257.207\right]$

Girders = $1,141,326\ in^3$

Total = $207,000.2 + 1,141,326 = 1,348,326.2\ in^3$

$J = \frac{4A_0^2}{\Sigma \frac{s}{t}}$, $A_0 = (2(291.5) - 6)(35 - 5/2 - 6/2) = 17021.5\ in^2$

$\Sigma \frac{s}{t} = \frac{586}{5} + \left(\frac{72}{4} + \frac{72}{6} + \frac{20}{6} + \frac{20}{6}\right)8 = 410.53$

$J = \frac{4(17021.5)^2}{410.53} = 2,822,976.2\ in^4$

By: HB	Date 12/12	Project no.	FBR - 0142-055	Project code (SA#):	18085
Chk'd: JE	Date 8/13	Structure no.	B-16-EV	Sheet 311	of 508

DESIGN COMPUTATIONS (Grid)

$$X_{bottom} = \frac{(586)(3.47)(586/2 + 11.625) + 8(978)(291.5)}{586(3.47) + 8(978)} = 294.207 \text{ in} \quad (\text{From } O\text{-}O)$$

$$X_{Y_G} = 294.207 - 291.5 = 2.707 \text{ in}$$

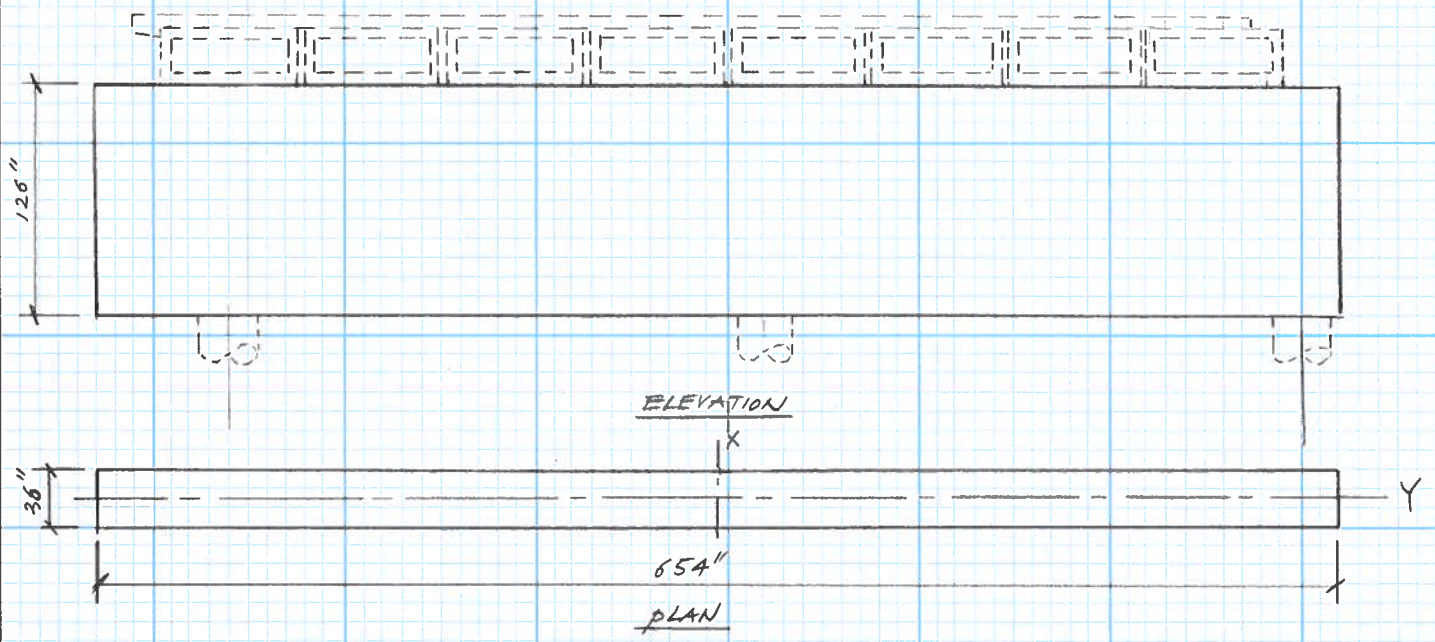
$$X_{Y_D} = (406.94/2) + 89.53 + 11.625 - 294.207 = 10.418 \text{ in}$$

$$I_Y = 58,177,109.5 + (586)(3.47)(10.418)^2 + 8(588,267) + (978)\left[33.793^2 + 106.293^2 + 178.793^2 + 251.293^2 + 39.207^2 + 111.707^2 + 184.207^2 + 256.707^2\right]$$

$$= 279,634,729.3 \text{ in}^4$$

$$S_Y = \frac{279,634,729.3}{294.207} = 950,469.3 \text{ in}^3$$

B- ABUTMENT



$$I_x = \frac{36(654)^3}{12} = 839,178,792 \text{ in}^4$$

$$I_Y = \frac{654(36)^3}{12} = 2,542,752 \text{ in}^4$$

$$S_x = \frac{839,178,792}{(654/2)} = 2,566,296 \text{ in}^3$$

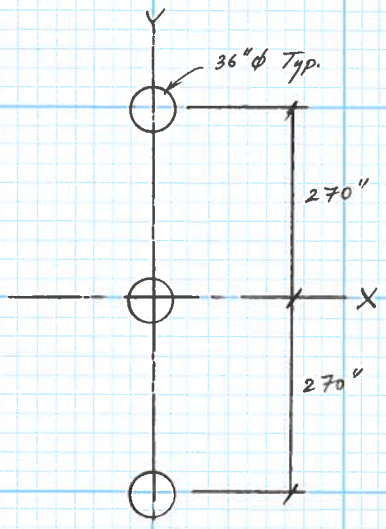
$$S_Y = \frac{2542752}{18} = 141,264 \text{ in}^3$$

By: HB Date 12/12	Project no. FBR - 0142 - 055	Project code (SA#): 18085
Chk'd: JE Date 8/13	Structure no. B-16-EV	Sheet 312 of 508

DESIGN COMPUTATIONS (Grid)

C - PIER

a) Columns



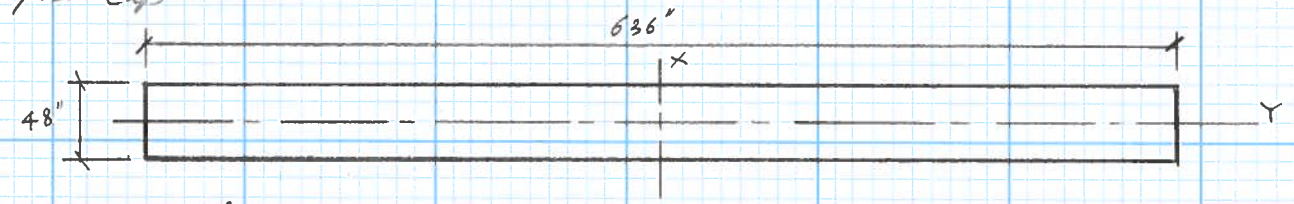
$$I_x = \frac{\pi 36^4}{64}(3) + \frac{\pi 36^2}{4}(270)^2 2 = 148{,}653{,}667.6 \text{ in}^4$$

$$I_Y = \frac{\pi 36^4}{64}(3) = 247{,}343.9 \text{ in}^4$$

$$S_x = \frac{148{,}653{,}667.6}{(270+18)} = 516{,}158.6 \text{ in}^3$$

$$S_Y = \frac{247{,}343.9}{18} = 13{,}741.3 \text{ in}^3$$

b) Pier Cap



$$I_x = \frac{48(636)^3}{12} = 1{,}029{,}037{,}824 \text{ in}^4$$

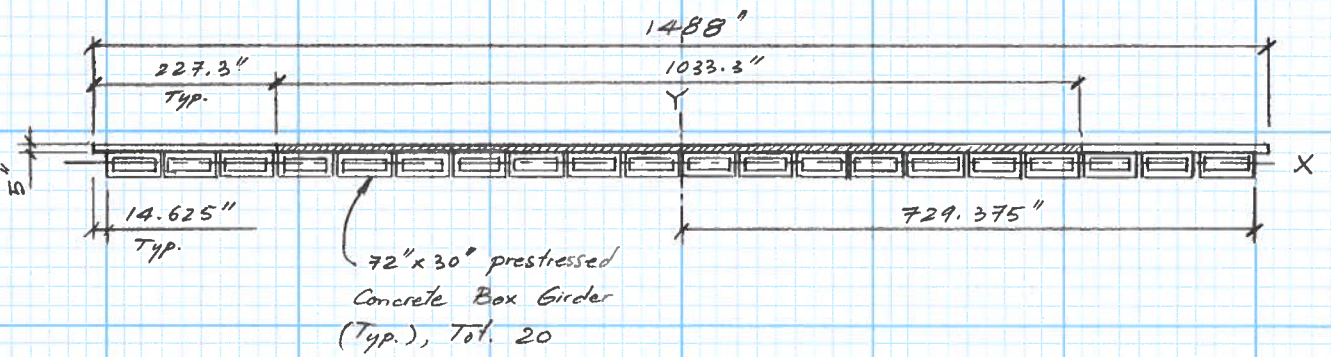
$$I_Y = \frac{636(48)^3}{12} = 5{,}861{,}376 \text{ in}^4$$

$$S_x = \frac{1{,}029{,}037{,}824}{(636/2)} = 3{,}235{,}968 \text{ in}^3$$

$$S_Y = \frac{5{,}861{,}376}{(48/2)} = 244{,}224 \text{ in}^3$$

PHASE II CONSTRUCTION (FINISHED CONSTRUCTION)

A. SUPERSTRUCTURE



Girder properties

$E_{c,G}$ = 5871.12 ksi

Area = 978 in^2/each

I_{xx} = 120,856 in^4/each

I_{YY} = 588,267 in^4/each

C_g = 13.79

Deck properties

$E_{c,D}$ = 4066.84 ksi

Area = 1033.3 (5) = 5166.5 in^2

$$n = \frac{5871.12}{4066.84} = 1.44 \quad ; \quad A = 5166.5 + 978(20) = 24,726.5\ in^2$$

$$w = \frac{1488}{1.44} = 1033.3"$$

$$T = \frac{5}{1.44} = 3.47"$$

Deck: $$I_x = \frac{1033.3(5)^3}{12} = 10,763.5\ in^4$$

$$I_Y = \frac{(1488)^3(3.47)}{12} = 952,701,880.3\ in^4$$

Composite Superstructure

$$Y_{bottom} = \frac{20(978)(13.79) + (1033.3)(5)(30+5/2)}{20(978) + 1033.3(5)} = 17.7\ in$$

$$d_{Y_G} = 17.7 - 13.79 = 3.91"$$

$$d_{Y_D} = 30 + 5/2 - 17.7 = 14.8"$$

$$I_x = 10,763.5 + (1033.3)5(14.8)^2 + 20\left[120,856 + 978(3.91)^2\right] = 3,858,588.9\ in^4$$

$$S_x = \frac{3,858,588.9}{17.7} = 217,999.4\ in^3$$

Shear Area in Y direction (2)

Deck = $\frac{5}{6}(1033.3)(5)$ = 4,305.4 in^3

Box Girders = 2(30)(6) 20 = 7,200 in^3

11,505.4 in^3

Shear Area in X direction (3)

Deck = $5/6\ (1033.3)(5)$ = 4,305.4 in^3

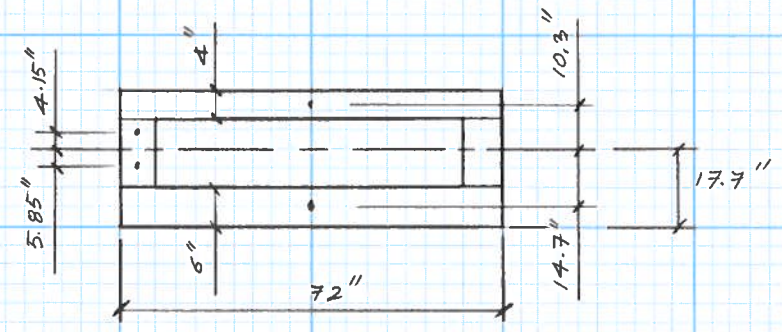
Box Girders = 72(6+4) 20 = 14,400 in^3

18,705.4 in^3

Plastic Modulus about X axis (3)

Deck $(1033.3)5\ (35 - 17.7 - 5/2)$ = 76,464.2 in^3

Box



$\left[72(4)(10.3) + 2(6)(4.15)^2(2) + 2(6)(5.85)^2 2 + 72(6)(14.7)\right] 20$ = 211,029.6 in^3

Total = 76,464.2 + 211,029.6 = 287,493.8 in^3

Plastic Modulus about Y axis (2)

Deck $2\ \frac{1033.3}{2}(5)\frac{1033.3}{4}$ = 1,334,636.1 in^3

Box Girders :

$(978)\ 2\left[36.5 + 109.5 + 182.5 + 255.5 + 328.5 + 401.5 + 474.5 + 547.5 + 620.5 + 693.5\right]$ = 7,139,400 in^3

Total = 1,334,636.1 + 7,139,400 = 8,474,036.1 in^3

$J = \frac{4A_o^2}{\Sigma s/t}$, $A_o = (2(729.375) - 6)(35 - 5/2 - 6/2)$ = 42,856.125 in^2

$\Sigma s/t = \frac{1488}{5} + \left(\frac{72}{4} + \frac{72}{6} + \frac{20}{6} + \frac{20}{6}\right)20$ = 1030.93

$J = \frac{4(42,856.125)^2}{1030.93}$ = 7126154.1

By: HB Date 12/12	Project no. FBR - 0142 - 055	Project code (SA#): 18085
Chk'd: JE Date 8/13	Structure no. B - 16 - EV	Sheet 315 of 508

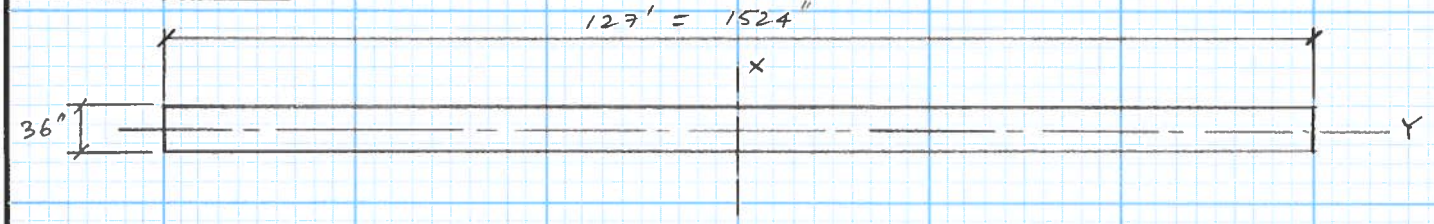
$X_{bottom} = \frac{1488}{2} = 744''$

$I_x = 952,701,880.3 + 20(588,267) + 978(2)\left[36.5^2 + 109.5^2 + 182.5^2 + 255.5^2 + 328.5^2 + 401.5^2 + 474.5^2 + 547.5^2 + 620.5^2 + 693.5^2\right]$

$= 4,430,288,950 \text{ in}^4$

$S_Y = \frac{4,430,288,950}{744} = 5,954,689.4 \text{ in}^3$

B - ABUTMENT



$I_x = \frac{36(1524)^3}{12} = 10,618,817,470 \text{ in}^4$

$I_Y = \frac{1524(36)^3}{12} = 5,925,312 \text{ in}^4$

$S_x = \frac{10,618,817,470}{(1524/2)} = 13,935,456 \text{ in}^3$

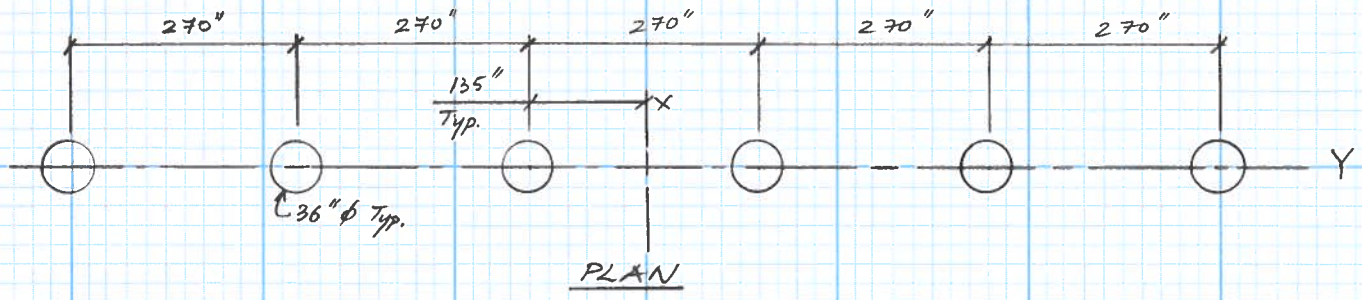
$S_Y = \frac{5,925,312}{18} = 329,184 \text{ in}^3$

By: HB Date 12/12	Project no. FBR - 0142 - 055	Project code (SA#): 18085
Chk'd: JE Date 8-13	Structure no. B - 16 - EV	Sheet 316 of 508

DESIGN COMPUTATIONS (Grid)

C - PIER

a) COLUMNS



PLAN

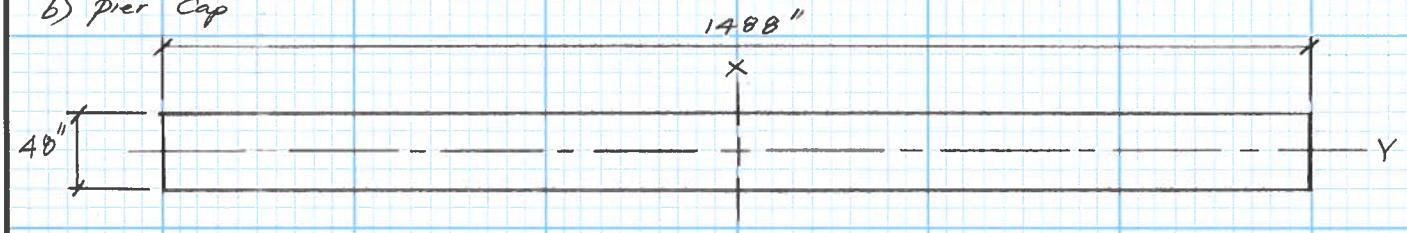
$$I_x = \frac{\pi(36)^4}{64}(6) + \frac{\pi(36)^2}{4}(2)\left[(135)^2 + (405)^2 + (675)^2\right] = 1,299,050,020 \text{ in}^4$$

$$I_Y = \frac{\pi(36)^4}{64}(6) = 494,687.7 \text{ in}^4$$

$$S_x = \frac{1,299,050,020}{2(270)+135} = 1,924,518.5 \text{ in}^4$$

$$S_Y = \frac{494,687.7}{18} = 27,482.65 \text{ in}^3$$

b) Pier Cap



$$I_x = \frac{48(1488)^3}{12} = 13,178,585,090 \text{ in}^4$$

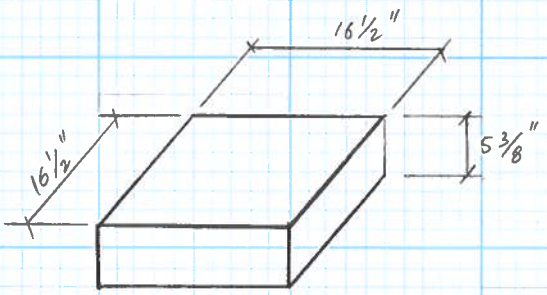
$$I_Y = \frac{1488(48)^3}{12} = 13,713,408 \text{ in}^4$$

$$S_x = \frac{13,178,585,090}{(1488/2)} = 17,713,152 \text{ in}^3$$

$$S_Y = \frac{13,713,408}{(48/2)} = 571,392 \text{ in}^3$$

By: HB Date 12/12	Project no. FBR - 0142 - 055	Project code (SA#): 18085
Chk'd: JE Date 8/13	Structure no. B - 16 - EV	Sheet 317 of 508

D_ BEARING



$$S = \frac{L \cdot W}{2h_i(L+W)} = \frac{(16.5)(16.5)}{2(0.5)(16.5+16.5)} = 8.25$$

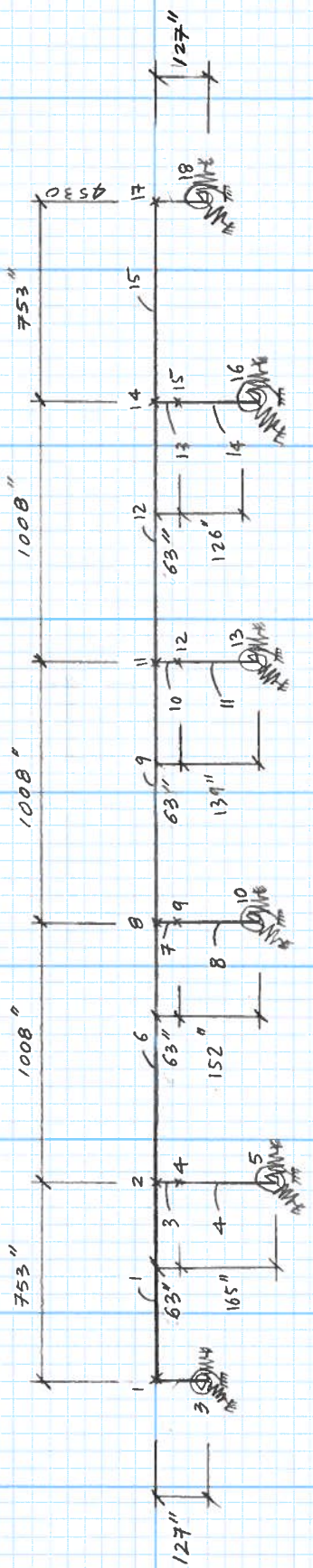
$G = 0.1$ ksi

$$E_c = 4.8 G S^2 = 32.67 \text{ ksi}$$

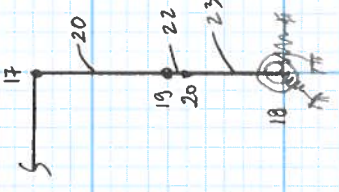
However, SAP 200 doesn't allow to input G (shear modulus). The G value of 13.6125 ksi is automatically computed by using a poisson's ratio of 0.2. Therefore, we have to use set modifiers for shear areas in X & Y directions.

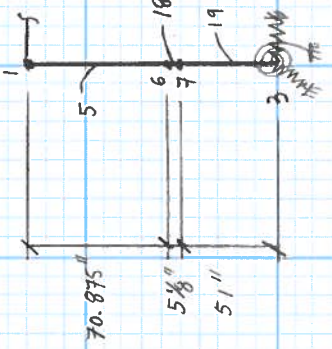
$$\text{Shear area modifier} = \frac{0.1}{13.6125} = 0.00735$$

DESIGN COMPUTATIONS (Grid)



SAP MODEL PHASE I OR FINISH





Notes

Members 1, 6, 9, 12 & 15 : Superstructure

Members 5, 18, 19, 20, 22 & 23 : Abutment Caps

Members 3, 7, 10 & 13 : Pier Caps

Members 4, 8, 11 & 14 : Pier Columns

By: HB Date 12/12	Project no.	FBR-0142-055	Project code (SA#): 18085
Chk'd: JE Date 8/12	Structure no.	B-16-EV	Sheet 319 of 508

MEMBER PROPERTITIES FOR SAP2000's INPUT

Unit = Kip, in, F

	PHASE I CONSTRUCTION				PHASE II COMPLETED CONSTRUCTION			
	Superstructure	Abutment Cap	Pier Cap	Pier Column	Superstructure	Abutment Cap	Pier Cap	Pier Column
Cross-section (axial) area	9,858.7				24,726.5			
Torsional constant	2,822,976.2				7,126,154.0			
Moment of Inertia about 3 axis	1,536,034.2				3,858,588.9			
Moment of Inertia about 2 axis	279,634,729.3				4,430,288,950.0			
Shear area in 2 direction	4,575.6				11,505.4			
Shear area in 3 direction	7,455.6	Computed by	Computed by	Computed by	18,705.4	Computed by	Computed by	Computed by
Section modulus about 3 axis	87,022.5	Sap2000	Sap2000	Sap2000	217,999.4	Sap2000	Sap2000	Sap2000
Section modulus about 2 axis	950,469.3				5,954,689.4			
Plastic modulus about 3 axis	114,552.9				287,493.8			
Plastic modulus about 2 axis	1,348,326.2				8,474,036.1			
Radius of Gyration about 3 axis	12.482				12.492			
Radius of Gyration about 2 axis	168.417				423.287			

320/508

SOIL STIFFNESSES PER CAISSON USING LPILE

Location (in)	Lateral Load at the Pile Head (lb.)	Pile Head Delection (in.)	K_H (lb/in)	Rotation @ pile head (rad.)	Moment @ pile head (lbs.in)	K_ϕ (lb.in/rad)	Caisson depth (in)	Cross section area (in^2)	E (psi)	K_V (lb/in)
Abutment 1										
51.6	10,000	0.1630	61,350	0.0026	588,000	225,400,511	293	706.86	3,834,253	9,250,081
52.75	9,980	0.1600	62,375		601,000	230,383,856				
			61,862			**227,892,184**				**9,250,081**
Pier 2										
164.23	42,300	0.302	140,066	0.0040	8,250,000	2,062,511,000	264	1,809.56	3,834,253	26,281,442
165.73	42,300	0.296	142,905		8,320,000	2,080,011,093				
			141,486			**2,071,261,047**				**26,281,442**
Pier 3										
152.19	18,100	0.102	177,451	0.0015	3,180,000	2,110,365,234	264	1,809.56	3,834,253	26,281,442
153.65	18,000	0.0998	180,361		3,210,000	2,130,274,340				
			178,906			**2,120,319,787**				**26,281,442**
Pier 4										
139.72	15,400	0.135	114,074	0.0012	2,540,000	2,108,201,020	336	1,809.56	3,834,253	20,649,705
141.38	15,400	0.133	115,789		2,570,000	2,133,101,032				
			114,932			**2,120,651,026**				**20,649,705**
Pier 5										
126.96	57,100	0.424	134,670	0.0043	8,360,000	1,922,812,116	264	1,809.56	3,834,253	26,281,442
128.34	57,100	0.418	136,603		8,450,000	1,943,512,246				
			135,636			**1,933,162,181**				**26,281,442**
Abutment 6										
51.3	10,000	0.0811	123,305	0.0014	559,000	408,500,255	234	706.86	3,834,253	11,582,366
52.25	10,000	0.0798	125,313		569,000	415,807,952				
			124,309			**412,154,103**				**11,582,366**

SOIL STIFFNESSES PHASE 1

BENT	K_H (k/in)	K_ϕ (k.in/rad)	K_V (k/in)
Abut. 1	247.45	911,568.73	37,000.32
Pier 2	424.46	6,213,783.14	78,844.33
Pier 3	536.72	6,360,959.36	78,844.33
Pier 4	344.80	6,361,953.08	61,949.11
Pier 5	406.91	5,799,486.54	78,844.33
Abut. 6	497.24	1,236,462.31	46,329.47

SOIL STIFFNESSES PHASE 2

BENT	K_H (k/in)	K_ϕ (k.in/rad)	K_V (k/in)
Abut. 1	494.90	1,823,137.47	74,000.65
Pier 2	848.91	12,427,566.28	157,688.65
Pier 3	1073.44	12,721,918.72	157,688.65
Pier 4	689.59	12,723,906.16	123,898.23
Pier 5	813.82	11,598,973.09	157,688.65
Abut. 6	994.47	2,472,924.62	92,658.93

321/508

LOAD COMBINATIONS

STRENGTH I

a) Contraction

$$1.25\,DC + 1.5\,DW + 1.0\,WA + 1.2\,TU_c + 1.5\,EH + 1.75\left[(LL + IM) + BR\right]$$

b) Expansion

$$1.25\,DC + 1.5DW + 1.0\,WA + 1.2\,TU_e + 1.35\,EH + 1.75\left[(LL + IM) + BR\right]$$

LOADS ON STRUCTURE

WATER PRESSURE (WA) $\quad P = A\frac{\gamma}{g}V^2$

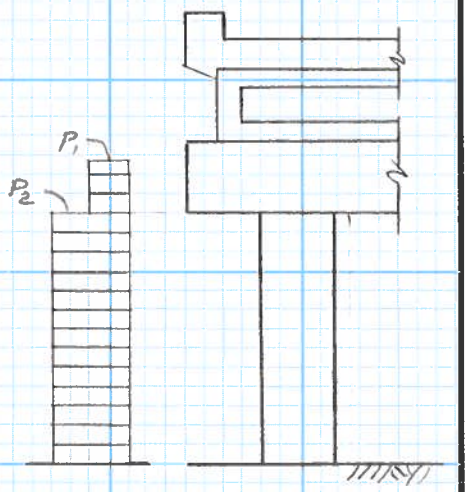
Water pressure on pier cap

$$P_1 = 4\,\frac{0.0624}{32.2}(4.6)^2 = 0.164\ k/ft$$

Water pressure on Columns

$$P_2 = 3.5\,\frac{0.0624}{32.2}(4.6)^2\,3 = 0.43\ k/ft$$

DHW 4939.23



	Pier 2	Pier 3	Pier 4	Pier 5
Pier Cap	0	0.69'	1.78'	2.87'
Column	13.33'	12.65'	11.55'	10.46'

EARTH PRESSURE (EH)

$K_a = 0.28$, $\gamma = 125\ lb/ft^3$

$$P_{EH} = \frac{1}{2}\gamma K_a H^2 W$$

MSE: $\gamma K_0 = 29\ \#/ft^3$

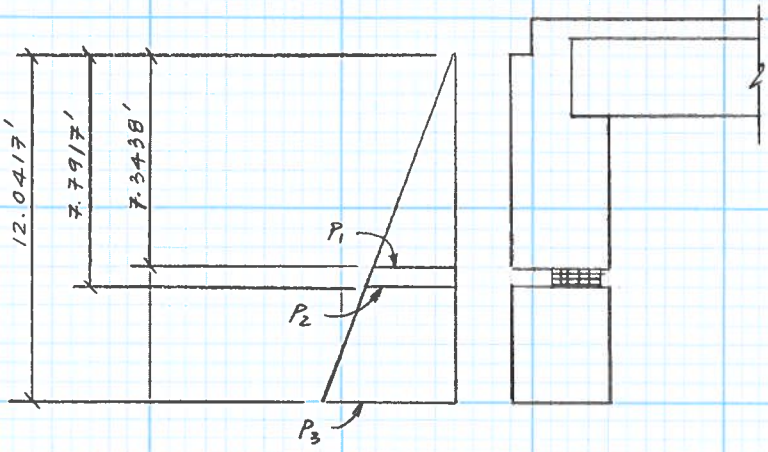
$\gamma K_a = 17\ \#/ft^3$

width of Abutment cap, phase 1 : $W = 654/12 = 54.5'$

phase 2 : $W = 1524/12 = 127'$

By: HB Date 1/13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: JE Date 8/13	Structure no. B-16-EV	Sheet 322 of 508	

DESIGN COMPUTATIONS (Grid)



Contraction (active)

phase 1 : $P_1 = (0.017)(7.3438)(54.5) = 6.804$ k/ft

$P_2 = (0.017)(7.7917)(54.5) = 7.219$ k/ft

$P_3 = (0.017)(12.0417)(54.5) = 11.157$ k/ft

phase 2 : $P_1 = (0.017)(7.3438)(127) = 15.855$ k/ft

$P_2 = (0.017)(7.7917)(127) = 16.822$ k/ft

$P_3 = (0.017)(12.0417)(127) = 25.998$ k/ft

Expansion (passive)

phase 1 : $P_1 = (0.029)(7.3438)(54.5) = 11.607$ k/ft

$P_2 = (0.029)(7.7917)(54.5) = 12.315$ k/ft

$P_3 = (0.029)(12.0417)(54.5) = 19.032$ k/ft

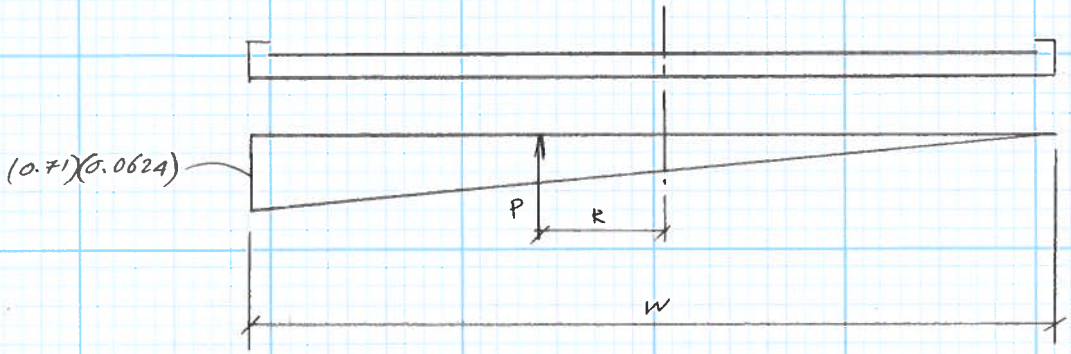
phase 2 : $P_1 = (0.029)(7.3438)(127) = 27.047$ k/ft

$P_2 = (0.029)(7.7917)(127) = 28.697$ k/ft

$P_3 = (0.029)(12.0417)(127) = 44.350$ k/ft

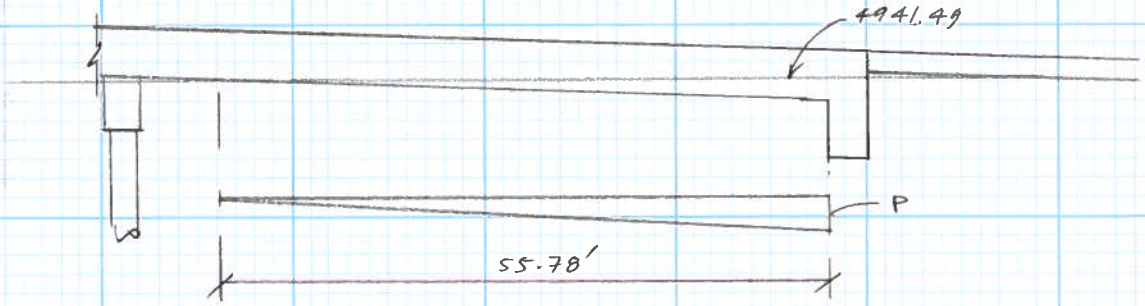
UP LIFT FROM WATER PRESSURE

It is 55.78 ft. of the Span 5 that can be Submerged during 500 Years Storm.



Phase 1, $w = 48.6'$ $\Rightarrow$ $P = 0.71(0.0624)(48.6)\frac{1}{2} = 1.08$ k/ft

Phase 2, $w = 121.6'$ $\Rightarrow$ $P = 0.71(0.0624)(121.6)\frac{1}{2} = 2.69$ k/ft



By: HB Date 1/13	Project no. FBR-0142-055	Project code (SA#): 18085
Chk'd: JE Date 8/13	Structure no. B-16-EV	Sheet 324 of 508

CDOT Form #1034 3/02

$ksi := 1000 \cdot \frac{lb}{in^2}$ $kip := 1000 \cdot lb$

a. Temperature: Per SSR, The bridge will be built in two phased and each phase must be built in the winter months. However, I assume that the girders will be set at hot day.

$\alpha := \frac{0.000006}{deg}$ $\Delta T := 60 \cdot deg$ Dropped temperature

$\varepsilon_{Temp} := \alpha \cdot \Delta T$ $\varepsilon_{Temp} = 3.6 \times 10^{-4}$

b. Creep:

$t_i := 90$ Use predicted camber for precast girder alone at 90 days prior to deck pouring as shown in the Prestressed Concrete Box Girder sheet.

$\phi := 2.35 \cdot t_i^{-0.118}$ $\phi = 1.382$ $P_{ji} := 1494.05 \cdot kip$ $P_{jf} := 1244.89 \cdot kip$

$E_{ci} := 33000 \cdot .15^{1.5} \cdot \sqrt{8.5} \cdot ksi$ $E_{ci} = 5.589 \times 10^3 \cdot ksi$ $A_g := 978 \cdot in^2$

$E_{ciD} := 33000 \cdot 0.15^{1.5} \cdot \sqrt{4.5} \cdot ksi$ $E_{ciD} = 4.067 \times 10^3\ ksi$

$E_{ce} := \frac{E_{ci}}{1 + \phi}$ $E_{ce} = 2.347 \times 10^3 \cdot ksi$ $A_{cd} := 250 \cdot in^2$

$\sigma_i := \frac{P_{ji}}{A_g}$ $\sigma_i = 1.528 \cdot ksi$

$\sigma_f := \frac{P_{jf}}{\left[A_g + A_{cd} \cdot \left(\frac{E_{ciD}}{E_{ci}}\right)\right]}$ $\sigma_f = 1.073 \cdot ksi$

$\varepsilon_c := \left(\frac{\sigma_f}{E_{ce}}\right) - \left(\frac{\sigma_i}{E_{ci}}\right)$ $\varepsilon_c = 1.841 \times 10^{-4}$

c. Shrinkage:

$\varepsilon_{sf} := 0.00042$ $\varepsilon_{si} := \left(\frac{t_i}{35 + t_i}\right) \cdot \varepsilon_{sf}$ $\varepsilon_{si} = 3.024 \times 10^{-4}$

$\varepsilon_s := \varepsilon_{sf} - \varepsilon_{si}$ $\varepsilon_s = 1.176 \times 10^{-4}$

$\varepsilon_{Total} := \varepsilon_{Temp} + \varepsilon_c + \varepsilon_s$ $\varepsilon_{Total} = 6.617 \times 10^{-4}$

Equivalent to dropped temperature $\Delta T_{eq} := \frac{\varepsilon_{Total}}{\alpha}$ $\Delta T_{eq} = 110.276\ deg$

Bridge movement

At Abutments 1 & 6	$\Delta_1 := \varepsilon_{Total} \cdot 188.75 \cdot 12 \cdot in$	$\Delta_1 = 1.499 \cdot in$
At Piers 2 & 5	$\Delta_2 := \varepsilon_{Total} \cdot 126 \cdot 12 \cdot in$	$\Delta_2 = 1 \cdot in$
At Piers 3 & 4	$\Delta_3 := \varepsilon_{Total} \cdot 42 \cdot 12 \cdot in$	$\Delta_3 = 0.333 \cdot in$

KORNEGAY DESIGN
cast concrete planters

Dune Series
Landscape Containers

Tapered round precast concrete planter with shaped top surface.

TO SPECIFY:

- Select the Dune Series and the product code.

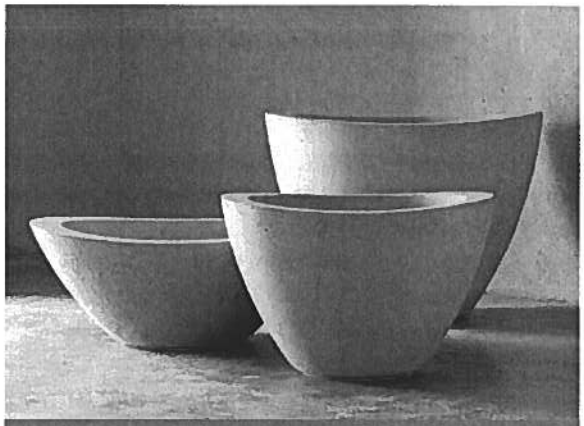
Choose Drainage hole size:

- Standard diameter approximately 1-1/4" .
- Custom Size to function with irrigation & drainage (note size of plumbing fixture to be used).
- No drainage hole.

Select Concrete Color:

- Natural Gray concrete.
- Choose integral pigment color from Davis Colors (www.daviscolors.com), call/email us for a color selector brochure.
- Custom color mixing available (please contact us).

Note: matching Dune Trash Receptacles



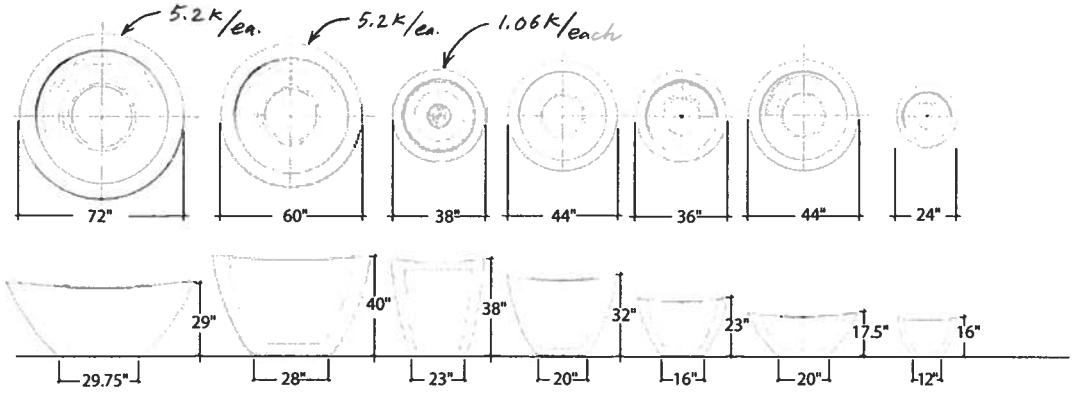
Chosen by *Architectural Record* as one of the outstanding products of 2004.

Optional

- Bituminous Sealer applied to interior of planter (suggested for interior applications).
- Sandblast finish.

See website to download CSI specifications

In 2004©, Larry Kornegay designed the Dune Series exclusively for Kornegay Design, LLC



DS-29	DS-40	DS-38	DS-32	DS-23	DS-17.5	DS-16
1860 lbs.	2210 lbs.	1290 lbs.	1000 lbs.	490 lbs.	530 lbs.	170 lbs.

All weights are approximate

877.252.6323 **toll free** 602.252.6323 **local** 602.252.6322 **fax** 212 South 18th Street, Phoenix, AZ 85034

Kornegay Design is dedicated to exceptional design & craftsmanship of site furnishings

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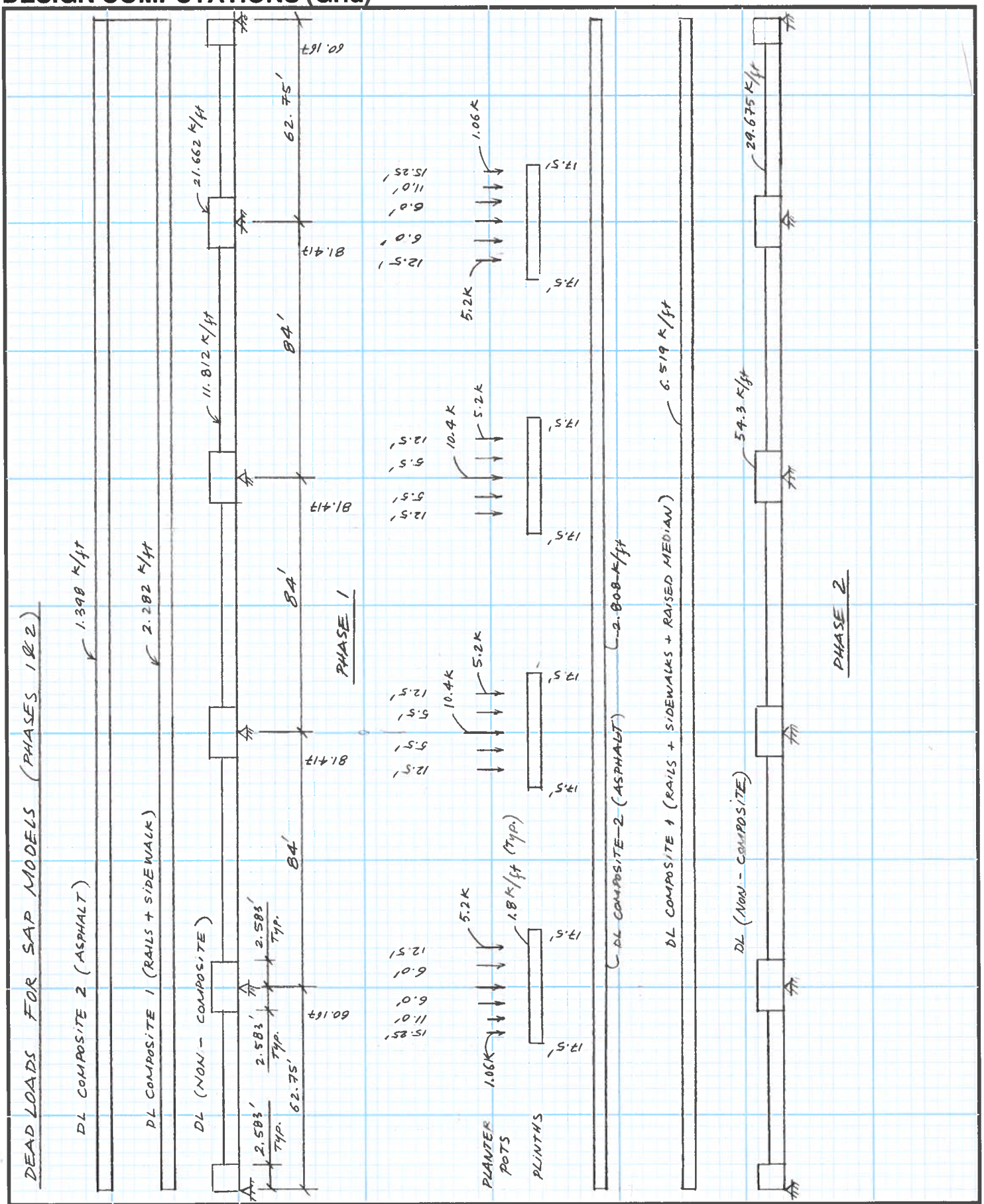
326/508

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)



By: HB Date 1/13	Project no. FBR-0142-055	Project code (SA#): 18085
Chk'd: JE Date 8/13	Structure no. B-16-EV	Sheet 327 of 508

CDOT Form #1034 3/02

CONTRACTION BY TEMPERATURE

TU_c = Dropped Temperature + Creep + Shrinkage

$\varepsilon_{Total} = 7.481 \times 10^{-4}$

$\Delta T = \frac{0.0007481}{0.000006} = 124.68\ ^\circ F$

EXPANSION BY TEMPERATURE

$TU_E = 40^\circ F$

DEAD LOADS PHASE I

DC : Dead load components

Rails + Barrier + Haunch + Sidewalk

$0.358 + 0.5 + 1\left(586/144\right)(0.15) + 0.83(10)(0.15) = 2.71\ k/ft$

DW : Dead Load wearing

$38.832\left(\frac{3}{12}\right)(0.144) = 1.40\ k/ft$

BR : Breaking Force (factored)

2 Lanes : $BR = 72(0.25)(1.75)(1.0)(2) = 63\ k$ @ 6' above roadway

$M = 6(63) = 378\ k.ft$

DEAD LOAD PHASE II

DC : Rails + Sidewalks + Median + Haunch

$2(0.358) + 2(0.83)(10)(0.15) + (0.5)(16)(0.15) + (1)\left(1458.75/144\right)(.15) = 5.93\ k/ft$

DW : Dead Load Wearing

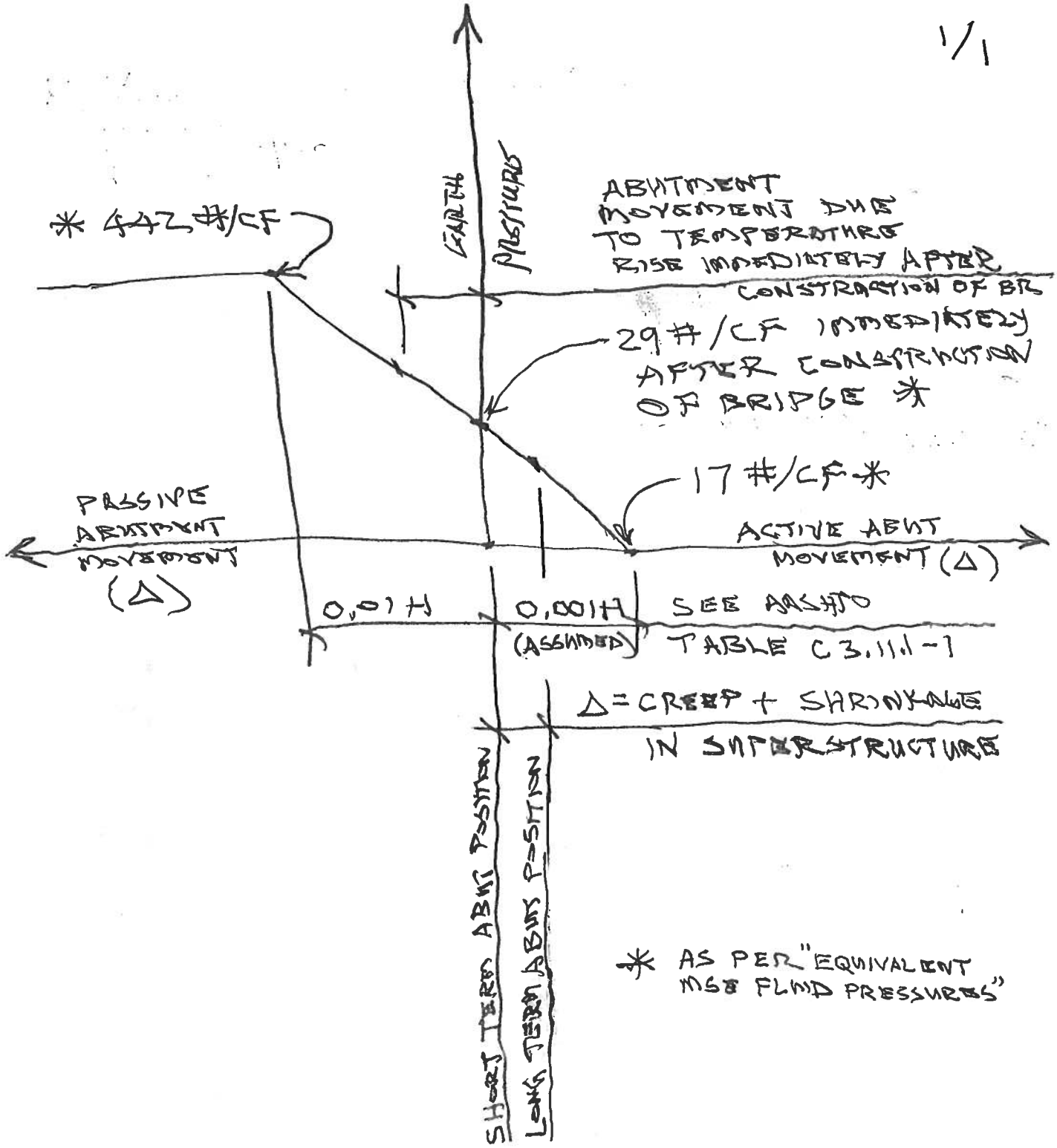
$78\left(\frac{3}{12}\right)(0.144) = 2.808\ k/ft$

BR Breaking Force (factored)

5 lanes : $BR = 72(0.25)(1.75)(0.65)(5) = 102.375$ @ 6' above roadway

$M = 6(102.375) = 614.25\ k.ft$

By: HB Date 1/13	Project no. FBR-0142-055	Project code (SA#): 18085	
Chk'd: JE Date 8/13	Structure no. B-16-EV	Sheet 328 of 508	



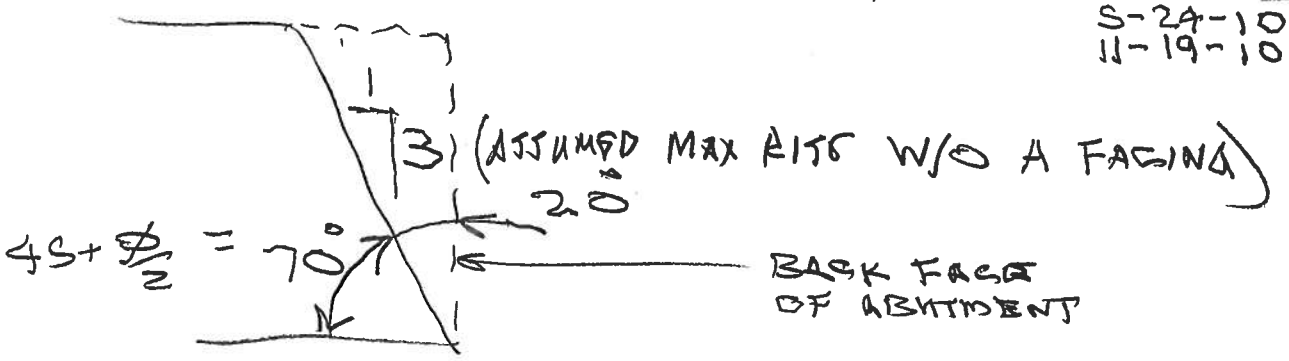
DESIGN SOIL PRESSURES ON AN INTEGRAL ABUTMENT WITH MSE BACKFILL W/O A GAP

RLO

11-9-07
5-24-10
11-19-10

EQUIVALENT MSE FLUID PRESSURES

RLO 1-14-03
S-24-10
11-19-10



$\therefore \phi = (70-45)2 = 50°$

$K_o\gamma = 125(1-\sin 50) = 29$ #/CF ON RIGID SUPPORTS

BECAUSE SOIL REINF DOESN'T WORK IN COMPRESSION, K_p MUST BE COMPUTED W/O CONSIDERING SOIL REINF: $K_p\gamma = 125\frac{1+\sin 34}{1-\sin 34} = 442$ #/CF

$K_a\gamma = 125 \times \frac{1-\sin 50}{1+\sin 50} = 17$ #/CF ON FLEXIBLE SUPPORTS

7.2524
3.877

0.1364 0.682
0.0873 0.3492
0.0218 0.0872

1.1184

Landscaping Loads:

* 6' ϕ pot:

Top diameter : 6'

Bottom diameter : 29.75" = 2.479'

Height = 29" = 2.417'

$W = \left(6^2\frac{\pi}{4} + 2.479^2\frac{\pi}{4}\right)\frac{1}{2}(2.417)(0.13) = 5.2\ k/ea.$

* 5' ϕ pot

Top diameter : 5'

Bottom diameter : 28" = 2.333'

Height : 40" = 3.333'

$W = \left(5^2\frac{\pi}{4} + 2.333^2\frac{\pi}{4}\right)\frac{1}{2}(3.333)(0.13) = 5.2\ k/ea.$

* Raised plant (35' x 12' x 1')

$w\ (plf) = 12 \times 1 \times 0.15 = 1.8\ k/ft$

Component Loads

* Curb + Bridge rail + Red Rail

$w\ (plf) = 3.877(0.15) + 0.05 + 0.05 = 0.68\ k/ft$

* Side walk

$w\ (plf) = (7.2524 + 1.1184)(0.15) = 0.92\ k/ft$

(7.2524: concrete area; 1.1184: conduits area)

* Raised Median (9" x 26')

Area load $= 0.75(1)(0.15) = 0.1125\ k/ft^2$

* 3' ϕ pot

Top Dia. = 3' Bottom Dia = 1.33' Height = 1.92'

$W = \left(3^2\frac{\pi}{4} + 1.33^2\frac{\pi}{4}\right)\frac{1}{2}(1.92)(0.13) = 1.06\ k$

By: HB Date 1/13	Project no. FBR-0142-055	Project code (SA#): 18085
Chk'd: JE Date 8/13	Structure no. B-16-EV	Sheet 331 of 588

CSiBRIDGE™

License #20D7F

2D - MODEL

CSiBridge Analysis Report

Prepared by
Colorado DOT

Model Name: BridgeModelPhase2_V15.bdb

27 March 2013

Contents

List of Figures

List of Tables

1. Model geometry

This section provides model geometry information, including items such as joint coordinates, joint restraints, and element connectivity.

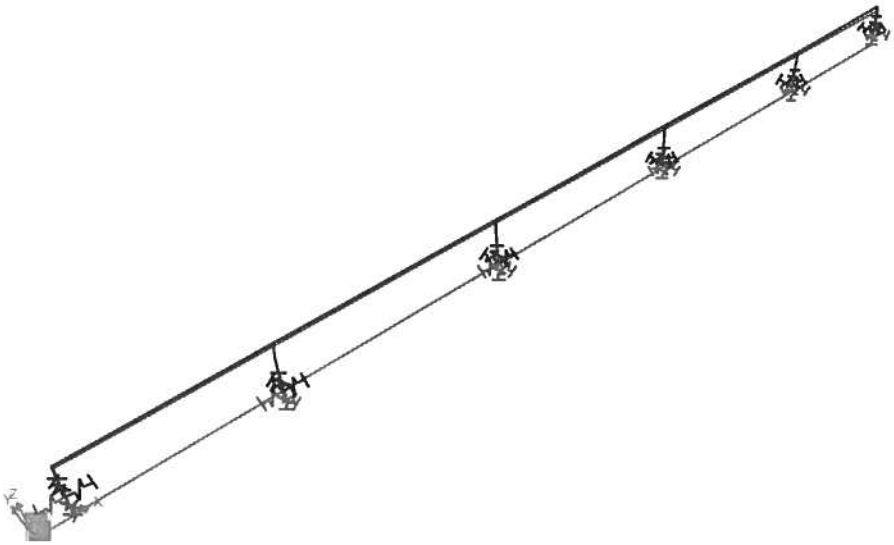


Figure 1: Finite element model

1.1. Joint coordinates

Table 1: Joint Coordinates

Table 1: Joint Coordinates

Joint	CoordSys	CoordType	GlobalX ft	GlobalY ft	GlobalZ ft
1	GLOBAL	Cartesian	10.0000	0.0000	19.2083
2	GLOBAL	Cartesian	72.7500	0.0000	19.2083
3	GLOBAL	Cartesian	10.0000	0.0000	7.1667
4	GLOBAL	Cartesian	72.7500	0.0000	13.7500
5	GLOBAL	Cartesian	72.7500	0.0000	0.0000
6	GLOBAL	Cartesian	10.0000	0.0000	11.8646
7	GLOBAL	Cartesian	10.0000	0.0000	11.4167
8	GLOBAL	Cartesian	156.7500	0.0000	19.2083
9	GLOBAL	Cartesian	156.7500	0.0000	13.7500
10	GLOBAL	Cartesian	156.7500	0.0000	1.0833
11	GLOBAL	Cartesian	240.7500	0.0000	19.2083
12	GLOBAL	Cartesian	240.7500	0.0000	13.7500
13	GLOBAL	Cartesian	240.7500	0.0000	2.1667
14	GLOBAL	Cartesian	324.7500	0.0000	19.2083
15	GLOBAL	Cartesian	324.7500	0.0000	13.7500
16	GLOBAL	Cartesian	324.7500	0.0000	3.2500
17	GLOBAL	Cartesian	387.5000	0.0000	19.2083
18	GLOBAL	Cartesian	387.5000	0.0000	7.1667
19	GLOBAL	Cartesian	387.5000	0.0000	11.8646
20	GLOBAL	Cartesian	387.5000	0.0000	11.4167

1.2. Element connectivity

Table 2: Connectivity - Frame

Table 2: Connectivity - Frame

Frame	JointI	JointJ	Length ft
1	1	2	62.7500
3	2	4	5.4583
4	4	5	13.7500
5	1	6	7.3438

Table 2: Connectivity - Frame

Frame	JointI	JointJ	Length ft
6	2	8	84.0000
7	8	9	5.4583
8	9	10	12.6667
9	8	11	84.0000
10	11	12	5.4583
11	12	13	11.5833
12	11	14	84.0000
13	14	15	5.4583
14	15	16	10.5000
15	14	17	62.7500
18	6	7	0.4479
19	7	3	4.2500
20	17	19	7.3438
22	19	20	0.4479
23	20	18	4.2500

Table 3: Frame Section Assignments

Table 3: Frame Section Assignments

Frame	AnalSect	DesignSect	MatProp
1	SUPERSTRUCTURE	N.A.	Default
3	PIER CAP	PIER CAP	Default
4	PIER COLUMN	N.A.	Default
5	ABUTMENT CAP	ABUTMENT CAP	Default
6	SUPERSTRUCTURE	N.A.	Default
7	PIER CAP	PIER CAP	Default
8	PIER COLUMN	N.A.	Default
9	SUPERSTRUCTURE	N.A.	Default
10	PIER CAP	PIER CAP	Default
11	PIER COLUMN	N.A.	Default
12	SUPERSTRUCTURE	N.A.	Default
13	PIER CAP	PIER CAP	Default
14	PIER COLUMN	N.A.	Default
15	SUPERSTRUCTURE	N.A.	Default
18	BEARING	N.A.	Default
19	ABUTMENT CAP	ABUTMENT CAP	Default
20	ABUTMENT CAP	ABUTMENT CAP	Default
22	BEARING	N.A.	Default
23	ABUTMENT CAP	ABUTMENT CAP	Default

Table 4: Frame Release Assignments 1 - General, Part 1 of 2

Table 4: Frame Release Assignments 1 - General, Part 1 of 2

Frame	PI	V2I	V3I	TI	M2I	M3I
3	No	No	No	No	No	Yes
7	No	No	No	No	No	Yes
10	No	No	No	No	No	Yes
13	No	No	No	No	No	Yes
18	No	No	No	No	Yes	Yes
22	No	No	No	No	Yes	Yes

Table 4: Frame Release Assignments 1 - General, Part 2 of 2

Table 4: Frame Release Assignments 1 - General, Part 2 of 2

Frame	PJ	V2J	V3J	TJ	M2J	M3J
3	No	No	No	No	No	No
7	No	No	No	No	No	No
10	No	No	No	No	No	No
13	No	No	No	No	No	No
18	No	No	No	No	No	No
22	No	No	No	No	No	No

2. Material properties

This section provides material property information for materials used in the model.

Table 5: Material Properties 02 - Basic Mechanical Properties

Table 5: Material Properties 02 - Basic Mechanical Properties

Material	UnitWeight	UnitMass	E1	G12	U12	A1
	Kip/ft3	Kip-s2/ft4	Kip/ft2	Kip/ft2		1/F
4000Psi	1.5000E-01	4.6621E-03	519119.50	216299.79	0.200000	5.5000E-06
A615Gr60	4.9000E-01	1.5230E-02	4176000.00			6.5000E-06
A992Fy50	4.9000E-01	1.5230E-02	4176000.00	1606153.85	0.300000	6.5000E-06
BEARING	7.0000E-02	2.1757E-03	4704.48	1960.20	0.200000	1.0000E-05
Concrete 4.5 ksi	1.5000E-01	4.6621E-03	585624.96	244010.40	0.200000	6.0000E-06
Concrete 8.5 ksi	1.0000E-08	3.1081E-10	845441.28	352267.20	0.200000	6.0000E-06

Table 6: Material Properties 03a - Steel Data

Table 6: Material Properties 03a - Steel Data

Material	Fy	Fu	FinalSlope
	Kip/ft2	Kip/ft2	
A992Fy50	7200.00	9360.00	-0.100000

Table 7: Material Properties 03b - Concrete Data

Table 7: Material Properties 03b - Concrete Data

Material	Fc	FinalSlope
	Kip/ft2	
4000Psi	576.00	-0.100000
Concrete 4.5 ksi	648.00	-0.100000
Concrete 8.5 ksi	1224.00	-0.100000

Table 8: Material Properties 03e - Rebar Data

Table 8: Material Properties 03e - Rebar Data

Material	Fy	Fu	FinalSlope
	Kip/ft2	Kip/ft2	
A615Gr60	8640.00	12960.00	-0.100000

3. Section properties

This section provides section property information for objects used in the model.

3.1. Frames

Table 9: Frame Section Properties 01 - General, Part 1 of 4

Table 9: Frame Section Properties 01 - General, Part 1 of 4

SectionName	Material	Shape	t3	t2	Area	TorsConst	I33	I22
			ft	ft	ft2	ft4	ft4	ft4
ABUTMENT CAP	Concrete 4.5 ksi	Rectangular	3.00000	127.00000	381.0000	1125.990000	285.750000	512095.750
BEARING	BEARING	SD Section			2920.7148	788.842375	460.164699	3774804.14
PIER CAP	Concrete 4.5 ksi	Rectangular	4.00000	124.00000	496.0000	2591.573338	661.333333	635541.333
PIER COLUMN	Concrete 4.5 ksi	SD Section			57.3566	87.264699	43.632350	84734.1701
SUPERSTRUCTURE	Concrete 8.5 ksi	General	2.91670	124.00000	171.7118	343.661000	186.081600	213652.0500

Table 9: Frame Section Properties 01 - General, Part 2 of 4

Table 9: Frame Section Properties 01 - General, Part 2 of 4

SectionName	AS2	AS3
	ft2	ft2
ABUTMENT CAP	317.5000	317.5000
BEARING	2446.1586	2920.7148
PIER CAP	413.3333	413.3333
PIER COLUMN	51.7795	57.3566
SUPERSTRUCTURE	79.8986	129.8986

Table 9: Frame Section Properties 01 - General, Part 3 of 4

Table 9: Frame Section Properties 01 - General, Part 3 of 4

SectionName	S33	S22	Z33	Z22	R33	R22
	ft3	ft3	ft3	ft3	ft	ft
ABUTMENT CAP	190.500000	8064.500000	285.750000	12096.75000	0.86603	36.66174
BEARING	669.330471	64125.2940	9.098633	825.730469	0.39693	35.95031
PIER CAP	330.666667	10250.66667	496.000000	15376.00000	1.15470	35.79572
PIER COLUMN	24.932771	1460.933967	42.463084	1935.783720	0.87219	38.43596
SUPERSTRUCTURE	126.157100	3446.000800	166.373700	4903.956100	1.04100	35.27390

Table 9: Frame Section Properties 01 - General, Part 4 of 4

Table 9: Frame Section Properties 01 - General, Part 4 of 4

SectionName	AMod	A2Mod	A3Mod	JMod	I2Mod	I3Mod	MMod	WMod
ABUTMENT CAP	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
BEARING	1.000000	0.007140	0.007350	1.000000	1.000000	1.000000	1.000000	1.000000
PIER CAP	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
PIER COLUMN	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
SUPERSTRUCTURE	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000

Table 10: Frame Section Properties 02 - Concrete Column, Part 1 of 2

Table 10: Frame Section Properties 02 - Concrete Column, Part 1 of 2

SectionName	RebarMatL	RebarMatC	ReinfConfig	LatReinf	Cover	NumBars3Dir	NumBars2Dir
					ft		
ABUTMENT CAP	A615Gr60	A615Gr60	Rectangular	Ties	0.12500	3	3
PIER CAP	A615Gr60	A615Gr60	Rectangular	Ties	0.12500	3	3

Table 10: Frame Section Properties 02 - Concrete Column, Part 2 of 2

Table 10: Frame Section Properties 02 - Concrete Column, Part 2 of 2

SectionName	BarSizeL	BarSizeC	SpacingC	NumCBars2	NumCBars3
			ft		
ABUTMENT CAP	#9	#4	0.50000	3	3
PIER CAP	#9	#4	0.50000	3	3

Table 11: Frame Property Modifiers

Table 11: Frame Property Modifiers

Frame	AMod	AS2Mod	AS3Mod	JMod	I22Mod	I33Mod	MassMod	WeightMod
18	1.000000	0.006800	0.006800	1.000000	1.000000	1.000000	1.000000	1.000000
22	1.000000	0.006800	0.006800	1.000000	1.000000	1.000000	1.000000	1.000000

3.2. Areas

Table 12: Area Section Properties, Part 1 of 2

Table 12: Area Section Properties, Part 1 of 2

Section	Material	AreaType	Type	Thickness	BendThick	F11Mod	F22Mod
				ft	ft		
DECK & GIRDERS	Concrete 8.5 ksi	Plane	Plane-Stress	1.000E-05		1.000000	1.000000

Table 12: Area Section Properties, Part 2 of 2

Table 12: Area Section Properties, Part 2 of 2

Section	F12Mod	M11Mod	M22Mod	M12Mod	V13Mod	V23Mod	MMod	WMod
DECK & GIRDERS	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000

4. Load patterns

This section provides loading information as applied to the model.

4.1. Definitions

Table 13: Load Pattern Definitions

Table 13: Load Pattern Definitions

LoadPat	DesignType	SelfWtMult	AutoLoad
DEAD	DEAD	1.000000	
LIVELOAD	VEHICLE LIVE	0.000000	
DL COMPOSITE 1	DEAD	0.000000	
TUe	TEMPERATURE	0.000000	
TUc	TEMPERATURE	0.000000	
WATER PRESSURE	OTHER	0.000000	
EH ATREST	HOR EARTH PR	0.000000	
WATER PRESSURE 500YR	OTHER	0.000000	
EH ACTIVE	HOR EARTH PR	0.000000	
DL COMPOSITE 2	DEAD	0.000000	
TUc,temp	TEMPERATURE	0.000000	
BR-in	BRAKING	0.000000	
BR-out	BRAKING	0.000000	

5. Load cases

This section provides load case information.

5.1. Definitions

Table 14: Load Case Definitions

Table 14: Load Case Definitions

Case	Type	InitialCond	ModalCase	BaseCase	DesActOpt	DesignAct
DEAD	LinStatic	Zero			Prog Det	Non-Composite
MODAL	LinModal	Zero			Prog Det	Other
VEHICLE	LinMoving	Zero			Prog Det	Short-Term Composite
DL COMPOSITE 1	LinStatic	Zero			Prog Det	Non-Composite
TUe	LinStatic	Zero			Prog Det	Short-Term Composite
TUc	LinStatic	Zero			Prog Det	Short-Term Composite
WATER PRESSURE	LinStatic	Zero			Prog Det	Other
EH ATREST	LinStatic	Zero			Prog Det	Long-Term Composite
WATER PRESSURE 500YR	LinStatic	Zero			Prog Det	Other
EH ACTIVE	LinStatic	Zero			Prog Det	Long-Term Composite
DL COMPOSITE 2	LinStatic	Zero			Prog Det	Non-Composite
TUc,temp	LinStatic	Zero			Prog Det	Short-Term Composite
BR-in	LinStatic	Zero			Prog Det	Short-Term Composite
BR-out	LinStatic	Zero			Prog Det	Short-Term Composite

5.2. Static case load assignments

Table 15: Case - Static 1 - Load Assignments

Table 15: Case - Static 1 - Load Assignments

Case	LoadType	LoadName	LoadSF
DEAD	Load pattern	DEAD	1.000000
DL COMPOSITE 1	Load pattern	DL COMPOSITE 1	1.000000
TUe	Load pattern	TUe	1.000000
TUc	Load pattern	TUc	1.000000
WATER PRESSURE	Load pattern	WATER PRESSURE	1.000000
EH ATREST	Load pattern	EH ATREST	1.000000
WATER PRESSURE 500YR	Load pattern	WATER PRESSURE 500YR	1.000000
EH ACTIVE	Load pattern	EH ACTIVE	1.000000
DL COMPOSITE 2	Load pattern	DL COMPOSITE 2	1.000000
TUc,temp	Load pattern	TUc,temp	1.000000

Table 15: Case - Static 1 - Load Assignments

Case	LoadType	LoadName	LoadSF
BR-in	Load pattern	BR-in	1.000000
BR-out	Load pattern	BR-out	1.000000

5.3. Response spectrum case load assignments

Table 16: Function - Response Spectrum - User

Table 16: Function - Response Spectrum - User

Name	Period Sec	Accel	FuncDamp
UNIFRS	0.000000	1.000000	0.050000
UNIFRS	1.000000	1.000000	

6. Load combinations

This section provides load combination information.

Table 17: Combination Definitions

Table 17: Combination Definitions

ComboName	ComboType	CaseName	ScaleFactor
COMB1	Linear Add	DEAD	1.000000
COMB1		VEHICLE	1.000000
Str1 (Cont)	Linear Add	DEAD	1.250000
Str1 (Cont)		WATER PRESSURE	1.000000
Str1 (Cont)		TUc	1.200000
Str1 (Cont)		VEHICLE	1.750000
Str1 (Cont)		EH ACTIVE	1.500000
Str1 (Cont)		DL COMPOSITE 1	1.250000
Str1 (Cont)		DL COMPOSITE 2	1.500000
Str1 (Cont)		BR-in	1.750000
Str1 (Expn)	Linear Add	DEAD	1.250000
Str1 (Expn)		WATER PRESSURE	1.000000
Str1 (Expn)		TUe	1.200000
Str1 (Expn)		VEHICLE	1.750000
Str1 (Expn)		EH ATREST	1.350000
Str1 (Expn)		DL COMPOSITE 1	1.250000
Str1 (Expn)		DL COMPOSITE 2	1.500000
Str1 (Expn)		BR-out	1.750000
Strength 1 (Active Earth, Temp)	Linear Add	DEAD	1.250000
Strength 1 (Active Earth, Temp)		DL COMPOSITE 1	1.250000
Strength 1 (Active Earth, Temp)		DL COMPOSITE 2	1.500000
Strength 1 (Active Earth, Temp)		EH ACTIVE	1.500000
Strength 1 (Active Earth, Temp)		TUc,temp	1.200000
Strength 1 (Active Earth, Temp)		WATER PRESSURE	1.000000
Strength 1 (Active Earth, Temp)		VEHICLE	1.750000
Strength 1 (Active Earth, Temp)		WATER PRESSURE 500YR	1.000000
Strength 1 (Active Earth, Temp)		BR-in	1.750000
Ext Event I	Linear Add	DEAD	1.250000
Ext Event I		VEHICLE	0.500000
Ext Event I		EH ACTIVE	1.500000
Ext Event I		DL COMPOSITE 1	1.250000
Ext Event I		DL COMPOSITE 2	1.500000
Ext Event I		BR-in	0.500000

7. Structure results

This section provides structure results, including items such as structural periods and base reactions.

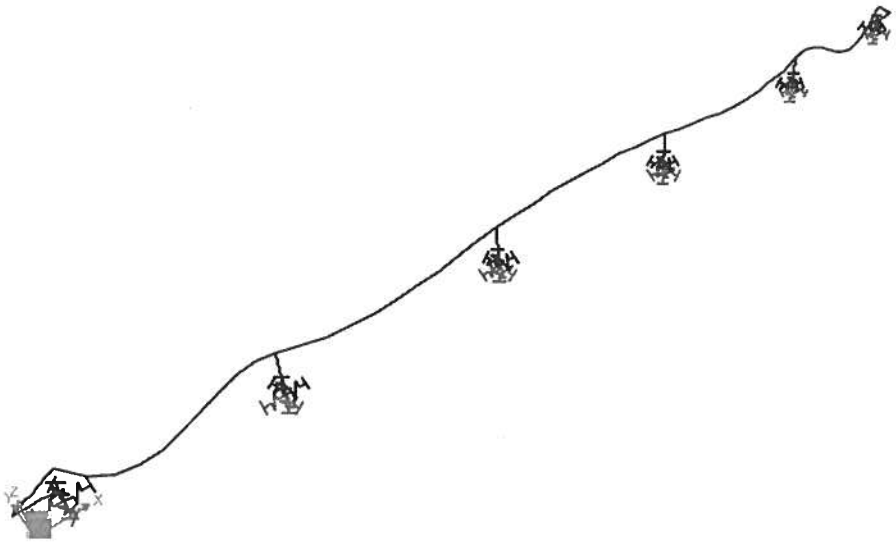


Figure 2: Deformed shape

7.1. Mass summary

Table 18: Assembled Joint Masses

Table 18: Assembled Joint Masses

Joint	U1 Kip-s2/ft	U2 Kip-s2/ft	U3 Kip-s2/ft	R1 Kip-ft-s2	R2 Kip-ft-s2	R3 Kip-ft-s2
1	6.52	6.52	6.52	0.0000	0.0000	0.0000
2	6.31	6.31	6.31	0.0000	0.0000	0.0000
3	3.77	3.77	3.77	0.0000	0.0000	0.0000
4	8.15	8.15	8.15	0.0000	0.0000	0.0000
5	1.84	1.84	1.84	0.0000	0.0000	0.0000
6	6.55	6.55	6.55	0.0000	0.0000	0.0000
7	3.80	3.80	3.80	0.0000	0.0000	0.0000
8	6.31	6.31	6.31	0.0000	0.0000	0.0000
9	8.00	8.00	8.00	0.0000	0.0000	0.0000
10	1.69	1.69	1.69	0.0000	0.0000	0.0000
11	6.31	6.31	6.31	0.0000	0.0000	0.0000
12	7.86	7.86	7.86	0.0000	0.0000	0.0000
13	1.55	1.55	1.55	0.0000	0.0000	0.0000
14	6.31	6.31	6.31	0.0000	0.0000	0.0000
15	7.71	7.71	7.71	0.0000	0.0000	0.0000
16	1.40	1.40	1.40	0.0000	0.0000	0.0000
17	6.52	6.52	6.52	0.0000	0.0000	0.0000
18	3.77	3.77	3.77	0.0000	0.0000	0.0000
19	6.55	6.55	6.55	0.0000	0.0000	0.0000
20	3.80	3.80	3.80	0.0000	0.0000	0.0000

7.2. Base reactions

8. Joint results

This section provides joint results, including items such as displacements and reactions.

9. Frame results

This section provides frame force results.

Table 19: Element Forces - Frames, Part 1 of 2

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
1	0.0000	Str1 (Cont)	Max	29.453	-1064.957	53.576
1	0.0083	Str1 (Cont)	Max	29.453	-1064.288	53.576
1	0.0083	Str1 (Cont)	Max	29.453	-1064.288	53.576
1	1.8007	Str1 (Cont)	Max	29.453	-920.475	53.576
1	3.5931	Str1 (Cont)	Max	29.453	-807.754	53.576
1	5.3855	Str1 (Cont)	Max	29.453	-719.113	53.576
1	7.1779	Str1 (Cont)	Max	29.453	-630.472	53.576
1	8.9702	Str1 (Cont)	Max	29.453	-541.830	53.576
1	8.9702	Str1 (Cont)	Max	29.453	-541.830	53.576
1	10.7626	Str1 (Cont)	Max	29.453	-438.431	53.576
1	12.5550	Str1 (Cont)	Max	29.453	-335.032	53.576
1	14.3474	Str1 (Cont)	Max	29.453	-231.633	53.576
1	16.1398	Str1 (Cont)	Max	29.453	-128.233	53.576
1	17.9321	Str1 (Cont)	Max	29.453	-24.834	53.576
1	17.9321	Str1 (Cont)	Max	29.453	-24.834	53.576
1	19.7245	Str1 (Cont)	Max	29.453	93.747	53.576
1	21.5169	Str1 (Cont)	Max	29.453	212.327	53.576
1	23.3093	Str1 (Cont)	Max	29.453	330.908	53.576
1	25.1017	Str1 (Cont)	Max	29.453	449.489	53.576
1	26.8940	Str1 (Cont)	Max	29.453	568.070	53.576
1	26.8940	Str1 (Cont)	Max	29.453	568.070	53.576
1	28.6864	Str1 (Cont)	Max	29.453	691.653	53.576
1	30.4788	Str1 (Cont)	Max	29.453	815.237	53.576
1	32.2712	Str1 (Cont)	Max	29.453	938.820	53.576
1	34.0636	Str1 (Cont)	Max	29.453	1062.403	53.576
1	35.8560	Str1 (Cont)	Max	29.453	1185.987	53.576
1	35.8560	Str1 (Cont)	Max	29.453	1185.987	53.576
1	37.6483	Str1 (Cont)	Max	29.453	1307.559	53.576
1	39.4407	Str1 (Cont)	Max	29.453	1429.132	53.576
1	41.2331	Str1 (Cont)	Max	29.453	1550.705	53.576
1	43.0255	Str1 (Cont)	Max	29.453	1672.278	53.576
1	44.8179	Str1 (Cont)	Max	29.453	1793.851	53.576
1	44.8179	Str1 (Cont)	Max	29.453	1793.851	53.576
1	46.1589	Str1 (Cont)	Max	29.453	1884.347	53.576
1	47.5000	Str1 (Cont)	Max	29.453	1975.814	53.576
1	47.5000	Str1 (Cont)	Max	29.453	1977.139	53.576
1	48.9167	Str1 (Cont)	Max	29.453	2073.763	53.576
1	50.3333	Str1 (Cont)	Max	29.453	2170.387	53.576
1	51.7500	Str1 (Cont)	Max	29.453	2267.011	53.576
1	51.7500	Str1 (Cont)	Max	29.453	2268.336	53.576
1	53.7798	Str1 (Cont)	Max	29.453	2406.776	53.576
1	53.7798	Str1 (Cont)	Max	29.453	2406.776	53.576
1	55.2649	Str1 (Cont)	Max	29.453	2504.552	53.576
1	56.7500	Str1 (Cont)	Max	29.453	2602.328	53.576
1	56.7500	Str1 (Cont)	Max	29.453	2608.828	53.576
1	58.7472	Str1 (Cont)	Max	29.453	2740.319	53.576
1	60.7444	Str1 (Cont)	Max	29.453	2889.585	53.576
1	62.7417	Str1 (Cont)	Max	29.453	3082.553	53.576
1	62.7417	Str1 (Cont)	Max	29.453	3082.553	53.576
1	62.7500	Str1 (Cont)	Max	29.453	3083.241	53.576
1	0.0000	Str1 (Cont)	Min	23.540	-2065.999	-54.546
1	0.0083	Str1 (Cont)	Min	23.540	-2065.331	-54.546
1	0.0083	Str1 (Cont)	Min	23.540	-2065.331	-54.546
1	1.8007	Str1 (Cont)	Min	23.540	-1884.945	-54.546
1	3.5931	Str1 (Cont)	Min	23.540	-1735.652	-54.546
1	5.3855	Str1 (Cont)	Min	23.540	-1610.438	-54.546
1	7.1779	Str1 (Cont)	Min	23.540	-1485.225	-54.546
1	8.9702	Str1 (Cont)	Min	23.540	-1360.011	-54.546
1	8.9702	Str1 (Cont)	Min	23.540	-1360.011	-54.546
1	10.7626	Str1 (Cont)	Min	23.540	-1236.661	-54.546
1	12.5550	Str1 (Cont)	Min	23.540	-1113.312	-54.546
1	14.3474	Str1 (Cont)	Min	23.540	-989.962	-54.546
1	16.1398	Str1 (Cont)	Min	23.540	-866.612	-54.546
1	17.9321	Str1 (Cont)	Min	23.540	-743.262	-54.546
1	17.9321	Str1 (Cont)	Min	23.540	-743.262	-54.546
1	19.7245	Str1 (Cont)	Min	23.540	-622.664	-54.546
1	21.5169	Str1 (Cont)	Min	23.540	-502.066	-54.546
1	23.3093	Str1 (Cont)	Min	23.540	-381.468	-54.546

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
1	25.1017	Str1 (Cont)	Min	23.540	-260.870	-54.546
1	26.8940	Str1 (Cont)	Min	23.540	-140.272	-54.546
1	26.8940	Str1 (Cont)	Min	23.540	-140.272	-54.546
1	28.6864	Str1 (Cont)	Min	23.540	-23.481	-54.546
1	30.4788	Str1 (Cont)	Min	23.540	93.310	-54.546
1	32.2712	Str1 (Cont)	Min	23.540	210.101	-54.546
1	34.0636	Str1 (Cont)	Min	23.540	326.892	-54.546
1	35.8560	Str1 (Cont)	Min	23.540	443.684	-54.546
1	35.8560	Str1 (Cont)	Min	23.540	443.684	-54.546
1	37.6483	Str1 (Cont)	Min	23.540	553.073	-54.546
1	39.4407	Str1 (Cont)	Min	23.540	662.463	-54.546
1	41.2331	Str1 (Cont)	Min	23.540	771.853	-54.546
1	43.0255	Str1 (Cont)	Min	23.540	881.243	-54.546
1	44.8179	Str1 (Cont)	Min	23.540	990.632	-54.546
1	44.8179	Str1 (Cont)	Min	23.540	990.632	-54.546
1	46.1589	Str1 (Cont)	Min	23.540	1069.514	-54.546
1	47.5000	Str1 (Cont)	Min	23.540	1149.367	-54.546
1	47.5000	Str1 (Cont)	Min	23.540	1150.692	-54.546
1	48.9167	Str1 (Cont)	Min	23.540	1235.047	-54.546
1	50.3333	Str1 (Cont)	Min	23.540	1319.402	-54.546
1	51.7500	Str1 (Cont)	Min	23.540	1403.756	-54.546
1	51.7500	Str1 (Cont)	Min	23.540	1405.081	-54.546
1	53.7798	Str1 (Cont)	Min	23.540	1525.943	-54.546
1	53.7798	Str1 (Cont)	Min	23.540	1525.943	-54.546
1	55.2649	Str1 (Cont)	Min	23.540	1605.039	-54.546
1	56.7500	Str1 (Cont)	Min	23.540	1684.136	-54.546
1	56.7500	Str1 (Cont)	Min	23.540	1690.636	-54.546
1	58.7472	Str1 (Cont)	Min	23.540	1797.007	-54.546
1	60.7444	Str1 (Cont)	Min	23.540	1921.152	-54.546
1	62.7417	Str1 (Cont)	Min	23.540	2089.000	-54.546
1	62.7417	Str1 (Cont)	Min	23.540	2089.000	-54.546
1	62.7500	Str1 (Cont)	Min	23.540	2089.687	-54.546
1	0.0000	Str1 (Expn)	Max	-106.278	-1101.790	53.576
1	0.0083	Str1 (Expn)	Max	-106.278	-1101.121	53.576
1	0.0083	Str1 (Expn)	Max	-106.278	-1101.121	53.576
1	1.8007	Str1 (Expn)	Max	-106.278	-957.308	53.576
1	3.5931	Str1 (Expn)	Max	-106.278	-844.587	53.576
1	5.3855	Str1 (Expn)	Max	-106.278	-755.946	53.576
1	7.1779	Str1 (Expn)	Max	-106.278	-667.304	53.576
1	8.9702	Str1 (Expn)	Max	-106.278	-578.663	53.576
1	8.9702	Str1 (Expn)	Max	-106.278	-578.663	53.576
1	10.7626	Str1 (Expn)	Max	-106.278	-475.264	53.576
1	12.5550	Str1 (Expn)	Max	-106.278	-371.864	53.576
1	14.3474	Str1 (Expn)	Max	-106.278	-268.465	53.576
1	16.1398	Str1 (Expn)	Max	-106.278	-165.066	53.576
1	17.9321	Str1 (Expn)	Max	-106.278	-61.667	53.576
1	17.9321	Str1 (Expn)	Max	-106.278	-61.667	53.576
1	19.7245	Str1 (Expn)	Max	-106.278	56.914	53.576
1	21.5169	Str1 (Expn)	Max	-106.278	175.495	53.576
1	23.3093	Str1 (Expn)	Max	-106.278	294.076	53.576
1	25.1017	Str1 (Expn)	Max	-106.278	412.656	53.576
1	26.8940	Str1 (Expn)	Max	-106.278	531.237	53.576
1	26.8940	Str1 (Expn)	Max	-106.278	531.237	53.576
1	28.6864	Str1 (Expn)	Max	-106.278	654.820	53.576
1	30.4788	Str1 (Expn)	Max	-106.278	778.404	53.576
1	32.2712	Str1 (Expn)	Max	-106.278	901.987	53.576
1	34.0636	Str1 (Expn)	Max	-106.278	1025.571	53.576
1	35.8560	Str1 (Expn)	Max	-106.278	1149.154	53.576
1	35.8560	Str1 (Expn)	Max	-106.278	1149.154	53.576
1	37.6483	Str1 (Expn)	Max	-106.278	1270.727	53.576
1	39.4407	Str1 (Expn)	Max	-106.278	1392.300	53.576
1	41.2331	Str1 (Expn)	Max	-106.278	1513.873	53.576
1	43.0255	Str1 (Expn)	Max	-106.278	1635.445	53.576
1	44.8179	Str1 (Expn)	Max	-106.278	1757.018	53.576
1	44.8179	Str1 (Expn)	Max	-106.278	1757.018	53.576
1	46.1589	Str1 (Expn)	Max	-106.278	1847.514	53.576
1	47.5000	Str1 (Expn)	Max	-106.278	1938.982	53.576
1	47.5000	Str1 (Expn)	Max	-106.278	1940.307	53.576
1	48.9167	Str1 (Expn)	Max	-106.278	2036.931	53.576

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
1	50.3333	Str1 (Expn)	Max	-106.278	2133.554	53.576
1	51.7500	Str1 (Expn)	Max	-106.278	2230.178	53.576
1	51.7500	Str1 (Expn)	Max	-106.278	2231.503	53.576
1	53.7798	Str1 (Expn)	Max	-106.278	2369.943	53.576
1	53.7798	Str1 (Expn)	Max	-106.278	2369.943	53.576
1	55.2649	Str1 (Expn)	Max	-106.278	2467.719	53.576
1	56.7500	Str1 (Expn)	Max	-106.278	2565.495	53.576
1	56.7500	Str1 (Expn)	Max	-106.278	2571.995	53.576
1	58.7472	Str1 (Expn)	Max	-106.278	2703.486	53.576
1	60.7444	Str1 (Expn)	Max	-106.278	2852.752	53.576
1	62.7417	Str1 (Expn)	Max	-106.278	3045.720	53.576
1	62.7417	Str1 (Expn)	Max	-106.278	3045.720	53.576
1	62.7500	Str1 (Expn)	Max	-106.278	3046.408	53.576
1	0.0000	Str1 (Expn)	Min	-112.191	-2102.832	-54.546
1	0.0083	Str1 (Expn)	Min	-112.191	-2102.163	-54.546
1	0.0083	Str1 (Expn)	Min	-112.191	-2102.163	-54.546
1	1.8007	Str1 (Expn)	Min	-112.191	-1921.778	-54.546
1	3.5931	Str1 (Expn)	Min	-112.191	-1772.485	-54.546
1	5.3855	Str1 (Expn)	Min	-112.191	-1647.271	-54.546
1	7.1779	Str1 (Expn)	Min	-112.191	-1522.057	-54.546
1	8.9702	Str1 (Expn)	Min	-112.191	-1396.844	-54.546
1	8.9702	Str1 (Expn)	Min	-112.191	-1396.844	-54.546
1	10.7626	Str1 (Expn)	Min	-112.191	-1273.494	-54.546
1	12.5550	Str1 (Expn)	Min	-112.191	-1150.144	-54.546
1	14.3474	Str1 (Expn)	Min	-112.191	-1026.794	-54.546
1	16.1398	Str1 (Expn)	Min	-112.191	-903.445	-54.546
1	17.9321	Str1 (Expn)	Min	-112.191	-780.095	-54.546
1	17.9321	Str1 (Expn)	Min	-112.191	-780.095	-54.546
1	19.7245	Str1 (Expn)	Min	-112.191	-659.497	-54.546
1	21.5169	Str1 (Expn)	Min	-112.191	-538.899	-54.546
1	23.3093	Str1 (Expn)	Min	-112.191	-418.301	-54.546
1	25.1017	Str1 (Expn)	Min	-112.191	-297.703	-54.546
1	26.8940	Str1 (Expn)	Min	-112.191	-177.105	-54.546
1	26.8940	Str1 (Expn)	Min	-112.191	-177.105	-54.546
1	28.6864	Str1 (Expn)	Min	-112.191	-60.314	-54.546
1	30.4788	Str1 (Expn)	Min	-112.191	56.477	-54.546
1	32.2712	Str1 (Expn)	Min	-112.191	173.269	-54.546
1	34.0636	Str1 (Expn)	Min	-112.191	290.060	-54.546
1	35.8560	Str1 (Expn)	Min	-112.191	406.851	-54.546
1	35.8560	Str1 (Expn)	Min	-112.191	406.851	-54.546
1	37.6483	Str1 (Expn)	Min	-112.191	516.241	-54.546
1	39.4407	Str1 (Expn)	Min	-112.191	625.630	-54.546
1	41.2331	Str1 (Expn)	Min	-112.191	735.020	-54.546
1	43.0255	Str1 (Expn)	Min	-112.191	844.410	-54.546
1	44.8179	Str1 (Expn)	Min	-112.191	953.800	-54.546
1	44.8179	Str1 (Expn)	Min	-112.191	953.800	-54.546
1	46.1589	Str1 (Expn)	Min	-112.191	1032.681	-54.546
1	47.5000	Str1 (Expn)	Min	-112.191	1112.534	-54.546
1	47.5000	Str1 (Expn)	Min	-112.191	1113.859	-54.546
1	48.9167	Str1 (Expn)	Min	-112.191	1198.214	-54.546
1	50.3333	Str1 (Expn)	Min	-112.191	1282.569	-54.546
1	51.7500	Str1 (Expn)	Min	-112.191	1366.924	-54.546
1	51.7500	Str1 (Expn)	Min	-112.191	1368.249	-54.546
1	53.7798	Str1 (Expn)	Min	-112.191	1489.110	-54.546
1	53.7798	Str1 (Expn)	Min	-112.191	1489.110	-54.546
1	55.2649	Str1 (Expn)	Min	-112.191	1568.207	-54.546
1	56.7500	Str1 (Expn)	Min	-112.191	1647.303	-54.546
1	56.7500	Str1 (Expn)	Min	-112.191	1653.803	-54.546
1	58.7472	Str1 (Expn)	Min	-112.191	1760.174	-54.546
1	60.7444	Str1 (Expn)	Min	-112.191	1884.320	-54.546
1	62.7417	Str1 (Expn)	Min	-112.191	2052.167	-54.546
1	62.7417	Str1 (Expn)	Min	-112.191	2052.167	-54.546
1	62.7500	Str1 (Expn)	Min	-112.191	2052.855	-54.546
1	0.0000	Ext Event I	Max	-48.144	-1170.955	15.446
1	0.0083	Ext Event I	Max	-48.144	-1170.286	15.446
1	0.0083	Ext Event I	Max	-48.144	-1170.286	15.446
1	1.8007	Ext Event I	Max	-48.144	-1026.473	15.446
1	3.5931	Ext Event I	Max	-48.144	-913.752	15.446
1	5.3855	Ext Event I	Max	-48.144	-825.111	15.446

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
1	7.1779	Ext Event I	Max	-48.144	-736.470	15.446
1	8.9702	Ext Event I	Max	-48.144	-647.828	15.446
1	8.9702	Ext Event I	Max	-48.144	-647.828	15.446
1	10.7626	Ext Event I	Max	-48.144	-554.970	15.446
1	12.5550	Ext Event I	Max	-48.144	-462.112	15.446
1	14.3474	Ext Event I	Max	-48.144	-369.255	15.446
1	16.1398	Ext Event I	Max	-48.144	-276.397	15.446
1	17.9321	Ext Event I	Max	-48.144	-183.539	15.446
1	17.9321	Ext Event I	Max	-48.144	-183.539	15.446
1	19.7245	Ext Event I	Max	-48.144	-86.343	15.446
1	21.5169	Ext Event I	Max	-48.144	10.852	15.446
1	23.3093	Ext Event I	Max	-48.144	108.047	15.446
1	25.1017	Ext Event I	Max	-48.144	205.243	15.446
1	26.8940	Ext Event I	Max	-48.144	302.438	15.446
1	26.8940	Ext Event I	Max	-48.144	302.438	15.446
1	28.6864	Ext Event I	Max	-48.144	401.063	15.446
1	30.4788	Ext Event I	Max	-48.144	499.688	15.446
1	32.2712	Ext Event I	Max	-48.144	598.313	15.446
1	34.0636	Ext Event I	Max	-48.144	696.937	15.446
1	35.8560	Ext Event I	Max	-48.144	795.562	15.446
1	35.8560	Ext Event I	Max	-48.144	795.562	15.446
1	37.6483	Ext Event I	Max	-48.144	893.612	15.446
1	39.4407	Ext Event I	Max	-48.144	991.663	15.446
1	41.2331	Ext Event I	Max	-48.144	1089.713	15.446
1	43.0255	Ext Event I	Max	-48.144	1187.763	15.446
1	44.8179	Ext Event I	Max	-48.144	1285.814	15.446
1	44.8179	Ext Event I	Max	-48.144	1285.814	15.446
1	46.1589	Ext Event I	Max	-48.144	1360.503	15.446
1	47.5000	Ext Event I	Max	-48.144	1436.165	15.446
1	47.5000	Ext Event I	Max	-48.144	1437.490	15.446
1	48.9167	Ext Event I	Max	-48.144	1517.417	15.446
1	50.3333	Ext Event I	Max	-48.144	1597.344	15.446
1	51.7500	Ext Event I	Max	-48.144	1677.271	15.446
1	51.7500	Ext Event I	Max	-48.144	1678.596	15.446
1	53.7798	Ext Event I	Max	-48.144	1793.113	15.446
1	53.7798	Ext Event I	Max	-48.144	1793.113	15.446
1	55.2649	Ext Event I	Max	-48.144	1875.897	15.446
1	56.7500	Ext Event I	Max	-48.144	1958.681	15.446
1	56.7500	Ext Event I	Max	-48.144	1965.181	15.446
1	58.7472	Ext Event I	Max	-48.144	2076.511	15.446
1	60.7444	Ext Event I	Max	-48.144	2205.615	15.446
1	62.7417	Ext Event I	Max	-48.144	2378.422	15.446
1	62.7417	Ext Event I	Max	-48.144	2378.422	15.446
1	62.7500	Ext Event I	Max	-48.144	2379.109	15.446
1	0.0000	Ext Event I	Min	-49.834	-1456.967	-15.446
1	0.0083	Ext Event I	Min	-49.834	-1456.298	-15.446
1	0.0083	Ext Event I	Min	-49.834	-1456.298	-15.446
1	1.8007	Ext Event I	Min	-49.834	-1302.036	-15.446
1	3.5931	Ext Event I	Min	-49.834	-1178.866	-15.446
1	5.3855	Ext Event I	Min	-49.834	-1079.775	-15.446
1	7.1779	Ext Event I	Min	-49.834	-980.685	-15.446
1	8.9702	Ext Event I	Min	-49.834	-881.594	-15.446
1	8.9702	Ext Event I	Min	-49.834	-881.594	-15.446
1	10.7626	Ext Event I	Min	-49.834	-783.036	-15.446
1	12.5550	Ext Event I	Min	-49.834	-684.478	-15.446
1	14.3474	Ext Event I	Min	-49.834	-585.920	-15.446
1	16.1398	Ext Event I	Min	-49.834	-487.362	-15.446
1	17.9321	Ext Event I	Min	-49.834	-388.804	-15.446
1	17.9321	Ext Event I	Min	-49.834	-388.804	-15.446
1	19.7245	Ext Event I	Min	-49.834	-291.032	-15.446
1	21.5169	Ext Event I	Min	-49.834	-193.261	-15.446
1	23.3093	Ext Event I	Min	-49.834	-95.489	-15.446
1	25.1017	Ext Event I	Min	-49.834	2.283	-15.446
1	26.8940	Ext Event I	Min	-49.834	100.055	-15.446
1	26.8940	Ext Event I	Min	-49.834	100.055	-15.446
1	28.6864	Ext Event I	Min	-49.834	196.739	-15.446
1	30.4788	Ext Event I	Min	-49.834	293.423	-15.446
1	32.2712	Ext Event I	Min	-49.834	390.107	-15.446
1	34.0636	Ext Event I	Min	-49.834	486.791	-15.446

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
1	35.8560	Ext Event I	Min	-49.834	583.475	-15.446
1	35.8560	Ext Event I	Min	-49.834	583.475	-15.446
1	37.6483	Ext Event I	Min	-49.834	678.045	-15.446
1	39.4407	Ext Event I	Min	-49.834	772.614	-15.446
1	41.2331	Ext Event I	Min	-49.834	867.184	-15.446
1	43.0255	Ext Event I	Min	-49.834	961.753	-15.446
1	44.8179	Ext Event I	Min	-49.834	1056.323	-15.446
1	44.8179	Ext Event I	Min	-49.834	1056.323	-15.446
1	46.1589	Ext Event I	Min	-49.834	1127.694	-15.446
1	47.5000	Ext Event I	Min	-49.834	1200.037	-15.446
1	47.5000	Ext Event I	Min	-49.834	1201.362	-15.446
1	48.9167	Ext Event I	Min	-49.834	1277.784	-15.446
1	50.3333	Ext Event I	Min	-49.834	1354.205	-15.446
1	51.7500	Ext Event I	Min	-49.834	1430.626	-15.446
1	51.7500	Ext Event I	Min	-49.834	1431.951	-15.446
1	53.7798	Ext Event I	Min	-49.834	1541.446	-15.446
1	53.7798	Ext Event I	Min	-49.834	1541.446	-15.446
1	55.2649	Ext Event I	Min	-49.834	1618.893	-15.446
1	56.7500	Ext Event I	Min	-49.834	1696.340	-15.446
1	56.7500	Ext Event I	Min	-49.834	1702.840	-15.446
1	58.7472	Ext Event I	Min	-49.834	1806.993	-15.446
1	60.7444	Ext Event I	Min	-49.834	1928.920	-15.446
1	62.7417	Ext Event I	Min	-49.834	2094.550	-15.446
1	62.7417	Ext Event I	Min	-49.834	2094.550	-15.446
1	62.7500	Ext Event I	Min	-49.834	2095.237	-15.446
3	0.0000	Str1 (Cont)	Max	-4154.064	-483.166	266.988
3	2.7292	Str1 (Cont)	Max	-4407.876	-483.166	266.988
3	5.4583	Str1 (Cont)	Max	-4661.689	-483.166	266.988
3	0.0000	Str1 (Cont)	Min	-5417.349	-485.011	-268.227
3	2.7292	Str1 (Cont)	Min	-5671.161	-485.011	-268.227
3	5.4583	Str1 (Cont)	Min	-5924.974	-485.011	-268.227
3	0.0000	Str1 (Expn)	Max	-4129.209	219.650	266.988
3	2.7292	Str1 (Expn)	Max	-4383.022	219.650	266.988
3	5.4583	Str1 (Expn)	Max	-4636.834	219.650	266.988
3	0.0000	Str1 (Expn)	Min	-5392.494	217.806	-268.227
3	2.7292	Str1 (Expn)	Min	-5646.307	217.806	-268.227
3	5.4583	Str1 (Expn)	Min	-5900.119	217.806	-268.227
3	0.0000	Ext Event I	Max	-4242.149	-11.218	76.459
3	2.7292	Ext Event I	Max	-4495.962	-11.218	76.459
3	5.4583	Ext Event I	Max	-4749.774	-11.218	76.459
3	0.0000	Ext Event I	Min	-4603.088	-11.745	-76.459
3	2.7292	Ext Event I	Min	-4856.900	-11.745	-76.459
3	5.4583	Ext Event I	Min	-5110.713	-11.745	-76.459
4	0.0000	Str1 (Cont)	Max	-4661.689	-483.166	266.988
4	6.8750	Str1 (Cont)	Max	-4735.625	-483.166	269.944
4	13.7500	Str1 (Cont)	Max	-4809.561	-483.166	272.720
4	0.0000	Str1 (Cont)	Min	-5924.974	-485.011	-268.227
4	6.8750	Str1 (Cont)	Min	-5998.910	-485.011	-265.271
4	13.7500	Str1 (Cont)	Min	-6072.846	-485.011	-262.495
4	0.0000	Str1 (Expn)	Max	-4636.834	219.650	266.988
4	6.8750	Str1 (Expn)	Max	-4710.770	219.650	269.944
4	13.7500	Str1 (Expn)	Max	-4784.707	219.650	272.720
4	0.0000	Str1 (Expn)	Min	-5900.119	217.806	-268.227
4	6.8750	Str1 (Expn)	Min	-5974.055	217.806	-265.271
4	13.7500	Str1 (Expn)	Min	-6047.992	217.806	-262.495
4	0.0000	Ext Event I	Max	-4749.774	-11.218	76.459
4	6.8750	Ext Event I	Max	-4823.711	-11.218	76.459
4	13.7500	Ext Event I	Max	-4897.647	-11.218	76.459
4	0.0000	Ext Event I	Min	-5110.713	-11.745	-76.459
4	6.8750	Ext Event I	Min	-5184.649	-11.745	-76.459
4	13.7500	Ext Event I	Min	-5258.585	-11.745	-76.459
5	0.0000	Str1 (Cont)	Max	-1064.957	-23.540	54.546
5	3.6719	Str1 (Cont)	Max	-1327.266	-32.908	54.546
5	7.3438	Str1 (Cont)	Max	-1589.576	-61.015	54.546
5	0.0000	Str1 (Cont)	Min	-2065.999	-29.453	-53.576
5	3.6719	Str1 (Cont)	Min	-2328.309	-38.822	-53.576
5	7.3438	Str1 (Cont)	Min	-2590.618	-66.929	-53.576
5	0.0000	Str1 (Expn)	Max	-1101.790	112.191	54.546
5	3.6719	Str1 (Expn)	Max	-1364.099	97.807	54.546

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
5	7.3438	Str1 (Expn)	Max	-1626.409	54.655	54.546
5	0.0000	Str1 (Expn)	Min	-2102.832	106.278	-53.576
5	3.6719	Str1 (Expn)	Min	-2365.141	91.893	-53.576
5	7.3438	Str1 (Expn)	Min	-2627.451	48.741	-53.576
5	0.0000	Ext Event I	Max	-1170.955	49.834	15.446
5	3.6719	Ext Event I	Max	-1433.264	40.465	15.446
5	7.3438	Ext Event I	Max	-1695.574	12.359	15.446
5	0.0000	Ext Event I	Min	-1456.967	48.144	-15.446
5	3.6719	Ext Event I	Min	-1719.276	38.775	-15.446
5	7.3438	Ext Event I	Min	-1981.586	10.669	-15.446
6	0.0000	Str1 (Cont)	Max	334.050	-2057.876	260.409
6	2.0000	Str1 (Cont)	Max	334.050	-1892.905	260.409
6	4.0000	Str1 (Cont)	Max	334.050	-1771.550	260.409
6	6.0000	Str1 (Cont)	Max	334.050	-1668.141	260.409
6	6.0000	Str1 (Cont)	Max	334.050	-1661.641	260.409
6	7.6699	Str1 (Cont)	Max	334.050	-1575.300	260.409
6	9.3398	Str1 (Cont)	Max	334.050	-1488.958	260.409
6	9.3398	Str1 (Cont)	Max	334.050	-1488.958	260.409
6	10.9199	Str1 (Cont)	Max	334.050	-1407.260	260.409
6	12.5000	Str1 (Cont)	Max	334.050	-1325.562	260.409
6	12.5000	Str1 (Cont)	Max	334.050	-1319.062	260.409
6	14.0428	Str1 (Cont)	Max	334.050	-1239.291	260.409
6	15.5856	Str1 (Cont)	Max	334.050	-1159.520	260.409
6	17.1285	Str1 (Cont)	Max	334.050	-1079.749	260.409
6	18.6713	Str1 (Cont)	Max	334.050	-1002.614	260.409
6	18.6713	Str1 (Cont)	Max	334.050	-1002.614	260.409
6	20.5376	Str1 (Cont)	Max	334.050	-893.029	260.409
6	22.4039	Str1 (Cont)	Max	334.050	-783.445	260.409
6	24.2702	Str1 (Cont)	Max	334.050	-673.860	260.409
6	26.1365	Str1 (Cont)	Max	334.050	-564.276	260.409
6	28.0028	Str1 (Cont)	Max	334.050	-454.691	260.409
6	28.0028	Str1 (Cont)	Max	334.050	-454.691	260.409
6	29.8691	Str1 (Cont)	Max	334.050	-337.745	260.409
6	31.7354	Str1 (Cont)	Max	334.050	-220.800	260.409
6	33.6017	Str1 (Cont)	Max	334.050	-103.854	260.409
6	35.4680	Str1 (Cont)	Max	334.050	13.092	260.409
6	37.3343	Str1 (Cont)	Max	334.050	130.038	260.409
6	37.3343	Str1 (Cont)	Max	334.050	130.038	260.409
6	39.2006	Str1 (Cont)	Max	334.050	249.346	260.409
6	41.0669	Str1 (Cont)	Max	334.050	368.655	260.409
6	42.9331	Str1 (Cont)	Max	334.050	487.963	260.409
6	44.7994	Str1 (Cont)	Max	334.050	607.272	260.409
6	46.6657	Str1 (Cont)	Max	334.050	726.580	260.409
6	46.6657	Str1 (Cont)	Max	334.050	726.580	260.409
6	48.5320	Str1 (Cont)	Max	334.050	846.885	260.409
6	50.3983	Str1 (Cont)	Max	334.050	967.189	260.409
6	52.2646	Str1 (Cont)	Max	334.050	1087.493	260.409
6	54.1309	Str1 (Cont)	Max	334.050	1207.797	260.409
6	55.9972	Str1 (Cont)	Max	334.050	1328.101	260.409
6	55.9972	Str1 (Cont)	Max	334.050	1328.101	260.409
6	57.8635	Str1 (Cont)	Max	334.050	1448.038	260.409
6	59.7298	Str1 (Cont)	Max	334.050	1567.975	260.409
6	61.5961	Str1 (Cont)	Max	334.050	1687.912	260.409
6	63.4624	Str1 (Cont)	Max	334.050	1807.849	260.409
6	65.3287	Str1 (Cont)	Max	334.050	1927.786	260.409
6	65.3287	Str1 (Cont)	Max	334.050	1927.786	260.409
6	66.8715	Str1 (Cont)	Max	334.050	2026.340	260.409
6	68.4144	Str1 (Cont)	Max	334.050	2127.530	260.409
6	69.9572	Str1 (Cont)	Max	334.050	2228.720	260.409
6	71.5000	Str1 (Cont)	Max	334.050	2329.910	260.409
6	71.5000	Str1 (Cont)	Max	334.050	2336.410	260.409
6	73.0801	Str1 (Cont)	Max	334.050	2440.045	260.409
6	74.6602	Str1 (Cont)	Max	334.050	2543.679	260.409
6	74.6602	Str1 (Cont)	Max	334.050	2543.679	260.409
6	76.5801	Str1 (Cont)	Max	334.050	2666.398	260.409
6	78.5000	Str1 (Cont)	Max	334.050	2789.117	260.409
6	78.5000	Str1 (Cont)	Max	334.050	2795.617	260.409
6	80.3333	Str1 (Cont)	Max	334.050	2912.802	260.409
6	82.1667	Str1 (Cont)	Max	334.050	3053.062	260.409

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
6	84.0000	Str1 (Cont)	Max	334.050	3226.680	260.409
6	0.0000	Str1 (Cont)	Min	329.394	-3151.504	-260.140
6	2.0000	Str1 (Cont)	Min	329.394	-2963.087	-260.140
6	4.0000	Str1 (Cont)	Min	329.394	-2818.288	-260.140
6	6.0000	Str1 (Cont)	Min	329.394	-2691.434	-260.140
6	6.0000	Str1 (Cont)	Min	329.394	-2684.934	-260.140
6	7.6699	Str1 (Cont)	Min	329.394	-2579.016	-260.140
6	9.3398	Str1 (Cont)	Min	329.394	-2473.099	-260.140
6	9.3398	Str1 (Cont)	Min	329.394	-2473.099	-260.140
6	10.9199	Str1 (Cont)	Min	329.394	-2369.973	-260.140
6	12.5000	Str1 (Cont)	Min	329.394	-2266.847	-260.140
6	12.5000	Str1 (Cont)	Min	329.394	-2260.347	-260.140
6	14.0428	Str1 (Cont)	Min	329.394	-2159.654	-260.140
6	15.5856	Str1 (Cont)	Min	329.394	-2058.961	-260.140
6	17.1285	Str1 (Cont)	Min	329.394	-1958.267	-260.140
6	18.6713	Str1 (Cont)	Min	329.394	-1860.209	-260.140
6	18.6713	Str1 (Cont)	Min	329.394	-1860.209	-260.140
6	20.5376	Str1 (Cont)	Min	329.394	-1740.555	-260.140
6	22.4039	Str1 (Cont)	Min	329.394	-1620.900	-260.140
6	24.2702	Str1 (Cont)	Min	329.394	-1501.245	-260.140
6	26.1365	Str1 (Cont)	Min	329.394	-1381.591	-260.140
6	28.0028	Str1 (Cont)	Min	329.394	-1261.936	-260.140
6	28.0028	Str1 (Cont)	Min	329.394	-1261.936	-260.140
6	29.8691	Str1 (Cont)	Min	329.394	-1141.596	-260.140
6	31.7354	Str1 (Cont)	Min	329.394	-1021.255	-260.140
6	33.6017	Str1 (Cont)	Min	329.394	-900.915	-260.140
6	35.4680	Str1 (Cont)	Min	329.394	-780.575	-260.140
6	37.3343	Str1 (Cont)	Min	329.394	-660.234	-260.140
6	37.3343	Str1 (Cont)	Min	329.394	-660.234	-260.140
6	39.2006	Str1 (Cont)	Min	329.394	-540.571	-260.140
6	41.0669	Str1 (Cont)	Min	329.394	-420.908	-260.140
6	42.9331	Str1 (Cont)	Min	329.394	-301.245	-260.140
6	44.7994	Str1 (Cont)	Min	329.394	-181.581	-260.140
6	46.6657	Str1 (Cont)	Min	329.394	-61.918	-260.140
6	46.6657	Str1 (Cont)	Min	329.394	-61.918	-260.140
6	48.5320	Str1 (Cont)	Min	329.394	55.700	-260.140
6	50.3983	Str1 (Cont)	Min	329.394	173.318	-260.140
6	52.2646	Str1 (Cont)	Min	329.394	290.936	-260.140
6	54.1309	Str1 (Cont)	Min	329.394	408.555	-260.140
6	55.9972	Str1 (Cont)	Min	329.394	526.173	-260.140
6	55.9972	Str1 (Cont)	Min	329.394	526.173	-260.140
6	57.8635	Str1 (Cont)	Min	329.394	638.020	-260.140
6	59.7298	Str1 (Cont)	Min	329.394	749.867	-260.140
6	61.5961	Str1 (Cont)	Min	329.394	861.714	-260.140
6	63.4624	Str1 (Cont)	Min	329.394	973.561	-260.140
6	65.3287	Str1 (Cont)	Min	329.394	1085.409	-260.140
6	65.3287	Str1 (Cont)	Min	329.394	1085.409	-260.140
6	66.8715	Str1 (Cont)	Min	329.394	1167.179	-260.140
6	68.4144	Str1 (Cont)	Min	329.394	1251.585	-260.140
6	69.9572	Str1 (Cont)	Min	329.394	1335.991	-260.140
6	71.5000	Str1 (Cont)	Min	329.394	1420.397	-260.140
6	71.5000	Str1 (Cont)	Min	329.394	1426.897	-260.140
6	73.0801	Str1 (Cont)	Min	329.394	1513.342	-260.140
6	74.6602	Str1 (Cont)	Min	329.394	1599.787	-260.140
6	74.6602	Str1 (Cont)	Min	329.394	1599.787	-260.140
6	76.5801	Str1 (Cont)	Min	329.394	1699.055	-260.140
6	78.5000	Str1 (Cont)	Min	329.394	1798.323	-260.140
6	78.5000	Str1 (Cont)	Min	329.394	1804.823	-260.140
6	80.3333	Str1 (Cont)	Min	329.394	1899.614	-260.140
6	82.1667	Str1 (Cont)	Min	329.394	2017.482	-260.140
6	84.0000	Str1 (Cont)	Min	329.394	2168.706	-260.140
6	0.0000	Str1 (Expn)	Max	-146.185	-2069.854	260.409
6	2.0000	Str1 (Expn)	Max	-146.185	-1904.883	260.409
6	4.0000	Str1 (Expn)	Max	-146.185	-1783.528	260.409
6	6.0000	Str1 (Expn)	Max	-146.185	-1680.119	260.409
6	6.0000	Str1 (Expn)	Max	-146.185	-1673.619	260.409
6	7.6699	Str1 (Expn)	Max	-146.185	-1587.278	260.409
6	9.3398	Str1 (Expn)	Max	-146.185	-1500.936	260.409
6	9.3398	Str1 (Expn)	Max	-146.185	-1500.936	260.409

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
6	10.9199	Str1 (Expn)	Max	-146.185	-1419.238	260.409
6	12.5000	Str1 (Expn)	Max	-146.185	-1337.540	260.409
6	12.5000	Str1 (Expn)	Max	-146.185	-1331.040	260.409
6	14.0428	Str1 (Expn)	Max	-146.185	-1251.269	260.409
6	15.5856	Str1 (Expn)	Max	-146.185	-1171.498	260.409
6	17.1285	Str1 (Expn)	Max	-146.185	-1091.727	260.409
6	18.6713	Str1 (Expn)	Max	-146.185	-1014.592	260.409
6	18.6713	Str1 (Expn)	Max	-146.185	-1014.592	260.409
6	20.5376	Str1 (Expn)	Max	-146.185	-905.007	260.409
6	22.4039	Str1 (Expn)	Max	-146.185	-795.423	260.409
6	24.2702	Str1 (Expn)	Max	-146.185	-685.838	260.409
6	26.1365	Str1 (Expn)	Max	-146.185	-576.254	260.409
6	28.0028	Str1 (Expn)	Max	-146.185	-466.669	260.409
6	28.0028	Str1 (Expn)	Max	-146.185	-466.669	260.409
6	29.8691	Str1 (Expn)	Max	-146.185	-349.723	260.409
6	31.7354	Str1 (Expn)	Max	-146.185	-232.778	260.409
6	33.6017	Str1 (Expn)	Max	-146.185	-115.832	260.409
6	35.4680	Str1 (Expn)	Max	-146.185	1.114	260.409
6	37.3343	Str1 (Expn)	Max	-146.185	118.060	260.409
6	37.3343	Str1 (Expn)	Max	-146.185	118.060	260.409
6	39.2006	Str1 (Expn)	Max	-146.185	237.368	260.409
6	41.0669	Str1 (Expn)	Max	-146.185	356.677	260.409
6	42.9331	Str1 (Expn)	Max	-146.185	475.985	260.409
6	44.7994	Str1 (Expn)	Max	-146.185	595.294	260.409
6	46.6657	Str1 (Expn)	Max	-146.185	714.602	260.409
6	46.6657	Str1 (Expn)	Max	-146.185	714.602	260.409
6	48.5320	Str1 (Expn)	Max	-146.185	834.907	260.409
6	50.3983	Str1 (Expn)	Max	-146.185	955.211	260.409
6	52.2646	Str1 (Expn)	Max	-146.185	1075.515	260.409
6	54.1309	Str1 (Expn)	Max	-146.185	1195.819	260.409
6	55.9972	Str1 (Expn)	Max	-146.185	1316.123	260.409
6	55.9972	Str1 (Expn)	Max	-146.185	1316.123	260.409
6	57.8635	Str1 (Expn)	Max	-146.185	1436.060	260.409
6	59.7298	Str1 (Expn)	Max	-146.185	1555.997	260.409
6	61.5961	Str1 (Expn)	Max	-146.185	1675.934	260.409
6	63.4624	Str1 (Expn)	Max	-146.185	1795.871	260.409
6	65.3287	Str1 (Expn)	Max	-146.185	1915.808	260.409
6	65.3287	Str1 (Expn)	Max	-146.185	1915.808	260.409
6	66.8715	Str1 (Expn)	Max	-146.185	2014.362	260.409
6	68.4144	Str1 (Expn)	Max	-146.185	2115.552	260.409
6	69.9572	Str1 (Expn)	Max	-146.185	2216.742	260.409
6	71.5000	Str1 (Expn)	Max	-146.185	2317.932	260.409
6	71.5000	Str1 (Expn)	Max	-146.185	2324.432	260.409
6	73.0801	Str1 (Expn)	Max	-146.185	2428.067	260.409
6	74.6602	Str1 (Expn)	Max	-146.185	2531.701	260.409
6	74.6602	Str1 (Expn)	Max	-146.185	2531.701	260.409
6	76.5801	Str1 (Expn)	Max	-146.185	2654.420	260.409
6	78.5000	Str1 (Expn)	Max	-146.185	2777.138	260.409
6	78.5000	Str1 (Expn)	Max	-146.185	2783.638	260.409
6	80.3333	Str1 (Expn)	Max	-146.185	2900.824	260.409
6	82.1667	Str1 (Expn)	Max	-146.185	3041.084	260.409
6	84.0000	Str1 (Expn)	Max	-146.185	3214.702	260.409
6	0.0000	Str1 (Expn)	Min	-150.841	-3163.482	-260.140
6	2.0000	Str1 (Expn)	Min	-150.841	-2975.065	-260.140
6	4.0000	Str1 (Expn)	Min	-150.841	-2830.266	-260.140
6	6.0000	Str1 (Expn)	Min	-150.841	-2703.412	-260.140
6	6.0000	Str1 (Expn)	Min	-150.841	-2696.912	-260.140
6	7.6699	Str1 (Expn)	Min	-150.841	-2590.994	-260.140
6	9.3398	Str1 (Expn)	Min	-150.841	-2485.077	-260.140
6	9.3398	Str1 (Expn)	Min	-150.841	-2485.077	-260.140
6	10.9199	Str1 (Expn)	Min	-150.841	-2381.951	-260.140
6	12.5000	Str1 (Expn)	Min	-150.841	-2278.825	-260.140
6	12.5000	Str1 (Expn)	Min	-150.841	-2272.325	-260.140
6	14.0428	Str1 (Expn)	Min	-150.841	-2171.632	-260.140
6	15.5856	Str1 (Expn)	Min	-150.841	-2070.939	-260.140
6	17.1285	Str1 (Expn)	Min	-150.841	-1970.245	-260.140
6	18.6713	Str1 (Expn)	Min	-150.841	-1872.187	-260.140
6	18.6713	Str1 (Expn)	Min	-150.841	-1872.187	-260.140
6	20.5376	Str1 (Expn)	Min	-150.841	-1752.533	-260.140

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
6	22.4039	Str1 (Expn)	Min	-150.841	-1632.878	-260.140
6	24.2702	Str1 (Expn)	Min	-150.841	-1513.223	-260.140
6	26.1365	Str1 (Expn)	Min	-150.841	-1393.569	-260.140
6	28.0028	Str1 (Expn)	Min	-150.841	-1273.914	-260.140
6	28.0028	Str1 (Expn)	Min	-150.841	-1273.914	-260.140
6	29.8691	Str1 (Expn)	Min	-150.841	-1153.574	-260.140
6	31.7354	Str1 (Expn)	Min	-150.841	-1033.233	-260.140
6	33.6017	Str1 (Expn)	Min	-150.841	-912.893	-260.140
6	35.4680	Str1 (Expn)	Min	-150.841	-792.553	-260.140
6	37.3343	Str1 (Expn)	Min	-150.841	-672.212	-260.140
6	37.3343	Str1 (Expn)	Min	-150.841	-672.212	-260.140
6	39.2006	Str1 (Expn)	Min	-150.841	-552.549	-260.140
6	41.0669	Str1 (Expn)	Min	-150.841	-432.886	-260.140
6	42.9331	Str1 (Expn)	Min	-150.841	-313.223	-260.140
6	44.7994	Str1 (Expn)	Min	-150.841	-193.559	-260.140
6	46.6657	Str1 (Expn)	Min	-150.841	-73.896	-260.140
6	46.6657	Str1 (Expn)	Min	-150.841	-73.896	-260.140
6	48.5320	Str1 (Expn)	Min	-150.841	43.722	-260.140
6	50.3983	Str1 (Expn)	Min	-150.841	161.340	-260.140
6	52.2646	Str1 (Expn)	Min	-150.841	278.958	-260.140
6	54.1309	Str1 (Expn)	Min	-150.841	396.577	-260.140
6	55.9972	Str1 (Expn)	Min	-150.841	514.195	-260.140
6	55.9972	Str1 (Expn)	Min	-150.841	514.195	-260.140
6	57.8635	Str1 (Expn)	Min	-150.841	626.042	-260.140
6	59.7298	Str1 (Expn)	Min	-150.841	737.889	-260.140
6	61.5961	Str1 (Expn)	Min	-150.841	849.736	-260.140
6	63.4624	Str1 (Expn)	Min	-150.841	961.583	-260.140
6	65.3287	Str1 (Expn)	Min	-150.841	1073.431	-260.140
6	65.3287	Str1 (Expn)	Min	-150.841	1073.431	-260.140
6	66.8715	Str1 (Expn)	Min	-150.841	1155.201	-260.140
6	68.4144	Str1 (Expn)	Min	-150.841	1239.607	-260.140
6	69.9572	Str1 (Expn)	Min	-150.841	1324.013	-260.140
6	71.5000	Str1 (Expn)	Min	-150.841	1408.419	-260.140
6	71.5000	Str1 (Expn)	Min	-150.841	1414.919	-260.140
6	73.0801	Str1 (Expn)	Min	-150.841	1501.364	-260.140
6	74.6602	Str1 (Expn)	Min	-150.841	1587.809	-260.140
6	74.6602	Str1 (Expn)	Min	-150.841	1587.809	-260.140
6	76.5801	Str1 (Expn)	Min	-150.841	1687.077	-260.140
6	78.5000	Str1 (Expn)	Min	-150.841	1786.345	-260.140
6	78.5000	Str1 (Expn)	Min	-150.841	1792.845	-260.140
6	80.3333	Str1 (Expn)	Min	-150.841	1887.636	-260.140
6	82.1667	Str1 (Expn)	Min	-150.841	2005.504	-260.140
6	84.0000	Str1 (Expn)	Min	-150.841	2156.728	-260.140
6	0.0000	Ext Event I	Max	-87.946	-2140.412	74.364
6	2.0000	Ext Event I	Max	-87.946	-1975.441	74.364
6	4.0000	Ext Event I	Max	-87.946	-1854.086	74.364
6	6.0000	Ext Event I	Max	-87.946	-1750.677	74.364
6	6.0000	Ext Event I	Max	-87.946	-1744.177	74.364
6	7.6699	Ext Event I	Max	-87.946	-1657.836	74.364
6	9.3398	Ext Event I	Max	-87.946	-1571.494	74.364
6	9.3398	Ext Event I	Max	-87.946	-1571.494	74.364
6	10.9199	Ext Event I	Max	-87.946	-1489.796	74.364
6	12.5000	Ext Event I	Max	-87.946	-1408.098	74.364
6	12.5000	Ext Event I	Max	-87.946	-1401.598	74.364
6	14.0428	Ext Event I	Max	-87.946	-1321.827	74.364
6	15.5856	Ext Event I	Max	-87.946	-1242.056	74.364
6	17.1285	Ext Event I	Max	-87.946	-1162.285	74.364
6	18.6713	Ext Event I	Max	-87.946	-1085.150	74.364
6	18.6713	Ext Event I	Max	-87.946	-1085.150	74.364
6	20.5376	Ext Event I	Max	-87.946	-987.913	74.364
6	22.4039	Ext Event I	Max	-87.946	-890.677	74.364
6	24.2702	Ext Event I	Max	-87.946	-793.441	74.364
6	26.1365	Ext Event I	Max	-87.946	-696.205	74.364
6	28.0028	Ext Event I	Max	-87.946	-598.969	74.364
6	28.0028	Ext Event I	Max	-87.946	-598.969	74.364
6	29.8691	Ext Event I	Max	-87.946	-499.630	74.364
6	31.7354	Ext Event I	Max	-87.946	-400.290	74.364
6	33.6017	Ext Event I	Max	-87.946	-300.951	74.364
6	35.4680	Ext Event I	Max	-87.946	-201.612	74.364

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
6	37.3343	Ext Event I	Max	-87.946	-102.272	74.364
6	37.3343	Ext Event I	Max	-87.946	-102.272	74.364
6	39.2006	Ext Event I	Max	-87.946	-2.258	74.364
6	41.0669	Ext Event I	Max	-87.946	97.756	74.364
6	42.9331	Ext Event I	Max	-87.946	197.771	74.364
6	44.7994	Ext Event I	Max	-87.946	297.785	74.364
6	46.6657	Ext Event I	Max	-87.946	397.800	74.364
6	46.6657	Ext Event I	Max	-87.946	397.800	74.364
6	48.5320	Ext Event I	Max	-87.946	498.099	74.364
6	50.3983	Ext Event I	Max	-87.946	598.397	74.364
6	52.2646	Ext Event I	Max	-87.946	698.696	74.364
6	54.1309	Ext Event I	Max	-87.946	798.995	74.364
6	55.9972	Ext Event I	Max	-87.946	899.294	74.364
6	55.9972	Ext Event I	Max	-87.946	899.294	74.364
6	57.8635	Ext Event I	Max	-87.946	999.488	74.364
6	59.7298	Ext Event I	Max	-87.946	1099.682	74.364
6	61.5961	Ext Event I	Max	-87.946	1199.876	74.364
6	63.4624	Ext Event I	Max	-87.946	1300.070	74.364
6	65.3287	Ext Event I	Max	-87.946	1400.264	74.364
6	65.3287	Ext Event I	Max	-87.946	1400.264	74.364
6	66.8715	Ext Event I	Max	-87.946	1483.519	74.364
6	68.4144	Ext Event I	Max	-87.946	1569.410	74.364
6	69.9572	Ext Event I	Max	-87.946	1655.300	74.364
6	71.5000	Ext Event I	Max	-87.946	1741.191	74.364
6	71.5000	Ext Event I	Max	-87.946	1747.691	74.364
6	73.0801	Ext Event I	Max	-87.946	1835.656	74.364
6	74.6602	Ext Event I	Max	-87.946	1923.622	74.364
6	74.6602	Ext Event I	Max	-87.946	1923.622	74.364
6	76.5801	Ext Event I	Max	-87.946	2029.590	74.364
6	78.5000	Ext Event I	Max	-87.946	2135.558	74.364
6	78.5000	Ext Event I	Max	-87.946	2142.058	74.364
6	80.3333	Ext Event I	Max	-87.946	2243.248	74.364
6	82.1667	Ext Event I	Max	-87.946	2367.513	74.364
6	84.0000	Ext Event I	Max	-87.946	2525.135	74.364
6	0.0000	Ext Event I	Min	-89.276	-2452.877	-74.364
6	2.0000	Ext Event I	Min	-89.276	-2281.207	-74.364
6	4.0000	Ext Event I	Min	-89.276	-2153.154	-74.364
6	6.0000	Ext Event I	Min	-89.276	-2043.046	-74.364
6	6.0000	Ext Event I	Min	-89.276	-2036.546	-74.364
6	7.6699	Ext Event I	Min	-89.276	-1944.612	-74.364
6	9.3398	Ext Event I	Min	-89.276	-1852.677	-74.364
6	9.3398	Ext Event I	Min	-89.276	-1852.677	-74.364
6	10.9199	Ext Event I	Min	-89.276	-1764.857	-74.364
6	12.5000	Ext Event I	Min	-89.276	-1677.037	-74.364
6	12.5000	Ext Event I	Min	-89.276	-1670.537	-74.364
6	14.0428	Ext Event I	Min	-89.276	-1584.788	-74.364
6	15.5856	Ext Event I	Min	-89.276	-1499.039	-74.364
6	17.1285	Ext Event I	Min	-89.276	-1413.290	-74.364
6	18.6713	Ext Event I	Min	-89.276	-1330.177	-74.364
6	18.6713	Ext Event I	Min	-89.276	-1330.177	-74.364
6	20.5376	Ext Event I	Min	-89.276	-1230.064	-74.364
6	22.4039	Ext Event I	Min	-89.276	-1129.950	-74.364
6	24.2702	Ext Event I	Min	-89.276	-1029.837	-74.364
6	26.1365	Ext Event I	Min	-89.276	-929.724	-74.364
6	28.0028	Ext Event I	Min	-89.276	-829.610	-74.364
6	28.0028	Ext Event I	Min	-89.276	-829.610	-74.364
6	29.8691	Ext Event I	Min	-89.276	-729.301	-74.364
6	31.7354	Ext Event I	Min	-89.276	-628.992	-74.364
6	33.6017	Ext Event I	Min	-89.276	-528.683	-74.364
6	35.4680	Ext Event I	Min	-89.276	-428.374	-74.364
6	37.3343	Ext Event I	Min	-89.276	-328.064	-74.364
6	37.3343	Ext Event I	Min	-89.276	-328.064	-74.364
6	39.2006	Ext Event I	Min	-89.276	-227.949	-74.364
6	41.0669	Ext Event I	Min	-89.276	-127.833	-74.364
6	42.9331	Ext Event I	Min	-89.276	-27.717	-74.364
6	44.7994	Ext Event I	Min	-89.276	72.399	-74.364
6	46.6657	Ext Event I	Min	-89.276	172.514	-74.364
6	46.6657	Ext Event I	Min	-89.276	172.514	-74.364
6	48.5320	Ext Event I	Min	-89.276	272.046	-74.364

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
6	50.3983	Ext Event I	Min	-89.276	371.577	-74.364
6	52.2646	Ext Event I	Min	-89.276	471.109	-74.364
6	54.1309	Ext Event I	Min	-89.276	570.640	-74.364
6	55.9972	Ext Event I	Min	-89.276	670.172	-74.364
6	55.9972	Ext Event I	Min	-89.276	670.172	-74.364
6	57.8635	Ext Event I	Min	-89.276	768.054	-74.364
6	59.7298	Ext Event I	Min	-89.276	865.937	-74.364
6	61.5961	Ext Event I	Min	-89.276	963.819	-74.364
6	63.4624	Ext Event I	Min	-89.276	1061.702	-74.364
6	65.3287	Ext Event I	Min	-89.276	1159.585	-74.364
6	65.3287	Ext Event I	Min	-89.276	1159.585	-74.364
6	66.8715	Ext Event I	Min	-89.276	1238.044	-74.364
6	68.4144	Ext Event I	Min	-89.276	1319.140	-74.364
6	69.9572	Ext Event I	Min	-89.276	1400.235	-74.364
6	71.5000	Ext Event I	Min	-89.276	1481.330	-74.364
6	71.5000	Ext Event I	Min	-89.276	1487.830	-74.364
6	73.0801	Ext Event I	Min	-89.276	1570.884	-74.364
6	74.6602	Ext Event I	Min	-89.276	1653.939	-74.364
6	74.6602	Ext Event I	Min	-89.276	1653.939	-74.364
6	76.5801	Ext Event I	Min	-89.276	1753.206	-74.364
6	78.5000	Ext Event I	Min	-89.276	1852.474	-74.364
6	78.5000	Ext Event I	Min	-89.276	1858.974	-74.364
6	80.3333	Ext Event I	Min	-89.276	1953.766	-74.364
6	82.1667	Ext Event I	Min	-89.276	2071.633	-74.364
6	84.0000	Ext Event I	Min	-89.276	2222.857	-74.364
7	0.0000	Str1 (Cont)	Max	-4339.807	-240.290	335.127
7	2.7292	Str1 (Cont)	Max	-4593.619	-240.290	335.127
7	5.4583	Str1 (Cont)	Max	-4847.432	-240.290	335.240
7	0.0000	Str1 (Cont)	Min	-5602.195	-242.511	-334.139
7	2.7292	Str1 (Cont)	Min	-5856.008	-242.511	-334.139
7	5.4583	Str1 (Cont)	Min	-6109.820	-242.511	-334.026
7	0.0000	Str1 (Expn)	Max	-4324.007	125.281	335.127
7	2.7292	Str1 (Expn)	Max	-4577.819	125.281	335.127
7	5.4583	Str1 (Expn)	Max	-4831.632	125.281	335.240
7	0.0000	Str1 (Expn)	Min	-5586.395	123.060	-334.139
7	2.7292	Str1 (Expn)	Min	-5840.208	123.060	-334.139
7	5.4583	Str1 (Expn)	Min	-6094.020	123.060	-334.026
7	0.0000	Ext Event I	Max	-4431.338	-13.284	95.609
7	2.7292	Ext Event I	Max	-4685.150	-13.284	95.609
7	5.4583	Ext Event I	Max	-4938.963	-13.284	95.609
7	0.0000	Ext Event I	Min	-4792.020 ✓	-13.918	-95.609
7	2.7292	Ext Event I	Min	-5045.833	-13.918	-95.609
7	5.4583	Ext Event I	Min	-5299.645	-13.918	-95.609
8	0.0000	Str1 (Cont)	Max	-4847.432	-240.290	335.240
8	6.3333	Str1 (Cont)	Max	-4915.543	-240.290	337.964
8	12.6667	Str1 (Cont)	Max	-4983.654	-240.290	340.680
8	0.0000	Str1 (Cont)	Min	-6109.820 ✓	-242.511	-334.026
8	6.3333	Str1 (Cont)	Min	-6177.931	-242.511	-331.303
8	12.6667	Str1 (Cont)	Min	-6246.042 ✓	-242.511	-328.587
8	0.0000	Str1 (Expn)	Max	-4831.632	125.281	335.240
8	6.3333	Str1 (Expn)	Max	-4899.743	125.281	337.964
8	12.6667	Str1 (Expn)	Max	-4967.853	125.281	340.680
8	0.0000	Str1 (Expn)	Min	-6094.020	123.060	-334.026
8	6.3333	Str1 (Expn)	Min	-6162.131	123.060	-331.303
8	12.6667	Str1 (Expn)	Min	-6230.242	123.060	-328.587
8	0.0000	Ext Event I	Max	-4938.963	-13.284	95.609
8	6.3333	Ext Event I	Max	-5007.074	-13.284	95.609
8	12.6667	Ext Event I	Max	-5075.185	-13.284	95.609
8	0.0000	Ext Event I	Min	-5299.645	-13.918	-95.609
8	6.3333	Ext Event I	Min	-5367.756	-13.918	-95.609
8	12.6667	Ext Event I	Min	-5435.867	-13.918	-95.609
9	0.0000	Str1 (Cont)	Max	575.057	-2105.558	175.021
9	1.8333	Str1 (Cont)	Max	575.057	-1954.334	175.021
9	3.6667	Str1 (Cont)	Max	575.057	-1836.467	175.021
9	5.5000	Str1 (Cont)	Max	575.057	-1741.675	175.021
9	5.5000	Str1 (Cont)	Max	575.057	-1735.175	175.021
9	7.4199	Str1 (Cont)	Max	575.057	-1635.908	175.021
9	9.3398	Str1 (Cont)	Max	575.057	-1536.640	175.021
9	9.3398	Str1 (Cont)	Max	575.057	-1536.640	175.021

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
9	10.9199	Str1 (Cont)	Max	575.057	-1454.942	175.021
9	12.5000	Str1 (Cont)	Max	575.057	-1373.244	175.021
9	12.5000	Str1 (Cont)	Max	575.057	-1366.744	175.021
9	14.0428	Str1 (Cont)	Max	575.057	-1286.973	175.021
9	15.5856	Str1 (Cont)	Max	575.057	-1207.202	175.021
9	17.1285	Str1 (Cont)	Max	575.057	-1127.431	175.021
9	18.6713	Str1 (Cont)	Max	575.057	-1050.296	175.021
9	18.6713	Str1 (Cont)	Max	575.057	-1050.296	175.021
9	20.5376	Str1 (Cont)	Max	575.057	-938.795	175.021
9	22.4039	Str1 (Cont)	Max	575.057	-827.295	175.021
9	24.2702	Str1 (Cont)	Max	575.057	-715.795	175.021
9	26.1365	Str1 (Cont)	Max	575.057	-604.295	175.021
9	28.0028	Str1 (Cont)	Max	575.057	-492.795	175.021
9	28.0028	Str1 (Cont)	Max	575.057	-492.795	175.021
9	29.8691	Str1 (Cont)	Max	575.057	-375.541	175.021
9	31.7354	Str1 (Cont)	Max	575.057	-258.288	175.021
9	33.6017	Str1 (Cont)	Max	575.057	-141.034	175.021
9	35.4680	Str1 (Cont)	Max	575.057	-23.780	175.021
9	37.3343	Str1 (Cont)	Max	575.057	93.473	175.021
9	37.3343	Str1 (Cont)	Max	575.057	93.473	175.021
9	39.2006	Str1 (Cont)	Max	575.057	212.846	175.021
9	41.0669	Str1 (Cont)	Max	575.057	332.218	175.021
9	42.9331	Str1 (Cont)	Max	575.057	451.591	175.021
9	44.7994	Str1 (Cont)	Max	575.057	570.963	175.021
9	46.6657	Str1 (Cont)	Max	575.057	690.336	175.021
9	46.6657	Str1 (Cont)	Max	575.057	690.336	175.021
9	48.5320	Str1 (Cont)	Max	575.057	810.513	175.021
9	50.3983	Str1 (Cont)	Max	575.057	930.689	175.021
9	52.2646	Str1 (Cont)	Max	575.057	1050.866	175.021
9	54.1309	Str1 (Cont)	Max	575.057	1171.043	175.021
9	55.9972	Str1 (Cont)	Max	575.057	1291.219	175.021
9	55.9972	Str1 (Cont)	Max	575.057	1291.219	175.021
9	57.8635	Str1 (Cont)	Max	575.057	1410.890	175.021
9	59.7298	Str1 (Cont)	Max	575.057	1530.561	175.021
9	61.5961	Str1 (Cont)	Max	575.057	1650.232	175.021
9	63.4624	Str1 (Cont)	Max	575.057	1769.902	175.021
9	65.3287	Str1 (Cont)	Max	575.057	1889.573	175.021
9	65.3287	Str1 (Cont)	Max	575.057	1889.573	175.021
9	66.8715	Str1 (Cont)	Max	575.057	1987.837	175.021
9	68.4144	Str1 (Cont)	Max	575.057	2088.736	175.021
9	69.9572	Str1 (Cont)	Max	575.057	2189.635	175.021
9	71.5000	Str1 (Cont)	Max	575.057	2290.534	175.021
9	71.5000	Str1 (Cont)	Max	575.057	2297.034	175.021
9	73.0801	Str1 (Cont)	Max	575.057	2400.370	175.021
9	74.6602	Str1 (Cont)	Max	575.057	2503.707	175.021
9	74.6602	Str1 (Cont)	Max	575.057	2503.707	175.021
9	76.5801	Str1 (Cont)	Max	575.057	2626.030	175.021
9	78.5000	Str1 (Cont)	Max	575.057	2748.354	175.021
9	78.5000	Str1 (Cont)	Max	575.057	2754.854	175.021
9	80.3333	Str1 (Cont)	Max	575.057	2871.661	175.021
9	82.1667	Str1 (Cont)	Max	575.057	3011.544	175.021
9	84.0000	Str1 (Cont)	Max	575.057	3184.784	175.021
9	0.0000	Str1 (Cont)	Min	571.906	-3191.761	-175.740
9	1.8333	Str1 (Cont)	Min	571.906	-3018.523	-175.740
9	3.6667	Str1 (Cont)	Min	571.906	-2878.640	-175.740
9	5.5000	Str1 (Cont)	Min	571.906	-2761.834	-175.740
9	5.5000	Str1 (Cont)	Min	571.906	-2755.334	-175.740
9	7.4199	Str1 (Cont)	Min	571.906	-2633.012	-175.740
9	9.3398	Str1 (Cont)	Min	571.906	-2510.689	-175.740
9	9.3398	Str1 (Cont)	Min	571.906	-2510.689	-175.740
9	10.9199	Str1 (Cont)	Min	571.906	-2407.353	-175.740
9	12.5000	Str1 (Cont)	Min	571.906	-2304.017	-175.740
9	12.5000	Str1 (Cont)	Min	571.906	-2297.517	-175.740
9	14.0428	Str1 (Cont)	Min	571.906	-2196.619	-175.740
9	15.5856	Str1 (Cont)	Min	571.906	-2095.720	-175.740
9	17.1285	Str1 (Cont)	Min	571.906	-1994.822	-175.740
9	18.6713	Str1 (Cont)	Min	571.906	-1896.559	-175.740
9	18.6713	Str1 (Cont)	Min	571.906	-1896.559	-175.740
9	20.5376	Str1 (Cont)	Min	571.906	-1776.888	-175.740

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
9	22.4039	Str1 (Cont)	Min	571.906	-1657.218	-175.740
9	24.2702	Str1 (Cont)	Min	571.906	-1537.547	-175.740
9	26.1365	Str1 (Cont)	Min	571.906	-1417.877	-175.740
9	28.0028	Str1 (Cont)	Min	571.906	-1298.206	-175.740
9	28.0028	Str1 (Cont)	Min	571.906	-1298.206	-175.740
9	29.8691	Str1 (Cont)	Min	571.906	-1178.030	-175.740
9	31.7354	Str1 (Cont)	Min	571.906	-1057.853	-175.740
9	33.6017	Str1 (Cont)	Min	571.906	-937.676	-175.740
9	35.4680	Str1 (Cont)	Min	571.906	-817.500	-175.740
9	37.3343	Str1 (Cont)	Min	571.906	-697.323	-175.740
9	37.3343	Str1 (Cont)	Min	571.906	-697.323	-175.740
9	39.2006	Str1 (Cont)	Min	571.906	-577.950	-175.740
9	41.0669	Str1 (Cont)	Min	571.906	-458.577	-175.740
9	42.9331	Str1 (Cont)	Min	571.906	-339.204	-175.740
9	44.7994	Str1 (Cont)	Min	571.906	-219.831	-175.740
9	46.6657	Str1 (Cont)	Min	571.906	-100.458	-175.740
9	46.6657	Str1 (Cont)	Min	571.906	-100.458	-175.740
9	48.5320	Str1 (Cont)	Min	571.906	16.796	-175.740
9	50.3983	Str1 (Cont)	Min	571.906	134.050	-175.740
9	52.2646	Str1 (Cont)	Min	571.906	251.305	-175.740
9	54.1309	Str1 (Cont)	Min	571.906	368.559	-175.740
9	55.9972	Str1 (Cont)	Min	571.906	485.814	-175.740
9	55.9972	Str1 (Cont)	Min	571.906	485.814	-175.740
9	57.8635	Str1 (Cont)	Min	571.906	597.322	-175.740
9	59.7298	Str1 (Cont)	Min	571.906	708.830	-175.740
9	61.5961	Str1 (Cont)	Min	571.906	820.338	-175.740
9	63.4624	Str1 (Cont)	Min	571.906	931.846	-175.740
9	65.3287	Str1 (Cont)	Min	571.906	1043.354	-175.740
9	65.3287	Str1 (Cont)	Min	571.906	1043.354	-175.740
9	66.8715	Str1 (Cont)	Min	571.906	1120.490	-175.740
9	68.4144	Str1 (Cont)	Min	571.906	1200.261	-175.740
9	69.9572	Str1 (Cont)	Min	571.906	1280.032	-175.740
9	71.5000	Str1 (Cont)	Min	571.906	1359.803	-175.740
9	71.5000	Str1 (Cont)	Min	571.906	1366.303	-175.740
9	73.0801	Str1 (Cont)	Min	571.906	1448.001	-175.740
9	74.6602	Str1 (Cont)	Min	571.906	1529.699	-175.740
9	74.6602	Str1 (Cont)	Min	571.906	1529.699	-175.740
9	76.5801	Str1 (Cont)	Min	571.906	1628.966	-175.740
9	78.5000	Str1 (Cont)	Min	571.906	1728.234	-175.740
9	78.5000	Str1 (Cont)	Min	571.906	1734.734	-175.740
9	80.3333	Str1 (Cont)	Min	571.906	1829.526	-175.740
9	82.1667	Str1 (Cont)	Min	571.906	1947.393	-175.740
9	84.0000	Str1 (Cont)	Min	571.906	2098.617	-175.740
9	0.0000	Str1 (Expn)	Max	-270.749	-2101.736	175.021
9	1.8333	Str1 (Expn)	Max	-270.749	-1950.512	175.021
9	3.6667	Str1 (Expn)	Max	-270.749	-1832.645	175.021
9	5.5000	Str1 (Expn)	Max	-270.749	-1737.853	175.021
9	5.5000	Str1 (Expn)	Max	-270.749	-1731.353	175.021
9	7.4199	Str1 (Expn)	Max	-270.749	-1632.085	175.021
9	9.3398	Str1 (Expn)	Max	-270.749	-1532.817	175.021
9	9.3398	Str1 (Expn)	Max	-270.749	-1532.817	175.021
9	10.9199	Str1 (Expn)	Max	-270.749	-1451.120	175.021
9	12.5000	Str1 (Expn)	Max	-270.749	-1369.422	175.021
9	12.5000	Str1 (Expn)	Max	-270.749	-1362.922	175.021
9	14.0428	Str1 (Expn)	Max	-270.749	-1283.151	175.021
9	15.5856	Str1 (Expn)	Max	-270.749	-1203.380	175.021
9	17.1285	Str1 (Expn)	Max	-270.749	-1123.609	175.021
9	18.6713	Str1 (Expn)	Max	-270.749	-1046.473	175.021
9	18.6713	Str1 (Expn)	Max	-270.749	-1046.473	175.021
9	20.5376	Str1 (Expn)	Max	-270.749	-934.973	175.021
9	22.4039	Str1 (Expn)	Max	-270.749	-823.473	175.021
9	24.2702	Str1 (Expn)	Max	-270.749	-711.973	175.021
9	26.1365	Str1 (Expn)	Max	-270.749	-600.473	175.021
9	28.0028	Str1 (Expn)	Max	-270.749	-488.973	175.021
9	28.0028	Str1 (Expn)	Max	-270.749	-488.973	175.021
9	29.8691	Str1 (Expn)	Max	-270.749	-371.719	175.021
9	31.7354	Str1 (Expn)	Max	-270.749	-254.465	175.021
9	33.6017	Str1 (Expn)	Max	-270.749	-137.212	175.021
9	35.4680	Str1 (Expn)	Max	-270.749	-19.958	175.021

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
9	37.3343	Str1 (Expn)	Max	-270.749	97.296	175.021
9	37.3343	Str1 (Expn)	Max	-270.749	97.296	175.021
9	39.2006	Str1 (Expn)	Max	-270.749	216.668	175.021
9	41.0669	Str1 (Expn)	Max	-270.749	336.041	175.021
9	42.9331	Str1 (Expn)	Max	-270.749	455.413	175.021
9	44.7994	Str1 (Expn)	Max	-270.749	574.786	175.021
9	46.6657	Str1 (Expn)	Max	-270.749	694.158	175.021
9	46.6657	Str1 (Expn)	Max	-270.749	694.158	175.021
9	48.5320	Str1 (Expn)	Max	-270.749	814.335	175.021
9	50.3983	Str1 (Expn)	Max	-270.749	934.512	175.021
9	52.2646	Str1 (Expn)	Max	-270.749	1054.688	175.021
9	54.1309	Str1 (Expn)	Max	-270.749	1174.865	175.021
9	55.9972	Str1 (Expn)	Max	-270.749	1295.042	175.021
9	55.9972	Str1 (Expn)	Max	-270.749	1295.042	175.021
9	57.8635	Str1 (Expn)	Max	-270.749	1414.712	175.021
9	59.7298	Str1 (Expn)	Max	-270.749	1534.383	175.021
9	61.5961	Str1 (Expn)	Max	-270.749	1654.054	175.021
9	63.4624	Str1 (Expn)	Max	-270.749	1773.725	175.021
9	65.3287	Str1 (Expn)	Max	-270.749	1893.395	175.021
9	65.3287	Str1 (Expn)	Max	-270.749	1893.395	175.021
9	66.8715	Str1 (Expn)	Max	-270.749	1991.659	175.021
9	68.4144	Str1 (Expn)	Max	-270.749	2092.558	175.021
9	69.9572	Str1 (Expn)	Max	-270.749	2193.457	175.021
9	71.5000	Str1 (Expn)	Max	-270.749	2294.356	175.021
9	71.5000	Str1 (Expn)	Max	-270.749	2300.856	175.021
9	73.0801	Str1 (Expn)	Max	-270.749	2404.193	175.021
9	74.6602	Str1 (Expn)	Max	-270.749	2507.529	175.021
9	74.6602	Str1 (Expn)	Max	-270.749	2507.529	175.021
9	76.5801	Str1 (Expn)	Max	-270.749	2629.852	175.021
9	78.5000	Str1 (Expn)	Max	-270.749	2752.176	175.021
9	78.5000	Str1 (Expn)	Max	-270.749	2758.676	175.021
9	80.3333	Str1 (Expn)	Max	-270.749	2875.483	175.021
9	82.1667	Str1 (Expn)	Max	-270.749	3015.366	175.021
9	84.0000	Str1 (Expn)	Max	-270.749	3188.606	175.021
9	0.0000	Str1 (Expn)	Min	-273.900	-3187.939	-175.740
9	1.8333	Str1 (Expn)	Min	-273.900	-3014.700	-175.740
9	3.6667	Str1 (Expn)	Min	-273.900	-2874.818	-175.740
9	5.5000	Str1 (Expn)	Min	-273.900	-2758.012	-175.740
9	5.5000	Str1 (Expn)	Min	-273.900	-2751.512	-175.740
9	7.4199	Str1 (Expn)	Min	-273.900	-2629.189	-175.740
9	9.3398	Str1 (Expn)	Min	-273.900	-2506.867	-175.740
9	9.3398	Str1 (Expn)	Min	-273.900	-2506.867	-175.740
9	10.9199	Str1 (Expn)	Min	-273.900	-2403.531	-175.740
9	12.5000	Str1 (Expn)	Min	-273.900	-2300.195	-175.740
9	12.5000	Str1 (Expn)	Min	-273.900	-2293.695	-175.740
9	14.0428	Str1 (Expn)	Min	-273.900	-2192.797	-175.740
9	15.5856	Str1 (Expn)	Min	-273.900	-2091.898	-175.740
9	17.1285	Str1 (Expn)	Min	-273.900	-1991.000	-175.740
9	18.6713	Str1 (Expn)	Min	-273.900	-1892.736	-175.740
9	18.6713	Str1 (Expn)	Min	-273.900	-1892.736	-175.740
9	20.5376	Str1 (Expn)	Min	-273.900	-1773.066	-175.740
9	22.4039	Str1 (Expn)	Min	-273.900	-1653.396	-175.740
9	24.2702	Str1 (Expn)	Min	-273.900	-1533.725	-175.740
9	26.1365	Str1 (Expn)	Min	-273.900	-1414.055	-175.740
9	28.0028	Str1 (Expn)	Min	-273.900	-1294.384	-175.740
9	28.0028	Str1 (Expn)	Min	-273.900	-1294.384	-175.740
9	29.8691	Str1 (Expn)	Min	-273.900	-1174.207	-175.740
9	31.7354	Str1 (Expn)	Min	-273.900	-1054.031	-175.740
9	33.6017	Str1 (Expn)	Min	-273.900	-933.854	-175.740
9	35.4680	Str1 (Expn)	Min	-273.900	-813.677	-175.740
9	37.3343	Str1 (Expn)	Min	-273.900	-693.501	-175.740
9	37.3343	Str1 (Expn)	Min	-273.900	-693.501	-175.740
9	39.2006	Str1 (Expn)	Min	-273.900	-574.128	-175.740
9	41.0669	Str1 (Expn)	Min	-273.900	-454.755	-175.740
9	42.9331	Str1 (Expn)	Min	-273.900	-335.382	-175.740
9	44.7994	Str1 (Expn)	Min	-273.900	-216.009	-175.740
9	46.6657	Str1 (Expn)	Min	-273.900	-96.636	-175.740
9	46.6657	Str1 (Expn)	Min	-273.900	-96.636	-175.740
9	48.5320	Str1 (Expn)	Min	-273.900	20.618	-175.740

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
9	50.3983	Str1 (Expn)	Min	-273.900	137.873	-175.740
9	52.2646	Str1 (Expn)	Min	-273.900	255.127	-175.740
9	54.1309	Str1 (Expn)	Min	-273.900	372.381	-175.740
9	55.9972	Str1 (Expn)	Min	-273.900	489.636	-175.740
9	55.9972	Str1 (Expn)	Min	-273.900	489.636	-175.740
9	57.8635	Str1 (Expn)	Min	-273.900	601.144	-175.740
9	59.7298	Str1 (Expn)	Min	-273.900	712.652	-175.740
9	61.5961	Str1 (Expn)	Min	-273.900	824.160	-175.740
9	63.4624	Str1 (Expn)	Min	-273.900	935.668	-175.740
9	65.3287	Str1 (Expn)	Min	-273.900	1047.177	-175.740
9	65.3287	Str1 (Expn)	Min	-273.900	1047.177	-175.740
9	66.8715	Str1 (Expn)	Min	-273.900	1124.312	-175.740
9	68.4144	Str1 (Expn)	Min	-273.900	1204.083	-175.740
9	69.9572	Str1 (Expn)	Min	-273.900	1283.854	-175.740
9	71.5000	Str1 (Expn)	Min	-273.900	1363.625	-175.740
9	71.5000	Str1 (Expn)	Min	-273.900	1370.125	-175.740
9	73.0801	Str1 (Expn)	Min	-273.900	1451.823	-175.740
9	74.6602	Str1 (Expn)	Min	-273.900	1533.521	-175.740
9	74.6602	Str1 (Expn)	Min	-273.900	1533.521	-175.740
9	76.5801	Str1 (Expn)	Min	-273.900	1632.789	-175.740
9	78.5000	Str1 (Expn)	Min	-273.900	1732.057	-175.740
9	78.5000	Str1 (Expn)	Min	-273.900	1738.557	-175.740
9	80.3333	Str1 (Expn)	Min	-273.900	1833.348	-175.740
9	82.1667	Str1 (Expn)	Min	-273.900	1951.215	-175.740
9	84.0000	Str1 (Expn)	Min	-273.900	2102.439	-175.740
9	0.0000	Ext Event I	Max	-74.457	-2180.469	50.109
9	1.8333	Ext Event I	Max	-74.457	-2029.245	50.109
9	3.6667	Ext Event I	Max	-74.457	-1911.377	50.109
9	5.5000	Ext Event I	Max	-74.457	-1816.586	50.109
9	5.5000	Ext Event I	Max	-74.457	-1810.086	50.109
9	7.4199	Ext Event I	Max	-74.457	-1710.818	50.109
9	9.3398	Ext Event I	Max	-74.457	-1611.550	50.109
9	9.3398	Ext Event I	Max	-74.457	-1611.550	50.109
9	10.9199	Ext Event I	Max	-74.457	-1529.852	50.109
9	12.5000	Ext Event I	Max	-74.457	-1448.154	50.109
9	12.5000	Ext Event I	Max	-74.457	-1441.654	50.109
9	14.0428	Ext Event I	Max	-74.457	-1361.883	50.109
9	15.5856	Ext Event I	Max	-74.457	-1282.112	50.109
9	17.1285	Ext Event I	Max	-74.457	-1202.341	50.109
9	18.6713	Ext Event I	Max	-74.457	-1125.206	50.109
9	18.6713	Ext Event I	Max	-74.457	-1125.206	50.109
9	20.5376	Ext Event I	Max	-74.457	-1027.423	50.109
9	22.4039	Ext Event I	Max	-74.457	-929.639	50.109
9	24.2702	Ext Event I	Max	-74.457	-831.856	50.109
9	26.1365	Ext Event I	Max	-74.457	-734.072	50.109
9	28.0028	Ext Event I	Max	-74.457	-636.289	50.109
9	28.0028	Ext Event I	Max	-74.457	-636.289	50.109
9	29.8691	Ext Event I	Max	-74.457	-536.862	50.109
9	31.7354	Ext Event I	Max	-74.457	-437.434	50.109
9	33.6017	Ext Event I	Max	-74.457	-338.007	50.109
9	35.4680	Ext Event I	Max	-74.457	-238.580	50.109
9	37.3343	Ext Event I	Max	-74.457	-139.152	50.109
9	37.3343	Ext Event I	Max	-74.457	-139.152	50.109
9	39.2006	Ext Event I	Max	-74.457	-39.120	50.109
9	41.0669	Ext Event I	Max	-74.457	60.913	50.109
9	42.9331	Ext Event I	Max	-74.457	160.946	50.109
9	44.7994	Ext Event I	Max	-74.457	260.978	50.109
9	46.6657	Ext Event I	Max	-74.457	361.011	50.109
9	46.6657	Ext Event I	Max	-74.457	361.011	50.109
9	48.5320	Ext Event I	Max	-74.457	461.274	50.109
9	50.3983	Ext Event I	Max	-74.457	561.536	50.109
9	52.2646	Ext Event I	Max	-74.457	661.798	50.109
9	54.1309	Ext Event I	Max	-74.457	762.061	50.109
9	55.9972	Ext Event I	Max	-74.457	862.323	50.109
9	55.9972	Ext Event I	Max	-74.457	862.323	50.109
9	57.8635	Ext Event I	Max	-74.457	962.441	50.109
9	59.7298	Ext Event I	Max	-74.457	1062.559	50.109
9	61.5961	Ext Event I	Max	-74.457	1162.677	50.109
9	63.4624	Ext Event I	Max	-74.457	1262.795	50.109

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
9	65.3287	Ext Event I	Max	-74.457	1362.913	50.109
9	65.3287	Ext Event I	Max	-74.457	1362.913	50.109
9	66.8715	Ext Event I	Max	-74.457	1446.085	50.109
9	68.4144	Ext Event I	Max	-74.457	1531.893	50.109
9	69.9572	Ext Event I	Max	-74.457	1617.700	50.109
9	71.5000	Ext Event I	Max	-74.457	1703.508	50.109
9	71.5000	Ext Event I	Max	-74.457	1710.008	50.109
9	73.0801	Ext Event I	Max	-74.457	1797.888	50.109
9	74.6602	Ext Event I	Max	-74.457	1885.768	50.109
9	74.6602	Ext Event I	Max	-74.457	1885.768	50.109
9	76.5801	Ext Event I	Max	-74.457	1991.623	50.109
9	78.5000	Ext Event I	Max	-74.457	2097.479	50.109
9	78.5000	Ext Event I	Max	-74.457	2103.979	50.109
9	80.3333	Ext Event I	Max	-74.457	2205.060	50.109
9	82.1667	Ext Event I	Max	-74.457	2329.218	50.109
9	84.0000	Ext Event I	Max	-74.457	2486.732	50.109
9	0.0000	Ext Event I	Min	-75.358	-2490.812	-50.109
9	1.8333	Ext Event I	Min	-75.358	-2333.299	-50.109
9	3.6667	Ext Event I	Min	-75.358	-2209.141	-50.109
9	5.5000	Ext Event I	Min	-75.358	-2108.060	-50.109
9	5.5000	Ext Event I	Min	-75.358	-2101.560	-50.109
9	7.4199	Ext Event I	Min	-75.358	-1995.705	-50.109
9	9.3398	Ext Event I	Min	-75.358	-1889.850	-50.109
9	9.3398	Ext Event I	Min	-75.358	-1889.850	-50.109
9	10.9199	Ext Event I	Min	-75.358	-1801.970	-50.109
9	12.5000	Ext Event I	Min	-75.358	-1714.090	-50.109
9	12.5000	Ext Event I	Min	-75.358	-1707.590	-50.109
9	14.0428	Ext Event I	Min	-75.358	-1621.782	-50.109
9	15.5856	Ext Event I	Min	-75.358	-1535.975	-50.109
9	17.1285	Ext Event I	Min	-75.358	-1450.167	-50.109
9	18.6713	Ext Event I	Min	-75.358	-1366.995	-50.109
9	18.6713	Ext Event I	Min	-75.358	-1366.995	-50.109
9	20.5376	Ext Event I	Min	-75.358	-1266.878	-50.109
9	22.4039	Ext Event I	Min	-75.358	-1166.760	-50.109
9	24.2702	Ext Event I	Min	-75.358	-1066.642	-50.109
9	26.1365	Ext Event I	Min	-75.358	-966.524	-50.109
9	28.0028	Ext Event I	Min	-75.358	-866.406	-50.109
9	28.0028	Ext Event I	Min	-75.358	-866.406	-50.109
9	29.8691	Ext Event I	Min	-75.358	-766.144	-50.109
9	31.7354	Ext Event I	Min	-75.358	-665.881	-50.109
9	33.6017	Ext Event I	Min	-75.358	-565.619	-50.109
9	35.4680	Ext Event I	Min	-75.358	-465.357	-50.109
9	37.3343	Ext Event I	Min	-75.358	-365.094	-50.109
9	37.3343	Ext Event I	Min	-75.358	-365.094	-50.109
9	39.2006	Ext Event I	Min	-75.358	-265.061	-50.109
9	41.0669	Ext Event I	Min	-75.358	-165.028	-50.109
9	42.9331	Ext Event I	Min	-75.358	-64.996	-50.109
9	44.7994	Ext Event I	Min	-75.358	35.037	-50.109
9	46.6657	Ext Event I	Min	-75.358	135.070	-50.109
9	46.6657	Ext Event I	Min	-75.358	135.070	-50.109
9	48.5320	Ext Event I	Min	-75.358	234.497	-50.109
9	50.3983	Ext Event I	Min	-75.358	333.925	-50.109
9	52.2646	Ext Event I	Min	-75.358	433.352	-50.109
9	54.1309	Ext Event I	Min	-75.358	532.780	-50.109
9	55.9972	Ext Event I	Min	-75.358	632.207	-50.109
9	55.9972	Ext Event I	Min	-75.358	632.207	-50.109
9	57.8635	Ext Event I	Min	-75.358	729.993	-50.109
9	59.7298	Ext Event I	Min	-75.358	827.779	-50.109
9	61.5961	Ext Event I	Min	-75.358	925.565	-50.109
9	63.4624	Ext Event I	Min	-75.358	1023.350	-50.109
9	65.3287	Ext Event I	Min	-75.358	1121.136	-50.109
9	65.3287	Ext Event I	Min	-75.358	1121.136	-50.109
9	66.8715	Ext Event I	Min	-75.358	1198.272	-50.109
9	68.4144	Ext Event I	Min	-75.358	1278.043	-50.109
9	69.9572	Ext Event I	Min	-75.358	1357.813	-50.109
9	71.5000	Ext Event I	Min	-75.358	1437.584	-50.109
9	71.5000	Ext Event I	Min	-75.358	1444.084	-50.109
9	73.0801	Ext Event I	Min	-75.358	1525.782	-50.109
9	74.6602	Ext Event I	Min	-75.358	1607.480	-50.109

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station ft	OutputCase	StepType	P Kip	V2 Kip	V3 Kip
9	74.6602	Ext Event I	Min	-75.358	1607.480	-50.109
9	76.5801	Ext Event I	Min	-75.358	1706.748	-50.109
9	78.5000	Ext Event I	Min	-75.358	1806.016	-50.109
9	78.5000	Ext Event I	Min	-75.358	1812.516	-50.109
9	80.3333	Ext Event I	Min	-75.358	1907.308	-50.109
9	82.1667	Ext Event I	Min	-75.358	2025.175	-50.109
9	84.0000	Ext Event I	Min	-75.358	2176.399	-50.109
10	0.0000	Str1 (Cont)	Max	-4322.633	90.350	250.576
10	2.7292	Str1 (Cont)	Max	-4576.445	90.350	250.576
10	5.4583	Str1 (Cont)	Max	-4830.258	90.350	250.867
10	0.0000	Str1 (Cont)	Min	-5584.784	88.387	-252.003
10	2.7292	Str1 (Cont)	Min	-5838.596	88.387	-252.003
10	5.4583	Str1 (Cont)	Min	-6092.409	88.387	-251.711
10	0.0000	Str1 (Expn)	Max	-4329.971	-12.668	250.576
10	2.7292	Str1 (Expn)	Max	-4583.783	-12.668	250.576
10	5.4583	Str1 (Expn)	Max	-4837.596	-12.668	250.867
10	0.0000	Str1 (Expn)	Min	-5592.121	-14.632	-252.003
10	2.7292	Str1 (Expn)	Min	-5845.934	-14.632	-252.003
10	5.4583	Str1 (Expn)	Min	-6099.746	-14.632	-251.711
10	0.0000	Ext Event I	Max	-4422.618	-11.543	71.797
10	2.7292	Ext Event I	Max	-4676.430	-11.543	71.797
10	5.4583	Ext Event I	Max	-4930.243	-11.543	71.797
10	0.0000	Ext Event I	Min	-4783.232	-12.104	-71.797
10	2.7292	Ext Event I	Min	-5037.044	-12.104	-71.797
10	5.4583	Ext Event I	Min	-5290.857	-12.104	-71.797
11	0.0000	Str1 (Cont)	Max	-4830.258	90.350	250.867
11	5.7917	Str1 (Cont)	Max	-4892.544	90.350	253.358
11	11.5833	Str1 (Cont)	Max	-4954.829	90.350	255.834
11	0.0000	Str1 (Cont)	Min	-6092.409	88.387	-251.711
11	5.7917	Str1 (Cont)	Min	-6154.694	88.387	-249.220
11	11.5833	Str1 (Cont)	Min	-6216.980	88.387	-246.744
11	0.0000	Str1 (Expn)	Max	-4837.596	-12.668	250.867
11	5.7917	Str1 (Expn)	Max	-4899.881	-12.668	253.358
11	11.5833	Str1 (Expn)	Max	-4962.167	-12.668	255.834
11	0.0000	Str1 (Expn)	Min	-6099.746	-14.632	-251.711
11	5.7917	Str1 (Expn)	Min	-6162.032	-14.632	-249.220
11	11.5833	Str1 (Expn)	Min	-6224.318	-14.632	-246.744
11	0.0000	Ext Event I	Max	-4930.243	-11.543	71.797
11	5.7917	Ext Event I	Max	-4992.528	-11.543	71.797
11	11.5833	Ext Event I	Max	-5054.814	-11.543	71.797
11	0.0000	Ext Event I	Min	-5290.857	-12.104	-71.797
11	5.7917	Ext Event I	Min	-5353.143	-12.104	-71.797
11	11.5833	Ext Event I	Min	-5415.428	-12.104	-71.797
12	0.0000	Str1 (Cont)	Max	486.089	-2158.502	213.513
12	1.8333	Str1 (Cont)	Max	486.089	-2007.278	213.513
12	3.6667	Str1 (Cont)	Max	486.089	-1889.411	213.513
12	5.5000	Str1 (Cont)	Max	486.089	-1794.620	213.513
12	5.5000	Str1 (Cont)	Max	486.089	-1788.120	213.513
12	7.4199	Str1 (Cont)	Max	486.089	-1688.852	213.513
12	9.3398	Str1 (Cont)	Max	486.089	-1589.584	213.513
12	9.3398	Str1 (Cont)	Max	486.089	-1589.584	213.513
12	10.9199	Str1 (Cont)	Max	486.089	-1503.121	213.513
12	12.5000	Str1 (Cont)	Max	486.089	-1416.659	213.513
12	12.5000	Str1 (Cont)	Max	486.089	-1410.159	213.513
12	14.0428	Str1 (Cont)	Max	486.089	-1325.735	213.513
12	15.5856	Str1 (Cont)	Max	486.089	-1241.312	213.513
12	17.1285	Str1 (Cont)	Max	486.089	-1156.889	213.513
12	18.6713	Str1 (Cont)	Max	486.089	-1075.101	213.513
12	18.6713	Str1 (Cont)	Max	486.089	-1075.101	213.513
12	20.5376	Str1 (Cont)	Max	486.089	-963.232	213.513
12	22.4039	Str1 (Cont)	Max	486.089	-851.363	213.513
12	24.2702	Str1 (Cont)	Max	486.089	-739.494	213.513
12	26.1365	Str1 (Cont)	Max	486.089	-627.625	213.513
12	28.0028	Str1 (Cont)	Max	486.089	-515.756	213.513
12	28.0028	Str1 (Cont)	Max	486.089	-515.756	213.513
12	29.8691	Str1 (Cont)	Max	486.089	-398.136	213.513
12	31.7354	Str1 (Cont)	Max	486.089	-280.515	213.513
12	33.6017	Str1 (Cont)	Max	486.089	-162.895	213.513
12	35.4680	Str1 (Cont)	Max	486.089	-45.275	213.513

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
12	37.3343	Str1 (Cont)	Max	486.089	72.346	213.513
12	37.3343	Str1 (Cont)	Max	486.089	72.346	213.513
12	39.2006	Str1 (Cont)	Max	486.089	192.010	213.513
12	41.0669	Str1 (Cont)	Max	486.089	311.675	213.513
12	42.9331	Str1 (Cont)	Max	486.089	431.339	213.513
12	44.7994	Str1 (Cont)	Max	486.089	551.004	213.513
12	46.6657	Str1 (Cont)	Max	486.089	670.669	213.513
12	46.6657	Str1 (Cont)	Max	486.089	670.669	213.513
12	48.5320	Str1 (Cont)	Max	486.089	791.009	213.513
12	50.3983	Str1 (Cont)	Max	486.089	911.350	213.513
12	52.2646	Str1 (Cont)	Max	486.089	1031.691	213.513
12	54.1309	Str1 (Cont)	Max	486.089	1152.031	213.513
12	55.9972	Str1 (Cont)	Max	486.089	1272.372	213.513
12	55.9972	Str1 (Cont)	Max	486.089	1272.372	213.513
12	57.8635	Str1 (Cont)	Max	486.089	1392.026	213.513
12	59.7298	Str1 (Cont)	Max	486.089	1511.680	213.513
12	61.5961	Str1 (Cont)	Max	486.089	1631.333	213.513
12	63.4624	Str1 (Cont)	Max	486.089	1750.987	213.513
12	65.3287	Str1 (Cont)	Max	486.089	1870.641	213.513
12	65.3287	Str1 (Cont)	Max	486.089	1870.641	213.513
12	66.8715	Str1 (Cont)	Max	486.089	1968.697	213.513
12	68.4144	Str1 (Cont)	Max	486.089	2069.388	213.513
12	69.9572	Str1 (Cont)	Max	486.089	2170.079	213.513
12	71.5000	Str1 (Cont)	Max	486.089	2270.771	213.513
12	71.5000	Str1 (Cont)	Max	486.089	2277.271	213.513
12	73.0801	Str1 (Cont)	Max	486.089	2380.394	213.513
12	74.6602	Str1 (Cont)	Max	486.089	2483.518	213.513
12	74.6602	Str1 (Cont)	Max	486.089	2483.518	213.513
12	76.3301	Str1 (Cont)	Max	486.089	2589.431	213.513
12	78.0000	Str1 (Cont)	Max	486.089	2695.345	213.513
12	78.0000	Str1 (Cont)	Max	486.089	2701.845	213.513
12	80.0000	Str1 (Cont)	Max	486.089	2828.694	213.513
12	82.0000	Str1 (Cont)	Max	486.089	2973.489	213.513
12	84.0000	Str1 (Cont)	Max	486.089	3161.901	213.513
12	0.0000	Str1 (Cont)	Min	481.584	-3216.273	-212.805
12	1.8333	Str1 (Cont)	Min	481.584	-3042.653	-212.805
12	3.6667	Str1 (Cont)	Min	481.584	-2902.390	-212.805
12	5.5000	Str1 (Cont)	Min	481.584	-2785.202	-212.805
12	5.5000	Str1 (Cont)	Min	481.584	-2778.702	-212.805
12	7.4199	Str1 (Cont)	Min	481.584	-2655.981	-212.805
12	9.3398	Str1 (Cont)	Min	481.584	-2533.259	-212.805
12	9.3398	Str1 (Cont)	Min	481.584	-2533.259	-212.805
12	10.9199	Str1 (Cont)	Min	481.584	-2429.623	-212.805
12	12.5000	Str1 (Cont)	Min	481.584	-2325.987	-212.805
12	12.5000	Str1 (Cont)	Min	481.584	-2319.487	-212.805
12	14.0428	Str1 (Cont)	Min	481.584	-2218.296	-212.805
12	15.5856	Str1 (Cont)	Min	481.584	-2117.104	-212.805
12	17.1285	Str1 (Cont)	Min	481.584	-2015.913	-212.805
12	18.6713	Str1 (Cont)	Min	481.584	-1917.356	-212.805
12	18.6713	Str1 (Cont)	Min	481.584	-1917.356	-212.805
12	20.5376	Str1 (Cont)	Min	481.584	-1797.418	-212.805
12	22.4039	Str1 (Cont)	Min	481.584	-1677.480	-212.805
12	24.2702	Str1 (Cont)	Min	481.584	-1557.542	-212.805
12	26.1365	Str1 (Cont)	Min	481.584	-1437.604	-212.805
12	28.0028	Str1 (Cont)	Min	481.584	-1317.666	-212.805
12	28.0028	Str1 (Cont)	Min	481.584	-1317.666	-212.805
12	29.8691	Str1 (Cont)	Min	481.584	-1197.362	-212.805
12	31.7354	Str1 (Cont)	Min	481.584	-1077.058	-212.805
12	33.6017	Str1 (Cont)	Min	481.584	-956.754	-212.805
12	35.4680	Str1 (Cont)	Min	481.584	-836.449	-212.805
12	37.3343	Str1 (Cont)	Min	481.584	-716.145	-212.805
12	37.3343	Str1 (Cont)	Min	481.584	-716.145	-212.805
12	39.2006	Str1 (Cont)	Min	481.584	-596.838	-212.805
12	41.0669	Str1 (Cont)	Min	481.584	-477.530	-212.805
12	42.9331	Str1 (Cont)	Min	481.584	-358.223	-212.805
12	44.7994	Str1 (Cont)	Min	481.584	-238.916	-212.805
12	46.6657	Str1 (Cont)	Min	481.584	-119.609	-212.805
12	46.6657	Str1 (Cont)	Min	481.584	-119.609	-212.805
12	48.5320	Str1 (Cont)	Min	481.584	-2.666	-212.805

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station ft	OutputCase	StepType	P Kip	V2 Kip	V3 Kip
12	50.3983	Str1 (Cont)	Min	481.584	114.277	-212.805
12	52.2646	Str1 (Cont)	Min	481.584	231.220	-212.805
12	54.1309	Str1 (Cont)	Min	481.584	348.163	-212.805
12	55.9972	Str1 (Cont)	Min	481.584	465.106	-212.805
12	55.9972	Str1 (Cont)	Min	481.584	465.106	-212.805
12	57.8635	Str1 (Cont)	Min	481.584	574.677	-212.805
12	59.7298	Str1 (Cont)	Min	481.584	684.248	-212.805
12	61.5961	Str1 (Cont)	Min	481.584	793.820	-212.805
12	63.4624	Str1 (Cont)	Min	481.584	903.391	-212.805
12	65.3287	Str1 (Cont)	Min	481.584	1012.962	-212.805
12	65.3287	Str1 (Cont)	Min	481.584	1012.962	-212.805
12	66.8715	Str1 (Cont)	Min	481.584	1090.098	-212.805
12	68.4144	Str1 (Cont)	Min	481.584	1169.869	-212.805
12	69.9572	Str1 (Cont)	Min	481.584	1249.640	-212.805
12	71.5000	Str1 (Cont)	Min	481.584	1329.411	-212.805
12	71.5000	Str1 (Cont)	Min	481.584	1335.911	-212.805
12	73.0801	Str1 (Cont)	Min	481.584	1417.609	-212.805
12	74.6602	Str1 (Cont)	Min	481.584	1499.307	-212.805
12	74.6602	Str1 (Cont)	Min	481.584	1499.307	-212.805
12	76.3301	Str1 (Cont)	Min	481.584	1585.648	-212.805
12	78.0000	Str1 (Cont)	Min	481.584	1671.990	-212.805
12	78.0000	Str1 (Cont)	Min	481.584	1678.490	-212.805
12	80.0000	Str1 (Cont)	Min	481.584	1781.899	-212.805
12	82.0000	Str1 (Cont)	Min	481.584	1903.253	-212.805
12	84.0000	Str1 (Cont)	Min	481.584	2068.225	-212.805
12	0.0000	Str1 (Expn)	Max	-256.698	-2162.018	213.513
12	1.8333	Str1 (Expn)	Max	-256.698	-2010.794	213.513
12	3.6667	Str1 (Expn)	Max	-256.698	-1892.927	213.513
12	5.5000	Str1 (Expn)	Max	-256.698	-1798.135	213.513
12	5.5000	Str1 (Expn)	Max	-256.698	-1791.635	213.513
12	7.4199	Str1 (Expn)	Max	-256.698	-1692.367	213.513
12	9.3398	Str1 (Expn)	Max	-256.698	-1593.099	213.513
12	9.3398	Str1 (Expn)	Max	-256.698	-1593.099	213.513
12	10.9199	Str1 (Expn)	Max	-256.698	-1506.637	213.513
12	12.5000	Str1 (Expn)	Max	-256.698	-1420.174	213.513
12	12.5000	Str1 (Expn)	Max	-256.698	-1413.674	213.513
12	14.0428	Str1 (Expn)	Max	-256.698	-1329.251	213.513
12	15.5856	Str1 (Expn)	Max	-256.698	-1244.827	213.513
12	17.1285	Str1 (Expn)	Max	-256.698	-1160.404	213.513
12	18.6713	Str1 (Expn)	Max	-256.698	-1078.616	213.513
12	18.6713	Str1 (Expn)	Max	-256.698	-1078.616	213.513
12	20.5376	Str1 (Expn)	Max	-256.698	-966.747	213.513
12	22.4039	Str1 (Expn)	Max	-256.698	-854.878	213.513
12	24.2702	Str1 (Expn)	Max	-256.698	-743.009	213.513
12	26.1365	Str1 (Expn)	Max	-256.698	-631.141	213.513
12	28.0028	Str1 (Expn)	Max	-256.698	-519.272	213.513
12	28.0028	Str1 (Expn)	Max	-256.698	-519.272	213.513
12	29.8691	Str1 (Expn)	Max	-256.698	-401.651	213.513
12	31.7354	Str1 (Expn)	Max	-256.698	-284.031	213.513
12	33.6017	Str1 (Expn)	Max	-256.698	-166.411	213.513
12	35.4680	Str1 (Expn)	Max	-256.698	-48.790	213.513
12	37.3343	Str1 (Expn)	Max	-256.698	68.830	213.513
12	37.3343	Str1 (Expn)	Max	-256.698	68.830	213.513
12	39.2006	Str1 (Expn)	Max	-256.698	188.495	213.513
12	41.0669	Str1 (Expn)	Max	-256.698	308.159	213.513
12	42.9331	Str1 (Expn)	Max	-256.698	427.824	213.513
12	44.7994	Str1 (Expn)	Max	-256.698	547.488	213.513
12	46.6657	Str1 (Expn)	Max	-256.698	667.153	213.513
12	46.6657	Str1 (Expn)	Max	-256.698	667.153	213.513
12	48.5320	Str1 (Expn)	Max	-256.698	787.494	213.513
12	50.3983	Str1 (Expn)	Max	-256.698	907.834	213.513
12	52.2646	Str1 (Expn)	Max	-256.698	1028.175	213.513
12	54.1309	Str1 (Expn)	Max	-256.698	1148.516	213.513
12	55.9972	Str1 (Expn)	Max	-256.698	1268.857	213.513
12	55.9972	Str1 (Expn)	Max	-256.698	1268.857	213.513
12	57.8635	Str1 (Expn)	Max	-256.698	1388.510	213.513
12	59.7298	Str1 (Expn)	Max	-256.698	1508.164	213.513
12	61.5961	Str1 (Expn)	Max	-256.698	1627.818	213.513
12	63.4624	Str1 (Expn)	Max	-256.698	1747.471	213.513

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station ft	OutputCase	StepType	P Kip	V2 Kip	V3 Kip
12	65.3287	Str1 (Expn)	Max	-256.698	1867.125	213.513
12	65.3287	Str1 (Expn)	Max	-256.698	1867.125	213.513
12	66.8715	Str1 (Expn)	Max	-256.698	1965.181	213.513
12	68.4144	Str1 (Expn)	Max	-256.698	2065.872	213.513
12	69.9572	Str1 (Expn)	Max	-256.698	2166.564	213.513
12	71.5000	Str1 (Expn)	Max	-256.698	2267.255	213.513
12	71.5000	Str1 (Expn)	Max	-256.698	2273.755	213.513
12	73.0801	Str1 (Expn)	Max	-256.698	2376.879	213.513
12	74.6602	Str1 (Expn)	Max	-256.698	2480.002	213.513
12	74.6602	Str1 (Expn)	Max	-256.698	2480.002	213.513
12	76.3301	Str1 (Expn)	Max	-256.698	2585.916	213.513
12	78.0000	Str1 (Expn)	Max	-256.698	2691.829	213.513
12	78.0000	Str1 (Expn)	Max	-256.698	2698.329	213.513
12	80.0000	Str1 (Expn)	Max	-256.698	2825.179	213.513
12	82.0000	Str1 (Expn)	Max	-256.698	2969.974	213.513
12	84.0000	Str1 (Expn)	Max	-256.698	3158.386	213.513
12	0.0000	Str1 (Expn)	Min	-261.203	-3219.788	-212.805
12	1.8333	Str1 (Expn)	Min	-261.203	-3046.168	-212.805
12	3.6667	Str1 (Expn)	Min	-261.203	-2905.905	-212.805
12	5.5000	Str1 (Expn)	Min	-261.203	-2788.718	-212.805
12	5.5000	Str1 (Expn)	Min	-261.203	-2782.218	-212.805
12	7.4199	Str1 (Expn)	Min	-261.203	-2659.496	-212.805
12	9.3398	Str1 (Expn)	Min	-261.203	-2536.775	-212.805
12	9.3398	Str1 (Expn)	Min	-261.203	-2536.775	-212.805
12	10.9199	Str1 (Expn)	Min	-261.203	-2433.139	-212.805
12	12.5000	Str1 (Expn)	Min	-261.203	-2329.503	-212.805
12	12.5000	Str1 (Expn)	Min	-261.203	-2323.003	-212.805
12	14.0428	Str1 (Expn)	Min	-261.203	-2221.811	-212.805
12	15.5856	Str1 (Expn)	Min	-261.203	-2120.620	-212.805
12	17.1285	Str1 (Expn)	Min	-261.203	-2019.428	-212.805
12	18.6713	Str1 (Expn)	Min	-261.203	-1920.872	-212.805
12	18.6713	Str1 (Expn)	Min	-261.203	-1920.872	-212.805
12	20.5376	Str1 (Expn)	Min	-261.203	-1800.934	-212.805
12	22.4039	Str1 (Expn)	Min	-261.203	-1680.996	-212.805
12	24.2702	Str1 (Expn)	Min	-261.203	-1561.058	-212.805
12	26.1365	Str1 (Expn)	Min	-261.203	-1441.120	-212.805
12	28.0028	Str1 (Expn)	Min	-261.203	-1321.182	-212.805
12	28.0028	Str1 (Expn)	Min	-261.203	-1321.182	-212.805
12	29.8691	Str1 (Expn)	Min	-261.203	-1200.878	-212.805
12	31.7354	Str1 (Expn)	Min	-261.203	-1080.573	-212.805
12	33.6017	Str1 (Expn)	Min	-261.203	-960.269	-212.805
12	35.4680	Str1 (Expn)	Min	-261.203	-839.965	-212.805
12	37.3343	Str1 (Expn)	Min	-261.203	-719.661	-212.805
12	37.3343	Str1 (Expn)	Min	-261.203	-719.661	-212.805
12	39.2006	Str1 (Expn)	Min	-261.203	-600.353	-212.805
12	41.0669	Str1 (Expn)	Min	-261.203	-481.046	-212.805
12	42.9331	Str1 (Expn)	Min	-261.203	-361.739	-212.805
12	44.7994	Str1 (Expn)	Min	-261.203	-242.431	-212.805
12	46.6657	Str1 (Expn)	Min	-261.203	-123.124	-212.805
12	46.6657	Str1 (Expn)	Min	-261.203	-123.124	-212.805
12	48.5320	Str1 (Expn)	Min	-261.203	-6.181	-212.805
12	50.3983	Str1 (Expn)	Min	-261.203	110.761	-212.805
12	52.2646	Str1 (Expn)	Min	-261.203	227.704	-212.805
12	54.1309	Str1 (Expn)	Min	-261.203	344.647	-212.805
12	55.9972	Str1 (Expn)	Min	-261.203	461.590	-212.805
12	55.9972	Str1 (Expn)	Min	-261.203	461.590	-212.805
12	57.8635	Str1 (Expn)	Min	-261.203	571.161	-212.805
12	59.7298	Str1 (Expn)	Min	-261.203	680.733	-212.805
12	61.5961	Str1 (Expn)	Min	-261.203	790.304	-212.805
12	63.4624	Str1 (Expn)	Min	-261.203	899.875	-212.805
12	65.3287	Str1 (Expn)	Min	-261.203	1009.447	-212.805
12	65.3287	Str1 (Expn)	Min	-261.203	1009.447	-212.805
12	66.8715	Str1 (Expn)	Min	-261.203	1086.582	-212.805
12	68.4144	Str1 (Expn)	Min	-261.203	1166.353	-212.805
12	69.9572	Str1 (Expn)	Min	-261.203	1246.124	-212.805
12	71.5000	Str1 (Expn)	Min	-261.203	1325.895	-212.805
12	71.5000	Str1 (Expn)	Min	-261.203	1332.395	-212.805
12	73.0801	Str1 (Expn)	Min	-261.203	1414.093	-212.805
12	74.6602	Str1 (Expn)	Min	-261.203	1495.791	-212.805

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
12	74.6602	Str1 (Expn)	Min	-261.203	1495.791	-212.805
12	76.3301	Str1 (Expn)	Min	-261.203	1582.133	-212.805
12	78.0000	Str1 (Expn)	Min	-261.203	1668.474	-212.805
12	78.0000	Str1 (Expn)	Min	-261.203	1674.974	-212.805
12	80.0000	Str1 (Expn)	Min	-261.203	1778.383	-212.805
12	82.0000	Str1 (Expn)	Min	-261.203	1899.738	-212.805
12	84.0000	Str1 (Expn)	Min	-261.203	2064.709	-212.805
12	0.0000	Ext Event I	Max	-62.519	-2218.215	60.903
12	1.8333	Ext Event I	Max	-62.519	-2066.991	60.903
12	3.6667	Ext Event I	Max	-62.519	-1949.124	60.903
12	5.5000	Ext Event I	Max	-62.519	-1854.332	60.903
12	5.5000	Ext Event I	Max	-62.519	-1847.832	60.903
12	7.4199	Ext Event I	Max	-62.519	-1748.564	60.903
12	9.3398	Ext Event I	Max	-62.519	-1649.296	60.903
12	9.3398	Ext Event I	Max	-62.519	-1649.296	60.903
12	10.9199	Ext Event I	Max	-62.519	-1566.237	60.903
12	12.5000	Ext Event I	Max	-62.519	-1483.178	60.903
12	12.5000	Ext Event I	Max	-62.519	-1476.678	60.903
12	14.0428	Ext Event I	Max	-62.519	-1395.578	60.903
12	15.5856	Ext Event I	Max	-62.519	-1314.478	60.903
12	17.1285	Ext Event I	Max	-62.519	-1233.377	60.903
12	18.6713	Ext Event I	Max	-62.519	-1154.913	60.903
12	18.6713	Ext Event I	Max	-62.519	-1154.913	60.903
12	20.5376	Ext Event I	Max	-62.519	-1057.024	60.903
12	22.4039	Ext Event I	Max	-62.519	-959.135	60.903
12	24.2702	Ext Event I	Max	-62.519	-861.246	60.903
12	26.1365	Ext Event I	Max	-62.519	-763.357	60.903
12	28.0028	Ext Event I	Max	-62.519	-665.469	60.903
12	28.0028	Ext Event I	Max	-62.519	-665.469	60.903
12	29.8691	Ext Event I	Max	-62.519	-565.936	60.903
12	31.7354	Ext Event I	Max	-62.519	-466.404	60.903
12	33.6017	Ext Event I	Max	-62.519	-366.872	60.903
12	35.4680	Ext Event I	Max	-62.519	-267.340	60.903
12	37.3343	Ext Event I	Max	-62.519	-167.808	60.903
12	37.3343	Ext Event I	Max	-62.519	-167.808	60.903
12	39.2006	Ext Event I	Max	-62.519	-67.692	60.903
12	41.0669	Ext Event I	Max	-62.519	32.424	60.903
12	42.9331	Ext Event I	Max	-62.519	132.540	60.903
12	44.7994	Ext Event I	Max	-62.519	232.656	60.903
12	46.6657	Ext Event I	Max	-62.519	332.772	60.903
12	46.6657	Ext Event I	Max	-62.519	332.772	60.903
12	48.5320	Ext Event I	Max	-62.519	433.082	60.903
12	50.3983	Ext Event I	Max	-62.519	533.391	60.903
12	52.2646	Ext Event I	Max	-62.519	633.700	60.903
12	54.1309	Ext Event I	Max	-62.519	734.010	60.903
12	55.9972	Ext Event I	Max	-62.519	834.319	60.903
12	55.9972	Ext Event I	Max	-62.519	834.319	60.903
12	57.8635	Ext Event I	Max	-62.519	934.432	60.903
12	59.7298	Ext Event I	Max	-62.519	1034.545	60.903
12	61.5961	Ext Event I	Max	-62.519	1134.658	60.903
12	63.4624	Ext Event I	Max	-62.519	1234.771	60.903
12	65.3287	Ext Event I	Max	-62.519	1334.884	60.903
12	65.3287	Ext Event I	Max	-62.519	1334.884	60.903
12	66.8715	Ext Event I	Max	-62.519	1417.997	60.903
12	68.4144	Ext Event I	Max	-62.519	1503.745	60.903
12	69.9572	Ext Event I	Max	-62.519	1589.493	60.903
12	71.5000	Ext Event I	Max	-62.519	1675.242	60.903
12	71.5000	Ext Event I	Max	-62.519	1681.742	60.903
12	73.0801	Ext Event I	Max	-62.519	1769.561	60.903
12	74.6602	Ext Event I	Max	-62.519	1857.381	60.903
12	74.6602	Ext Event I	Max	-62.519	1857.381	60.903
12	76.3301	Ext Event I	Max	-62.519	1949.314	60.903
12	78.0000	Ext Event I	Max	-62.519	2041.248	60.903
12	78.0000	Ext Event I	Max	-62.519	2047.748	60.903
12	80.0000	Ext Event I	Max	-62.519	2157.854	60.903
12	82.0000	Ext Event I	Max	-62.519	2285.906	60.903
12	84.0000	Ext Event I	Max	-62.519	2457.575	60.903
12	0.0000	Ext Event I	Min	-63.806	-2520.435	-60.903
12	1.8333	Ext Event I	Min	-63.806	-2362.812	-60.903

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
12	3.6667	Ext Event I	Min	-63.806	-2238.546	-60.903
12	5.5000	Ext Event I	Min	-63.806	-2137.356	-60.903
12	5.5000	Ext Event I	Min	-63.806	-2130.856	-60.903
12	7.4199	Ext Event I	Min	-63.806	-2024.887	-60.903
12	9.3398	Ext Event I	Min	-63.806	-1918.918	-60.903
12	9.3398	Ext Event I	Min	-63.806	-1918.918	-60.903
12	10.9199	Ext Event I	Min	-63.806	-1830.952	-60.903
12	12.5000	Ext Event I	Min	-63.806	-1742.986	-60.903
12	12.5000	Ext Event I	Min	-63.806	-1736.486	-60.903
12	14.0428	Ext Event I	Min	-63.806	-1650.595	-60.903
12	15.5856	Ext Event I	Min	-63.806	-1564.704	-60.903
12	17.1285	Ext Event I	Min	-63.806	-1478.813	-60.903
12	18.6713	Ext Event I	Min	-63.806	-1395.557	-60.903
12	18.6713	Ext Event I	Min	-63.806	-1395.557	-60.903
12	20.5376	Ext Event I	Min	-63.806	-1295.363	-60.903
12	22.4039	Ext Event I	Min	-63.806	-1195.169	-60.903
12	24.2702	Ext Event I	Min	-63.806	-1094.974	-60.903
12	26.1365	Ext Event I	Min	-63.806	-994.780	-60.903
12	28.0028	Ext Event I	Min	-63.806	-894.586	-60.903
12	28.0028	Ext Event I	Min	-63.806	-894.586	-60.903
12	29.8691	Ext Event I	Min	-63.806	-794.287	-60.903
12	31.7354	Ext Event I	Min	-63.806	-693.988	-60.903
12	33.6017	Ext Event I	Min	-63.806	-593.689	-60.903
12	35.4680	Ext Event I	Min	-63.806	-493.390	-60.903
12	37.3343	Ext Event I	Min	-63.806	-393.091	-60.903
12	37.3343	Ext Event I	Min	-63.806	-393.091	-60.903
12	39.2006	Ext Event I	Min	-63.806	-293.077	-60.903
12	41.0669	Ext Event I	Min	-63.806	-193.063	-60.903
12	42.9331	Ext Event I	Min	-63.806	-93.049	-60.903
12	44.7994	Ext Event I	Min	-63.806	6.965	-60.903
12	46.6657	Ext Event I	Min	-63.806	106.979	-60.903
12	46.6657	Ext Event I	Min	-63.806	106.979	-60.903
12	48.5320	Ext Event I	Min	-63.806	206.317	-60.903
12	50.3983	Ext Event I	Min	-63.806	305.656	-60.903
12	52.2646	Ext Event I	Min	-63.806	404.994	-60.903
12	54.1309	Ext Event I	Min	-63.806	504.333	-60.903
12	55.9972	Ext Event I	Min	-63.806	603.671	-60.903
12	55.9972	Ext Event I	Min	-63.806	603.671	-60.903
12	57.8635	Ext Event I	Min	-63.806	700.904	-60.903
12	59.7298	Ext Event I	Min	-63.806	798.136	-60.903
12	61.5961	Ext Event I	Min	-63.806	895.368	-60.903
12	63.4624	Ext Event I	Min	-63.806	992.601	-60.903
12	65.3287	Ext Event I	Min	-63.806	1089.833	-60.903
12	65.3287	Ext Event I	Min	-63.806	1089.833	-60.903
12	66.8715	Ext Event I	Min	-63.806	1166.969	-60.903
12	68.4144	Ext Event I	Min	-63.806	1246.740	-60.903
12	69.9572	Ext Event I	Min	-63.806	1326.511	-60.903
12	71.5000	Ext Event I	Min	-63.806	1406.282	-60.903
12	71.5000	Ext Event I	Min	-63.806	1412.782	-60.903
12	73.0801	Ext Event I	Min	-63.806	1494.479	-60.903
12	74.6602	Ext Event I	Min	-63.806	1576.177	-60.903
12	74.6602	Ext Event I	Min	-63.806	1576.177	-60.903
12	76.3301	Ext Event I	Min	-63.806	1662.519	-60.903
12	78.0000	Ext Event I	Min	-63.806	1748.861	-60.903
12	78.0000	Ext Event I	Min	-63.806	1755.361	-60.903
12	80.0000	Ext Event I	Min	-63.806	1858.770	-60.903
12	82.0000	Ext Event I	Min	-63.806	1980.124	-60.903
12	84.0000	Ext Event I	Min	-63.806	2145.096	-60.903
13	0.0000	Str1 (Cont)	Max	-4155.477	466.468	222.161
13	2.7292	Str1 (Cont)	Max	-4409.289	466.468	222.184
13	5.4583	Str1 (Cont)	Max	-4663.102	466.468	222.632
13	0.0000	Str1 (Cont)	Min	-5418.899	464.134	-222.267
13	2.7292	Str1 (Cont)	Min	-5672.711	464.134	-222.244
13	5.4583	Str1 (Cont)	Min	-5926.524	464.134	-221.797
13	0.0000	Str1 (Expn)	Max	-4136.203	-161.416	222.161
13	2.7292	Str1 (Expn)	Max	-4390.016	-161.416	222.184
13	5.4583	Str1 (Expn)	Max	-4643.828	-161.416	222.632
13	0.0000	Str1 (Expn)	Min	-5399.625	-163.751	-222.267
13	2.7292	Str1 (Expn)	Min	-5653.438	-163.751	-222.244

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station ft	OutputCase	StepType	P Kip	V2 Kip	V3 Kip
13	5.4583	Str1 (Expn)	Min	-5907.250	-163.751	-221.797
13	0.0000	Ext Event I	Max	-4245.420	-13.489	63.490
13	2.7292	Ext Event I	Max	-4499.232	-13.489	63.490
13	5.4583	Ext Event I	Max	-4753.045	-13.489	63.490
13	0.0000	Ext Event I	Min	-4606.398	-14.156	-63.490
13	2.7292	Ext Event I	Min	-4860.210	-14.156	-63.490
13	5.4583	Ext Event I	Min	-5114.023	-14.156	-63.490
14	0.0000	Str1 (Cont)	Max	-4663.102	466.468	222.632
14	5.2500	Str1 (Cont)	Max	-4719.562	466.468	224.889
14	10.5000	Str1 (Cont)	Max	-4776.022	466.468	227.130
14	0.0000	Str1 (Cont)	Min	-5926.524	464.134	-221.797
14	5.2500	Str1 (Cont)	Min	-5982.984	464.134	-219.539
14	10.5000	Str1 (Cont)	Min	-6039.445	464.134	-217.299
14	0.0000	Str1 (Expn)	Max	-4643.828	-161.416	222.632
14	5.2500	Str1 (Expn)	Max	-4700.289	-161.416	224.889
14	10.5000	Str1 (Expn)	Max	-4756.749	-161.416	227.130
14	0.0000	Str1 (Expn)	Min	-5907.250	-163.751	-221.797
14	5.2500	Str1 (Expn)	Min	-5963.711	-163.751	-219.539
14	10.5000	Str1 (Expn)	Min	-6020.171	-163.751	-217.299
14	0.0000	Ext Event I	Max	-4753.045	-13.489	63.490
14	5.2500	Ext Event I	Max	-4809.505	-13.489	63.490
14	10.5000	Ext Event I	Max	-4865.966	-13.489	63.490
14	0.0000	Ext Event I	Min	-5114.023	-14.156	-63.490
14	5.2500	Ext Event I	Min	-5170.483	-14.156	-63.490
14	10.5000	Ext Event I	Min	-5226.943	-14.156	-63.490
15	0.0000	Str1 (Cont)	Max	21.284	-2080.752	52.585
15	0.0083	Str1 (Cont)	Max	21.284	-2080.064	52.585
15	0.0083	Str1 (Cont)	Max	21.284	-2080.064	52.585
15	2.0056	Str1 (Cont)	Max	21.284	-1912.218	52.585
15	4.0028	Str1 (Cont)	Max	21.284	-1788.074	52.585
15	6.0000	Str1 (Cont)	Max	21.284	-1681.705	52.585
15	6.0000	Str1 (Cont)	Max	21.284	-1675.205	52.585
15	7.4851	Str1 (Cont)	Max	21.284	-1596.110	52.585
15	8.9702	Str1 (Cont)	Max	21.284	-1517.014	52.585
15	8.9702	Str1 (Cont)	Max	21.284	-1517.014	52.585
15	11.0000	Str1 (Cont)	Max	21.284	-1396.146	52.585
15	11.0000	Str1 (Cont)	Max	21.284	-1394.821	52.585
15	12.4167	Str1 (Cont)	Max	21.284	-1310.462	52.585
15	13.8333	Str1 (Cont)	Max	21.284	-1226.102	52.585
15	15.2500	Str1 (Cont)	Max	21.284	-1141.743	52.585
15	15.2500	Str1 (Cont)	Max	21.284	-1140.418	52.585
15	16.5911	Str1 (Cont)	Max	21.284	-1060.560	52.585
15	17.9321	Str1 (Cont)	Max	21.284	-981.674	52.585
15	17.9321	Str1 (Cont)	Max	21.284	-981.674	52.585
15	19.7245	Str1 (Cont)	Max	21.284	-872.290	52.585
15	21.5169	Str1 (Cont)	Max	21.284	-762.906	52.585
15	23.3093	Str1 (Cont)	Max	21.284	-653.522	52.585
15	25.1017	Str1 (Cont)	Max	21.284	-544.138	52.585
15	26.8940	Str1 (Cont)	Max	21.284	-434.754	52.585
15	26.8940	Str1 (Cont)	Max	21.284	-434.754	52.585
15	28.6864	Str1 (Cont)	Max	21.284	-317.952	52.585
15	30.4788	Str1 (Cont)	Max	21.284	-201.150	52.585
15	32.2712	Str1 (Cont)	Max	21.284	-84.347	52.585
15	34.0636	Str1 (Cont)	Max	21.284	32.455	52.585
15	35.8560	Str1 (Cont)	Max	21.284	149.257	52.585
15	35.8560	Str1 (Cont)	Max	21.284	149.257	52.585
15	37.6483	Str1 (Cont)	Max	21.284	269.867	52.585
15	39.4407	Str1 (Cont)	Max	21.284	390.478	52.585
15	41.2331	Str1 (Cont)	Max	21.284	511.088	52.585
15	43.0255	Str1 (Cont)	Max	21.284	631.699	52.585
15	44.8179	Str1 (Cont)	Max	21.284	752.309	52.585
15	44.8179	Str1 (Cont)	Max	21.284	752.309	52.585
15	46.6102	Str1 (Cont)	Max	21.284	875.671	52.585
15	48.4026	Str1 (Cont)	Max	21.284	999.033	52.585
15	50.1950	Str1 (Cont)	Max	21.284	1122.396	52.585
15	51.9874	Str1 (Cont)	Max	21.284	1245.758	52.585
15	53.7798	Str1 (Cont)	Max	21.284	1369.120	52.585
15	53.7798	Str1 (Cont)	Max	21.284	1369.120	52.585
15	55.5721	Str1 (Cont)	Max	21.284	1494.346	52.585

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
15	57.3645	Str1 (Cont)	Max	21.284	1619.571	52.585
15	59.1569	Str1 (Cont)	Max	21.284	1744.796	52.585
15	60.9493	Str1 (Cont)	Max	21.284	1894.102	52.585
15	62.7417	Str1 (Cont)	Max	21.284	2074.499	52.585
15	62.7417	Str1 (Cont)	Max	21.284	2074.499	52.585
15	62.7500	Str1 (Cont)	Max	21.284	2075.167	52.585
15	0.0000	Str1 (Cont)	Min	15.115	-3074.349	-51.770
15	0.0083	Str1 (Cont)	Min	15.115	-3073.662	-51.770
15	0.0083	Str1 (Cont)	Min	15.115	-3073.662	-51.770
15	2.0056	Str1 (Cont)	Min	15.115	-2880.682	-51.770
15	4.0028	Str1 (Cont)	Min	15.115	-2731.404	-51.770
15	6.0000	Str1 (Cont)	Min	15.115	-2599.901	-51.770
15	6.0000	Str1 (Cont)	Min	15.115	-2593.401	-51.770
15	7.4851	Str1 (Cont)	Min	15.115	-2495.617	-51.770
15	8.9702	Str1 (Cont)	Min	15.115	-2397.832	-51.770
15	8.9702	Str1 (Cont)	Min	15.115	-2397.832	-51.770
15	11.0000	Str1 (Cont)	Min	15.115	-2259.378	-51.770
15	11.0000	Str1 (Cont)	Min	15.115	-2258.053	-51.770
15	12.4167	Str1 (Cont)	Min	15.115	-2161.420	-51.770
15	13.8333	Str1 (Cont)	Min	15.115	-2064.787	-51.770
15	15.2500	Str1 (Cont)	Min	15.115	-1968.154	-51.770
15	15.2500	Str1 (Cont)	Min	15.115	-1966.829	-51.770
15	16.5911	Str1 (Cont)	Min	15.115	-1875.352	-51.770
15	17.9321	Str1 (Cont)	Min	15.115	-1784.847	-51.770
15	17.9321	Str1 (Cont)	Min	15.115	-1784.847	-51.770
15	19.7245	Str1 (Cont)	Min	15.115	-1663.262	-51.770
15	21.5169	Str1 (Cont)	Min	15.115	-1541.677	-51.770
15	23.3093	Str1 (Cont)	Min	15.115	-1420.091	-51.770
15	25.1017	Str1 (Cont)	Min	15.115	-1298.506	-51.770
15	26.8940	Str1 (Cont)	Min	15.115	-1176.921	-51.770
15	26.8940	Str1 (Cont)	Min	15.115	-1176.921	-51.770
15	28.6864	Str1 (Cont)	Min	15.115	-1053.330	-51.770
15	30.4788	Str1 (Cont)	Min	15.115	-929.738	-51.770
15	32.2712	Str1 (Cont)	Min	15.115	-806.147	-51.770
15	34.0636	Str1 (Cont)	Min	15.115	-682.556	-51.770
15	35.8560	Str1 (Cont)	Min	15.115	-558.965	-51.770
15	35.8560	Str1 (Cont)	Min	15.115	-558.965	-51.770
15	37.6483	Str1 (Cont)	Min	15.115	-440.388	-51.770
15	39.4407	Str1 (Cont)	Min	15.115	-321.811	-51.770
15	41.2331	Str1 (Cont)	Min	15.115	-203.235	-51.770
15	43.0255	Str1 (Cont)	Min	15.115	-84.658	-51.770
15	44.8179	Str1 (Cont)	Min	15.115	33.919	-51.770
15	44.8179	Str1 (Cont)	Min	15.115	33.919	-51.770
15	46.6102	Str1 (Cont)	Min	15.115	137.258	-51.770
15	48.4026	Str1 (Cont)	Min	15.115	240.597	-51.770
15	50.1950	Str1 (Cont)	Min	15.115	343.937	-51.770
15	51.9874	Str1 (Cont)	Min	15.115	447.276	-51.770
15	53.7798	Str1 (Cont)	Min	15.115	550.615	-51.770
15	53.7798	Str1 (Cont)	Min	15.115	550.615	-51.770
15	55.5721	Str1 (Cont)	Min	15.115	639.256	-51.770
15	57.3645	Str1 (Cont)	Min	15.115	727.897	-51.770
15	59.1569	Str1 (Cont)	Min	15.115	816.539	-51.770
15	60.9493	Str1 (Cont)	Min	15.115	929.260	-51.770
15	62.7417	Str1 (Cont)	Min	15.115	1073.073	-51.770
15	62.7417	Str1 (Cont)	Min	15.115	1073.073	-51.770
15	62.7500	Str1 (Cont)	Min	15.115	1073.741	-51.770
15	0.0000	Str1 (Expn)	Max	-93.619	-2064.994	52.585
15	0.0083	Str1 (Expn)	Max	-93.619	-2064.306	52.585
15	0.0083	Str1 (Expn)	Max	-93.619	-2064.306	52.585
15	2.0056	Str1 (Expn)	Max	-93.619	-1896.460	52.585
15	4.0028	Str1 (Expn)	Max	-93.619	-1772.316	52.585
15	6.0000	Str1 (Expn)	Max	-93.619	-1665.947	52.585
15	6.0000	Str1 (Expn)	Max	-93.619	-1659.447	52.585
15	7.4851	Str1 (Expn)	Max	-93.619	-1580.352	52.585
15	8.9702	Str1 (Expn)	Max	-93.619	-1501.256	52.585
15	8.9702	Str1 (Expn)	Max	-93.619	-1501.256	52.585
15	11.0000	Str1 (Expn)	Max	-93.619	-1380.388	52.585
15	11.0000	Str1 (Expn)	Max	-93.619	-1379.063	52.585
15	12.4167	Str1 (Expn)	Max	-93.619	-1294.704	52.585

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
15	13.8333	Str1 (Expn)	Max	-93.619	-1210.344	52.585
15	15.2500	Str1 (Expn)	Max	-93.619	-1125.985	52.585
15	15.2500	Str1 (Expn)	Max	-93.619	-1124.660	52.585
15	16.5911	Str1 (Expn)	Max	-93.619	-1044.802	52.585
15	17.9321	Str1 (Expn)	Max	-93.619	-965.916	52.585
15	17.9321	Str1 (Expn)	Max	-93.619	-965.916	52.585
15	19.7245	Str1 (Expn)	Max	-93.619	-856.532	52.585
15	21.5169	Str1 (Expn)	Max	-93.619	-747.148	52.585
15	23.3093	Str1 (Expn)	Max	-93.619	-637.764	52.585
15	25.1017	Str1 (Expn)	Max	-93.619	-528.380	52.585
15	26.8940	Str1 (Expn)	Max	-93.619	-418.996	52.585
15	26.8940	Str1 (Expn)	Max	-93.619	-418.996	52.585
15	28.6864	Str1 (Expn)	Max	-93.619	-302.194	52.585
15	30.4788	Str1 (Expn)	Max	-93.619	-185.392	52.585
15	32.2712	Str1 (Expn)	Max	-93.619	-68.589	52.585
15	34.0636	Str1 (Expn)	Max	-93.619	48.213	52.585
15	35.8560	Str1 (Expn)	Max	-93.619	165.015	52.585
15	35.8560	Str1 (Expn)	Max	-93.619	165.015	52.585
15	37.6483	Str1 (Expn)	Max	-93.619	285.625	52.585
15	39.4407	Str1 (Expn)	Max	-93.619	406.236	52.585
15	41.2331	Str1 (Expn)	Max	-93.619	526.846	52.585
15	43.0255	Str1 (Expn)	Max	-93.619	647.456	52.585
15	44.8179	Str1 (Expn)	Max	-93.619	768.067	52.585
15	44.8179	Str1 (Expn)	Max	-93.619	768.067	52.585
15	46.6102	Str1 (Expn)	Max	-93.619	891.429	52.585
15	48.4026	Str1 (Expn)	Max	-93.619	1014.791	52.585
15	50.1950	Str1 (Expn)	Max	-93.619	1138.154	52.585
15	51.9874	Str1 (Expn)	Max	-93.619	1261.516	52.585
15	53.7798	Str1 (Expn)	Max	-93.619	1384.878	52.585
15	53.7798	Str1 (Expn)	Max	-93.619	1384.878	52.585
15	55.5721	Str1 (Expn)	Max	-93.619	1510.103	52.585
15	57.3645	Str1 (Expn)	Max	-93.619	1635.329	52.585
15	59.1569	Str1 (Expn)	Max	-93.619	1760.554	52.585
15	60.9493	Str1 (Expn)	Max	-93.619	1909.859	52.585
15	62.7417	Str1 (Expn)	Max	-93.619	2090.257	52.585
15	62.7417	Str1 (Expn)	Max	-93.619	2090.257	52.585
15	62.7500	Str1 (Expn)	Max	-93.619	2090.925	52.585
15	0.0000	Str1 (Expn)	Min	-99.787	-3058.592	-51.770
15	0.0083	Str1 (Expn)	Min	-99.787	-3057.904	-51.770
15	0.0083	Str1 (Expn)	Min	-99.787	-3057.904	-51.770
15	2.0056	Str1 (Expn)	Min	-99.787	-2864.924	-51.770
15	4.0028	Str1 (Expn)	Min	-99.787	-2715.646	-51.770
15	6.0000	Str1 (Expn)	Min	-99.787	-2584.143	-51.770
15	6.0000	Str1 (Expn)	Min	-99.787	-2577.643	-51.770
15	7.4851	Str1 (Expn)	Min	-99.787	-2479.859	-51.770
15	8.9702	Str1 (Expn)	Min	-99.787	-2382.074	-51.770
15	8.9702	Str1 (Expn)	Min	-99.787	-2382.074	-51.770
15	11.0000	Str1 (Expn)	Min	-99.787	-2243.620	-51.770
15	11.0000	Str1 (Expn)	Min	-99.787	-2242.295	-51.770
15	12.4167	Str1 (Expn)	Min	-99.787	-2145.662	-51.770
15	13.8333	Str1 (Expn)	Min	-99.787	-2049.029	-51.770
15	15.2500	Str1 (Expn)	Min	-99.787	-1952.396	-51.770
15	15.2500	Str1 (Expn)	Min	-99.787	-1951.071	-51.770
15	16.5911	Str1 (Expn)	Min	-99.787	-1859.594	-51.770
15	17.9321	Str1 (Expn)	Min	-99.787	-1769.090	-51.770
15	17.9321	Str1 (Expn)	Min	-99.787	-1769.090	-51.770
15	19.7245	Str1 (Expn)	Min	-99.787	-1647.504	-51.770
15	21.5169	Str1 (Expn)	Min	-99.787	-1525.919	-51.770
15	23.3093	Str1 (Expn)	Min	-99.787	-1404.333	-51.770
15	25.1017	Str1 (Expn)	Min	-99.787	-1282.748	-51.770
15	26.8940	Str1 (Expn)	Min	-99.787	-1161.163	-51.770
15	26.8940	Str1 (Expn)	Min	-99.787	-1161.163	-51.770
15	28.6864	Str1 (Expn)	Min	-99.787	-1037.572	-51.770
15	30.4788	Str1 (Expn)	Min	-99.787	-913.981	-51.770
15	32.2712	Str1 (Expn)	Min	-99.787	-790.389	-51.770
15	34.0636	Str1 (Expn)	Min	-99.787	-666.798	-51.770
15	35.8560	Str1 (Expn)	Min	-99.787	-543.207	-51.770
15	35.8560	Str1 (Expn)	Min	-99.787	-543.207	-51.770
15	37.6483	Str1 (Expn)	Min	-99.787	-424.630	-51.770

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
15	39.4407	Str1 (Expn)	Min	-99.787	-306.054	-51.770
15	41.2331	Str1 (Expn)	Min	-99.787	-187.477	-51.770
15	43.0255	Str1 (Expn)	Min	-99.787	-68.900	-51.770
15	44.8179	Str1 (Expn)	Min	-99.787	49.677	-51.770
15	44.8179	Str1 (Expn)	Min	-99.787	49.677	-51.770
15	46.6102	Str1 (Expn)	Min	-99.787	153.016	-51.770
15	48.4026	Str1 (Expn)	Min	-99.787	256.355	-51.770
15	50.1950	Str1 (Expn)	Min	-99.787	359.694	-51.770
15	51.9874	Str1 (Expn)	Min	-99.787	463.034	-51.770
15	53.7798	Str1 (Expn)	Min	-99.787	566.373	-51.770
15	53.7798	Str1 (Expn)	Min	-99.787	566.373	-51.770
15	55.5721	Str1 (Expn)	Min	-99.787	655.014	-51.770
15	57.3645	Str1 (Expn)	Min	-99.787	743.655	-51.770
15	59.1569	Str1 (Expn)	Min	-99.787	832.297	-51.770
15	60.9493	Str1 (Expn)	Min	-99.787	945.018	-51.770
15	62.7417	Str1 (Expn)	Min	-99.787	1088.831	-51.770
15	62.7417	Str1 (Expn)	Min	-99.787	1088.831	-51.770
15	62.7500	Str1 (Expn)	Min	-99.787	1089.499	-51.770
15	0.0000	Ext Event I	Max	-48.555	-2093.824	14.908
15	0.0083	Ext Event I	Max	-48.555	-2093.137	14.908
15	0.0083	Ext Event I	Max	-48.555	-2093.137	14.908
15	2.0056	Ext Event I	Max	-48.555	-1927.507	14.908
15	4.0028	Ext Event I	Max	-48.555	-1805.581	14.908
15	6.0000	Ext Event I	Max	-48.555	-1701.429	14.908
15	6.0000	Ext Event I	Max	-48.555	-1694.929	14.908
15	7.4851	Ext Event I	Max	-48.555	-1617.482	14.908
15	8.9702	Ext Event I	Max	-48.555	-1540.035	14.908
15	8.9702	Ext Event I	Max	-48.555	-1540.035	14.908
15	11.0000	Ext Event I	Max	-48.555	-1430.539	14.908
15	11.0000	Ext Event I	Max	-48.555	-1429.214	14.908
15	12.4167	Ext Event I	Max	-48.555	-1352.791	14.908
15	13.8333	Ext Event I	Max	-48.555	-1276.368	14.908
15	15.2500	Ext Event I	Max	-48.555	-1199.945	14.908
15	15.2500	Ext Event I	Max	-48.555	-1198.620	14.908
15	16.5911	Ext Event I	Max	-48.555	-1126.276	14.908
15	17.9321	Ext Event I	Max	-48.555	-1054.903	14.908
15	17.9321	Ext Event I	Max	-48.555	-1054.903	14.908
15	19.7245	Ext Event I	Max	-48.555	-960.335	14.908
15	21.5169	Ext Event I	Max	-48.555	-865.768	14.908
15	23.3093	Ext Event I	Max	-48.555	-771.200	14.908
15	25.1017	Ext Event I	Max	-48.555	-676.632	14.908
15	26.8940	Ext Event I	Max	-48.555	-582.064	14.908
15	26.8940	Ext Event I	Max	-48.555	-582.064	14.908
15	28.6864	Ext Event I	Max	-48.555	-485.377	14.908
15	30.4788	Ext Event I	Max	-48.555	-388.690	14.908
15	32.2712	Ext Event I	Max	-48.555	-292.002	14.908
15	34.0636	Ext Event I	Max	-48.555	-195.315	14.908
15	35.8560	Ext Event I	Max	-48.555	-98.628	14.908
15	35.8560	Ext Event I	Max	-48.555	-98.628	14.908
15	37.6483	Ext Event I	Max	-48.555	-0.852	14.908
15	39.4407	Ext Event I	Max	-48.555	96.923	14.908
15	41.2331	Ext Event I	Max	-48.555	194.698	14.908
15	43.0255	Ext Event I	Max	-48.555	292.473	14.908
15	44.8179	Ext Event I	Max	-48.555	390.249	14.908
15	44.8179	Ext Event I	Max	-48.555	390.249	14.908
15	46.6102	Ext Event I	Max	-48.555	488.810	14.908
15	48.4026	Ext Event I	Max	-48.555	587.372	14.908
15	50.1950	Ext Event I	Max	-48.555	685.934	14.908
15	51.9874	Ext Event I	Max	-48.555	784.495	14.908
15	53.7798	Ext Event I	Max	-48.555	883.057	14.908
15	53.7798	Ext Event I	Max	-48.555	883.057	14.908
15	55.5721	Ext Event I	Max	-48.555	982.151	14.908
15	57.3645	Ext Event I	Max	-48.555	1081.245	14.908
15	59.1569	Ext Event I	Max	-48.555	1180.338	14.908
15	60.9493	Ext Event I	Max	-48.555	1303.512	14.908
15	62.7417	Ext Event I	Max	-48.555	1457.778	14.908
15	62.7417	Ext Event I	Max	-48.555	1457.778	14.908
15	62.7500	Ext Event I	Max	-48.555	1458.446	14.908
15	0.0000	Ext Event I	Min	-50.317	-2377.709	-14.908

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
15	0.0083	Ext Event I	Min	-50.317	-2377.022	-14.908
15	0.0083	Ext Event I	Min	-50.317	-2377.022	-14.908
15	2.0056	Ext Event I	Min	-50.317	-2204.211	-14.908
15	4.0028	Ext Event I	Min	-50.317	-2075.104	-14.908
15	6.0000	Ext Event I	Min	-50.317	-1963.770	-14.908
15	6.0000	Ext Event I	Min	-50.317	-1957.270	-14.908
15	7.4851	Ext Event I	Min	-50.317	-1874.484	-14.908
15	8.9702	Ext Event I	Min	-50.317	-1791.697	-14.908
15	8.9702	Ext Event I	Min	-50.317	-1791.697	-14.908
15	11.0000	Ext Event I	Min	-50.317	-1677.176	-14.908
15	11.0000	Ext Event I	Min	-50.317	-1675.851	-14.908
15	12.4167	Ext Event I	Min	-50.317	-1595.922	-14.908
15	13.8333	Ext Event I	Min	-50.317	-1515.992	-14.908
15	15.2500	Ext Event I	Min	-50.317	-1436.063	-14.908
15	15.2500	Ext Event I	Min	-50.317	-1434.738	-14.908
15	16.5911	Ext Event I	Min	-50.317	-1359.073	-14.908
15	17.9321	Ext Event I	Min	-50.317	-1284.381	-14.908
15	17.9321	Ext Event I	Min	-50.317	-1284.381	-14.908
15	19.7245	Ext Event I	Min	-50.317	-1186.327	-14.908
15	21.5169	Ext Event I	Min	-50.317	-1088.273	-14.908
15	23.3093	Ext Event I	Min	-50.317	-990.220	-14.908
15	25.1017	Ext Event I	Min	-50.317	-892.166	-14.908
15	26.8940	Ext Event I	Min	-50.317	-794.112	-14.908
15	26.8940	Ext Event I	Min	-50.317	-794.112	-14.908
15	28.6864	Ext Event I	Min	-50.317	-695.485	-14.908
15	30.4788	Ext Event I	Min	-50.317	-596.858	-14.908
15	32.2712	Ext Event I	Min	-50.317	-498.231	-14.908
15	34.0636	Ext Event I	Min	-50.317	-399.604	-14.908
15	35.8560	Ext Event I	Min	-50.317	-300.977	-14.908
15	35.8560	Ext Event I	Min	-50.317	-300.977	-14.908
15	37.6483	Ext Event I	Min	-50.317	-203.783	-14.908
15	39.4407	Ext Event I	Min	-50.317	-106.588	-14.908
15	41.2331	Ext Event I	Min	-50.317	-9.394	-14.908
15	43.0255	Ext Event I	Min	-50.317	87.800	-14.908
15	44.8179	Ext Event I	Min	-50.317	184.995	-14.908
15	44.8179	Ext Event I	Min	-50.317	184.995	-14.908
15	46.6102	Ext Event I	Min	-50.317	277.835	-14.908
15	48.4026	Ext Event I	Min	-50.317	370.676	-14.908
15	50.1950	Ext Event I	Min	-50.317	463.517	-14.908
15	51.9874	Ext Event I	Min	-50.317	556.357	-14.908
15	53.7798	Ext Event I	Min	-50.317	649.198	-14.908
15	53.7798	Ext Event I	Min	-50.317	649.198	-14.908
15	55.5721	Ext Event I	Min	-50.317	737.839	-14.908
15	57.3645	Ext Event I	Min	-50.317	826.481	-14.908
15	59.1569	Ext Event I	Min	-50.317	915.122	-14.908
15	60.9493	Ext Event I	Min	-50.317	1027.843	-14.908
15	62.7417	Ext Event I	Min	-50.317	1171.656	-14.908
15	62.7417	Ext Event I	Min	-50.317	1171.656	-14.908
15	62.7500	Ext Event I	Min	-50.317	1172.325	-14.908
18	0.0000	Str1 (Cont)	Max	-1589.576	-61.015	54.546
18	0.2240	Str1 (Cont)	Max	-1590.687	-63.335	54.546
18	0.4479	Str1 (Cont)	Max	-1591.799	-65.726	54.546
18	0.0000	Str1 (Cont)	Min	-2590.618	-66.929	-53.576
18	0.2240	Str1 (Cont)	Min	-2591.730	-69.249	-53.576
18	0.4479	Str1 (Cont)	Min	-2592.841	-71.639	-53.576
18	0.0000	Str1 (Expn)	Max	-1626.409	54.655	54.546
18	0.2240	Str1 (Expn)	Max	-1627.520	51.092	54.546
18	0.4479	Str1 (Expn)	Max	-1628.632	47.422	54.546
18	0.0000	Str1 (Expn)	Min	-2627.451	48.741	-53.576
18	0.2240	Str1 (Expn)	Min	-2628.562	45.178	-53.576
18	0.4479	Str1 (Expn)	Min	-2629.674	41.509	-53.576
18	0.0000	Ext Event I	Max	-1695.574	12.359	15.446
18	0.2240	Ext Event I	Max	-1696.685	10.038	15.446
18	0.4479	Ext Event I	Max	-1697.797	7.648	15.446
18	0.0000	Ext Event I	Min	-1981.586	10.669	-15.446
18	0.2240	Ext Event I	Min	-1982.698	8.348	-15.446
18	0.4479	Ext Event I	Min	-1983.809	5.958	-15.446
19	0.0000	Str1 (Cont)	Max	-1591.799	-65.726	54.546
19	2.1250	Str1 (Cont)	Max	-1743.604	-91.874	54.546

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
19	4.2500	Str1 (Cont)	Max	-1895.408	-124.299	54.546
19	0.0000	Str1 (Cont)	Min	-2592.841	-71.639	-53.576
19	2.1250	Str1 (Cont)	Min	-2744.646	-97.788	-53.576
19	4.2500	Str1 (Cont)	Min	-2896.451	-130.213	-53.576
19	0.0000	Str1 (Expn)	Max	-1628.632	47.422	54.546
19	2.1250	Str1 (Expn)	Max	-1780.436	7.276	54.546
19	4.2500	Str1 (Expn)	Max	-1932.241	-42.504	54.546
19	0.0000	Str1 (Expn)	Min	-2629.674	41.509	-53.576
19	2.1250	Str1 (Expn)	Min	-2781.479	1.363	-53.576
19	4.2500	Str1 (Expn)	Min	-2933.283	-48.418	-53.576
19	0.0000	Ext Event I	Max	-1697.797	7.648	15.446
19	2.1250	Ext Event I	Max	-1849.602	-18.501	15.446
19	4.2500	Ext Event I	Max	-2001.406	-50.926	15.446
19	0.0000	Ext Event I	Min	-1983.809	5.958	-15.446
19	2.1250	Ext Event I	Min	-2135.614	-20.191	-15.446
19	4.2500	Ext Event I	Min	-2287.418	-52.615	-15.446
20	0.0000	Str1 (Cont)	Max	-1073.741	21.284	52.585
20	3.6719	Str1 (Cont)	Max	-1336.051	30.652	52.585
20	7.3438	Str1 (Cont)	Max	-1598.361	58.759	52.585
20	0.0000	Str1 (Cont)	Min	-2075.167	15.115	-51.770
20	3.6719	Str1 (Cont)	Min	-2337.477	24.484	-51.770
20	7.3438	Str1 (Cont)	Min	-2599.786	52.591	-51.770
20	0.0000	Str1 (Expn)	Max	-1089.499	-93.619	52.585
20	3.6719	Str1 (Expn)	Max	-1351.809	-79.235	52.585
20	7.3438	Str1 (Expn)	Max	-1614.118	-36.083	52.585
20	0.0000	Str1 (Expn)	Min	-2090.925	-99.787	-51.770
20	3.6719	Str1 (Expn)	Min	-2353.235	-85.403	-51.770
20	7.3438	Str1 (Expn)	Min	-2615.544	-42.251	-51.770
20	0.0000	Ext Event I	Max	-1172.325	-48.555	14.908
20	3.6719	Ext Event I	Max	-1434.634	-39.186	14.908
20	7.3438	Ext Event I	Max	-1696.944	-11.079	14.908
20	0.0000	Ext Event I	Min	-1458.446	-50.317	-14.908
20	3.6719	Ext Event I	Min	-1720.756	-40.948	-14.908
20	7.3438	Ext Event I	Min	-1983.065	-12.842	-14.908
22	0.0000	Str1 (Cont)	Max	-1598.361	58.759	52.585
22	0.2240	Str1 (Cont)	Max	-1599.472	61.079	52.585
22	0.4479	Str1 (Cont)	Max	-1600.584	63.470	52.585
22	0.0000	Str1 (Cont)	Min	-2599.786	52.591	-51.770
22	0.2240	Str1 (Cont)	Min	-2600.898	54.911	-51.770
22	0.4479	Str1 (Cont)	Min	-2602.009	57.301	-51.770
22	0.0000	Str1 (Expn)	Max	-1614.118	-36.083	52.585
22	0.2240	Str1 (Expn)	Max	-1615.230	-32.520	52.585
22	0.4479	Str1 (Expn)	Max	-1616.341	-28.850	52.585
22	0.0000	Str1 (Expn)	Min	-2615.544	-42.251	-51.770
22	0.2240	Str1 (Expn)	Min	-2616.656	-38.688	-51.770
22	0.4479	Str1 (Expn)	Min	-2617.767	-35.018	-51.770
22	0.0000	Ext Event I	Max	-1696.944	-11.079	14.908
22	0.2240	Ext Event I	Max	-1698.055	-8.759	14.908
22	0.4479	Ext Event I	Max	-1699.167	-6.369	14.908
22	0.0000	Ext Event I	Min	-1983.065	-12.842	-14.908
22	0.2240	Ext Event I	Min	-1984.177	-10.521	-14.908
22	0.4479	Ext Event I	Min	-1985.288	-8.131	-14.908
23	0.0000	Str1 (Cont)	Max	-1600.584	63.470	52.585
23	2.1250	Str1 (Cont)	Max	-1752.388	89.618	52.585
23	4.2500	Str1 (Cont)	Max	-1904.193	122.043	52.585
23	0.0000	Str1 (Cont)	Min	-2602.009	57.301	-51.770
23	2.1250	Str1 (Cont)	Min	-2753.814	83.450	-51.770
23	4.2500	Str1 (Cont)	Min	-2905.619	115.875	-51.770
23	0.0000	Str1 (Expn)	Max	-1616.341	-28.850	52.585
23	2.1250	Str1 (Expn)	Max	-1768.146	11.296	52.585
23	4.2500	Str1 (Expn)	Max	-1919.951	61.077	52.585
23	0.0000	Str1 (Expn)	Min	-2617.767	-35.018	-51.770
23	2.1250	Str1 (Expn)	Min	-2769.572	5.128	-51.770
23	4.2500	Str1 (Expn)	Min	-2921.377	54.909	-51.770
23	0.0000	Ext Event I	Max	-1699.167	-6.369	14.908
23	2.1250	Ext Event I	Max	-1850.971	19.780	14.908
23	4.2500	Ext Event I	Max	-2002.776	52.205	14.908
23	0.0000	Ext Event I	Min	-1985.288	-8.131	-14.908
23	2.1250	Ext Event I	Min	-2137.093	18.018	-14.908

Table 19: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	StepType	P	V2	V3
	ft			Kip	Kip	Kip
23	4.2500	Ext Event I	Min	-2288.898	50.443	-14.908

Table 19: Element Forces - Frames, Part 2 of 2

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
1	0.0000	Str1 (Cont)	Max	400.5758	1809.8960	308.0346
1	0.0083	Str1 (Cont)	Max	5959.8348	1810.2204	316.9064
1	0.0083	Str1 (Cont)	Max	5959.8348	1810.2204	316.9064
1	1.8007	Str1 (Cont)	Max	6685.4492	1893.7016	3555.2436
1	3.5931	Str1 (Cont)	Max	7411.0635	1977.1828	6551.5159
1	5.3855	Str1 (Cont)	Max	8136.6779	2060.6640	9379.4906
1	7.1779	Str1 (Cont)	Max	8862.2923	2144.1453	12048.5864
1	8.9702	Str1 (Cont)	Max	9587.9066	2227.6265	14558.8031
1	8.9702	Str1 (Cont)	Max	9587.9066	2227.6265	14558.8031
1	10.7626	Str1 (Cont)	Max	10401.6913	2319.8304	16314.6282
1	12.5550	Str1 (Cont)	Max	11215.4760	2412.0343	17911.5743
1	14.3474	Str1 (Cont)	Max	12029.2607	2504.2381	19349.6414
1	16.1398	Str1 (Cont)	Max	12843.0453	2596.4420	20628.8295
1	17.9321	Str1 (Cont)	Max	13656.8300	2688.6459	21749.1386
1	17.9321	Str1 (Cont)	Max	13656.8300	2688.6459	21749.1386
1	19.7245	Str1 (Cont)	Max	13867.4304	2780.8498	22316.7086
1	21.5169	Str1 (Cont)	Max	14078.0308	2873.0537	22725.3995
1	23.3093	Str1 (Cont)	Max	14288.6312	2965.2576	22975.2114
1	25.1017	Str1 (Cont)	Max	14499.2316	3057.4615	23066.1444
1	26.8940	Str1 (Cont)	Max	14709.8320	3149.6654	22998.1983
1	26.8940	Str1 (Cont)	Max	14709.8320	3149.6654	22998.1983
1	28.6864	Str1 (Cont)	Max	15199.7378	3246.5967	22368.7596
1	30.4788	Str1 (Cont)	Max	15689.6435	3343.5280	21580.4419
1	32.2712	Str1 (Cont)	Max	16179.5492	3440.4593	20633.2452
1	34.0636	Str1 (Cont)	Max	16669.4549	3537.3906	19527.1695
1	35.8560	Str1 (Cont)	Max	17159.3606	3634.3219	18262.2148
1	35.8560	Str1 (Cont)	Max	17159.3606	3634.3219	18262.2148
1	37.6483	Str1 (Cont)	Max	17369.5555	3731.6514	16432.8577
1	39.4407	Str1 (Cont)	Max	17579.7503	3828.9809	14444.6217
1	41.2331	Str1 (Cont)	Max	17789.9452	3926.3104	12297.5066
1	43.0255	Str1 (Cont)	Max	18000.1400	4023.6399	9991.5126
1	44.8179	Str1 (Cont)	Max	18210.3348	4120.9693	7526.6395
1	44.8179	Str1 (Cont)	Max	18210.3348	4120.9693	7526.6395
1	46.1589	Str1 (Cont)	Max	18218.5662	4193.7919	5365.6830
1	47.5000	Str1 (Cont)	Max	18226.7976	4266.6145	3111.9475
1	47.5000	Str1 (Cont)	Max	18226.7976	4266.6145	3111.9475
1	48.9167	Str1 (Cont)	Max	18235.4930	4343.5420	628.2939
1	50.3333	Str1 (Cont)	Max	18244.1884	4420.4695	-1959.1277
1	51.7500	Str1 (Cont)	Max	18252.8838	4497.3970	-4650.3174
1	51.7500	Str1 (Cont)	Max	18252.8838	4497.3970	-4650.3174
1	53.7798	Str1 (Cont)	Max	18265.3423	4607.6167	-8689.7186
1	53.7798	Str1 (Cont)	Max	18265.3423	4607.6167	-8689.7186
1	55.2649	Str1 (Cont)	Max	18270.8703	4688.2613	-11220.9119
1	56.7500	Str1 (Cont)	Max	18276.3983	4768.9060	-13866.1435
1	56.7500	Str1 (Cont)	Max	18276.3983	4768.9060	-13866.1435
1	58.7472	Str1 (Cont)	Max	18283.8324	4877.3587	-17616.2964
1	60.7444	Str1 (Cont)	Max	18291.2666	4985.8114	-21577.8251
1	62.7417	Str1 (Cont)	Max	18298.7008	5094.2641	-25837.3570
1	62.7417	Str1 (Cont)	Max	18298.7008	5094.2641	-25837.3570
1	62.7500	Str1 (Cont)	Max	18298.7008	5094.7166	-25854.7682
1	0.0000	Str1 (Cont)	Min	-393.4468	-1807.4671	264.6057
1	0.0083	Str1 (Cont)	Min	-5952.7057	-1807.7834	278.8495
1	0.0083	Str1 (Cont)	Min	-5952.7057	-1807.7834	278.8495
1	1.8007	Str1 (Cont)	Min	-6678.3201	-1889.5246	2065.1870
1	3.5931	Str1 (Cont)	Min	-7403.9344	-1971.2658	3609.4596
1	5.3855	Str1 (Cont)	Min	-8129.5488	-2053.0071	4985.4347
1	7.1779	Str1 (Cont)	Min	-8855.1632	-2134.7483	6202.5307
1	8.9702	Str1 (Cont)	Min	-9580.7776	-2216.4895	7260.7477
1	8.9702	Str1 (Cont)	Min	-9580.7776	-2216.4895	7260.7477
1	10.7626	Str1 (Cont)	Min	-10394.5622	-2306.9534	8152.4744
1	12.5550	Str1 (Cont)	Min	-11208.3469	-2397.4173	8885.3221
1	14.3474	Str1 (Cont)	Min	-12022.1316	-2487.8812	9459.2908

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
1	16.1398	Str1 (Cont)	Min	-12835.9163	-2578.3451	9874.3805
1	17.9321	Str1 (Cont)	Min	-13649.7009	-2668.8090	10130.5912
1	17.9321	Str1 (Cont)	Min	-13649.7009	-2668.8090	10130.5912
1	19.7245	Str1 (Cont)	Min	-13860.3013	-2759.2729	10227.9229
1	21.5169	Str1 (Cont)	Min	-14070.9017	-2849.7368	10166.3757
1	23.3093	Str1 (Cont)	Min	-14281.5021	-2940.2007	9945.9494
1	25.1017	Str1 (Cont)	Min	-14492.1026	-3030.6646	9566.6441
1	26.8940	Str1 (Cont)	Min	-14702.7030	-3121.1285	9028.4599
1	26.8940	Str1 (Cont)	Min	-14702.7030	-3121.1285	9028.4599
1	28.6864	Str1 (Cont)	Min	-15192.6087	-3216.3199	8331.3967
1	30.4788	Str1 (Cont)	Min	-15682.5144	-3311.5112	7475.4544
1	32.2712	Str1 (Cont)	Min	-16172.4201	-3406.7025	6460.6332
1	34.0636	Str1 (Cont)	Min	-16662.3258	-3501.8939	5286.9330
1	35.8560	Str1 (Cont)	Min	-17152.2315	-3597.0852	3954.3538
1	35.8560	Str1 (Cont)	Min	-17152.2315	-3597.0852	3954.3538
1	37.6483	Str1 (Cont)	Min	-17362.4264	-3692.6747	2462.8956
1	39.4407	Str1 (Cont)	Min	-17572.6212	-3788.2642	812.5584
1	41.2331	Str1 (Cont)	Min	-17782.8161	-3883.8537	-996.6577
1	43.0255	Str1 (Cont)	Min	-17993.0109	-3979.4432	-2964.7529
1	44.8179	Str1 (Cont)	Min	-18203.2058	-4075.0327	-5091.7271
1	44.8179	Str1 (Cont)	Min	-18203.2058	-4075.0327	-5091.7271
1	46.1589	Str1 (Cont)	Min	-18211.4371	-4146.5533	-6787.9812
1	47.5000	Str1 (Cont)	Min	-18219.6685	-4218.0740	-8577.0145
1	47.5000	Str1 (Cont)	Min	-18219.6685	-4218.0740	-8577.0145
1	48.9167	Str1 (Cont)	Min	-18228.3639	-4293.6263	-10569.7707
1	50.3333	Str1 (Cont)	Min	-18237.0593	-4369.1786	-12666.2951
1	51.7500	Str1 (Cont)	Min	-18245.7547	-4444.7309	-14866.5875
1	51.7500	Str1 (Cont)	Min	-18245.7547	-4444.7309	-14866.5875
1	53.7798	Str1 (Cont)	Min	-18258.2132	-4552.9801	-18202.6443
1	53.7798	Str1 (Cont)	Min	-18258.2132	-4552.9801	-18202.6443
1	55.2649	Str1 (Cont)	Min	-18263.7412	-4632.1830	-20778.4914
1	56.7500	Str1 (Cont)	Min	-18269.2692	-4711.3859	-23468.3768
1	56.7500	Str1 (Cont)	Min	-18269.2692	-4711.3859	-23468.3768
1	58.7472	Str1 (Cont)	Min	-18276.7034	-4817.8998	-27278.5811
1	60.7444	Str1 (Cont)	Min	-18284.1375	-4924.4137	-31300.1612
1	62.7417	Str1 (Cont)	Min	-18291.5717	-5030.9276	-35619.7444
1	62.7417	Str1 (Cont)	Min	-18291.5717	-5030.9276	-35619.7444
1	62.7500	Str1 (Cont)	Min	-18291.5717	-5031.3720	-35638.4570
1	0.0000	Str1 (Expn)	Max	400.5758	1809.8960	-639.6319
1	0.0083	Str1 (Expn)	Max	5959.8348	1810.2204	-630.4531
1	0.0083	Str1 (Expn)	Max	5959.8348	1810.2204	-630.4531
1	1.8007	Str1 (Expn)	Max	6685.4492	1893.7016	2673.9022
1	3.5931	Str1 (Expn)	Max	7411.0635	1977.1828	5736.1927
1	5.3855	Str1 (Expn)	Max	8136.6779	2060.6640	8630.1856
1	7.1779	Str1 (Expn)	Max	8862.2923	2144.1453	11365.2995
1	8.9702	Str1 (Expn)	Max	9587.9066	2227.6265	13941.5344
1	8.9702	Str1 (Expn)	Max	9587.9066	2227.6265	13941.5344
1	10.7626	Str1 (Expn)	Max	10401.6913	2319.8304	15763.3776
1	12.5550	Str1 (Expn)	Max	11215.4760	2412.0343	17426.3419
1	14.3474	Str1 (Expn)	Max	12029.2607	2504.2381	18930.4272
1	16.1398	Str1 (Expn)	Max	12843.0453	2596.4420	20275.6334
1	17.9321	Str1 (Expn)	Max	13656.8300	2688.6459	21461.9607
1	17.9321	Str1 (Expn)	Max	13656.8300	2688.6459	21461.9607
1	19.7245	Str1 (Expn)	Max	13867.4304	2780.8498	22095.5488
1	21.5169	Str1 (Expn)	Max	14078.0308	2873.0537	22570.2579
1	23.3093	Str1 (Expn)	Max	14288.6312	2965.2576	22886.0880
1	25.1017	Str1 (Expn)	Max	14499.2316	3057.4615	23043.0391
1	26.8940	Str1 (Expn)	Max	14709.8320	3149.6654	23041.1112
1	26.8940	Str1 (Expn)	Max	14709.8320	3149.6654	23041.1112
1	28.6864	Str1 (Expn)	Max	15199.7378	3246.5967	22477.6907
1	30.4788	Str1 (Expn)	Max	15689.6435	3343.5280	21755.3911
1	32.2712	Str1 (Expn)	Max	16179.5492	3440.4593	20874.2126
1	34.0636	Str1 (Expn)	Max	16669.4549	3537.3906	19834.1551
1	35.8560	Str1 (Expn)	Max	17159.3606	3634.3219	18635.2185
1	35.8560	Str1 (Expn)	Max	17159.3606	3634.3219	18635.2185
1	37.6483	Str1 (Expn)	Max	17369.5555	3731.6514	16871.8796
1	39.4407	Str1 (Expn)	Max	17579.7503	3828.9809	14949.6617
1	41.2331	Str1 (Expn)	Max	17789.9452	3926.3104	12868.5648
1	43.0255	Str1 (Expn)	Max	18000.1400	4023.6399	10628.5889

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
1	44.8179	Str1 (Expn)	Max	18210.3348	4120.9693	8229.7340
1	44.8179	Str1 (Expn)	Max	18210.3348	4120.9693	8229.7340
1	46.1589	Str1 (Expn)	Max	18218.5662	4193.7919	6118.1728
1	47.5000	Str1 (Expn)	Max	18226.7976	4266.6145	3913.8325
1	47.5000	Str1 (Expn)	Max	18226.7976	4266.6145	3913.8325
1	48.9167	Str1 (Expn)	Max	18235.4930	4343.5420	1482.3585
1	50.3333	Str1 (Expn)	Max	18244.1884	4420.4695	-1052.8835
1	51.7500	Str1 (Expn)	Max	18252.8838	4497.3970	-3691.8936
1	51.7500	Str1 (Expn)	Max	18252.8838	4497.3970	-3691.8936
1	53.7798	Str1 (Expn)	Max	18265.3423	4607.6167	-7656.5333
1	53.7798	Str1 (Expn)	Max	18265.3423	4607.6167	-7656.5333
1	55.2649	Str1 (Expn)	Max	18270.8703	4688.2613	-10133.0257
1	56.7500	Str1 (Expn)	Max	18276.3983	4768.9060	-12723.5564
1	56.7500	Str1 (Expn)	Max	18276.3983	4768.9060	-12723.5564
1	58.7472	Str1 (Expn)	Max	18283.8324	4877.3587	-16400.1463
1	60.7444	Str1 (Expn)	Max	18291.2666	4985.8114	-20288.1120
1	62.7417	Str1 (Expn)	Max	18298.7008	5094.2641	-24474.0809
1	62.7417	Str1 (Expn)	Max	18298.7008	5094.2641	-24474.0809
1	62.7500	Str1 (Expn)	Max	18298.7008	5094.7166	-24491.1851
1	0.0000	Str1 (Expn)	Min	-393.4468	-1807.4671	-683.0608
1	0.0083	Str1 (Expn)	Min	-5952.7057	-1807.7834	-668.5100
1	0.0083	Str1 (Expn)	Min	-5952.7057	-1807.7834	-668.5100
1	1.8007	Str1 (Expn)	Min	-6678.3201	-1889.5246	1183.8456
1	3.5931	Str1 (Expn)	Min	-7403.9344	-1971.2658	2794.1364
1	5.3855	Str1 (Expn)	Min	-8129.5488	-2053.0071	4236.1296
1	7.1779	Str1 (Expn)	Min	-8855.1632	-2134.7483	5519.2438
1	8.9702	Str1 (Expn)	Min	-9580.7776	-2216.4895	6643.4790
1	8.9702	Str1 (Expn)	Min	-9580.7776	-2216.4895	6643.4790
1	10.7626	Str1 (Expn)	Min	-10394.5622	-2306.9534	7601.2239
1	12.5550	Str1 (Expn)	Min	-11208.3469	-2397.4173	8400.0897
1	14.3474	Str1 (Expn)	Min	-12022.1316	-2487.8812	9040.0766
1	16.1398	Str1 (Expn)	Min	-12835.9163	-2578.3451	9521.1844
1	17.9321	Str1 (Expn)	Min	-13649.7009	-2668.8090	9843.4133
1	17.9321	Str1 (Expn)	Min	-13649.7009	-2668.8090	9843.4133
1	19.7245	Str1 (Expn)	Min	-13860.3013	-2759.2729	10006.7632
1	21.5169	Str1 (Expn)	Min	-14070.9017	-2849.7368	10011.2341
1	23.3093	Str1 (Expn)	Min	-14281.5021	-2940.2007	9856.8260
1	25.1017	Str1 (Expn)	Min	-14492.1026	-3030.6646	9543.5389
1	26.8940	Str1 (Expn)	Min	-14702.7030	-3121.1285	9071.3728
1	26.8940	Str1 (Expn)	Min	-14702.7030	-3121.1285	9071.3728
1	28.6864	Str1 (Expn)	Min	-15192.6087	-3216.3199	8440.3277
1	30.4788	Str1 (Expn)	Min	-15682.5144	-3311.5112	7650.4037
1	32.2712	Str1 (Expn)	Min	-16172.4201	-3406.7025	6701.6006
1	34.0636	Str1 (Expn)	Min	-16662.3258	-3501.8939	5593.9186
1	35.8560	Str1 (Expn)	Min	-17152.2315	-3597.0852	4327.3575
1	35.8560	Str1 (Expn)	Min	-17152.2315	-3597.0852	4327.3575
1	37.6483	Str1 (Expn)	Min	-17362.4264	-3692.6747	2901.9175
1	39.4407	Str1 (Expn)	Min	-17572.6212	-3788.2642	1317.5985
1	41.2331	Str1 (Expn)	Min	-17782.8161	-3883.8537	-425.5995
1	43.0255	Str1 (Expn)	Min	-17993.0109	-3979.4432	-2327.6766
1	44.8179	Str1 (Expn)	Min	-18203.2058	-4075.0327	-4388.6326
1	44.8179	Str1 (Expn)	Min	-18203.2058	-4075.0327	-4388.6326
1	46.1589	Str1 (Expn)	Min	-18211.4371	-4146.5533	-6035.4915
1	47.5000	Str1 (Expn)	Min	-18219.6685	-4218.0740	-7775.1295
1	47.5000	Str1 (Expn)	Min	-18219.6685	-4218.0740	-7775.1295
1	48.9167	Str1 (Expn)	Min	-18228.3639	-4293.6263	-9715.7061
1	50.3333	Str1 (Expn)	Min	-18237.0593	-4369.1786	-11760.0509
1	51.7500	Str1 (Expn)	Min	-18245.7547	-4444.7309	-13908.1637
1	51.7500	Str1 (Expn)	Min	-18245.7547	-4444.7309	-13908.1637
1	53.7798	Str1 (Expn)	Min	-18258.2132	-4552.9801	-17169.4590
1	53.7798	Str1 (Expn)	Min	-18258.2132	-4552.9801	-17169.4590
1	55.2649	Str1 (Expn)	Min	-18263.7412	-4632.1830	-19690.6051
1	56.7500	Str1 (Expn)	Min	-18269.2692	-4711.3859	-22325.7897
1	56.7500	Str1 (Expn)	Min	-18269.2692	-4711.3859	-22325.7897
1	58.7472	Str1 (Expn)	Min	-18276.7034	-4817.8998	-26062.4309
1	60.7444	Str1 (Expn)	Min	-18284.1375	-4924.4137	-30010.4480
1	62.7417	Str1 (Expn)	Min	-18291.5717	-5030.9276	-34256.4683
1	62.7417	Str1 (Expn)	Min	-18291.5717	-5030.9276	-34256.4683
1	62.7500	Str1 (Expn)	Min	-18291.5717	-5031.3720	-34274.8739

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
1	0.0000	Ext Event I	Max	113.4318	516.7662	-261.8220
1	0.0083	Ext Event I	Max	1701.7915	516.8577	-252.0668
1	0.0083	Ext Event I	Max	1701.7915	516.8577	-252.0668
1	1.8007	Ext Event I	Max	1909.1099	540.4609	2133.6797
1	3.5931	Ext Event I	Max	2116.4283	564.0641	4277.3614
1	5.3855	Ext Event I	Max	2323.7467	587.6673	6252.7456
1	7.1779	Ext Event I	Max	2531.0651	611.2705	8069.2507
1	8.9702	Ext Event I	Max	2738.3835	634.8737	9726.8769
1	8.9702	Ext Event I	Max	2738.3835	634.8737	9726.8769
1	10.7626	Ext Event I	Max	2970.8934	660.9691	11055.4776
1	12.5550	Ext Event I	Max	3203.4033	687.0645	12225.1992
1	14.3474	Ext Event I	Max	3435.9132	713.1599	13236.0419
1	16.1398	Ext Event I	Max	3668.4231	739.2553	14088.0057
1	17.9321	Ext Event I	Max	3900.9330	765.3507	14781.0904
1	17.9321	Ext Event I	Max	3900.9330	765.3507	14781.0904
1	19.7245	Ext Event I	Max	3961.1045	791.4461	15202.7646
1	21.5169	Ext Event I	Max	4021.2761	817.5415	15465.5598
1	23.3093	Ext Event I	Max	4081.4476	843.6369	15569.4761
1	25.1017	Ext Event I	Max	4141.6192	869.7323	15514.5134
1	26.8940	Ext Event I	Max	4201.7907	895.8277	15300.6716
1	26.8940	Ext Event I	Max	4201.7907	895.8277	15300.6716
1	28.6864	Ext Event I	Max	4341.7638	923.2738	14812.9184
1	30.4788	Ext Event I	Max	4481.7368	950.7199	14166.2862
1	32.2712	Ext Event I	Max	4621.7099	978.1660	13360.7751
1	34.0636	Ext Event I	Max	4761.6830	1005.6121	12396.3849
1	35.8560	Ext Event I	Max	4901.6560	1033.0582	11273.1157
1	35.8560	Ext Event I	Max	4901.6560	1033.0582	11273.1157
1	37.6483	Ext Event I	Max	4961.7117	1060.6180	9875.1037
1	39.4407	Ext Event I	Max	5021.7674	1088.1779	8318.2128
1	41.2331	Ext Event I	Max	5081.8230	1115.7377	6602.4428
1	43.0255	Ext Event I	Max	5141.8787	1143.2976	4727.7938
1	44.8179	Ext Event I	Max	5201.9344	1170.8574	2694.2659
1	44.8179	Ext Event I	Max	5201.9344	1170.8574	2694.2659
1	46.1589	Ext Event I	Max	5204.2862	1191.4779	1007.3904
1	47.5000	Ext Event I	Max	5206.6380	1212.0984	-772.2640
1	47.5000	Ext Event I	Max	5206.6380	1212.0984	-772.2640
1	48.9167	Ext Event I	Max	5209.1224	1233.8812	-2755.1129
1	50.3333	Ext Event I	Max	5211.6068	1255.6640	-4841.7298
1	51.7500	Ext Event I	Max	5214.0912	1277.4468	-7032.1147
1	51.7500	Ext Event I	Max	5214.0912	1277.4468	-7032.1147
1	53.7798	Ext Event I	Max	5217.6508	1308.6567	-10353.9765
1	53.7798	Ext Event I	Max	5217.6508	1308.6567	-10353.9765
1	55.2649	Ext Event I	Max	5219.2302	1331.4921	-12759.6457
1	56.7500	Ext Event I	Max	5220.8096	1354.3274	-15279.3533
1	56.7500	Ext Event I	Max	5220.8096	1354.3274	-15279.3533
1	58.7472	Ext Event I	Max	5222.9337	1385.0369	-18860.6985
1	60.7444	Ext Event I	Max	5225.0577	1415.7464	-22653.4196
1	62.7417	Ext Event I	Max	5227.1818	1446.4560	-26744.1438
1	62.7417	Ext Event I	Max	5227.1818	1446.4560	-26744.1438
1	62.7500	Ext Event I	Max	5227.1818	1446.5841	-26761.6013
1	0.0000	Ext Event I	Min	-113.4318	-516.7662	-274.2303
1	0.0083	Ext Event I	Min	-1701.7915	-516.8577	-262.9402
1	0.0083	Ext Event I	Min	-1701.7915	-516.8577	-262.9402
1	1.8007	Ext Event I	Min	-1909.1099	-540.4609	1707.9493
1	3.5931	Ext Event I	Min	-2116.4283	-564.0641	3436.7739
1	5.3855	Ext Event I	Min	-2323.7467	-587.6673	4997.3010
1	7.1779	Ext Event I	Min	-2531.0651	-611.2705	6398.9491
1	8.9702	Ext Event I	Min	-2738.3835	-634.8737	7641.7182
1	8.9702	Ext Event I	Min	-2738.3835	-634.8737	7641.7182
1	10.7626	Ext Event I	Min	-2970.8934	-660.9691	8723.4336
1	12.5550	Ext Event I	Min	-3203.4033	-687.0645	9646.2700
1	14.3474	Ext Event I	Min	-3435.9132	-713.1599	10410.2275
1	16.1398	Ext Event I	Min	-3668.4231	-739.2553	11015.3059
1	17.9321	Ext Event I	Min	-3900.9330	-765.3507	11461.5054
1	17.9321	Ext Event I	Min	-3900.9330	-765.3507	11461.5054
1	19.7245	Ext Event I	Min	-3961.1045	-791.4461	11748.8259
1	21.5169	Ext Event I	Min	-4021.2761	-817.5415	11877.2673
1	23.3093	Ext Event I	Min	-4081.4476	-843.6369	11846.8298
1	25.1017	Ext Event I	Min	-4141.6192	-869.7323	11657.5133

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
1	26.8940	Ext Event I	Min	-4201.7907	-895.8277	11309.3178
1	26.8940	Ext Event I	Min	-4201.7907	-895.8277	11309.3178
1	28.6864	Ext Event I	Min	-4341.7638	-923.2738	10802.2433
1	30.4788	Ext Event I	Min	-4481.7368	-950.7199	10136.2898
1	32.2712	Ext Event I	Min	-4621.7099	-978.1660	9311.4574
1	34.0636	Ext Event I	Min	-4761.6830	-1005.6121	8327.7459
1	35.8560	Ext Event I	Min	-4901.6560	-1033.0582	7185.1554
1	35.8560	Ext Event I	Min	-4901.6560	-1033.0582	7185.1554
1	37.6483	Ext Event I	Min	-4961.7117	-1060.6180	5883.6860
1	39.4407	Ext Event I	Min	-5021.7674	-1088.1779	4423.3375
1	41.2331	Ext Event I	Min	-5081.8230	-1115.7377	2804.1101
1	43.0255	Ext Event I	Min	-5141.8787	-1143.2976	1026.0037
1	44.8179	Ext Event I	Min	-5201.9344	-1170.8574	-910.9817
1	44.8179	Ext Event I	Min	-5201.9344	-1170.8574	-910.9817
1	46.1589	Ext Event I	Min	-5204.2862	-1191.4779	-2465.0851
1	47.5000	Ext Event I	Min	-5206.6380	-1212.0984	-4111.9674
1	47.5000	Ext Event I	Min	-5206.6380	-1212.0984	-4111.9674
1	48.9167	Ext Event I	Min	-5209.1224	-1233.8812	-5954.5599
1	50.3333	Ext Event I	Min	-5211.6068	-1255.6640	-7900.9204
1	51.7500	Ext Event I	Min	-5214.0912	-1277.4468	-9951.0491
1	51.7500	Ext Event I	Min	-5214.0912	-1277.4468	-9951.0491
1	53.7798	Ext Event I	Min	-5217.6508	-1308.6567	-13071.9552
1	53.7798	Ext Event I	Min	-5217.6508	-1308.6567	-13071.9552
1	55.2649	Ext Event I	Min	-5219.2302	-1331.4921	-15490.3827
1	56.7500	Ext Event I	Min	-5220.8096	-1354.3274	-18022.8485
1	56.7500	Ext Event I	Min	-5220.8096	-1354.3274	-18022.8485
1	58.7472	Ext Event I	Min	-5222.9337	-1385.0369	-21621.3513
1	60.7444	Ext Event I	Min	-5225.0577	-1415.7464	-25431.2299
1	62.7417	Ext Event I	Min	-5227.1818	-1446.4560	-29539.1117
1	62.7417	Ext Event I	Min	-5227.1818	-1446.4560	-29539.1117
1	62.7500	Ext Event I	Min	-5227.1818	-1446.5841	-29556.9409
3	0.0000	Str1 (Cont)	Max	1056.0602	12881.5806	0.0000
3	2.7292	Str1 (Cont)	Max	1056.0602	12295.6677	1323.6754
3	5.4583	Str1 (Cont)	Max	1056.0602	11709.7547	2647.3507
3	0.0000	Str1 (Cont)	Min	-1057.4923	-12891.8378	0.0000
3	2.7292	Str1 (Cont)	Min	-1057.4923	-12302.5428	1318.6409
3	5.4583	Str1 (Cont)	Min	-1057.4923	-11713.2478	2637.2818
3	0.0000	Str1 (Expn)	Max	1056.0602	12881.5806	0.0000
3	2.7292	Str1 (Expn)	Max	1056.0602	12295.6677	-594.4278
3	5.4583	Str1 (Expn)	Max	1056.0602	11709.7547	-1188.8556
3	0.0000	Str1 (Expn)	Min	-1057.4923	-12891.8378	0.0000
3	2.7292	Str1 (Expn)	Min	-1057.4923	-12302.5428	-599.4623
3	5.4583	Str1 (Expn)	Min	-1057.4923	-11713.2478	-1198.9246
3	0.0000	Ext Event I	Max	301.9361	3681.9169	0.0000
3	2.7292	Ext Event I	Max	301.9361	3514.0301	32.0552
3	5.4583	Ext Event I	Max	301.9361	3346.1432	64.1105
3	0.0000	Ext Event I	Min	-301.9361	-3681.9169	0.0000
3	2.7292	Ext Event I	Min	-301.9361	-3514.0301	30.6168
3	5.4583	Ext Event I	Min	-301.9361	-3346.1432	61.2336
4	0.0000	Str1 (Cont)	Max	1056.0602	11709.7547 ✓	2647.3507
4	6.8750	Str1 (Cont)	Max	1056.0602	10266.3810	5981.8001
4	13.7500	Str1 (Cont)	Max	1056.0602	8802.7209 ✓	9316.2495
4	0.0000	Str1 (Cont)	Min	-1057.4923	-11713.2478	2637.2818
4	6.8750	Str1 (Cont)	Min	-1057.4923	-10281.6786	5959.0489
4	13.7500	Str1 (Cont)	Min	-1057.4923	-8870.3956	9280.8161
4	0.0000	Str1 (Expn)	Max	1056.0602	11709.7547	-1188.8556
4	6.8750	Str1 (Expn)	Max	1056.0602	10266.3810	-2686.2692
4	13.7500	Str1 (Expn)	Max	1056.0602	8802.7209	-4183.6828
4	0.0000	Str1 (Expn)	Min	-1057.4923	-11713.2478	-1198.9246
4	6.8750	Str1 (Expn)	Min	-1057.4923	-10281.6786	-2709.0204
4	13.7500	Str1 (Expn)	Min	-1057.4923	-8870.3956	-4219.1162
4	0.0000	Ext Event I	Max	301.9361	3346.1432	64.1105
4	6.8750	Ext Event I	Max	301.9361	2935.4371	144.8603
4	13.7500	Ext Event I	Max	301.9361	2524.7309	225.6102
4	0.0000	Ext Event I	Min	-301.9361	-3346.1432	61.2336
4	6.8750	Ext Event I	Min	-301.9361	-2935.4371	138.3600
4	13.7500	Ext Event I	Min	-301.9361	-2524.7309	215.4863
5	0.0000	Str1 (Cont)	Max	1807.4671	400.5758	-264.6057
5	3.6719	Str1 (Cont)	Max	1807.4671	200.2879	-166.7039

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
5	7.3438	Str1 (Cont)	Max	1807.4671	-6.835E-10	2.033E-10
5	0.0000	Str1 (Cont)	Min	-1809.8960	-393.4468	-308.0346
5	3.6719	Str1 (Cont)	Min	-1809.8960	-196.7234	-188.4183
5	7.3438	Str1 (Cont)	Min	-1809.8960	-6.835E-10	2.033E-10
5	0.0000	Str1 (Expn)	Max	1807.4671	400.5758	683.0608
5	3.6719	Str1 (Expn)	Max	1807.4671	200.2879	288.7139
5	7.3438	Str1 (Expn)	Max	1807.4671	-6.835E-10	-3.856E-10
5	0.0000	Str1 (Expn)	Min	-1809.8960	-393.4468	639.6319
5	3.6719	Str1 (Expn)	Min	-1809.8960	-196.7234	266.9995
5	7.3438	Str1 (Expn)	Min	-1809.8960	-6.835E-10	-3.856E-10
5	0.0000	Ext Event I	Max	516.7662	113.4318	274.2303
5	3.6719	Ext Event I	Max	516.7662	56.7159	102.7141
5	7.3438	Ext Event I	Max	516.7662	0.0000	1.523E-11
5	0.0000	Ext Event I	Min	-516.7662	-113.4318	261.8220
5	3.6719	Ext Event I	Min	-516.7662	-56.7159	96.5100
5	7.3438	Ext Event I	Min	-516.7662	0.0000	1.523E-11
6	0.0000	Str1 (Cont)	Max	12691.8658	6080.8199	-24779.8307
6	2.0000	Str1 (Cont)	Max	12571.0983	6139.9837	-20505.4518
6	4.0000	Str1 (Cont)	Max	12450.3308	6199.1474	-16530.1132
6	6.0000	Str1 (Cont)	Max	12329.5633	6258.3112	-12766.8237
6	6.0000	Str1 (Cont)	Max	12329.5633	6258.3112	-12766.8237
6	7.6699	Str1 (Cont)	Max	12228.7280	6307.7102	-9793.9387
6	9.3398	Str1 (Cont)	Max	12127.8928	6357.1092	-6965.2364
6	9.3398	Str1 (Cont)	Max	12127.8928	6357.1092	-6965.2364
6	10.9199	Str1 (Cont)	Max	12047.3027	6597.2464	-3807.2101
6	12.5000	Str1 (Cont)	Max	11966.7126	6837.3836	-778.2741
6	12.5000	Str1 (Cont)	Max	11966.7126	6837.3836	-778.2741
6	14.0428	Str1 (Cont)	Max	11888.0233	7071.8568	2044.6331
6	15.5856	Str1 (Cont)	Max	11809.3341	7306.3301	4744.4679
6	17.1285	Str1 (Cont)	Max	11730.6448	7540.8034	7321.2301
6	18.6713	Str1 (Cont)	Max	11651.9555	7775.2766	9776.4631
6	18.6713	Str1 (Cont)	Max	11651.9555	7775.2766	9776.4631
6	20.5376	Str1 (Cont)	Max	11569.4199	8093.8532	12439.4079
6	22.4039	Str1 (Cont)	Max	11486.8842	8412.4298	14930.0996
6	24.2702	Str1 (Cont)	Max	11404.3486	8731.0064	17248.5382
6	26.1365	Str1 (Cont)	Max	11321.8129	9049.5830	19394.7237
6	28.0028	Str1 (Cont)	Max	11239.2773	9368.1596	21368.6561
6	28.0028	Str1 (Cont)	Max	11239.2773	9368.1596	21368.6561
6	29.8691	Str1 (Cont)	Max	11239.2074	9697.4341	22842.3590
6	31.7354	Str1 (Cont)	Max	11239.1375	10026.7086	24143.8088
6	33.6017	Str1 (Cont)	Max	11239.0676	10355.9830	25273.0055
6	35.4680	Str1 (Cont)	Max	11238.9978	10685.2575	26229.9491
6	37.3343	Str1 (Cont)	Max	11238.9279	11014.5320	27014.6396
6	37.3343	Str1 (Cont)	Max	11238.9279	11014.5320	27014.6396
6	39.2006	Str1 (Cont)	Max	11238.9624	11343.8065	27298.2799
6	41.0669	Str1 (Cont)	Max	11238.9968	11673.0810	27409.6671
6	42.9331	Str1 (Cont)	Max	11239.0313	12002.3555	27348.8012
6	44.7994	Str1 (Cont)	Max	11239.0658	12331.6300	27115.6823
6	46.6657	Str1 (Cont)	Max	11239.1003	12660.9045	26710.3102
6	46.6657	Str1 (Cont)	Max	11239.1003	12660.9045	26710.3102
6	48.5320	Str1 (Cont)	Max	11239.1594	12990.1790	25806.9247
6	50.3983	Str1 (Cont)	Max	11239.2185	13319.4534	24731.2860
6	52.2646	Str1 (Cont)	Max	11239.2776	13648.7279	23483.3943
6	54.1309	Str1 (Cont)	Max	11239.3366	13978.0024	22063.2495
6	55.9972	Str1 (Cont)	Max	11239.3957	14307.2769	20470.8516
6	55.9972	Str1 (Cont)	Max	11239.3957	14307.2769	20470.8516
6	57.8635	Str1 (Cont)	Max	11278.1889	14674.6718	18363.8411
6	59.7298	Str1 (Cont)	Max	11316.9821	15042.0667	16084.5775
6	61.5961	Str1 (Cont)	Max	11355.7753	15409.4616	13633.0608
6	63.4624	Str1 (Cont)	Max	11394.5686	15776.8565	11009.2910
6	65.3287	Str1 (Cont)	Max	11433.3618	16144.2515	8213.2681
6	65.3287	Str1 (Cont)	Max	11433.3618	16144.2515	8213.2681
6	66.8715	Str1 (Cont)	Max	11578.9141	16545.6019	5608.0451
6	68.4144	Str1 (Cont)	Max	11724.4665	16946.9523	2881.2929
6	69.9572	Str1 (Cont)	Max	11870.0189	17348.3027	31.4682
6	71.5000	Str1 (Cont)	Max	12015.5713	17749.6532	-2941.4291
6	71.5000	Str1 (Cont)	Max	12015.5713	17749.6532	-2941.4291
6	73.0801	Str1 (Cont)	Max	12164.6396	18160.6986	-6123.9782
6	74.6602	Str1 (Cont)	Max	12313.7080	18571.7441	-9435.6176

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
6	74.6602	Str1 (Cont)	Max	12313.7080	18571.7441	-9435.6176
6	76.5801	Str1 (Cont)	Max	12554.5042	19071.1890	-12926.2947
6	78.5000	Str1 (Cont)	Max	12795.3005	19570.6340	-16607.5569
6	78.5000	Str1 (Cont)	Max	12795.3005	19570.6340	-16607.5569
6	80.3333	Str1 (Cont)	Max	13025.2386	20047.5575	-20312.6251
6	82.1667	Str1 (Cont)	Max	13255.1767	20524.4810	-24200.1273
6	84.0000	Str1 (Cont)	Max	13485.1148	21001.4046	-28346.7996
6	0.0000	Str1 (Cont)	Min	-12694.9939	-6016.0432	-34563.5195
6	2.0000	Str1 (Cont)	Min	-12574.2264	-6075.7438	-29722.0216
6	4.0000	Str1 (Cont)	Min	-12453.4589	-6135.4445	-25179.5640
6	6.0000	Str1 (Cont)	Min	-12332.6914	-6195.1452	-20849.1555
6	6.0000	Str1 (Cont)	Min	-12332.6914	-6195.1452	-20849.1555
6	7.6699	Str1 (Cont)	Min	-12231.8561	-6244.9925	-17402.7524
6	9.3398	Str1 (Cont)	Min	-12131.0209	-6294.8398	-14100.5320
6	9.3398	Str1 (Cont)	Min	-12131.0209	-6294.8398	-14100.5320
6	10.9199	Str1 (Cont)	Min	-12050.4308	-6535.4012	-11510.0159
6	12.5000	Str1 (Cont)	Min	-11969.8407	-6775.9626	-9048.5900
6	12.5000	Str1 (Cont)	Min	-11969.8407	-6775.9626	-9048.5900
6	14.0428	Str1 (Cont)	Min	-11891.1514	-7010.8500	-6779.8074
6	15.5856	Str1 (Cont)	Min	-11812.4622	-7245.7375	-4634.0974
6	17.1285	Str1 (Cont)	Min	-11733.7729	-7480.6249	-2611.4598
6	18.6713	Str1 (Cont)	Min	-11655.0836	-7715.5124	-710.3514
6	18.6713	Str1 (Cont)	Min	-11655.0836	-7715.5124	-710.3514
6	20.5376	Str1 (Cont)	Min	-11572.5480	-8034.5900	1431.8347
6	22.4039	Str1 (Cont)	Min	-11490.0123	-8353.6676	3401.7678
6	24.2702	Str1 (Cont)	Min	-11407.4767	-8672.7452	5199.4478
6	26.1365	Str1 (Cont)	Min	-11324.9410	-8991.8229	6824.8746
6	28.0028	Str1 (Cont)	Min	-11242.4054	-9310.9005	8278.0484
6	28.0028	Str1 (Cont)	Min	-11242.4054	-9310.9005	8278.0484
6	29.8691	Str1 (Cont)	Min	-11242.3355	-9640.6760	9558.9691
6	31.7354	Str1 (Cont)	Min	-11242.2656	-9970.4515	10667.6368
6	33.6017	Str1 (Cont)	Min	-11242.1957	-10300.2270	11604.0513
6	35.4680	Str1 (Cont)	Min	-11242.1258	-10630.0025	12368.2127
6	37.3343	Str1 (Cont)	Min	-11242.0560	-10959.7781	12960.1211
6	37.3343	Str1 (Cont)	Min	-11242.0560	-10959.7781	12960.1211
6	39.2006	Str1 (Cont)	Min	-11242.0905	-11289.5536	13076.0478
6	41.0669	Str1 (Cont)	Min	-11242.1249	-11619.3291	13019.7215
6	42.9331	Str1 (Cont)	Min	-11242.1594	-11949.1046	12791.1420
6	44.7994	Str1 (Cont)	Min	-11242.1939	-12278.8801	12390.3095
6	46.6657	Str1 (Cont)	Min	-11242.2284	-12608.6556	11817.2239
6	46.6657	Str1 (Cont)	Min	-11242.2284	-12608.6556	11817.2239
6	48.5320	Str1 (Cont)	Min	-11242.2875	-12938.4312	11018.4753
6	50.3983	Str1 (Cont)	Min	-11242.3466	-13268.2067	10047.4737
6	52.2646	Str1 (Cont)	Min	-11242.4056	-13597.9822	8904.2189
6	54.1309	Str1 (Cont)	Min	-11242.4647	-13927.7577	7588.7111
6	55.9972	Str1 (Cont)	Min	-11242.5238	-14257.5332	6100.9502
6	55.9972	Str1 (Cont)	Min	-11242.5238	-14257.5332	6100.9502
6	57.8635	Str1 (Cont)	Min	-11281.3170	-14625.4292	4440.9362
6	59.7298	Str1 (Cont)	Min	-11320.1102	-14993.3251	2608.6691
6	61.5961	Str1 (Cont)	Min	-11358.9034	-15361.2210	604.1489
6	63.4624	Str1 (Cont)	Min	-11397.6967	-15729.1170	-1572.6244
6	65.3287	Str1 (Cont)	Min	-11436.4899	-16097.0129	-3921.6508
6	65.3287	Str1 (Cont)	Min	-11436.4899	-16097.0129	-3921.6508
6	66.8715	Str1 (Cont)	Min	-11582.0422	-16498.7775	-5993.7492
6	68.4144	Str1 (Cont)	Min	-11727.5946	-16900.5421	-8187.3767
6	69.9572	Str1 (Cont)	Min	-11873.1470	-17302.3068	-10504.0768
6	71.5000	Str1 (Cont)	Min	-12018.6994	-17704.0714	-12943.8495
6	71.5000	Str1 (Cont)	Min	-12018.6994	-17704.0714	-12943.8495
6	73.0801	Str1 (Cont)	Min	-12167.7677	-18115.5410	-15580.3958
6	74.6602	Str1 (Cont)	Min	-12316.8361	-18527.0107	-18346.0324
6	74.6602	Str1 (Cont)	Min	-12316.8361	-18527.0107	-18346.0324
6	76.5801	Str1 (Cont)	Min	-12557.6323	-19026.9710	-21880.1657
6	78.5000	Str1 (Cont)	Min	-12798.4286	-19526.9314	-25604.8841
6	78.5000	Str1 (Cont)	Min	-12798.4286	-19526.9314	-25604.8841
6	80.3333	Str1 (Cont)	Min	-13028.3667	-20004.3471	-29351.4489
6	82.1667	Str1 (Cont)	Min	-13258.3048	-20481.7628	-33280.4478
6	84.0000	Str1 (Cont)	Min	-13488.2429	-20959.1785	-37468.6167
6	0.0000	Str1 (Expn)	Max	12691.8658	6080.8199	-25566.1226
6	2.0000	Str1 (Expn)	Max	12571.0983	6139.9837	-21267.7876

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
6	4.0000	Str1 (Expn)	Max	12450.3308	6199.1474	-17268.4930
6	6.0000	Str1 (Expn)	Max	12329.5633	6258.3112	-13481.2475
6	6.0000	Str1 (Expn)	Max	12329.5633	6258.3112	-13481.2475
6	7.6699	Str1 (Expn)	Max	12228.7280	6307.7102	-10488.3603
6	9.3398	Str1 (Expn)	Max	12127.8928	6357.1092	-7639.6558
6	9.3398	Str1 (Expn)	Max	12127.8928	6357.1092	-7639.6558
6	10.9199	Str1 (Expn)	Max	12047.3027	6597.2464	-4462.7032
6	12.5000	Str1 (Expn)	Max	11966.7126	6837.3836	-1414.8408
6	12.5000	Str1 (Expn)	Max	11966.7126	6837.3836	-1414.8408
6	14.0428	Str1 (Expn)	Max	11888.0233	7071.8568	1426.5464
6	15.5856	Str1 (Expn)	Max	11809.3341	7306.3301	4144.8611
6	17.1285	Str1 (Expn)	Max	11730.6448	7540.8034	6740.1033
6	18.6713	Str1 (Expn)	Max	11651.9555	7775.2766	9213.8163
6	18.6713	Str1 (Expn)	Max	11651.9555	7775.2766	9213.8163
6	20.5376	Str1 (Expn)	Max	11569.4199	8093.8532	11899.1157
6	22.4039	Str1 (Expn)	Max	11486.8842	8412.4298	14412.1619
6	24.2702	Str1 (Expn)	Max	11404.3486	8731.0064	16752.9550
6	26.1365	Str1 (Expn)	Max	11321.8129	9049.5830	18921.4951
6	28.0028	Str1 (Expn)	Max	11239.2773	9368.1596	20917.7820
6	28.0028	Str1 (Expn)	Max	11239.2773	9368.1596	20917.7820
6	29.8691	Str1 (Expn)	Max	11239.2074	9697.4341	22413.8394
6	31.7354	Str1 (Expn)	Max	11239.1375	10026.7086	23737.6437
6	33.6017	Str1 (Expn)	Max	11239.0676	10355.9830	24889.1950
6	35.4680	Str1 (Expn)	Max	11238.9978	10685.2575	25868.4931
6	37.3343	Str1 (Expn)	Max	11238.9279	11014.5320	26675.5381
6	37.3343	Str1 (Expn)	Max	11238.9279	11014.5320	26675.5381
6	39.2006	Str1 (Expn)	Max	11238.9624	11343.8065	26981.5330
6	41.0669	Str1 (Expn)	Max	11238.9968	11673.0810	27115.2747
6	42.9331	Str1 (Expn)	Max	11239.0313	12002.3555	27076.7634
6	44.7994	Str1 (Expn)	Max	11239.0658	12331.6300	26865.9989
6	46.6657	Str1 (Expn)	Max	11239.1003	12660.9045	26482.9814
6	46.6657	Str1 (Expn)	Max	11239.1003	12660.9045	26482.9814
6	48.5320	Str1 (Expn)	Max	11239.1594	12990.1790	25601.9504
6	50.3983	Str1 (Expn)	Max	11239.2185	13319.4534	24548.6663
6	52.2646	Str1 (Expn)	Max	11239.2776	13648.7279	23323.1291
6	54.1309	Str1 (Expn)	Max	11239.3366	13978.0024	21925.3388
6	55.9972	Str1 (Expn)	Max	11239.3957	14307.2769	20355.2955
6	55.9972	Str1 (Expn)	Max	11239.3957	14307.2769	20355.2955
6	57.8635	Str1 (Expn)	Max	11278.1889	14674.6718	18270.6395
6	59.7298	Str1 (Expn)	Max	11316.9821	15042.0667	16013.7304
6	61.5961	Str1 (Expn)	Max	11355.7753	15409.4616	13584.5682
6	63.4624	Str1 (Expn)	Max	11394.5686	15776.8565	10983.1529
6	65.3287	Str1 (Expn)	Max	11433.3618	16144.2515	8209.4846
6	65.3287	Str1 (Expn)	Max	11433.3618	16144.2515	8209.4846
6	66.8715	Str1 (Expn)	Max	11578.9141	16545.6019	5622.7415
6	68.4144	Str1 (Expn)	Max	11724.4665	16946.9523	2914.4693
6	69.9572	Str1 (Expn)	Max	11870.0189	17348.3027	83.1246
6	71.5000	Str1 (Expn)	Max	12015.5713	17749.6532	-2871.2927
6	71.5000	Str1 (Expn)	Max	12015.5713	17749.6532	-2871.2927
6	73.0801	Str1 (Expn)	Max	12164.6396	18160.6986	-6034.9154
6	74.6602	Str1 (Expn)	Max	12313.7080	18571.7441	-9327.6284
6	74.6602	Str1 (Expn)	Max	12313.7080	18571.7441	-9327.6284
6	76.5801	Str1 (Expn)	Max	12554.5042	19071.1890	-12795.3089
6	78.5000	Str1 (Expn)	Max	12795.3005	19570.6340	-16453.5744
6	78.5000	Str1 (Expn)	Max	12795.3005	19570.6340	-16453.5744
6	80.3333	Str1 (Expn)	Max	13025.2386	20047.5575	-20136.6828
6	82.1667	Str1 (Expn)	Max	13255.1767	20524.4810	-24002.2254
6	84.0000	Str1 (Expn)	Max	13485.1148	21001.4046	-28126.9380
6	0.0000	Str1 (Expn)	Min	-12694.9939	-6016.0432	-35349.8114
6	2.0000	Str1 (Expn)	Min	-12574.2264	-6075.7438	-30484.3575
6	4.0000	Str1 (Expn)	Min	-12453.4589	-6135.4445	-25917.9439
6	6.0000	Str1 (Expn)	Min	-12332.6914	-6195.1452	-21563.5793
6	6.0000	Str1 (Expn)	Min	-12332.6914	-6195.1452	-21563.5793
6	7.6699	Str1 (Expn)	Min	-12231.8561	-6244.9925	-18097.1740
6	9.3398	Str1 (Expn)	Min	-12131.0209	-6294.8398	-14774.9514
6	9.3398	Str1 (Expn)	Min	-12131.0209	-6294.8398	-14774.9514
6	10.9199	Str1 (Expn)	Min	-12050.4308	-6535.4012	-12165.5089
6	12.5000	Str1 (Expn)	Min	-11969.8407	-6775.9626	-9685.1567
6	12.5000	Str1 (Expn)	Min	-11969.8407	-6775.9626	-9685.1567

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
6	14.0428	Str1 (Expn)	Min	-11891.1514	-7010.8500	-7397.8941
6	15.5856	Str1 (Expn)	Min	-11812.4622	-7245.7375	-5233.7041
6	17.1285	Str1 (Expn)	Min	-11733.7729	-7480.6249	-3192.5866
6	18.6713	Str1 (Expn)	Min	-11655.0836	-7715.5124	-1272.9982
6	18.6713	Str1 (Expn)	Min	-11655.0836	-7715.5124	-1272.9982
6	20.5376	Str1 (Expn)	Min	-11572.5480	-8034.5900	891.5425
6	22.4039	Str1 (Expn)	Min	-11490.0123	-8353.6676	2883.8301
6	24.2702	Str1 (Expn)	Min	-11407.4767	-8672.7452	4703.8646
6	26.1365	Str1 (Expn)	Min	-11324.9410	-8991.8229	6351.6460
6	28.0028	Str1 (Expn)	Min	-11242.4054	-9310.9005	7827.1743
6	28.0028	Str1 (Expn)	Min	-11242.4054	-9310.9005	7827.1743
6	29.8691	Str1 (Expn)	Min	-11242.3355	-9640.6760	9130.4495
6	31.7354	Str1 (Expn)	Min	-11242.2656	-9970.4515	10261.4717
6	33.6017	Str1 (Expn)	Min	-11242.1957	-10300.2270	11220.2407
6	35.4680	Str1 (Expn)	Min	-11242.1258	-10630.0025	12006.7567
6	37.3343	Str1 (Expn)	Min	-11242.0560	-10959.7781	12621.0196
6	37.3343	Str1 (Expn)	Min	-11242.0560	-10959.7781	12621.0196
6	39.2006	Str1 (Expn)	Min	-11242.0905	-11289.5536	12759.3009
6	41.0669	Str1 (Expn)	Min	-11242.1249	-11619.3291	12725.3290
6	42.9331	Str1 (Expn)	Min	-11242.1594	-11949.1046	12519.1041
6	44.7994	Str1 (Expn)	Min	-11242.1939	-12278.8801	12140.6261
6	46.6657	Str1 (Expn)	Min	-11242.2284	-12608.6556	11589.8950
6	46.6657	Str1 (Expn)	Min	-11242.2284	-12608.6556	11589.8950
6	48.5320	Str1 (Expn)	Min	-11242.2875	-12938.4312	10813.5010
6	50.3983	Str1 (Expn)	Min	-11242.3466	-13268.2067	9864.8539
6	52.2646	Str1 (Expn)	Min	-11242.4056	-13597.9822	8743.9537
6	54.1309	Str1 (Expn)	Min	-11242.4647	-13927.7577	7450.8004
6	55.9972	Str1 (Expn)	Min	-11242.5238	-14257.5332	5985.3940
6	55.9972	Str1 (Expn)	Min	-11242.5238	-14257.5332	5985.3940
6	57.8635	Str1 (Expn)	Min	-11281.3170	-14625.4292	4347.7345
6	59.7298	Str1 (Expn)	Min	-11320.1102	-14993.3251	2537.8220
6	61.5961	Str1 (Expn)	Min	-11358.9034	-15361.2210	555.6563
6	63.4624	Str1 (Expn)	Min	-11397.6967	-15729.1170	-1598.7624
6	65.3287	Str1 (Expn)	Min	-11436.4899	-16097.0129	-3925.4343
6	65.3287	Str1 (Expn)	Min	-11436.4899	-16097.0129	-3925.4343
6	66.8715	Str1 (Expn)	Min	-11582.0422	-16498.7775	-5979.0527
6	68.4144	Str1 (Expn)	Min	-11727.5946	-16900.5421	-8154.2003
6	69.9572	Str1 (Expn)	Min	-11873.1470	-17302.3068	-10452.4204
6	71.5000	Str1 (Expn)	Min	-12018.6994	-17704.0714	-12873.7131
6	71.5000	Str1 (Expn)	Min	-12018.6994	-17704.0714	-12873.7131
6	73.0801	Str1 (Expn)	Min	-12167.7677	-18115.5410	-15491.3330
6	74.6602	Str1 (Expn)	Min	-12316.8361	-18527.0107	-18238.0432
6	74.6602	Str1 (Expn)	Min	-12316.8361	-18527.0107	-18238.0432
6	76.5801	Str1 (Expn)	Min	-12557.6323	-19026.9710	-21749.1799
6	78.5000	Str1 (Expn)	Min	-12798.4286	-19526.9314	-25450.9016
6	78.5000	Str1 (Expn)	Min	-12798.4286	-19526.9314	-25450.9016
6	80.3333	Str1 (Expn)	Min	-13028.3667	-20004.3471	-29175.5067
6	82.1667	Str1 (Expn)	Min	-13258.3048	-20481.7628	-33082.5459
6	84.0000	Str1 (Expn)	Min	-13488.2429	-20959.1785	-37248.7551
6	0.0000	Ext Event I	Max	3626.6942	1728.1233	-26454.4763
6	2.0000	Ext Event I	Max	3592.1892	1745.1039	-22246.1668
6	4.0000	Ext Event I	Max	3557.6842	1762.0846	-18336.8977
6	6.0000	Ext Event I	Max	3523.1792	1779.0652	-14639.6777
6	6.0000	Ext Event I	Max	3523.1792	1779.0652	-14639.6777
6	7.6699	Ext Event I	Max	3494.3692	1793.2432	-11721.9576
6	9.3398	Ext Event I	Max	3465.5591	1807.4213	-8948.4202
6	9.3398	Ext Event I	Max	3465.5591	1807.4213	-8948.4202
6	10.9199	Ext Event I	Max	3442.5334	1876.0925	-6281.3225
6	12.5000	Ext Event I	Max	3419.5076	1944.7637	-3743.3150
6	12.5000	Ext Event I	Max	3419.5076	1944.7637	-3743.3150
6	14.0428	Ext Event I	Max	3397.0250	2011.8153	-1399.7571
6	15.5856	Ext Event I	Max	3374.5423	2078.8668	820.7283
6	17.1285	Ext Event I	Max	3352.0597	2145.9183	2918.1412
6	18.6713	Ext Event I	Max	3329.5770	2212.9699	4894.0249
6	18.6713	Ext Event I	Max	3329.5770	2212.9699	4894.0249
6	20.5376	Ext Event I	Max	3305.9954	2304.0633	7083.9368
6	22.4039	Ext Event I	Max	3282.4138	2395.1568	9101.5956
6	24.2702	Ext Event I	Max	3258.8322	2486.2502	10947.0013
6	26.1365	Ext Event I	Max	3235.2506	2577.3437	12620.1539

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station ft	OutputCase	StepType	T Kip-ft	M2 Kip-ft	M3 Kip-ft
6	28.0028	Ext Event I	Max	3211.6689	2668.4372	14121.0534
6	28.0028	Ext Event I	Max	3211.6689	2668.4372	14121.0534
6	29.8691	Ext Event I	Max	3211.6490	2762.5872	15355.9922
6	31.7354	Ext Event I	Max	3211.6290	2856.7372	16418.6780
6	33.6017	Ext Event I	Max	3211.6091	2950.8872	17309.1107
6	35.4680	Ext Event I	Max	3211.5891	3045.0372	18027.2903
6	37.3343	Ext Event I	Max	3211.5691	3139.1872	18573.2168
6	37.3343	Ext Event I	Max	3211.5691	3139.1872	18573.2168
6	39.2006	Ext Event I	Max	3211.5790	3233.3372	18852.9482
6	41.0669	Ext Event I	Max	3211.5888	3327.4872	18960.4265
6	42.9331	Ext Event I	Max	3211.5987	3421.6372	18895.6517
6	44.7994	Ext Event I	Max	3211.6085	3515.7872	18658.6238
6	46.6657	Ext Event I	Max	3211.6184	3609.9372	18249.3428
6	46.6657	Ext Event I	Max	3211.6184	3609.9372	18249.3428
6	48.5320	Ext Event I	Max	3211.6353	3704.0872	17574.7343
6	50.3983	Ext Event I	Max	3211.6521	3798.2372	16727.8728
6	52.2646	Ext Event I	Max	3211.6690	3892.3872	15708.7581
6	54.1309	Ext Event I	Max	3211.6859	3986.5372	14517.3904
6	55.9972	Ext Event I	Max	3211.7028	4080.6872	13153.7696
6	55.9972	Ext Event I	Max	3211.7028	4080.6872	13153.7696
6	57.8635	Ext Event I	Max	3222.7866	4185.7287	11520.0786
6	59.7298	Ext Event I	Max	3233.8703	4290.7703	9714.1346
6	61.5961	Ext Event I	Max	3244.9541	4395.8118	7735.9375
6	63.4624	Ext Event I	Max	3256.0379	4500.8534	5585.4873
6	65.3287	Ext Event I	Max	3267.1217	4605.8949	3262.7840
6	65.3287	Ext Event I	Max	3267.1217	4605.8949	3262.7840
6	66.8715	Ext Event I	Max	3308.7081	4720.6256	1165.7026
6	68.4144	Ext Event I	Max	3350.2944	4835.3563	-1052.9080
6	69.9572	Ext Event I	Max	3391.8808	4950.0871	-3394.5911
6	71.5000	Ext Event I	Max	3433.4672	5064.8178	-5859.3467
6	71.5000	Ext Event I	Max	3433.4672	5064.8178	-5859.3467
6	73.0801	Ext Event I	Max	3476.0582	5182.3200	-8521.4796
6	74.6602	Ext Event I	Max	3518.6491	5299.8221	-11312.7027
6	74.6602	Ext Event I	Max	3518.6491	5299.8221	-11312.7027
6	76.5801	Ext Event I	Max	3587.4481	5442.5943	-14675.9587
6	78.5000	Ext Event I	Max	3656.2470	5585.3665	-18229.7999
6	78.5000	Ext Event I	Max	3656.2470	5585.3665	-18229.7999
6	80.3333	Ext Event I	Max	3721.9436	5721.7007	-21813.1927
6	82.1667	Ext Event I	Max	3787.6402	5858.0348	-25579.0197
6	84.0000	Ext Event I	Max	3853.3368	5994.3690	-29604.0167
6	0.0000	Ext Event I	Min	-3626.6942	-1728.1233	-29249.8159
6	2.0000	Ext Event I	Min	-3592.1892	-1745.1039	-24879.4725
6	4.0000	Ext Event I	Min	-3557.6842	-1762.0846	-20808.1693
6	6.0000	Ext Event I	Min	-3523.1792	-1779.0652	-16948.9153
6	6.0000	Ext Event I	Min	-3523.1792	-1779.0652	-16948.9153
6	7.6699	Ext Event I	Min	-3494.3692	-1793.2432	-13895.9044
6	9.3398	Ext Event I	Min	-3465.5591	-1807.4213	-10987.0761
6	9.3398	Ext Event I	Min	-3465.5591	-1807.4213	-10987.0761
6	10.9199	Ext Event I	Min	-3442.5334	-1876.0925	-8482.1241
6	12.5000	Ext Event I	Min	-3419.5076	-1944.7637	-6106.2624
6	12.5000	Ext Event I	Min	-3419.5076	-1944.7637	-6106.2624
6	14.0428	Ext Event I	Min	-3397.0250	-2011.8153	-3921.0258
6	15.5856	Ext Event I	Min	-3374.5423	-2078.8668	-1858.8617
6	17.1285	Ext Event I	Min	-3352.0597	-2145.9183	80.2298
6	18.6713	Ext Event I	Min	-3329.5770	-2212.9699	1897.7922
6	18.6713	Ext Event I	Min	-3329.5770	-2212.9699	1897.7922
6	20.5376	Ext Event I	Min	-3305.9954	-2304.0633	3938.9159
6	22.4039	Ext Event I	Min	-3282.4138	-2395.1568	5807.7865
6	24.2702	Ext Event I	Min	-3258.8322	-2486.2502	7504.4040
6	26.1365	Ext Event I	Min	-3235.2506	-2577.3437	9028.7684
6	28.0028	Ext Event I	Min	-3211.6689	-2668.4372	10380.8797
6	28.0028	Ext Event I	Min	-3211.6689	-2668.4372	10380.8797
6	29.8691	Ext Event I	Min	-3211.6490	-2762.5872	11560.7380
6	31.7354	Ext Event I	Min	-3211.6290	-2856.7372	12568.3432
6	33.6017	Ext Event I	Min	-3211.6091	-2950.8872	13403.6952
6	35.4680	Ext Event I	Min	-3211.5891	-3045.0372	14066.7942
6	37.3343	Ext Event I	Min	-3211.5691	-3139.1872	14557.6401
6	37.3343	Ext Event I	Min	-3211.5691	-3139.1872	14557.6401
6	39.2006	Ext Event I	Min	-3211.5790	-3233.3372	14789.4533

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
6	41.0669	Ext Event I	Min	-3211.5888	-3327.4872	14849.0134
6	42.9331	Ext Event I	Min	-3211.5987	-3421.6372	14736.3205
6	44.7994	Ext Event I	Min	-3211.6085	-3515.7872	14451.3744
6	46.6657	Ext Event I	Min	-3211.6184	-3609.9372	13994.1753
6	46.6657	Ext Event I	Min	-3211.6184	-3609.9372	13994.1753
6	48.5320	Ext Event I	Min	-3211.6353	-3704.0872	13349.4631
6	50.3983	Ext Event I	Min	-3211.6521	-3798.2372	12532.4978
6	52.2646	Ext Event I	Min	-3211.6690	-3892.3872	11543.2794
6	54.1309	Ext Event I	Min	-3211.6859	-3986.5372	10381.8080
6	55.9972	Ext Event I	Min	-3211.7028	-4080.6872	9048.0834
6	55.9972	Ext Event I	Min	-3211.7028	-4080.6872	9048.0834
6	57.8635	Ext Event I	Min	-3222.7866	-4185.7287	7542.1058
6	59.7298	Ext Event I	Min	-3233.8703	-4290.7703	5863.8751
6	61.5961	Ext Event I	Min	-3244.9541	-4395.8118	4013.3912
6	63.4624	Ext Event I	Min	-3256.0379	-4500.8534	1990.6543
6	65.3287	Ext Event I	Min	-3267.1217	-4605.8949	-204.3357
6	65.3287	Ext Event I	Min	-3267.1217	-4605.8949	-204.3357
6	66.8715	Ext Event I	Min	-3308.7081	-4720.6256	-2149.0958
6	68.4144	Ext Event I	Min	-3350.2944	-4835.3563	-4215.3850
6	69.9572	Ext Event I	Min	-3391.8808	-4950.0871	-6404.7468
6	71.5000	Ext Event I	Min	-3433.4672	-5064.8178	-8717.1811
6	71.5000	Ext Event I	Min	-3433.4672	-5064.8178	-8717.1811
6	73.0801	Ext Event I	Min	-3476.0582	-5182.3200	-11223.3132
6	74.6602	Ext Event I	Min	-3518.6491	-5299.8221	-13858.5355
6	74.6602	Ext Event I	Min	-3518.6491	-5299.8221	-13858.5355
6	76.5801	Ext Event I	Min	-3587.4481	-5442.5943	-17234.2076
6	78.5000	Ext Event I	Min	-3656.2470	-5585.3665	-20800.4648
6	78.5000	Ext Event I	Min	-3656.2470	-5585.3665	-20800.4648
6	80.3333	Ext Event I	Min	-3721.9436	-5721.7007	-24395.7138
6	82.1667	Ext Event I	Min	-3787.6402	-5858.0348	-28173.3970
6	84.0000	Ext Event I	Min	-3853.3368	-5994.3690	-32210.2502
7	0.0000	Str1 (Cont)	Max	1131.4383	10577.6050	0.0000
7	2.7292	Str1 (Cont)	Max	1131.4383	9883.9414	661.8540
7	5.4583	Str1 (Cont)	Max	1131.4383	9190.2388	1323.7080
7	0.0000	Str1 (Cont)	Min	-1133.0055	-10559.3480	0.0000
7	2.7292	Str1 (Cont)	Min	-1133.0055	-9868.3799	655.7923
7	5.4583	Str1 (Cont)	Min	-1133.0055	-9177.4510	1311.5846
7	0.0000	Str1 (Expn)	Max	1131.4383	10577.6050	0.0000
7	2.7292	Str1 (Expn)	Max	1131.4383	9883.9414	-335.8503
7	5.4583	Str1 (Expn)	Max	1131.4383	9190.2388	-671.7006
7	0.0000	Str1 (Expn)	Min	-1133.0055	-10559.3480	0.0000
7	2.7292	Str1 (Expn)	Min	-1133.0055	-9868.3799	-341.9120
7	5.4583	Str1 (Expn)	Min	-1133.0055	-9177.4510	-683.8240
7	0.0000	Ext Event I	Max	323.4920	3019.5647	0.0000
7	2.7292	Ext Event I	Max	323.4920	2821.7602	37.9850
7	5.4583	Ext Event I	Max	323.4920	2623.9557	75.9700
7	0.0000	Ext Event I	Min	-323.4920	-3019.5647	0.0000
7	2.7292	Ext Event I	Min	-323.4920	-2821.7602	36.2531
7	5.4583	Ext Event I	Min	-323.4920	-2623.9557	72.5062
8	0.0000	Str1 (Cont)	Max	1131.4383	9190.2388	1323.7080
8	6.3333	Str1 (Cont)	Max	1131.4383	7652.6466	2859.6134
8	12.6667	Str1 (Cont)	Max	1131.4383	6097.8068	4395.5188
8	0.0000	Str1 (Cont)	Min	-1133.0055	-9177.4510	1311.5846
8	6.3333	Str1 (Cont)	Min	-1133.0055	-7664.7953	2833.4232
8	12.6667	Str1 (Cont)	Min	-1133.0055	-6169.3874	4355.2617
8	0.0000	Str1 (Expn)	Max	1131.4383	9190.2388	-671.7006
8	6.3333	Str1 (Expn)	Max	1131.4383	7652.6466	-1451.0785
8	12.6667	Str1 (Expn)	Max	1131.4383	6097.8068	-2230.4563
8	0.0000	Str1 (Expn)	Min	-1133.0055	-9177.4510	-683.8240
8	6.3333	Str1 (Expn)	Min	-1133.0055	-7664.7953	-1477.2687
8	12.6667	Str1 (Expn)	Min	-1133.0055	-6169.3874	-2270.7134
8	0.0000	Ext Event I	Max	323.4920	2623.9557	75.9700
8	6.3333	Ext Event I	Max	323.4920	2188.2060	164.1185
8	12.6667	Ext Event I	Max	323.4920	1752.4563	252.2669
8	0.0000	Ext Event I	Min	-323.4920	-2623.9557	72.5062
8	6.3333	Ext Event I	Min	-323.4920	-2188.2060	156.6356
8	12.6667	Ext Event I	Min	-323.4920	-1752.4563	240.7649
9	0.0000	Str1 (Cont)	Max	12653.5579	20592.5993	-28346.7996
9	1.8333	Str1 (Cont)	Max	12546.3496	20456.9520	-24272.4760

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
9	3.6667	Str1 (Cont)	Max	12439.1413	20321.3047	-20457.3224
9	5.5000	Str1 (Cont)	Max	12331.9330	20185.6574	-16824.6029
9	5.5000	Str1 (Cont)	Max	12331.9330	20185.6574	-16824.6029
9	7.4199	Str1 (Cont)	Max	12219.6621	20043.6045	-13219.1059
9	9.3398	Str1 (Cont)	Max	12107.3912	19901.5517	-9804.1939
9	9.3398	Str1 (Cont)	Max	12107.3912	19901.5517	-9804.1939
9	10.9199	Str1 (Cont)	Max	12023.3032	19784.6415	-6550.6752
9	12.5000	Str1 (Cont)	Max	11939.2153	19667.7313	-3426.2467
9	12.5000	Str1 (Cont)	Max	11939.2153	19667.7313	-3426.2467
9	14.0428	Str1 (Cont)	Max	11857.1107	19553.5786	-510.0993
9	15.5856	Str1 (Cont)	Max	11775.0061	19439.4260	2282.9755
9	17.1285	Str1 (Cont)	Max	11692.9015	19325.2733	4952.9779
9	18.6713	Str1 (Cont)	Max	11610.7969	19211.1206	7501.4511
9	18.6713	Str1 (Cont)	Max	11610.7969	19211.1206	7501.4511
9	20.5376	Str1 (Cont)	Max	11561.9020	19088.2684	10239.7868
9	22.4039	Str1 (Cont)	Max	11513.0072	18965.4163	12805.8694
9	24.2702	Str1 (Cont)	Max	11464.1123	18842.5642	15199.6990
9	26.1365	Str1 (Cont)	Max	11415.2174	18719.7120	17421.2754
9	28.0028	Str1 (Cont)	Max	11366.3226	18596.8599	19470.5988
9	28.0028	Str1 (Cont)	Max	11366.3226	18596.8599	19470.5988
9	29.8691	Str1 (Cont)	Max	11366.2667	18487.4592	21010.2701
9	31.7354	Str1 (Cont)	Max	11366.2109	18378.0585	22377.6884
9	33.6017	Str1 (Cont)	Max	11366.1551	18268.6578	23572.8536
9	35.4680	Str1 (Cont)	Max	11366.0992	18159.2571	24595.7657
9	37.3343	Str1 (Cont)	Max	11366.0434	18049.8565	25446.4247
9	37.3343	Str1 (Cont)	Max	11366.0434	18049.8565	25446.4247
9	39.2006	Str1 (Cont)	Max	11366.0150	17945.6876	25797.4630
9	41.0669	Str1 (Cont)	Max	11365.9867	17841.5187	25976.2481
9	42.9331	Str1 (Cont)	Max	11365.9584	17737.3499	25982.7802
9	44.7994	Str1 (Cont)	Max	11365.9300	17633.1810	25817.0593
9	46.6657	Str1 (Cont)	Max	11365.9017	17529.0121	25479.0852
9	46.6657	Str1 (Cont)	Max	11365.9017	17529.0121	25479.0852
9	48.5320	Str1 (Cont)	Max	11365.9591	17628.7530	24641.5701
9	50.3983	Str1 (Cont)	Max	11366.0165	17728.4938	23631.8019
9	52.2646	Str1 (Cont)	Max	11366.0739	17828.2347	22449.7807
9	54.1309	Str1 (Cont)	Max	11366.1313	17927.9755	21095.5064
9	55.9972	Str1 (Cont)	Max	11366.1888	18027.7163	19568.9789
9	55.9972	Str1 (Cont)	Max	11366.1888	18027.7163	19568.9789
9	57.8635	Str1 (Cont)	Max	11411.7769	18127.4907	17532.7843
9	59.7298	Str1 (Cont)	Max	11457.3651	18227.2651	15324.3365
9	61.5961	Str1 (Cont)	Max	11502.9533	18327.0395	12943.6357
9	63.4624	Str1 (Cont)	Max	11548.5414	18426.8139	10390.6818
9	65.3287	Str1 (Cont)	Max	11594.1296	18526.5883	7665.4747
9	65.3287	Str1 (Cont)	Max	11594.1296	18526.5883	7665.4747
9	66.8715	Str1 (Cont)	Max	11668.6677	18632.9112	5127.1969
9	68.4144	Str1 (Cont)	Max	11743.2057	18739.2341	2467.3900
9	69.9572	Str1 (Cont)	Max	11817.7438	18845.5570	-315.4895
9	71.5000	Str1 (Cont)	Max	11892.2818	18951.8799	-3221.4415
9	71.5000	Str1 (Cont)	Max	11892.2818	18951.8799	-3221.4415
9	73.0801	Str1 (Cont)	Max	11968.6204	19060.7711	-6335.4282
9	74.6602	Str1 (Cont)	Max	12044.9590	19169.6624	-9578.5053
9	74.6602	Str1 (Cont)	Max	12044.9590	19169.6624	-9578.5053
9	76.5801	Str1 (Cont)	Max	12151.3934	19303.3453	-12980.5299
9	78.5000	Str1 (Cont)	Max	12257.8278	19437.0282	-16573.1397
9	78.5000	Str1 (Cont)	Max	12257.8278	19437.0282	-16573.1397
9	80.3333	Str1 (Cont)	Max	12359.4628	19564.6830	-20193.5529
9	82.1667	Str1 (Cont)	Max	12461.0978	19692.3377	-23996.4003
9	84.0000	Str1 (Cont)	Max	12562.7327	19819.9925	-28058.4177
9	0.0000	Str1 (Cont)	Min	-12638.4290	-20548.8061	-37468.6167
9	1.8333	Str1 (Cont)	Min	-12531.2207	-20411.8402	-33327.5840
9	3.6667	Str1 (Cont)	Min	-12424.0124	-20274.8743	-29445.7212
9	5.5000	Str1 (Cont)	Min	-12316.8041	-20137.9084	-25746.2926
9	5.5000	Str1 (Cont)	Min	-12316.8041	-20137.9084	-25746.2926
9	7.4199	Str1 (Cont)	Min	-12204.5331	-19994.4747	-22070.9362
9	9.3398	Str1 (Cont)	Min	-12092.2622	-19851.0410	-18586.1650
9	9.3398	Str1 (Cont)	Min	-12092.2622	-19851.0410	-18586.1650
9	10.9199	Str1 (Cont)	Min	-12008.1743	-19732.9944	-15884.9024
9	12.5000	Str1 (Cont)	Min	-11924.0864	-19614.9477	-13312.7300
9	12.5000	Str1 (Cont)	Min	-11924.0864	-19614.9477	-13312.7300

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
9	14.0428	Str1 (Cont)	Min	-11841.9818	-19499.6854	-10935.8131
9	15.5856	Str1 (Cont)	Min	-11759.8772	-19384.4231	-8681.9686
9	17.1285	Str1 (Cont)	Min	-11677.7726	-19269.1607	-6551.1967
9	18.6713	Str1 (Cont)	Min	-11595.6679	-19153.8984	-4541.9540
9	18.6713	Str1 (Cont)	Min	-11595.6679	-19153.8984	-4541.9540
9	20.5376	Str1 (Cont)	Min	-11546.7731	-19029.7040	-2268.9617
9	22.4039	Str1 (Cont)	Min	-11497.8782	-18905.5095	-168.2226
9	24.2702	Str1 (Cont)	Min	-11448.9834	-18781.3151	1760.2635
9	26.1365	Str1 (Cont)	Min	-11400.0885	-18657.1207	3516.4965
9	28.0028	Str1 (Cont)	Min	-11351.1936	-18532.9263	5100.4764
9	28.0028	Str1 (Cont)	Min	-11351.1936	-18532.9263	5100.4764
9	29.8691	Str1 (Cont)	Min	-11351.1378	-18422.1833	6512.2032
9	31.7354	Str1 (Cont)	Min	-11351.0819	-18311.4403	7751.6769
9	33.6017	Str1 (Cont)	Min	-11351.0261	-18200.6973	8818.8975
9	35.4680	Str1 (Cont)	Min	-11350.9702	-18089.9543	9713.8650
9	37.3343	Str1 (Cont)	Min	-11350.9144	-17979.2113	10436.5794
9	37.3343	Str1 (Cont)	Min	-11350.9144	-17979.2113	10436.5794
9	39.2006	Str1 (Cont)	Min	-11350.8861	-17873.7002	10788.1917
9	41.0669	Str1 (Cont)	Min	-11350.8577	-17768.1890	10967.5510
9	42.9331	Str1 (Cont)	Min	-11350.8294	-17662.6779	10974.6571
9	44.7994	Str1 (Cont)	Min	-11350.8011	-17557.1667	10809.5101
9	46.6657	Str1 (Cont)	Min	-11350.7727	-17451.6555	10472.1101
9	46.6657	Str1 (Cont)	Min	-11350.7727	-17451.6555	10472.1101
9	48.5320	Str1 (Cont)	Min	-11350.8301	-17550.0541	9762.3498
9	50.3983	Str1 (Cont)	Min	-11350.8876	-17648.4526	8880.3365
9	52.2646	Str1 (Cont)	Min	-11350.9450	-17746.8512	7826.0701
9	54.1309	Str1 (Cont)	Min	-11351.0024	-17845.2497	6599.5506
9	55.9972	Str1 (Cont)	Min	-11351.0598	-17943.6483	5200.7779
9	55.9972	Str1 (Cont)	Min	-11351.0598	-17943.6483	5200.7779
9	57.8635	Str1 (Cont)	Min	-11396.6480	-18042.0804	3629.7523
9	59.7298	Str1 (Cont)	Min	-11442.2361	-18140.5125	1886.4735
9	61.5961	Str1 (Cont)	Min	-11487.8243	-18238.9446	-29.0584
9	63.4624	Str1 (Cont)	Min	-11533.4125	-18337.3767	-2116.8434
9	65.3287	Str1 (Cont)	Min	-11579.0006	-18435.8087	-4376.8814
9	65.3287	Str1 (Cont)	Min	-11579.0006	-18435.8087	-4376.8814
9	66.8715	Str1 (Cont)	Min	-11653.5387	-18541.0220	-6375.4153
9	68.4144	Str1 (Cont)	Min	-11728.0768	-18646.2353	-8495.4782
9	69.9572	Str1 (Cont)	Min	-11802.6148	-18751.4485	-10738.6137
9	71.5000	Str1 (Cont)	Min	-11877.1529	-18856.6618	-13104.8218
9	71.5000	Str1 (Cont)	Min	-11877.1529	-18856.6618	-13104.8218
9	73.0801	Str1 (Cont)	Min	-11953.4915	-18964.4166	-15666.0265
9	74.6602	Str1 (Cont)	Min	-12029.8301	-19072.1714	-18356.3215
9	74.6602	Str1 (Cont)	Min	-12029.8301	-19072.1714	-18356.3215
9	76.5801	Str1 (Cont)	Min	-12136.2645	-19204.4734	-21827.8321
9	78.5000	Str1 (Cont)	Min	-12242.6989	-19336.7755	-25489.9279
9	78.5000	Str1 (Cont)	Min	-12242.6989	-19336.7755	-25489.9279
9	80.3333	Str1 (Cont)	Min	-12344.3338	-19463.1117	-29176.6938
9	82.1667	Str1 (Cont)	Min	-12445.9688	-19589.4479	-33045.8939
9	84.0000	Str1 (Cont)	Min	-12547.6038	-19715.7840	-37174.2640
9	0.0000	Str1 (Expn)	Max	12653.5579	20592.5993	-28126.9380
9	1.8333	Str1 (Expn)	Max	12546.3496	20456.9520	-24059.6218
9	3.6667	Str1 (Expn)	Max	12439.1413	20321.3047	-20251.4757
9	5.5000	Str1 (Expn)	Max	12331.9330	20185.6574	-16625.7637
9	5.5000	Str1 (Expn)	Max	12331.9330	20185.6574	-16625.7637
9	7.4199	Str1 (Expn)	Max	12219.6621	20043.6045	-13027.6050
9	9.3398	Str1 (Expn)	Max	12107.3912	19901.5517	-9620.0313
9	9.3398	Str1 (Expn)	Max	12107.3912	19901.5517	-9620.0313
9	10.9199	Str1 (Expn)	Max	12023.3032	19784.6415	-6372.5521
9	12.5000	Str1 (Expn)	Max	11939.2153	19667.7313	-3254.1632
9	12.5000	Str1 (Expn)	Max	11939.2153	19667.7313	-3254.1632
9	14.0428	Str1 (Expn)	Max	11857.1107	19553.5786	-343.9128
9	15.5856	Str1 (Expn)	Max	11775.0061	19439.4260	2443.2650
9	17.1285	Str1 (Expn)	Max	11692.9015	19325.2733	5107.3702
9	18.6713	Str1 (Expn)	Max	11610.7969	19211.1206	7649.9464
9	18.6713	Str1 (Expn)	Max	11610.7969	19211.1206	7649.9464
9	20.5376	Str1 (Expn)	Max	11561.9020	19088.2684	10381.1487
9	22.4039	Str1 (Expn)	Max	11513.0072	18965.4163	12940.0979
9	24.2702	Str1 (Expn)	Max	11464.1123	18842.5642	15326.7940
9	26.1365	Str1 (Expn)	Max	11415.2174	18719.7120	17541.2370

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
9	28.0028	Str1 (Expn)	Max	11366.3226	18596.8599	19583.4269
9	28.0028	Str1 (Expn)	Max	11366.3226	18596.8599	19583.4269
9	29.8691	Str1 (Expn)	Max	11366.2667	18487.4592	21115.9648
9	31.7354	Str1 (Expn)	Max	11366.2109	18378.0585	22476.2497
9	33.6017	Str1 (Expn)	Max	11366.1551	18268.6578	23664.2814
9	35.4680	Str1 (Expn)	Max	11366.0992	18159.2571	24680.0600
9	37.3343	Str1 (Expn)	Max	11366.0434	18049.8565	25523.5856
9	37.3343	Str1 (Expn)	Max	11366.0434	18049.8565	25523.5856
9	39.2006	Str1 (Expn)	Max	11366.0150	17945.6876	25867.4904
9	41.0669	Str1 (Expn)	Max	11365.9867	17841.5187	26039.1422
9	42.9331	Str1 (Expn)	Max	11365.9584	17737.3499	26038.5408
9	44.7994	Str1 (Expn)	Max	11365.9300	17633.1810	25865.6864
9	46.6657	Str1 (Expn)	Max	11365.9017	17529.0121	25520.5789
9	46.6657	Str1 (Expn)	Max	11365.9017	17529.0121	25520.5789
9	48.5320	Str1 (Expn)	Max	11365.9591	17628.7530	24675.9304
9	50.3983	Str1 (Expn)	Max	11366.0165	17728.4938	23659.0288
9	52.2646	Str1 (Expn)	Max	11366.0739	17828.2347	22469.8741
9	54.1309	Str1 (Expn)	Max	11366.1313	17927.9755	21108.4663
9	55.9972	Str1 (Expn)	Max	11366.1888	18027.7163	19574.8054
9	55.9972	Str1 (Expn)	Max	11366.1888	18027.7163	19574.8054
9	57.8635	Str1 (Expn)	Max	11411.7769	18127.4907	17531.4773
9	59.7298	Str1 (Expn)	Max	11457.3651	18227.2651	15315.8961
9	61.5961	Str1 (Expn)	Max	11502.9533	18327.0395	12928.0619
9	63.4624	Str1 (Expn)	Max	11548.5414	18426.8139	10367.9745
9	65.3287	Str1 (Expn)	Max	11594.1296	18526.5883	7635.6340
9	65.3287	Str1 (Expn)	Max	11594.1296	18526.5883	7635.6340
9	66.8715	Str1 (Expn)	Max	11668.6677	18632.9112	5091.4592
9	68.4144	Str1 (Expn)	Max	11743.2057	18739.2341	2425.7552
9	69.9572	Str1 (Expn)	Max	11817.7438	18845.5570	-363.0213
9	71.5000	Str1 (Expn)	Max	11892.2818	18951.8799	-3274.8704
9	71.5000	Str1 (Expn)	Max	11892.2818	18951.8799	-3274.8704
9	73.0801	Str1 (Expn)	Max	11968.6204	19060.7711	-6394.8967
9	74.6602	Str1 (Expn)	Max	12044.9590	19169.6624	-9644.0132
9	74.6602	Str1 (Expn)	Max	12044.9590	19169.6624	-9644.0132
9	76.5801	Str1 (Expn)	Max	12151.3934	19303.3453	-13053.3762
9	78.5000	Str1 (Expn)	Max	12257.8278	19437.0282	-16653.3243
9	78.5000	Str1 (Expn)	Max	12257.8278	19437.0282	-16653.3243
9	80.3333	Str1 (Expn)	Max	12359.4628	19564.6830	-20280.7450
9	82.1667	Str1 (Expn)	Max	12461.0978	19692.3377	-24090.5998
9	84.0000	Str1 (Expn)	Max	12562.7327	19819.9925	-28159.6247
9	0.0000	Str1 (Expn)	Min	-12638.4290	-20548.8061	-37248.7551
9	1.8333	Str1 (Expn)	Min	-12531.2207	-20411.8402	-33114.7298
9	3.6667	Str1 (Expn)	Min	-12424.0124	-20274.8743	-29239.8745
9	5.5000	Str1 (Expn)	Min	-12316.8041	-20137.9084	-25547.4533
9	5.5000	Str1 (Expn)	Min	-12316.8041	-20137.9084	-25547.4533
9	7.4199	Str1 (Expn)	Min	-12204.5331	-19994.4747	-21879.4353
9	9.3398	Str1 (Expn)	Min	-12092.2622	-19851.0410	-18402.0024
9	9.3398	Str1 (Expn)	Min	-12092.2622	-19851.0410	-18402.0024
9	10.9199	Str1 (Expn)	Min	-12008.1743	-19732.9944	-15706.7793
9	12.5000	Str1 (Expn)	Min	-11924.0864	-19614.9477	-13140.6465
9	12.5000	Str1 (Expn)	Min	-11924.0864	-19614.9477	-13140.6465
9	14.0428	Str1 (Expn)	Min	-11841.9818	-19499.6854	-10769.6266
9	15.5856	Str1 (Expn)	Min	-11759.8772	-19384.4231	-8521.6792
9	17.1285	Str1 (Expn)	Min	-11677.7726	-19269.1607	-6396.8043
9	18.6713	Str1 (Expn)	Min	-11595.6679	-19153.8984	-4393.4586
9	18.6713	Str1 (Expn)	Min	-11595.6679	-19153.8984	-4393.4586
9	20.5376	Str1 (Expn)	Min	-11546.7731	-19029.7040	-2127.5998
9	22.4039	Str1 (Expn)	Min	-11497.8782	-18905.5095	-33.9941
9	24.2702	Str1 (Expn)	Min	-11448.9834	-18781.3151	1887.3585
9	26.1365	Str1 (Expn)	Min	-11400.0885	-18657.1207	3636.4581
9	28.0028	Str1 (Expn)	Min	-11351.1936	-18532.9263	5213.3045
9	28.0028	Str1 (Expn)	Min	-11351.1936	-18532.9263	5213.3045
9	29.8691	Str1 (Expn)	Min	-11351.1378	-18422.1833	6617.8978
9	31.7354	Str1 (Expn)	Min	-11351.0819	-18311.4403	7850.2381
9	33.6017	Str1 (Expn)	Min	-11351.0261	-18200.6973	8910.3253
9	35.4680	Str1 (Expn)	Min	-11350.9702	-18089.9543	9798.1594
9	37.3343	Str1 (Expn)	Min	-11350.9144	-17979.2113	10513.7403
9	37.3343	Str1 (Expn)	Min	-11350.9144	-17979.2113	10513.7403
9	39.2006	Str1 (Expn)	Min	-11350.8861	-17873.7002	10858.2192

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
9	41.0669	Str1 (Expn)	Min	-11350.8577	-17768.1890	11030.4450
9	42.9331	Str1 (Expn)	Min	-11350.8294	-17662.6779	11030.4177
9	44.7994	Str1 (Expn)	Min	-11350.8011	-17557.1667	10858.1373
9	46.6657	Str1 (Expn)	Min	-11350.7727	-17451.6555	10513.6038
9	46.6657	Str1 (Expn)	Min	-11350.7727	-17451.6555	10513.6038
9	48.5320	Str1 (Expn)	Min	-11350.8301	-17550.0541	9796.7101
9	50.3983	Str1 (Expn)	Min	-11350.8876	-17648.4526	8907.5633
9	52.2646	Str1 (Expn)	Min	-11350.9450	-17746.8512	7846.1635
9	54.1309	Str1 (Expn)	Min	-11351.0024	-17845.2497	6612.5105
9	55.9972	Str1 (Expn)	Min	-11351.0598	-17943.6483	5206.6044
9	55.9972	Str1 (Expn)	Min	-11351.0598	-17943.6483	5206.6044
9	57.8635	Str1 (Expn)	Min	-11396.6480	-18042.0804	3628.4453
9	59.7298	Str1 (Expn)	Min	-11442.2361	-18140.5125	1878.0331
9	61.5961	Str1 (Expn)	Min	-11487.8243	-18238.9446	-44.6322
9	63.4624	Str1 (Expn)	Min	-11533.4125	-18337.3767	-2139.5506
9	65.3287	Str1 (Expn)	Min	-11579.0006	-18435.8087	-4406.7222
9	65.3287	Str1 (Expn)	Min	-11579.0006	-18435.8087	-4406.7222
9	66.8715	Str1 (Expn)	Min	-11653.5387	-18541.0220	-6411.1530
9	68.4144	Str1 (Expn)	Min	-11728.0768	-18646.2353	-8537.1131
9	69.9572	Str1 (Expn)	Min	-11802.6148	-18751.4485	-10786.1456
9	71.5000	Str1 (Expn)	Min	-11877.1529	-18856.6618	-13158.2507
9	71.5000	Str1 (Expn)	Min	-11877.1529	-18856.6618	-13158.2507
9	73.0801	Str1 (Expn)	Min	-11953.4915	-18964.4166	-15725.4949
9	74.6602	Str1 (Expn)	Min	-12029.8301	-19072.1714	-18421.8294
9	74.6602	Str1 (Expn)	Min	-12029.8301	-19072.1714	-18421.8294
9	76.5801	Str1 (Expn)	Min	-12136.2645	-19204.4734	-21900.6784
9	78.5000	Str1 (Expn)	Min	-12242.6989	-19336.7755	-25570.1125
9	78.5000	Str1 (Expn)	Min	-12242.6989	-19336.7755	-25570.1125
9	80.3333	Str1 (Expn)	Min	-12344.3338	-19463.1117	-29263.8859
9	82.1667	Str1 (Expn)	Min	-12445.9688	-19589.4479	-33140.0934
9	84.0000	Str1 (Expn)	Min	-12547.6038	-19715.7840	-37275.4710
9	0.0000	Ext Event I	Max	3613.1410	5877.3436	-29604.0167
9	1.8333	Ext Event I	Max	3582.5100	5838.3989	-25644.3255
9	3.6667	Ext Event I	Max	3551.8791	5799.4541	-21943.8044
9	5.5000	Ext Event I	Max	3521.2482	5760.5094	-18425.7174
9	5.5000	Ext Event I	Max	3521.2482	5760.5094	-18425.7174
9	7.4199	Ext Event I	Max	3489.1707	5719.7256	-14940.2660
9	9.3398	Ext Event I	Max	3457.0933	5678.9418	-11645.3997
9	9.3398	Ext Event I	Max	3457.0933	5678.9418	-11645.3997
9	10.9199	Ext Event I	Max	3433.0682	5645.3766	-8909.2518
9	12.5000	Ext Event I	Max	3409.0431	5611.8113	-6302.1942
9	12.5000	Ext Event I	Max	3409.0431	5611.8113	-6302.1942
9	14.0428	Ext Event I	Max	3385.5846	5579.0377	-3891.2148
9	15.5856	Ext Event I	Max	3362.1262	5546.2641	-1603.3079
9	17.1285	Ext Event I	Max	3338.6677	5513.4906	561.5264
9	18.6713	Ext Event I	Max	3315.2093	5480.7170	2604.8316
9	18.6713	Ext Event I	Max	3315.2093	5480.7170	2604.8316
9	20.5376	Ext Event I	Max	3301.2393	5445.4246	4865.6155
9	22.4039	Ext Event I	Max	3287.2693	5410.1323	6954.1464
9	24.2702	Ext Event I	Max	3273.2994	5374.8399	8870.4241
9	26.1365	Ext Event I	Max	3259.3294	5339.5475	10614.4488
9	28.0028	Ext Event I	Max	3245.3595	5304.2552	12186.2203
9	28.0028	Ext Event I	Max	3245.3595	5304.2552	12186.2203
9	29.8691	Ext Event I	Max	3245.3435	5272.8061	13489.3391
9	31.7354	Ext Event I	Max	3245.3275	5241.3570	14620.2048
9	33.6017	Ext Event I	Max	3245.3116	5209.9079	15578.8174
9	35.4680	Ext Event I	Max	3245.2956	5178.4588	16365.1769
9	37.3343	Ext Event I	Max	3245.2797	5147.0097	16979.2833
9	37.3343	Ext Event I	Max	3245.2797	5147.0097	16979.2833
9	39.2006	Ext Event I	Max	3245.2716	5117.0554	17327.6031
9	41.0669	Ext Event I	Max	3245.2635	5087.1011	17503.6697
9	42.9331	Ext Event I	Max	3245.2554	5057.1468	17507.4832
9	44.7994	Ext Event I	Max	3245.2473	5027.1925	17339.0437
9	46.6657	Ext Event I	Max	3245.2392	4997.2382	16998.3510
9	46.6657	Ext Event I	Max	3245.2392	4997.2382	16998.3510
9	48.5320	Ext Event I	Max	3245.2556	5025.5439	16391.8945
9	50.3983	Ext Event I	Max	3245.2720	5053.8495	15613.1848
9	52.2646	Ext Event I	Max	3245.2884	5082.1551	14662.2221
9	54.1309	Ext Event I	Max	3245.3048	5110.4607	13539.0063

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
9	55.9972	Ext Event I	Max	3245.3212	5138.7664	12243.5374
9	55.9972	Ext Event I	Max	3245.3212	5138.7664	12243.5374
9	57.8635	Ext Event I	Max	3258.3464	5167.0816	10679.4113
9	59.7298	Ext Event I	Max	3271.3716	5195.3968	8943.0322
9	61.5961	Ext Event I	Max	3284.3968	5223.7120	7034.3999
9	63.4624	Ext Event I	Max	3297.4220	5252.0272	4953.5146
9	65.3287	Ext Event I	Max	3310.4472	5280.3424	2700.3762
9	65.3287	Ext Event I	Max	3310.4472	5280.3424	2700.3762
9	66.8715	Ext Event I	Max	3331.7438	5310.5619	663.2034
9	68.4144	Ext Event I	Max	3353.0404	5340.7813	-1495.4985
9	69.9572	Ext Event I	Max	3374.3369	5371.0008	-3777.2729
9	71.5000	Ext Event I	Max	3395.6335	5401.2202	-6182.1199
9	71.5000	Ext Event I	Max	3395.6335	5401.2202	-6182.1199
9	73.0801	Ext Event I	Max	3417.4446	5432.1697	-8782.8969
9	74.6602	Ext Event I	Max	3439.2556	5463.1191	-11512.7642
9	74.6602	Ext Event I	Max	3439.2556	5463.1191	-11512.7642
9	76.5801	Ext Event I	Max	3469.6654	5501.1170	-14799.9421
9	78.5000	Ext Event I	Max	3500.0752	5539.1148	-18277.7051
9	78.5000	Ext Event I	Max	3500.0752	5539.1148	-18277.7051
9	80.3333	Ext Event I	Max	3529.1138	5575.3992	-21788.4504
9	82.1667	Ext Event I	Max	3558.1524	5611.6837	-25481.6298
9	84.0000	Ext Event I	Max	3587.1909	5647.9681	-29433.9792
9	0.0000	Ext Event I	Min	-3613.1410	-5877.3436	-32210.2502
9	1.8333	Ext Event I	Min	-3582.5100	-5838.3989	-28231.4992
9	3.6667	Ext Event I	Min	-3551.8791	-5799.4541	-24511.9184
9	5.5000	Ext Event I	Min	-3521.2482	-5760.5094	-20974.7716
9	5.5000	Ext Event I	Min	-3521.2482	-5760.5094	-20974.7716
9	7.4199	Ext Event I	Min	-3489.1707	-5719.7256	-17469.3604
9	9.3398	Ext Event I	Min	-3457.0933	-5678.9418	-14154.5343
9	9.3398	Ext Event I	Min	-3457.0933	-5678.9418	-14154.5343
9	10.9199	Ext Event I	Min	-3433.0682	-5645.3766	-11576.1739
9	12.5000	Ext Event I	Min	-3409.0431	-5611.8113	-9126.9037
9	12.5000	Ext Event I	Min	-3409.0431	-5611.8113	-9126.9037
9	14.0428	Ext Event I	Min	-3385.5846	-5579.0377	-6869.9902
9	15.5856	Ext Event I	Min	-3362.1262	-5546.2641	-4736.1491
9	17.1285	Ext Event I	Min	-3338.6677	-5513.4906	-2725.3806
9	18.6713	Ext Event I	Min	-3315.2093	-5480.7170	-836.1413
9	18.6713	Ext Event I	Min	-3315.2093	-5480.7170	-836.1413
9	20.5376	Ext Event I	Min	-3301.2393	-5445.4246	1291.6874
9	22.4039	Ext Event I	Min	-3287.2693	-5410.1323	3247.2629
9	24.2702	Ext Event I	Min	-3273.2994	-5374.8399	5030.5854
9	26.1365	Ext Event I	Min	-3259.3294	-5339.5475	6641.6548
9	28.0028	Ext Event I	Min	-3245.3595	-5304.2552	8080.4711
9	28.0028	Ext Event I	Min	-3245.3595	-5304.2552	8080.4711
9	29.8691	Ext Event I	Min	-3245.3435	-5272.8061	9347.0343
9	31.7354	Ext Event I	Min	-3245.3275	-5241.3570	10441.3444
9	33.6017	Ext Event I	Min	-3245.3116	-5209.9079	11363.4014
9	35.4680	Ext Event I	Min	-3245.2956	-5178.4588	12113.2053
9	37.3343	Ext Event I	Min	-3245.2797	-5147.0097	12690.7561
9	37.3343	Ext Event I	Min	-3245.2797	-5147.0097	12690.7561
9	39.2006	Ext Event I	Min	-3245.2716	-5117.0554	13039.2399
9	41.0669	Ext Event I	Min	-3245.2635	-5087.1011	13215.4705
9	42.9331	Ext Event I	Min	-3245.2554	-5057.1468	13219.4480
9	44.7994	Ext Event I	Min	-3245.2473	-5027.1925	13051.1725
9	46.6657	Ext Event I	Min	-3245.2392	-4997.2382	12710.6439
9	46.6657	Ext Event I	Min	-3245.2392	-4997.2382	12710.6439
9	48.5320	Ext Event I	Min	-3245.2556	-5025.5439	12140.6887
9	50.3983	Ext Event I	Min	-3245.2720	-5053.8495	11398.4804
9	52.2646	Ext Event I	Min	-3245.2884	-5082.1551	10484.0191
9	54.1309	Ext Event I	Min	-3245.3048	-5110.4607	9397.3046
9	55.9972	Ext Event I	Min	-3245.3212	-5138.7664	8138.3371
9	55.9972	Ext Event I	Min	-3245.3212	-5138.7664	8138.3371
9	57.8635	Ext Event I	Min	-3258.3464	-5167.0816	6707.1164
9	59.7298	Ext Event I	Min	-3271.3716	-5195.3968	5103.6427
9	61.5961	Ext Event I	Min	-3284.3968	-5223.7120	3327.9159
9	63.4624	Ext Event I	Min	-3297.4220	-5252.0272	1379.9360
9	65.3287	Ext Event I	Min	-3310.4472	-5280.3424	-740.2970
9	65.3287	Ext Event I	Min	-3310.4472	-5280.3424	-740.2970
9	66.8715	Ext Event I	Min	-3331.7438	-5310.5619	-2623.2572

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
9	68.4144	Ext Event I	Min	-3353.0404	-5340.7813	-4627.7465
9	69.9572	Ext Event I	Min	-3374.3369	-5371.0008	-6755.3084
9	71.5000	Ext Event I	Min	-3395.6335	-5401.2202	-9005.9428
9	71.5000	Ext Event I	Min	-3395.6335	-5401.2202	-9005.9428
9	73.0801	Ext Event I	Min	-3417.4446	-5432.1697	-11448.7821
9	74.6602	Ext Event I	Min	-3439.2556	-5463.1191	-14020.7117
9	74.6602	Ext Event I	Min	-3439.2556	-5463.1191	-14020.7117
9	76.5801	Ext Event I	Min	-3469.6654	-5501.1170	-17327.7427
9	78.5000	Ext Event I	Min	-3500.0752	-5539.1148	-20825.3589
9	78.5000	Ext Event I	Min	-3500.0752	-5539.1148	-20825.3589
9	80.3333	Ext Event I	Min	-3529.1138	-5575.3992	-24355.0621
9	82.1667	Ext Event I	Min	-3558.1524	-5611.6837	-28067.1994
9	84.0000	Ext Event I	Min	-3587.1909	-5647.9681	-32038.5067
10	0.0000	Str1 (Cont)	Max	1215.6152	9909.0720	0.0000
10	2.7292	Str1 (Cont)	Max	1215.6152	9353.8405	-241.2231
10	5.4583	Str1 (Cont)	Max	1215.6152	8798.3493	-482.4462
10	0.0000	Str1 (Cont)	Min	-1217.3521	-9928.8762	0.0000
10	2.7292	Str1 (Cont)	Min	-1217.3521	-9369.7496	-246.5812
10	5.4583	Str1 (Cont)	Min	-1217.3521	-8810.8829	-493.1623
10	0.0000	Str1 (Expn)	Max	1215.6152	9909.0720	0.0000
10	2.7292	Str1 (Expn)	Max	1215.6152	9353.8405	39.9324
10	5.4583	Str1 (Expn)	Max	1215.6152	8798.3493	79.8649
10	0.0000	Str1 (Expn)	Min	-1217.3521	-9928.8762	0.0000
10	2.7292	Str1 (Expn)	Min	-1217.3521	-9369.7496	34.5744
10	5.4583	Str1 (Expn)	Min	-1217.3521	-8810.8829	69.1488
10	0.0000	Ext Event I	Max	347.5667	2833.9926	0.0000
10	2.7292	Ext Event I	Max	347.5667	2674.7986	33.0342
10	5.4583	Ext Event I	Max	347.5667	2515.6046	66.0684
10	0.0000	Ext Event I	Min	-347.5667	-2833.9926	0.0000
10	2.7292	Ext Event I	Min	-347.5667	-2674.7986	31.5033
10	5.4583	Ext Event I	Min	-347.5667	-2515.6046	63.0066
11	0.0000	Str1 (Cont)	Max	1215.6152	8798.3493	-482.4462
11	5.7917	Str1 (Cont)	Max	1215.6152	7611.1182	-994.3548
11	11.5833	Str1 (Cont)	Max	1215.6152	6409.4638	-1506.2634
11	0.0000	Str1 (Cont)	Min	-1217.3521	-8810.8829	-493.1623
11	5.7917	Str1 (Cont)	Min	-1217.3521	-7633.1910	-1016.4415
11	11.5833	Str1 (Cont)	Min	-1217.3521	-6469.9225	-1539.7206
11	0.0000	Str1 (Expn)	Max	1215.6152	8798.3493	79.8649
11	5.7917	Str1 (Expn)	Max	1215.6152	7611.1182	164.6070
11	11.5833	Str1 (Expn)	Max	1215.6152	6409.4638	249.3492
11	0.0000	Str1 (Expn)	Min	-1217.3521	-8810.8829	69.1488
11	5.7917	Str1 (Expn)	Min	-1217.3521	-7633.1910	142.5204
11	11.5833	Str1 (Expn)	Min	-1217.3521	-6469.9225	215.8921
11	0.0000	Ext Event I	Max	347.5667	2515.6046	66.0684
11	5.7917	Ext Event I	Max	347.5667	2177.7585	136.1714
11	11.5833	Ext Event I	Max	347.5667	1839.9123	206.2745
11	0.0000	Ext Event I	Min	-347.5667	-2515.6046	63.0066
11	5.7917	Ext Event I	Min	-347.5667	-2177.7585	129.8610
11	11.5833	Ext Event I	Min	-347.5667	-1839.9123	196.7153
12	0.0000	Str1 (Cont)	Max	13451.7029	19076.5119	-28058.4177
12	1.8333	Str1 (Cont)	Max	13256.1572	18755.0822	-23930.3102
12	3.6667	Str1 (Cont)	Max	13060.6116	18433.6526	-20061.3728
12	5.5000	Str1 (Cont)	Max	12865.0659	18112.2230	-16374.8695
12	5.5000	Str1 (Cont)	Max	12865.0659	18112.2230	-16374.8695
12	7.4199	Str1 (Cont)	Max	12660.2862	17775.6148	-12713.0487
12	9.3398	Str1 (Cont)	Max	12455.5064	17439.0066	-9241.8131
12	9.3398	Str1 (Cont)	Max	12455.5064	17439.0066	-9241.8131
12	10.9199	Str1 (Cont)	Max	12352.6180	17161.9765	-5946.0450
12	12.5000	Str1 (Cont)	Max	12249.7295	16884.9464	-2779.3671
12	12.5000	Str1 (Cont)	Max	12249.7295	16884.9464	-2779.3671
12	14.0428	Str1 (Cont)	Max	12149.2678	16614.4504	178.0332
12	15.5856	Str1 (Cont)	Max	12048.8060	16343.9544	3012.3610
12	17.1285	Str1 (Cont)	Max	11948.3443	16073.4584	5723.6162
12	18.6713	Str1 (Cont)	Max	11847.8826	15802.9624	8313.3424
12	18.6713	Str1 (Cont)	Max	11847.8826	15802.9624	8313.3424
12	20.5376	Str1 (Cont)	Max	11815.0328	15475.7623	11089.7953
12	22.4039	Str1 (Cont)	Max	11782.1829	15148.5623	13693.9950
12	24.2702	Str1 (Cont)	Max	11749.3331	14821.3622	16125.9417
12	26.1365	Str1 (Cont)	Max	11716.4833	14494.1622	18385.6354

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
12	28.0028	Str1 (Cont)	Max	11683.6334	14166.9621	20473.0759
12	28.0028	Str1 (Cont)	Max	11683.6334	14166.9621	20473.0759
12	29.8691	Str1 (Cont)	Max	11667.0822	13839.7664	22045.8749
12	31.7354	Str1 (Cont)	Max	11650.5311	13512.5707	23446.4209
12	33.6017	Str1 (Cont)	Max	11633.9799	13185.3750	24674.7137
12	35.4680	Str1 (Cont)	Max	11617.4287	12858.1793	25730.7535
12	37.3343	Str1 (Cont)	Max	11600.8775	12530.9836	26614.5402
12	37.3343	Str1 (Cont)	Max	11600.8775	12530.9836	26614.5402
12	39.2006	Str1 (Cont)	Max	11596.9913	12203.7898	27000.4085
12	41.0669	Str1 (Cont)	Max	11593.1052	11876.5960	27214.0236
12	42.9331	Str1 (Cont)	Max	11589.2190	11549.4021	27255.3857
12	44.7994	Str1 (Cont)	Max	11585.3328	11222.2083	27124.4947
12	46.6657	Str1 (Cont)	Max	11581.4467	10895.0145	26821.3506
12	46.6657	Str1 (Cont)	Max	11581.4467	10895.0145	26821.3506
12	48.5320	Str1 (Cont)	Max	11602.0531	10567.8179	26017.0816
12	50.3983	Str1 (Cont)	Max	11622.6596	10240.6212	25040.5595
12	52.2646	Str1 (Cont)	Max	11643.2660	9913.4246	23891.7843
12	54.1309	Str1 (Cont)	Max	11663.8724	9586.2280	22570.7560
12	55.9972	Str1 (Cont)	Max	11684.4789	9259.0314	21077.4746
12	55.9972	Str1 (Cont)	Max	11684.4789	9259.0314	21077.4746
12	57.8635	Str1 (Cont)	Max	11755.9685	8960.2945	19084.0412
12	59.7298	Str1 (Cont)	Max	11827.4581	8661.5576	16918.3547
12	61.5961	Str1 (Cont)	Max	11898.9478	8362.8206	14580.4151
12	63.4624	Str1 (Cont)	Max	11970.4374	8064.0837	12070.2225
12	65.3287	Str1 (Cont)	Max	12041.9270	7765.3468	9387.7767
12	65.3287	Str1 (Cont)	Max	12041.9270	7765.3468	9387.7767
12	66.8715	Str1 (Cont)	Max	12109.1037	7534.0446	6917.2364
12	68.4144	Str1 (Cont)	Max	12176.2803	7302.7424	4325.1670
12	69.9572	Str1 (Cont)	Max	12243.4569	7071.4401	1610.0251
12	71.5000	Str1 (Cont)	Max	12310.6335	6840.1379	-1228.1894
12	71.5000	Str1 (Cont)	Max	12310.6335	6840.1379	-1228.1894
12	73.0801	Str1 (Cont)	Max	12379.4329	6603.2483	-4272.8024
12	74.6602	Str1 (Cont)	Max	12448.2322	6366.3588	-7446.5056
12	74.6602	Str1 (Cont)	Max	12448.2322	6366.3588	-7446.5056
12	76.3301	Str1 (Cont)	Max	12545.8333	6335.3281	-10291.9533
12	78.0000	Str1 (Cont)	Max	12643.4345	6304.2975	-13281.5837
12	78.0000	Str1 (Cont)	Max	12643.4345	6304.2975	-13281.5837
12	80.0000	Str1 (Cont)	Max	12760.3285	6267.1329	-17064.9286
12	82.0000	Str1 (Cont)	Max	12877.2226	6229.9684	-21060.3226
12	84.0000	Str1 (Cont)	Max	12994.1167	6192.8039	-25354.7570
12	0.0000	Str1 (Cont)	Min	-13456.3781	-18970.5665	-37174.2640
12	1.8333	Str1 (Cont)	Min	-13260.8324	-18650.4348	-33005.0674
12	3.6667	Str1 (Cont)	Min	-13065.2868	-18330.3032	-29095.0409
12	5.5000	Str1 (Cont)	Min	-12869.7411	-18010.1716	-25367.4484
12	5.5000	Str1 (Cont)	Min	-12869.7411	-18010.1716	-25367.4484
12	7.4199	Str1 (Cont)	Min	-12664.9614	-17674.9226	-21662.5983
12	9.3398	Str1 (Cont)	Min	-12460.1816	-17339.6736	-18148.3333
12	9.3398	Str1 (Cont)	Min	-12460.1816	-17339.6736	-18148.3333
12	10.9199	Str1 (Cont)	Min	-12357.2931	-17063.7622	-15399.0484
12	12.5000	Str1 (Cont)	Min	-12254.4047	-16787.8508	-12778.8537
12	12.5000	Str1 (Cont)	Min	-12254.4047	-16787.8508	-12778.8537
12	14.0428	Str1 (Cont)	Min	-12153.9430	-16518.4471	-10355.0471
12	15.5856	Str1 (Cont)	Min	-12053.4812	-16249.0433	-8054.3130
12	17.1285	Str1 (Cont)	Min	-11953.0195	-15979.6396	-5876.6515
12	18.6713	Str1 (Cont)	Min	-11852.5578	-15710.2359	-3820.5191
12	18.6713	Str1 (Cont)	Min	-11852.5578	-15710.2359	-3820.5191
12	20.5376	Str1 (Cont)	Min	-11819.7080	-15384.3572	-1490.8062
12	22.4039	Str1 (Cont)	Min	-11786.8581	-15058.4784	666.6536
12	24.2702	Str1 (Cont)	Min	-11754.0083	-14732.5997	2651.8603
12	26.1365	Str1 (Cont)	Min	-11721.1585	-14406.7210	4464.8140
12	28.0028	Str1 (Cont)	Min	-11688.3086	-14080.8422	6105.5145
12	28.0028	Str1 (Cont)	Min	-11688.3086	-14080.8422	6105.5145
12	29.8691	Str1 (Cont)	Min	-11671.7574	-13754.9678	7573.9619
12	31.7354	Str1 (Cont)	Min	-11655.2062	-13429.0934	8870.1563
12	33.6017	Str1 (Cont)	Min	-11638.6551	-13103.2190	9994.0975
12	35.4680	Str1 (Cont)	Min	-11622.1039	-12777.3446	10945.7857
12	37.3343	Str1 (Cont)	Min	-11605.5527	-12451.4702	11725.2208
12	37.3343	Str1 (Cont)	Min	-11605.5527	-12451.4702	11725.2208
12	39.2006	Str1 (Cont)	Min	-11601.6665	-12125.5977	12278.5544

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
12	41.0669	Str1 (Cont)	Min	-11597.7804	-11799.7251	12659.6349
12	42.9331	Str1 (Cont)	Min	-11593.8942	-11473.8526	12868.4623
12	44.7994	Str1 (Cont)	Min	-11590.0080	-11147.9801	12905.0366
12	46.6657	Str1 (Cont)	Min	-11586.1219	-10822.1076	12769.3578
12	46.6657	Str1 (Cont)	Min	-11586.1219	-10822.1076	12769.3578
12	48.5320	Str1 (Cont)	Min	-11606.7283	-10496.2322	12158.4069
12	50.3983	Str1 (Cont)	Min	-11627.3347	-10170.3569	11375.2029
12	52.2646	Str1 (Cont)	Min	-11647.9412	-9844.4816	10419.7458
12	54.1309	Str1 (Cont)	Min	-11668.5476	-9518.6063	9292.0357
12	55.9972	Str1 (Cont)	Min	-11689.1540	-9192.7310	7992.0724
12	55.9972	Str1 (Cont)	Min	-11689.1540	-9192.7310	7992.0724
12	57.8635	Str1 (Cont)	Min	-11760.6437	-8895.3154	6519.8560
12	59.7298	Str1 (Cont)	Min	-11832.1333	-8597.8998	4875.3866
12	61.5961	Str1 (Cont)	Min	-11903.6230	-8300.4842	3058.6640
12	63.4624	Str1 (Cont)	Min	-11975.1126	-8003.0685	1069.6884
12	65.3287	Str1 (Cont)	Min	-12046.6022	-7705.6529	-1091.5403
12	65.3287	Str1 (Cont)	Min	-12046.6022	-7705.6529	-1091.5403
12	66.8715	Str1 (Cont)	Min	-12113.7788	-7475.4430	-3008.3908
12	68.4144	Str1 (Cont)	Min	-12180.9555	-7245.2331	-5046.7703
12	69.9572	Str1 (Cont)	Min	-12248.1321	-7015.0231	-7208.2224
12	71.5000	Str1 (Cont)	Min	-12315.3087	-6784.8132	-9492.7471
12	71.5000	Str1 (Cont)	Min	-12315.3087	-6784.8132	-9492.7471
12	73.0801	Str1 (Cont)	Min	-12384.1080	-6549.0423	-11970.2953
12	74.6602	Str1 (Cont)	Min	-12452.9074	-6313.2714	-14576.9337
12	74.6602	Str1 (Cont)	Min	-12452.9074	-6313.2714	-14576.9337
12	76.3301	Str1 (Cont)	Min	-12550.5085	-6283.4230	-17898.3390
12	78.0000	Str1 (Cont)	Min	-12648.1097	-6253.5746	-21363.9271
12	78.0000	Str1 (Cont)	Min	-12648.1097	-6253.5746	-21363.9271
12	80.0000	Str1 (Cont)	Min	-12765.0037	-6217.8261	-25717.3127
12	82.0000	Str1 (Cont)	Min	-12881.8978	-6182.0775	-30282.7475
12	84.0000	Str1 (Cont)	Min	-12998.7919	-6146.3289	-35147.2227
12	0.0000	Str1 (Expn)	Max	13451.7029	19076.5119	-28159.6247
12	1.8333	Str1 (Expn)	Max	13256.1572	18755.0822	-24025.0720
12	3.6667	Str1 (Expn)	Max	13060.6116	18433.6526	-20149.6893
12	5.5000	Str1 (Expn)	Max	12865.0659	18112.2230	-16456.7408
12	5.5000	Str1 (Expn)	Max	12865.0659	18112.2230	-16456.7408
12	7.4199	Str1 (Expn)	Max	12660.2862	17775.6148	-12788.1705
12	9.3398	Str1 (Expn)	Max	12455.5064	17439.0066	-9310.1853
12	9.3398	Str1 (Expn)	Max	12455.5064	17439.0066	-9310.1853
12	10.9199	Str1 (Expn)	Max	12352.6180	17161.9765	-6008.8622
12	12.5000	Str1 (Expn)	Max	12249.7295	16884.9464	-2836.6294
12	12.5000	Str1 (Expn)	Max	12249.7295	16884.9464	-2836.6294
12	14.0428	Str1 (Expn)	Max	12149.2678	16614.4504	126.1948
12	15.5856	Str1 (Expn)	Max	12048.8060	16343.9544	2965.9465
12	17.1285	Str1 (Expn)	Max	11948.3443	16073.4584	5682.6257
12	18.6713	Str1 (Expn)	Max	11847.8826	15802.9624	8277.7757
12	18.6713	Str1 (Expn)	Max	11847.8826	15802.9624	8277.7757
12	20.5376	Str1 (Expn)	Max	11815.0328	15475.7623	11060.7897
12	22.4039	Str1 (Expn)	Max	11782.1829	15148.5623	13671.5506
12	24.2702	Str1 (Expn)	Max	11749.3331	14821.3622	16110.0584
12	26.1365	Str1 (Expn)	Max	11716.4833	14494.1622	18376.3131
12	28.0028	Str1 (Expn)	Max	11683.6334	14166.9621	20470.3147
12	28.0028	Str1 (Expn)	Max	11683.6334	14166.9621	20470.3147
12	29.8691	Str1 (Expn)	Max	11667.0822	13839.7664	22049.6749
12	31.7354	Str1 (Expn)	Max	11650.5311	13512.5707	23456.7819
12	33.6017	Str1 (Expn)	Max	11633.9799	13185.3750	24691.6359
12	35.4680	Str1 (Expn)	Max	11617.4287	12858.1793	25754.2368
12	37.3343	Str1 (Expn)	Max	11600.8775	12530.9836	26644.5845
12	37.3343	Str1 (Expn)	Max	11600.8775	12530.9836	26644.5845
12	39.2006	Str1 (Expn)	Max	11596.9913	12203.7898	27037.0139
12	41.0669	Str1 (Expn)	Max	11593.1052	11876.5960	27257.1902
12	42.9331	Str1 (Expn)	Max	11589.2190	11549.4021	27305.1134
12	44.7994	Str1 (Expn)	Max	11585.3328	11222.2083	27180.7835
12	46.6657	Str1 (Expn)	Max	11581.4467	10895.0145	26884.2005
12	46.6657	Str1 (Expn)	Max	11581.4467	10895.0145	26884.2005
12	48.5320	Str1 (Expn)	Max	11602.0531	10567.8179	26086.4925
12	50.3983	Str1 (Expn)	Max	11622.6596	10240.6212	25116.5315
12	52.2646	Str1 (Expn)	Max	11643.2660	9913.4246	23974.3174
12	54.1309	Str1 (Expn)	Max	11663.8724	9586.2280	22659.8502

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
12	55.9972	Str1 (Expn)	Max	11684.4789	9259.0314	21173.1299
12	55.9972	Str1 (Expn)	Max	11684.4789	9259.0314	21173.1299
12	57.8635	Str1 (Expn)	Max	11755.9685	8960.2945	19186.2576
12	59.7298	Str1 (Expn)	Max	11827.4581	8661.5576	17027.1323
12	61.5961	Str1 (Expn)	Max	11898.9478	8362.8206	14695.7538
12	63.4624	Str1 (Expn)	Max	11970.4374	8064.0837	12192.1222
12	65.3287	Str1 (Expn)	Max	12041.9270	7765.3468	9516.2376
12	65.3287	Str1 (Expn)	Max	12041.9270	7765.3468	9516.2376
12	66.8715	Str1 (Expn)	Max	12109.1037	7534.0446	7051.1212
12	68.4144	Str1 (Expn)	Max	12176.2803	7302.7424	4464.4757
12	69.9572	Str1 (Expn)	Max	12243.4569	7071.4401	1754.7577
12	71.5000	Str1 (Expn)	Max	12310.6335	6840.1379	-1078.0329
12	71.5000	Str1 (Expn)	Max	12310.6335	6840.1379	-1078.0329
12	73.0801	Str1 (Expn)	Max	12379.4329	6603.2483	-4117.0909
12	74.6602	Str1 (Expn)	Max	12448.2322	6366.3588	-7285.2392
12	74.6602	Str1 (Expn)	Max	12448.2322	6366.3588	-7285.2392
12	76.3301	Str1 (Expn)	Max	12545.8333	6335.3281	-10124.8162
12	78.0000	Str1 (Expn)	Max	12643.4345	6304.2975	-13108.5759
12	78.0000	Str1 (Expn)	Max	12643.4345	6304.2975	-13108.5759
12	80.0000	Str1 (Expn)	Max	12760.3285	6267.1329	-16884.8897
12	82.0000	Str1 (Expn)	Max	12877.2226	6229.9684	-20873.2526
12	84.0000	Str1 (Expn)	Max	12994.1167	6192.8039	-25160.6558
12	0.0000	Str1 (Expn)	Min	-13456.3781	-18970.5665	-37275.4710
12	1.8333	Str1 (Expn)	Min	-13260.8324	-18650.4348	-33099.8292
12	3.6667	Str1 (Expn)	Min	-13065.2868	-18330.3032	-29183.3574
12	5.5000	Str1 (Expn)	Min	-12869.7411	-18010.1716	-25449.3198
12	5.5000	Str1 (Expn)	Min	-12869.7411	-18010.1716	-25449.3198
12	7.4199	Str1 (Expn)	Min	-12664.9614	-17674.9226	-21737.7201
12	9.3398	Str1 (Expn)	Min	-12460.1816	-17339.6736	-18216.7054
12	9.3398	Str1 (Expn)	Min	-12460.1816	-17339.6736	-18216.7054
12	10.9199	Str1 (Expn)	Min	-12357.2931	-17063.7622	-15461.8656
12	12.5000	Str1 (Expn)	Min	-12254.4047	-16787.8508	-12836.1160
12	12.5000	Str1 (Expn)	Min	-12254.4047	-16787.8508	-12836.1160
12	14.0428	Str1 (Expn)	Min	-12153.9430	-16518.4471	-10406.8855
12	15.5856	Str1 (Expn)	Min	-12053.4812	-16249.0433	-8100.7275
12	17.1285	Str1 (Expn)	Min	-11953.0195	-15979.6396	-5917.6420
12	18.6713	Str1 (Expn)	Min	-11852.5578	-15710.2359	-3856.0857
12	18.6713	Str1 (Expn)	Min	-11852.5578	-15710.2359	-3856.0857
12	20.5376	Str1 (Expn)	Min	-11819.7080	-15384.3572	-1519.8117
12	22.4039	Str1 (Expn)	Min	-11786.8581	-15058.4784	644.2092
12	24.2702	Str1 (Expn)	Min	-11754.0083	-14732.5997	2635.9770
12	26.1365	Str1 (Expn)	Min	-11721.1585	-14406.7210	4455.4917
12	28.0028	Str1 (Expn)	Min	-11688.3086	-14080.8422	6102.7533
12	28.0028	Str1 (Expn)	Min	-11688.3086	-14080.8422	6102.7533
12	29.8691	Str1 (Expn)	Min	-11671.7574	-13754.9678	7577.7619
12	31.7354	Str1 (Expn)	Min	-11655.2062	-13429.0934	8880.5173
12	33.6017	Str1 (Expn)	Min	-11638.6551	-13103.2190	10011.0197
12	35.4680	Str1 (Expn)	Min	-11622.1039	-12777.3446	10969.2689
12	37.3343	Str1 (Expn)	Min	-11605.5527	-12451.4702	11755.2651
12	37.3343	Str1 (Expn)	Min	-11605.5527	-12451.4702	11755.2651
12	39.2006	Str1 (Expn)	Min	-11601.6665	-12125.5977	12315.1598
12	41.0669	Str1 (Expn)	Min	-11597.7804	-11799.7251	12702.8014
12	42.9331	Str1 (Expn)	Min	-11593.8942	-11473.8526	12918.1899
12	44.7994	Str1 (Expn)	Min	-11590.0080	-11147.9801	12961.3254
12	46.6657	Str1 (Expn)	Min	-11586.1219	-10822.1076	12832.2077
12	46.6657	Str1 (Expn)	Min	-11586.1219	-10822.1076	12832.2077
12	48.5320	Str1 (Expn)	Min	-11606.7283	-10496.2322	12227.8179
12	50.3983	Str1 (Expn)	Min	-11627.3347	-10170.3569	11451.1750
12	52.2646	Str1 (Expn)	Min	-11647.9412	-9844.4816	10502.2790
12	54.1309	Str1 (Expn)	Min	-11668.5476	-9518.6063	9381.1299
12	55.9972	Str1 (Expn)	Min	-11689.1540	-9192.7310	8087.7278
12	55.9972	Str1 (Expn)	Min	-11689.1540	-9192.7310	8087.7278
12	57.8635	Str1 (Expn)	Min	-11760.6437	-8895.3154	6622.0725
12	59.7298	Str1 (Expn)	Min	-11832.1333	-8597.8998	4984.1641
12	61.5961	Str1 (Expn)	Min	-11903.6230	-8300.4842	3174.0027
12	63.4624	Str1 (Expn)	Min	-11975.1126	-8003.0685	1191.5882
12	65.3287	Str1 (Expn)	Min	-12046.6022	-7705.6529	-963.0795
12	65.3287	Str1 (Expn)	Min	-12046.6022	-7705.6529	-963.0795
12	66.8715	Str1 (Expn)	Min	-12113.7788	-7475.4430	-2874.5060

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
12	68.4144	Str1 (Expn)	Min	-12180.9555	-7245.2331	-4907.4616
12	69.9572	Str1 (Expn)	Min	-12248.1321	-7015.0231	-7063.4898
12	71.5000	Str1 (Expn)	Min	-12315.3087	-6784.8132	-9342.5906
12	71.5000	Str1 (Expn)	Min	-12315.3087	-6784.8132	-9342.5906
12	73.0801	Str1 (Expn)	Min	-12384.1080	-6549.0423	-11814.5838
12	74.6602	Str1 (Expn)	Min	-12452.9074	-6313.2714	-14415.6673
12	74.6602	Str1 (Expn)	Min	-12452.9074	-6313.2714	-14415.6673
12	76.3301	Str1 (Expn)	Min	-12550.5085	-6283.4230	-17731.2020
12	78.0000	Str1 (Expn)	Min	-12648.1097	-6253.5746	-21190.9193
12	78.0000	Str1 (Expn)	Min	-12648.1097	-6253.5746	-21190.9193
12	80.0000	Str1 (Expn)	Min	-12765.0037	-6217.8261	-25537.2739
12	82.0000	Str1 (Expn)	Min	-12881.8978	-6182.0775	-30095.6775
12	84.0000	Str1 (Expn)	Min	-12998.7919	-6146.3289	-34953.1215
12	0.0000	Ext Event I	Max	3844.0116	5435.2969	-29433.9792
12	1.8333	Ext Event I	Max	3788.1414	5343.6453	-25417.4523
12	3.6667	Ext Event I	Max	3732.2712	5251.9937	-21660.0954
12	5.5000	Ext Event I	Max	3676.4010	5160.3421	-18085.1726
12	5.5000	Ext Event I	Max	3676.4010	5160.3421	-18085.1726
12	7.4199	Ext Event I	Max	3617.8925	5064.3625	-14540.2014
12	9.3398	Ext Event I	Max	3559.3840	4968.3829	-11185.8154
12	9.3398	Ext Event I	Max	3559.3840	4968.3829	-11185.8154
12	10.9199	Ext Event I	Max	3529.9873	4889.3912	-8401.8555
12	12.5000	Ext Event I	Max	3500.5906	4810.3996	-5746.9858
12	12.5000	Ext Event I	Max	3500.5906	4810.3996	-5746.9858
12	14.0428	Ext Event I	Max	3471.8872	4733.2711	-3289.3221
12	15.5856	Ext Event I	Max	3443.1839	4656.1425	-954.7308
12	17.1285	Ext Event I	Max	3414.4805	4579.0140	1256.7878
12	18.6713	Ext Event I	Max	3385.7772	4501.8855	3346.7774
12	18.6713	Ext Event I	Max	3385.7772	4501.8855	3346.7774
12	20.5376	Ext Event I	Max	3376.3915	4408.5885	5660.6665
12	22.4039	Ext Event I	Max	3367.0059	4315.2915	7802.3026
12	24.2702	Ext Event I	Max	3357.6202	4221.9946	9771.6855
12	26.1365	Ext Event I	Max	3348.2345	4128.6976	11568.8153
12	28.0028	Ext Event I	Max	3338.8489	4035.4006	13193.6921
12	28.0028	Ext Event I	Max	3338.8489	4035.4006	13193.6921
12	29.8691	Ext Event I	Max	3334.1200	3942.1049	14548.4905
12	31.7354	Ext Event I	Max	3329.3910	3848.8092	15731.0358
12	33.6017	Ext Event I	Max	3324.6621	3755.5134	16741.3280
12	35.4680	Ext Event I	Max	3319.9332	3662.2177	17579.3672
12	37.3343	Ext Event I	Max	3315.2043	3568.9220	18245.1532
12	37.3343	Ext Event I	Max	3315.2043	3568.9220	18245.1532
12	39.2006	Ext Event I	Max	3314.0940	3475.6268	18645.6389
12	41.0669	Ext Event I	Max	3312.9836	3382.3316	18873.8716
12	42.9331	Ext Event I	Max	3311.8733	3289.0364	18929.8511
12	44.7994	Ext Event I	Max	3310.7630	3195.7412	18813.5775
12	46.6657	Ext Event I	Max	3309.6527	3102.4460	18525.0509
12	46.6657	Ext Event I	Max	3309.6527	3102.4460	18525.0509
12	48.5320	Ext Event I	Max	3315.5402	3009.1500	17970.3078
12	50.3983	Ext Event I	Max	3321.4278	2915.8540	17243.3116
12	52.2646	Ext Event I	Max	3327.3153	2822.5580	16344.0623
12	54.1309	Ext Event I	Max	3333.2029	2729.2620	15272.5599
12	55.9972	Ext Event I	Max	3339.0904	2635.9661	14028.8044
12	55.9972	Ext Event I	Max	3339.0904	2635.9661	14028.8044
12	57.8635	Ext Event I	Max	3359.5160	2550.8014	12519.1104
12	59.7298	Ext Event I	Max	3379.9416	2465.6368	10837.1634
12	61.5961	Ext Event I	Max	3400.3672	2380.4721	8982.9632
12	63.4624	Ext Event I	Max	3420.7929	2295.3075	6956.5100
12	65.3287	Ext Event I	Max	3441.2185	2210.1428	4757.8036
12	65.3287	Ext Event I	Max	3441.2185	2210.1428	4757.8036
12	66.8715	Ext Event I	Max	3460.4118	2144.2125	2774.8822
12	68.4144	Ext Event I	Max	3479.6051	2078.2822	670.4317
12	69.9572	Ext Event I	Max	3498.7984	2012.3519	-1557.0913
12	71.5000	Ext Event I	Max	3517.9917	1946.4216	-3907.6869
12	71.5000	Ext Event I	Max	3517.9917	1946.4216	-3907.6869
12	73.0801	Ext Event I	Max	3537.6487	1878.8987	-6452.9020
12	74.6602	Ext Event I	Max	3557.3057	1811.3757	-9127.2074
12	74.6602	Ext Event I	Max	3557.3057	1811.3757	-9127.2074
12	76.3301	Ext Event I	Max	3585.1917	1802.6787	-11908.4128
12	78.0000	Ext Event I	Max	3613.0777	1793.9817	-14833.8009

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
12	78.0000	Ext Event I	Max	3613.0777	1793.9817	-14833.8009
12	80.0000	Ext Event I	Max	3646.4760	1783.5656	-18540.2047
12	82.0000	Ext Event I	Max	3679.8743	1773.1494	-22458.6576
12	84.0000	Ext Event I	Max	3713.2726	1762.7333	-26676.1508
12	0.0000	Ext Event I	Min	-3844.0116	-5435.2969	-32038.5067
12	1.8333	Ext Event I	Min	-3788.1414	-5343.6453	-28010.2400
12	3.6667	Ext Event I	Min	-3732.2712	-5251.9937	-24241.1434
12	5.5000	Ext Event I	Min	-3676.4010	-5160.3421	-20654.4808
12	5.5000	Ext Event I	Min	-3676.4010	-5160.3421	-20654.4808
12	7.4199	Ext Event I	Min	-3617.8925	-5064.3625	-17097.2156
12	9.3398	Ext Event I	Min	-3559.3840	-4968.3829	-13730.5355
12	9.3398	Ext Event I	Min	-3559.3840	-4968.3829	-13730.5355
12	10.9199	Ext Event I	Min	-3529.9873	-4889.3912	-11102.7136
12	12.5000	Ext Event I	Min	-3500.5906	-4810.3996	-8603.9820
12	12.5000	Ext Event I	Min	-3500.5906	-4810.3996	-8603.9820
12	14.0428	Ext Event I	Min	-3471.8872	-4733.2711	-6298.7736
12	15.5856	Ext Event I	Min	-3443.1839	-4656.1425	-4116.6377
12	17.1285	Ext Event I	Min	-3414.4805	-4579.0140	-2057.5744
12	18.6713	Ext Event I	Min	-3385.7772	-4501.8855	-120.0401
12	18.6713	Ext Event I	Min	-3385.7772	-4501.8855	-120.0401
12	20.5376	Ext Event I	Min	-3376.3915	-4408.5885	2066.2090
12	22.4039	Ext Event I	Min	-3367.0059	-4315.2915	4080.2050
12	24.2702	Ext Event I	Min	-3357.6202	-4221.9946	5921.9479
12	26.1365	Ext Event I	Min	-3348.2345	-4128.6976	7591.4378
12	28.0028	Ext Event I	Min	-3338.8489	-4035.4006	9088.6745
12	28.0028	Ext Event I	Min	-3338.8489	-4035.4006	9088.6745
12	29.8691	Ext Event I	Min	-3334.1200	-3942.1049	10413.6582
12	31.7354	Ext Event I	Min	-3329.3910	-3848.8092	11566.3888
12	33.6017	Ext Event I	Min	-3324.6621	-3755.5134	12546.8663
12	35.4680	Ext Event I	Min	-3319.9332	-3662.2177	13355.0906
12	37.3343	Ext Event I	Min	-3315.2043	-3568.9220	13991.0619
12	37.3343	Ext Event I	Min	-3315.2043	-3568.9220	13991.0619
12	39.2006	Ext Event I	Min	-3314.0940	-3475.6268	14439.3949
12	41.0669	Ext Event I	Min	-3312.9836	-3382.3316	14715.4748
12	42.9331	Ext Event I	Min	-3311.8733	-3289.0364	14819.3015
12	44.7994	Ext Event I	Min	-3310.7630	-3195.7412	14750.8752
12	46.6657	Ext Event I	Min	-3309.6527	-3102.4460	14510.1958
12	46.6657	Ext Event I	Min	-3309.6527	-3102.4460	14510.1958
12	48.5320	Ext Event I	Min	-3315.5402	-3009.1500	14010.6865
12	50.3983	Ext Event I	Min	-3321.4278	-2915.8540	13338.9240
12	52.2646	Ext Event I	Min	-3327.3153	-2822.5580	12494.9084
12	54.1309	Ext Event I	Min	-3333.2029	-2729.2620	11478.6398
12	55.9972	Ext Event I	Min	-3339.0904	-2635.9661	10290.1181
12	55.9972	Ext Event I	Min	-3339.0904	-2635.9661	10290.1181
12	57.8635	Ext Event I	Min	-3359.5160	-2550.8014	8929.3433
12	59.7298	Ext Event I	Min	-3379.9416	-2465.6368	7396.3153
12	61.5961	Ext Event I	Min	-3400.3672	-2380.4721	5691.0343
12	63.4624	Ext Event I	Min	-3420.7929	-2295.3075	3813.5002
12	65.3287	Ext Event I	Min	-3441.2185	-2210.1428	1763.7131
12	65.3287	Ext Event I	Min	-3441.2185	-2210.1428	1763.7131
12	66.8715	Ext Event I	Min	-3460.4118	-2144.2125	-61.0112
12	68.4144	Ext Event I	Min	-3479.6051	-2078.2822	-2007.2646
12	69.9572	Ext Event I	Min	-3498.7984	-2012.3519	-4076.5906
12	71.5000	Ext Event I	Min	-3517.9917	-1946.4216	-6268.9891
12	71.5000	Ext Event I	Min	-3517.9917	-1946.4216	-6268.9891
12	73.0801	Ext Event I	Min	-3537.6487	-1878.8987	-8652.1857
12	74.6602	Ext Event I	Min	-3557.3057	-1811.3757	-11164.4726
12	74.6602	Ext Event I	Min	-3557.3057	-1811.3757	-11164.4726
12	76.3301	Ext Event I	Min	-3585.1917	-1802.6787	-14081.6659
12	78.0000	Ext Event I	Min	-3613.0777	-1793.9817	-17143.0419
12	78.0000	Ext Event I	Min	-3613.0777	-1793.9817	-17143.0419
12	80.0000	Ext Event I	Min	-3646.4760	-1783.5656	-21012.3144
12	82.0000	Ext Event I	Min	-3679.8743	-1773.1494	-25093.6361
12	84.0000	Ext Event I	Min	-3713.2726	-1762.7333	-29473.9981
13	0.0000	Str1 (Cont)	Max	1312.2500	11649.0004	0.0000
13	2.7292	Str1 (Cont)	Max	1312.2500	11197.5774	-1266.6990
13	5.4583	Str1 (Cont)	Max	1312.2500	10745.4823	-2533.3979
13	0.0000	Str1 (Cont)	Min	-1314.1861	-11650.3046	0.0000
13	2.7292	Str1 (Cont)	Min	-1314.1861	-11198.5950	-1273.0696

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
13	5.4583	Str1 (Cont)	Min	-1314.1861	-10747.5575	-2546.1392
13	0.0000	Str1 (Expn)	Max	1312.2500	11649.0004	0.0000
13	2.7292	Str1 (Expn)	Max	1312.2500	11197.5774	446.9028
13	5.4583	Str1 (Expn)	Max	1312.2500	10745.4823	893.8056
13	0.0000	Str1 (Expn)	Min	-1314.1861	-11650.3046	0.0000
13	2.7292	Str1 (Expn)	Min	-1314.1861	-11198.5950	440.5322
13	5.4583	Str1 (Expn)	Min	-1314.1861	-10747.5575	881.0643
13	0.0000	Ext Event I	Max	375.2052	3328.4721	0.0000
13	2.7292	Ext Event I	Max	375.2052	3199.4532	38.6350
13	5.4583	Ext Event I	Max	375.2052	3070.4343	77.2701
13	0.0000	Ext Event I	Min	-375.2052	-3328.4721	0.0000
13	2.7292	Ext Event I	Min	-375.2052	-3199.4532	36.8149
13	5.4583	Ext Event I	Min	-375.2052	-3070.4343	73.6297
14	0.0000	Str1 (Cont)	Max	1312.2500	10745.4823	-2533.3979
14	5.2500	Str1 (Cont)	Max	1312.2500	9903.9569	-4970.1013
14	10.5000	Str1 (Cont)	Max	1312.2500	9050.5801	-7406.8047
14	0.0000	Str1 (Cont)	Min	-1314.1861	-10747.5575	-2546.1392
14	5.2500	Str1 (Cont)	Min	-1314.1861	-9922.2684	-4995.0976
14	10.5000	Str1 (Cont)	Min	-1314.1861	-9108.8309	-7444.0560
14	0.0000	Str1 (Expn)	Max	1312.2500	10745.4823	893.8056
14	5.2500	Str1 (Expn)	Max	1312.2500	9903.9569	1753.4966
14	10.5000	Str1 (Expn)	Max	1312.2500	9050.5801	2613.1875
14	0.0000	Str1 (Expn)	Min	-1314.1861	-10747.5575	881.0643
14	5.2500	Str1 (Expn)	Min	-1314.1861	-9922.2684	1728.5003
14	10.5000	Str1 (Expn)	Min	-1314.1861	-9108.8309	2575.9362
14	0.0000	Ext Event I	Max	375.2052	3070.4343	77.2701
14	5.2500	Ext Event I	Max	375.2052	2832.3179	151.5910
14	10.5000	Ext Event I	Max	375.2052	2594.2016	225.9118
14	0.0000	Ext Event I	Min	-375.2052	-3070.4343	73.6297
14	5.2500	Ext Event I	Min	-375.2052	-2832.3179	144.4492
14	10.5000	Ext Event I	Min	-375.2052	-2594.2016	215.2686
15	0.0000	Str1 (Cont)	Max	18237.3783	4974.0178	-25354.7570
15	0.0083	Str1 (Cont)	Max	18237.3783	4973.5796	-25337.4203
15	0.0083	Str1 (Cont)	Max	18237.3783	4973.5796	-25337.4203
15	2.0056	Str1 (Cont)	Max	18229.3897	4868.5588	-21096.0670
15	4.0028	Str1 (Cont)	Max	18221.4012	4763.5380	-17152.7169
15	6.0000	Str1 (Cont)	Max	18213.4126	4658.5173	-13420.7427
15	6.0000	Str1 (Cont)	Max	18213.4126	4658.5173	-13420.7427
15	7.4851	Str1 (Cont)	Max	18207.4724	4580.4246	-10789.0285
15	8.9702	Str1 (Cont)	Max	18201.5322	4502.3320	-8271.3527
15	8.9702	Str1 (Cont)	Max	18201.5322	4502.3320	-8271.3527
15	11.0000	Str1 (Cont)	Max	18188.5334	4395.6002	-4249.7053
15	11.0000	Str1 (Cont)	Max	18188.5334	4395.6002	-4249.7053
15	12.4167	Str1 (Cont)	Max	18179.4608	4321.1070	-1570.9070
15	13.8333	Str1 (Cont)	Max	18170.3883	4246.6138	1004.1234
15	15.2500	Str1 (Cont)	Max	18161.3158	4172.1206	3475.3856
15	15.2500	Str1 (Cont)	Max	18161.3158	4172.1206	3475.3856
15	16.5911	Str1 (Cont)	Max	18152.7274	4101.6025	5717.3911
15	17.9321	Str1 (Cont)	Max	18144.1390	4031.0844	7866.6175
15	17.9321	Str1 (Cont)	Max	18144.1390	4031.0844	7866.6175
15	19.7245	Str1 (Cont)	Max	17934.4188	3936.8348	10315.8133
15	21.5169	Str1 (Cont)	Max	17724.6987	3842.5853	12606.1301
15	23.3093	Str1 (Cont)	Max	17514.9785	3748.3358	14737.5679
15	25.1017	Str1 (Cont)	Max	17305.2583	3654.0863	16710.1267
15	26.8940	Str1 (Cont)	Max	17095.5382	3559.8368	18523.8065
15	26.8940	Str1 (Cont)	Max	17095.5382	3559.8368	18523.8065
15	28.6864	Str1 (Cont)	Max	16604.9565	3466.2902	19772.6545
15	30.4788	Str1 (Cont)	Max	16114.3749	3372.7436	20862.6234
15	32.2712	Str1 (Cont)	Max	15623.7932	3279.1970	21793.7134
15	34.0636	Str1 (Cont)	Max	15133.2115	3185.6504	22565.9243
15	35.8560	Str1 (Cont)	Max	14642.6299	3092.1038	23179.2563
15	35.8560	Str1 (Cont)	Max	14642.6299	3092.1038	23179.2563
15	37.6483	Str1 (Cont)	Max	14432.4739	3003.2500	23231.1886
15	39.4407	Str1 (Cont)	Max	14222.3180	2914.3962	23124.2420
15	41.2331	Str1 (Cont)	Max	14012.1620	2825.5424	22858.4163
15	43.0255	Str1 (Cont)	Max	13802.0060	2736.6886	22433.7116
15	44.8179	Str1 (Cont)	Max	13591.8501	2647.8348	21850.1280
15	44.8179	Str1 (Cont)	Max	13591.8501	2647.8348	21850.1280
15	46.6102	Str1 (Cont)	Max	12782.9042	2558.9810	20713.6019

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
15	48.4026	Str1 (Cont)	Max	11973.9583	2470.1272	19418.1969
15	50.1950	Str1 (Cont)	Max	11165.0125	2381.2734	17963.9128
15	51.9874	Str1 (Cont)	Max	10356.0666	2292.4196	16350.7498
15	53.7798	Str1 (Cont)	Max	9547.1207	2203.5658	14578.7077
15	53.7798	Str1 (Cont)	Max	9547.1207	2203.5658	14578.7077
15	55.5721	Str1 (Cont)	Max	8816.0751	2123.5740	12052.5252
15	57.3645	Str1 (Cont)	Max	8085.0295	2043.5822	9367.4637
15	59.1569	Str1 (Cont)	Max	7353.9839	1963.5903	6523.5232
15	60.9493	Str1 (Cont)	Max	6622.9383	1883.5985	3511.2851
15	62.7417	Str1 (Cont)	Max	5891.8926	1803.6067	256.9822
15	62.7417	Str1 (Cont)	Max	5891.8926	1803.6067	256.9822
15	62.7500	Str1 (Cont)	Max	380.1848	1803.3056	248.0371
15	0.0000	Str1 (Cont)	Min	-18243.3577	-4925.6068	-35147.2227
15	0.0083	Str1 (Cont)	Min	-18243.3577	-4925.1754	-35128.5833
15	0.0083	Str1 (Cont)	Min	-18243.3577	-4925.1754	-35128.5833
15	2.0056	Str1 (Cont)	Min	-18235.3692	-4821.7808	-30826.5448
15	4.0028	Str1 (Cont)	Min	-18227.3806	-4718.3862	-26822.5094
15	6.0000	Str1 (Cont)	Min	-18219.3921	-4614.9916	-23029.8498
15	6.0000	Str1 (Cont)	Min	-18219.3921	-4614.9916	-23029.8498
15	7.4851	Str1 (Cont)	Min	-18213.4519	-4538.1082	-20353.0106
15	8.9702	Str1 (Cont)	Min	-18207.5117	-4461.2247	-17790.2096
15	8.9702	Str1 (Cont)	Min	-18207.5117	-4461.2247	-17790.2096
15	11.0000	Str1 (Cont)	Min	-18194.5128	-4356.1456	-14471.9834
15	11.0000	Str1 (Cont)	Min	-18194.5128	-4356.1456	-14471.9834
15	12.4167	Str1 (Cont)	Min	-18185.4403	-4282.8059	-12284.1358
15	13.8333	Str1 (Cont)	Min	-18176.3677	-4209.4662	-10200.0563
15	15.2500	Str1 (Cont)	Min	-18167.2952	-4136.1265	-8219.7448
15	15.2500	Str1 (Cont)	Min	-18167.2952	-4136.1265	-8219.7448
15	16.5911	Str1 (Cont)	Min	-18158.7068	-4066.7003	-6442.4923
15	17.9321	Str1 (Cont)	Min	-18150.1184	-3997.2741	-4758.0189
15	17.9321	Str1 (Cont)	Min	-18150.1184	-3997.2741	-4758.0189
15	19.7245	Str1 (Cont)	Min	-17940.3983	-3904.4840	-2646.7900
15	21.5169	Str1 (Cont)	Min	-17730.6781	-3811.6939	-694.4402
15	23.3093	Str1 (Cont)	Min	-17520.9579	-3718.9037	1099.0307
15	25.1017	Str1 (Cont)	Min	-17311.2378	-3626.1136	2733.6226
15	26.8940	Str1 (Cont)	Min	-17101.5176	-3533.3235	4209.3355
15	26.8940	Str1 (Cont)	Min	-17101.5176	-3533.3235	4209.3355
15	28.6864	Str1 (Cont)	Min	-16610.9360	-3441.2363	5526.1694
15	30.4788	Str1 (Cont)	Min	-16120.3543	-3349.1491	6684.1243
15	32.2712	Str1 (Cont)	Min	-15629.7726	-3257.0619	7683.2002
15	34.0636	Str1 (Cont)	Min	-15139.1910	-3164.9747	8523.3972
15	35.8560	Str1 (Cont)	Min	-14648.6093	-3072.8875	9204.7151
15	35.8560	Str1 (Cont)	Min	-14648.6093	-3072.8875	9204.7151
15	37.6483	Str1 (Cont)	Min	-14438.4534	-2985.4931	9727.1541
15	39.4407	Str1 (Cont)	Min	-14228.2974	-2898.0987	10090.7140
15	41.2331	Str1 (Cont)	Min	-14018.1414	-2810.7043	10295.3950
15	43.0255	Str1 (Cont)	Min	-13807.9855	-2723.3099	10341.1970
15	44.8179	Str1 (Cont)	Min	-13597.8295	-2635.9155	10228.1199
15	44.8179	Str1 (Cont)	Min	-13597.8295	-2635.9155	10228.1199
15	46.6102	Str1 (Cont)	Min	-12788.8836	-2548.5211	9956.1639
15	48.4026	Str1 (Cont)	Min	-11979.9378	-2461.1267	9525.3289
15	50.1950	Str1 (Cont)	Min	-11170.9919	-2373.7323	8935.6149
15	51.9874	Str1 (Cont)	Min	-10362.0461	-2286.3379	8187.0220
15	53.7798	Str1 (Cont)	Min	-9553.1002	-2198.9435	7279.5500
15	53.7798	Str1 (Cont)	Min	-9553.1002	-2198.9435	7279.5500
15	55.5721	Str1 (Cont)	Min	-8822.0546	-2120.4110	6205.2145
15	57.3645	Str1 (Cont)	Min	-8091.0089	-2041.8786	4972.0000
15	59.1569	Str1 (Cont)	Min	-7359.9633	-1963.3462	3579.9065
15	60.9493	Str1 (Cont)	Min	-6628.9177	-1884.8138	2019.5154
15	62.7417	Str1 (Cont)	Min	-5897.8721	-1806.2813	217.0595
15	62.7417	Str1 (Cont)	Min	-5897.8721	-1806.2813	217.0595
15	62.7500	Str1 (Cont)	Min	-386.1643	-1805.9870	202.7403
15	0.0000	Str1 (Expn)	Max	18237.3783	4974.0178	-25160.6558
15	0.0083	Str1 (Expn)	Max	18237.3783	4973.5796	-25143.4504
15	0.0083	Str1 (Expn)	Max	18237.3783	4973.5796	-25143.4504
15	2.0056	Str1 (Expn)	Max	18229.3897	4868.5588	-20933.5692
15	4.0028	Str1 (Expn)	Max	18221.4012	4763.5380	-17021.6911
15	6.0000	Str1 (Expn)	Max	18213.4126	4658.5173	-13321.1889
15	6.0000	Str1 (Expn)	Max	18213.4126	4658.5173	-13321.1889

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
15	7.4851	Str1 (Expn)	Max	18207.4724	4580.4246	-10712.8771
15	8.9702	Str1 (Expn)	Max	18201.5322	4502.3320	-8218.6036
15	8.9702	Str1 (Expn)	Max	18201.5322	4502.3320	-8218.6036
15	11.0000	Str1 (Expn)	Max	18188.5334	4395.6002	-4228.9411
15	11.0000	Str1 (Expn)	Max	18188.5334	4395.6002	-4228.9411
15	12.4167	Str1 (Expn)	Max	18179.4608	4321.1070	-1572.4664
15	13.8333	Str1 (Expn)	Max	18170.3883	4246.6138	980.2402
15	15.2500	Str1 (Expn)	Max	18161.3158	4172.1206	3429.1788
15	15.2500	Str1 (Expn)	Max	18161.3158	4172.1206	3429.1788
15	16.5911	Str1 (Expn)	Max	18152.7274	4101.6025	5650.0518
15	17.9321	Str1 (Expn)	Max	18144.1390	4031.0844	7778.1457
15	17.9321	Str1 (Expn)	Max	18144.1390	4031.0844	7778.1457
15	19.7245	Str1 (Expn)	Max	17934.4188	3936.8348	10199.0973
15	21.5169	Str1 (Expn)	Max	17724.6987	3842.5853	12461.1700
15	23.3093	Str1 (Expn)	Max	17514.9785	3748.3358	14564.3636
15	25.1017	Str1 (Expn)	Max	17305.2583	3654.0863	16508.6782
15	26.8940	Str1 (Expn)	Max	17095.5382	3559.8368	18294.1139
15	26.8940	Str1 (Expn)	Max	17095.5382	3559.8368	18294.1139
15	28.6864	Str1 (Expn)	Max	16604.9565	3466.2902	19514.7176
15	30.4788	Str1 (Expn)	Max	16114.3749	3372.7436	20576.4424
15	32.2712	Str1 (Expn)	Max	15623.7932	3279.1970	21479.2882
15	34.0636	Str1 (Expn)	Max	15133.2115	3185.6504	22223.2550
15	35.8560	Str1 (Expn)	Max	14642.6299	3092.1038	22808.3428
15	35.8560	Str1 (Expn)	Max	14642.6299	3092.1038	22808.3428
15	37.6483	Str1 (Expn)	Max	14432.4739	3003.2500	22832.0310
15	39.4407	Str1 (Expn)	Max	14222.3180	2914.3962	22696.8401
15	41.2331	Str1 (Expn)	Max	14012.1620	2825.5424	22402.7703
15	43.0255	Str1 (Expn)	Max	13802.0060	2736.6886	21949.8215
15	44.8179	Str1 (Expn)	Max	13591.8501	2647.8348	21337.9937
15	44.8179	Str1 (Expn)	Max	13591.8501	2647.8348	21337.9937
15	46.6102	Str1 (Expn)	Max	12782.9042	2558.9810	20173.2234
15	48.4026	Str1 (Expn)	Max	11973.9583	2470.1272	18849.5742
15	50.1950	Str1 (Expn)	Max	11165.0125	2381.2734	17367.0460
15	51.9874	Str1 (Expn)	Max	10356.0666	2292.4196	15725.6388
15	53.7798	Str1 (Expn)	Max	9547.1207	2203.5658	13925.3526
15	53.7798	Str1 (Expn)	Max	9547.1207	2203.5658	13925.3526
15	55.5721	Str1 (Expn)	Max	8816.0751	2123.5740	11370.9259
15	57.3645	Str1 (Expn)	Max	8085.0295	2043.5822	8657.6202
15	59.1569	Str1 (Expn)	Max	7353.9839	1963.5903	5785.4356
15	60.9493	Str1 (Expn)	Max	6622.9383	1883.5985	2744.9533
15	62.7417	Str1 (Expn)	Max	5891.8926	1803.6067	-537.5938
15	62.7417	Str1 (Expn)	Max	5891.8926	1803.6067	-537.5938
15	62.7500	Str1 (Expn)	Max	380.1848	1803.3056	-546.6702
15	0.0000	Str1 (Expn)	Min	-18243.3577	-4925.6068	-34953.1215
15	0.0083	Str1 (Expn)	Min	-18243.3577	-4925.1754	-34934.6134
15	0.0083	Str1 (Expn)	Min	-18243.3577	-4925.1754	-34934.6134
15	2.0056	Str1 (Expn)	Min	-18235.3692	-4821.7808	-30664.0469
15	4.0028	Str1 (Expn)	Min	-18227.3806	-4718.3862	-26691.4836
15	6.0000	Str1 (Expn)	Min	-18219.3921	-4614.9916	-22930.2961
15	6.0000	Str1 (Expn)	Min	-18219.3921	-4614.9916	-22930.2961
15	7.4851	Str1 (Expn)	Min	-18213.4519	-4538.1082	-20276.8592
15	8.9702	Str1 (Expn)	Min	-18207.5117	-4461.2247	-17737.4606
15	8.9702	Str1 (Expn)	Min	-18207.5117	-4461.2247	-17737.4606
15	11.0000	Str1 (Expn)	Min	-18194.5128	-4356.1456	-14451.2192
15	11.0000	Str1 (Expn)	Min	-18194.5128	-4356.1456	-14451.2192
15	12.4167	Str1 (Expn)	Min	-18185.4403	-4282.8059	-12285.6953
15	13.8333	Str1 (Expn)	Min	-18176.3677	-4209.4662	-10223.9394
15	15.2500	Str1 (Expn)	Min	-18167.2952	-4136.1265	-8265.9517
15	15.2500	Str1 (Expn)	Min	-18167.2952	-4136.1265	-8265.9517
15	16.5911	Str1 (Expn)	Min	-18158.7068	-4066.7003	-6509.8317
15	17.9321	Str1 (Expn)	Min	-18150.1184	-3997.2741	-4846.4907
15	17.9321	Str1 (Expn)	Min	-18150.1184	-3997.2741	-4846.4907
15	19.7245	Str1 (Expn)	Min	-17940.3983	-3904.4840	-2763.5060
15	21.5169	Str1 (Expn)	Min	-17730.6781	-3811.6939	-839.4003
15	23.3093	Str1 (Expn)	Min	-17520.9579	-3718.9037	925.8264
15	25.1017	Str1 (Expn)	Min	-17311.2378	-3626.1136	2532.1741
15	26.8940	Str1 (Expn)	Min	-17101.5176	-3533.3235	3979.6429
15	26.8940	Str1 (Expn)	Min	-17101.5176	-3533.3235	3979.6429
15	28.6864	Str1 (Expn)	Min	-16610.9360	-3441.2363	5268.2326

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
15	30.4788	Str1 (Expn)	Min	-16120.3543	-3349.1491	6397.9433
15	32.2712	Str1 (Expn)	Min	-15629.7726	-3257.0619	7368.7751
15	34.0636	Str1 (Expn)	Min	-15139.1910	-3164.9747	8180.7279
15	35.8560	Str1 (Expn)	Min	-14648.6093	-3072.8875	8833.8016
15	35.8560	Str1 (Expn)	Min	-14648.6093	-3072.8875	8833.8016
15	37.6483	Str1 (Expn)	Min	-14438.4534	-2985.4931	9327.9964
15	39.4407	Str1 (Expn)	Min	-14228.2974	-2898.0987	9663.3122
15	41.2331	Str1 (Expn)	Min	-14018.1414	-2810.7043	9839.7490
15	43.0255	Str1 (Expn)	Min	-13807.9855	-2723.3099	9857.3068
15	44.8179	Str1 (Expn)	Min	-13597.8295	-2635.9155	9715.9856
15	44.8179	Str1 (Expn)	Min	-13597.8295	-2635.9155	9715.9856
15	46.6102	Str1 (Expn)	Min	-12788.8836	-2548.5211	9415.7855
15	48.4026	Str1 (Expn)	Min	-11979.9378	-2461.1267	8956.7063
15	50.1950	Str1 (Expn)	Min	-11170.9919	-2373.7323	8338.7481
15	51.9874	Str1 (Expn)	Min	-10362.0461	-2286.3379	7561.9110
15	53.7798	Str1 (Expn)	Min	-9553.1002	-2198.9435	6626.1948
15	53.7798	Str1 (Expn)	Min	-9553.1002	-2198.9435	6626.1948
15	55.5721	Str1 (Expn)	Min	-8822.0546	-2120.4110	5523.6152
15	57.3645	Str1 (Expn)	Min	-8091.0089	-2041.8786	4262.1565
15	59.1569	Str1 (Expn)	Min	-7359.9633	-1963.3462	2841.8188
15	60.9493	Str1 (Expn)	Min	-6628.9177	-1884.8138	1253.1836
15	62.7417	Str1 (Expn)	Min	-5897.8721	-1806.2813	-577.5165
15	62.7417	Str1 (Expn)	Min	-5897.8721	-1806.2813	-577.5165
15	62.7500	Str1 (Expn)	Min	-386.1643	-1805.9870	-591.9670
15	0.0000	Ext Event I	Max	5211.5337	1414.2321	-26676.1508
15	0.0083	Ext Event I	Max	5211.5337	1414.1079	-26658.7051
15	0.0083	Ext Event I	Max	5211.5337	1414.1079	-26658.7051
15	2.0056	Ext Event I	Max	5209.2513	1384.3342	-22570.8979
15	4.0028	Ext Event I	Max	5206.9688	1354.5606	-18781.0938
15	6.0000	Ext Event I	Max	5204.6864	1324.7870	-15202.6655
15	6.0000	Ext Event I	Max	5204.6864	1324.7870	-15202.6655
15	7.4851	Ext Event I	Max	5202.9892	1302.6475	-12685.1270
15	8.9702	Ext Event I	Max	5201.2920	1280.5081	-10281.6268
15	8.9702	Ext Event I	Max	5201.2920	1280.5081	-10281.6268
15	11.0000	Ext Event I	Max	5197.5780	1250.2494	-6962.5236
15	11.0000	Ext Event I	Max	5197.5780	1250.2494	-6962.5236
15	12.4167	Ext Event I	Max	5194.9859	1229.1304	-4774.0639
15	13.8333	Ext Event I	Max	5192.3937	1208.0114	-2689.3723
15	15.2500	Ext Event I	Max	5189.8016	1186.8924	-708.4488
15	15.2500	Ext Event I	Max	5189.8016	1186.8924	-708.4488
15	16.5911	Ext Event I	Max	5187.3477	1166.9004	1069.3831
15	17.9321	Ext Event I	Max	5184.8939	1146.9084	2754.4359
15	17.9321	Ext Event I	Max	5184.8939	1146.9084	2754.4359
15	19.7245	Ext Event I	Max	5124.9739	1120.1884	4785.5281
15	21.5169	Ext Event I	Max	5065.0538	1093.4685	6657.7412
15	23.3093	Ext Event I	Max	5005.1338	1066.7485	8371.0753
15	25.1017	Ext Event I	Max	4945.2137	1040.0286	9925.5305
15	26.8940	Ext Event I	Max	4885.2937	1013.3086	11321.1066
15	26.8940	Ext Event I	Max	4885.2937	1013.3086	11321.1066
15	28.6864	Ext Event I	Max	4745.1275	986.7895	12441.8173
15	30.4788	Ext Event I	Max	4604.9613	960.2704	13403.6489
15	32.2712	Ext Event I	Max	4464.7951	933.7513	14206.6015
15	34.0636	Ext Event I	Max	4324.6289	907.2322	14850.6752
15	35.8560	Ext Event I	Max	4184.4627	880.7130	15335.8698
15	35.8560	Ext Event I	Max	4184.4627	880.7130	15335.8698
15	37.6483	Ext Event I	Max	4124.4182	855.5347	15547.1796
15	39.4407	Ext Event I	Max	4064.3736	830.3564	15599.6104
15	41.2331	Ext Event I	Max	4004.3291	805.1781	15493.1622
15	43.0255	Ext Event I	Max	3944.2845	779.9998	15227.8350
15	44.8179	Ext Event I	Max	3884.2399	754.8215	14803.6288
15	44.8179	Ext Event I	Max	3884.2399	754.8215	14803.6288
15	46.6102	Ext Event I	Max	3653.1125	729.6432	14107.9540
15	48.4026	Ext Event I	Max	3421.9852	704.4648	13253.4003
15	50.1950	Ext Event I	Max	3190.8578	679.2865	12239.9676
15	51.9874	Ext Event I	Max	2959.7304	654.1082	11067.6558
15	53.7798	Ext Event I	Max	2728.6030	628.9299	9736.4651
15	53.7798	Ext Event I	Max	2728.6030	628.9299	9736.4651
15	55.5721	Ext Event I	Max	2519.7328	606.2836	8076.3207
15	57.3645	Ext Event I	Max	2310.8626	583.6373	6257.2973

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
15	59.1569	Ext Event I	Max	2101.9925	560.9909	4279.3949
15	60.9493	Ext Event I	Max	1893.1223	538.3446	2133.1949
15	62.7417	Ext Event I	Max	1684.2521	515.6983	-255.0699
15	62.7417	Ext Event I	Max	1684.2521	515.6983	-255.0699
15	62.7500	Ext Event I	Max	109.4784	515.6132	-264.8365
15	0.0000	Ext Event I	Min	-5211.5337	-1414.2321	-29473.9981
15	0.0083	Ext Event I	Min	-5211.5337	-1414.1079	-29456.1803
15	0.0083	Ext Event I	Min	-5211.5337	-1414.1079	-29456.1803
15	2.0056	Ext Event I	Min	-5209.2513	-1384.3342	-25351.0344
15	4.0028	Ext Event I	Min	-5206.9688	-1354.5606	-21543.8916
15	6.0000	Ext Event I	Min	-5204.6864	-1324.7870	-17948.1247
15	6.0000	Ext Event I	Min	-5204.6864	-1324.7870	-17948.1247
15	7.4851	Ext Event I	Min	-5202.9892	-1302.6475	-15417.6933
15	8.9702	Ext Event I	Min	-5201.2920	-1280.5081	-13001.3002
15	8.9702	Ext Event I	Min	-5201.2920	-1280.5081	-13001.3002
15	11.0000	Ext Event I	Min	-5197.5780	-1250.2494	-9883.1745
15	11.0000	Ext Event I	Min	-5197.5780	-1250.2494	-9883.1745
15	12.4167	Ext Event I	Min	-5194.9859	-1229.1304	-7834.9865
15	13.8333	Ext Event I	Min	-5192.3937	-1208.0114	-5890.5665
15	15.2500	Ext Event I	Min	-5189.8016	-1186.8924	-4049.9146
15	15.2500	Ext Event I	Min	-5189.8016	-1186.8924	-4049.9146
15	16.5911	Ext Event I	Min	-5187.3477	-1166.9004	-2404.8693
15	17.9321	Ext Event I	Min	-5184.8939	-1146.9084	-852.6030
15	17.9321	Ext Event I	Min	-5184.8939	-1146.9084	-852.6030
15	19.7245	Ext Event I	Min	-5124.9739	-1120.1884	1081.9271
15	21.5169	Ext Event I	Min	-5065.0538	-1093.4685	2857.5783
15	23.3093	Ext Event I	Min	-5005.1338	-1066.7485	4474.3504
15	25.1017	Ext Event I	Min	-4945.2137	-1040.0286	5932.2436
15	26.8940	Ext Event I	Min	-4885.2937	-1013.3086	7231.2578
15	26.8940	Ext Event I	Min	-4885.2937	-1013.3086	7231.2578
15	28.6864	Ext Event I	Min	-4745.1275	-986.7895	8371.3930
15	30.4788	Ext Event I	Min	-4604.9613	-960.2704	9352.6491
15	32.2712	Ext Event I	Min	-4464.7951	-933.7513	10175.0264
15	34.0636	Ext Event I	Min	-4324.6289	-907.2322	10838.5246
15	35.8560	Ext Event I	Min	-4184.4627	-880.7130	11343.1438
15	35.8560	Ext Event I	Min	-4184.4627	-880.7130	11343.1438
15	37.6483	Ext Event I	Min	-4124.4182	-855.5347	11688.8840
15	39.4407	Ext Event I	Min	-4064.3736	-830.3564	11875.7453
15	41.2331	Ext Event I	Min	-4004.3291	-805.1781	11903.7275
15	43.0255	Ext Event I	Min	-3944.2845	-779.9998	11772.8308
15	44.8179	Ext Event I	Min	-3884.2399	-754.8215	11483.0550
15	44.8179	Ext Event I	Min	-3884.2399	-754.8215	11483.0550
15	46.6102	Ext Event I	Min	-3653.1125	-729.6432	11034.4003
15	48.4026	Ext Event I	Min	-3421.9852	-704.4648	10426.8666
15	50.1950	Ext Event I	Min	-3190.8578	-679.2865	9660.4539
15	51.9874	Ext Event I	Min	-2959.7304	-654.1082	8735.1622
15	53.7798	Ext Event I	Min	-2728.6030	-628.9299	7650.9915
15	53.7798	Ext Event I	Min	-2728.6030	-628.9299	7650.9915
15	55.5721	Ext Event I	Min	-2519.7328	-606.2836	6405.6605
15	57.3645	Ext Event I	Min	-2310.8626	-583.6373	5001.4505
15	59.1569	Ext Event I	Min	-2101.9925	-560.9909	3438.3616
15	60.9493	Ext Event I	Min	-1893.1223	-538.3446	1706.9750
15	62.7417	Ext Event I	Min	-1684.2521	-515.6983	-266.4764
15	62.7417	Ext Event I	Min	-1684.2521	-515.6983	-266.4764
15	62.7500	Ext Event I	Min	-109.4784	-515.6132	-277.7784
18	0.0000	Str1 (Cont)	Max	1807.4671	0.0000	0.0000
18	0.2240	Str1 (Cont)	Max	1807.4671	11.9987	15.2461
18	0.4479	Str1 (Cont)	Max	1807.4671	23.9975	31.0198
18	0.0000	Str1 (Cont)	Min	-1809.8960	0.0000	0.0000
18	0.2240	Str1 (Cont)	Min	-1809.8960	-12.2161	13.9233
18	0.4479	Str1 (Cont)	Min	-1809.8960	-24.4323	28.3742
18	0.0000	Str1 (Expn)	Max	1807.4671	0.0000	0.0000
18	0.2240	Str1 (Expn)	Max	1807.4671	11.9987	-10.5207
18	0.4479	Str1 (Expn)	Max	1807.4671	23.9975	-20.2315
18	0.0000	Str1 (Expn)	Min	-1809.8960	0.0000	0.0000
18	0.2240	Str1 (Expn)	Min	-1809.8960	-12.2161	-11.8435
18	0.4479	Str1 (Expn)	Min	-1809.8960	-24.4323	-22.8771
18	0.0000	Ext Event I	Max	516.7662	0.0000	0.0000
18	0.2240	Ext Event I	Max	516.7662	3.4593	-2.1313

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
18	0.4479	Ext Event I	Max	516.7662	6.9185	-3.7351
18	0.0000	Ext Event I	Min	-516.7662	0.0000	0.0000
18	0.2240	Ext Event I	Min	-516.7662	-3.4593	-2.5093
18	0.4479	Ext Event I	Min	-516.7662	-6.9185	-4.4910
19	0.0000	Str1 (Cont)	Max	1807.4671	23.9975	31.0198
19	2.1250	Str1 (Cont)	Max	1807.4671	137.8459	209.9267
19	4.2500	Str1 (Cont)	Max	1807.4671	251.6943	451.0680
19	0.0000	Str1 (Cont)	Min	-1809.8960	-24.4323	28.3742
19	2.1250	Str1 (Cont)	Min	-1809.8960	-140.3436	194.7128
19	4.2500	Str1 (Cont)	Min	-1809.8960	-256.2549	423.2859
19	0.0000	Str1 (Expn)	Max	1807.4671	23.9975	-20.2315
19	2.1250	Str1 (Expn)	Max	1807.4671	137.8459	-67.4867
19	4.2500	Str1 (Expn)	Max	1807.4671	251.6943	-19.1948
19	0.0000	Str1 (Expn)	Min	-1809.8960	-24.4323	-22.8771
19	2.1250	Str1 (Expn)	Min	-1809.8960	-140.3436	-82.7006
19	4.2500	Str1 (Expn)	Min	-1809.8960	-256.2549	-46.9770
19	0.0000	Ext Event I	Max	516.7662	6.9185	-3.7351
19	2.1250	Ext Event I	Max	516.7662	39.7414	10.2760
19	4.2500	Ext Event I	Max	516.7662	72.5642	86.5215
19	0.0000	Ext Event I	Min	-516.7662	-6.9185	-4.4910
19	2.1250	Ext Event I	Min	-516.7662	-39.7414	5.9292
19	4.2500	Ext Event I	Min	-516.7662	-72.5642	78.5837
20	0.0000	Str1 (Cont)	Max	1803.3056	386.1643	248.0371
20	3.6719	Str1 (Cont)	Max	1803.3056	193.0821	158.4196
20	7.3438	Str1 (Cont)	Max	1803.3056	-1.299E-10	7.694E-11
20	0.0000	Str1 (Cont)	Min	-1805.9870	-380.1848	202.7403
20	3.6719	Str1 (Cont)	Min	-1805.9870	-190.0924	135.7711
20	7.3438	Str1 (Cont)	Min	-1805.9870	-1.299E-10	7.694E-11
20	0.0000	Str1 (Expn)	Max	1803.3056	386.1643	-546.6702
20	3.6719	Str1 (Expn)	Max	1803.3056	193.0821	-220.5186
20	7.3438	Str1 (Expn)	Max	1803.3056	-1.299E-10	-1.606E-10
20	0.0000	Str1 (Expn)	Min	-1805.9870	-380.1848	-591.9670
20	3.6719	Str1 (Expn)	Min	-1805.9870	-190.0924	-243.1670
20	7.3438	Str1 (Expn)	Min	-1805.9870	-1.299E-10	-1.606E-10
20	0.0000	Ext Event I	Max	515.6132	109.4784	-264.8365
20	3.6719	Ext Event I	Max	515.6132	54.7392	-98.0172
20	7.3438	Ext Event I	Max	515.6132	0.0000	-1.802E-11
20	0.0000	Ext Event I	Min	-515.6132	-109.4784	-277.7784
20	3.6719	Ext Event I	Min	-515.6132	-54.7392	-104.4882
20	7.3438	Ext Event I	Min	-515.6132	0.0000	-1.802E-11
22	0.0000	Str1 (Cont)	Max	1803.3056	0.0000	0.0000
22	0.2240	Str1 (Cont)	Max	1803.3056	11.5941	-12.0366
22	0.4479	Str1 (Cont)	Max	1803.3056	23.1883	-24.6008
22	0.0000	Str1 (Cont)	Min	-1805.9870	0.0000	0.0000
22	0.2240	Str1 (Cont)	Min	-1805.9870	-11.7765	-13.4179
22	0.4479	Str1 (Cont)	Min	-1805.9870	-23.5530	-27.3634
22	0.0000	Str1 (Expn)	Max	1803.3056	0.0000	0.0000
22	0.2240	Str1 (Expn)	Max	1803.3056	11.5941	9.0655
22	0.4479	Str1 (Expn)	Max	1803.3056	23.1883	17.3210
22	0.0000	Str1 (Expn)	Min	-1805.9870	0.0000	0.0000
22	0.2240	Str1 (Expn)	Min	-1805.9870	-11.7765	7.6842
22	0.4479	Str1 (Expn)	Min	-1805.9870	-23.5530	14.5584
22	0.0000	Ext Event I	Max	515.6132	0.0000	0.0000
22	0.2240	Ext Event I	Max	515.6132	3.3387	2.6175
22	0.4479	Ext Event I	Max	515.6132	6.6773	4.7074
22	0.0000	Ext Event I	Min	-515.6132	0.0000	0.0000
22	0.2240	Ext Event I	Min	-515.6132	-3.3387	2.2228
22	0.4479	Ext Event I	Min	-515.6132	-6.6773	3.9181
23	0.0000	Str1 (Cont)	Max	1803.3056	23.1883	-24.6008
23	2.1250	Str1 (Cont)	Max	1803.3056	133.1990	-173.0380
23	4.2500	Str1 (Cont)	Max	1803.3056	243.2098	-383.7095
23	0.0000	Str1 (Cont)	Min	-1805.9870	-23.5530	-27.3634
23	2.1250	Str1 (Cont)	Min	-1805.9870	-135.2940	-188.9079
23	4.2500	Str1 (Cont)	Min	-1805.9870	-247.0349	-412.6867
23	0.0000	Str1 (Expn)	Max	1803.3056	23.1883	17.3210
23	2.1250	Str1 (Expn)	Max	1803.3056	133.1990	50.7855
23	4.2500	Str1 (Expn)	Max	1803.3056	243.2098	-11.2972
23	0.0000	Str1 (Expn)	Min	-1805.9870	-23.5530	14.5584
23	2.1250	Str1 (Expn)	Min	-1805.9870	-135.2940	34.9156

Table 19: Element Forces - Frames, Part 2 of 2

Frame	Station	OutputCase	StepType	T	M2	M3
	ft			Kip-ft	Kip-ft	Kip-ft
23	4.2500	Str1 (Expn)	Min	-1805.9870	-247.0349	-40.2743
23	0.0000	Ext Event I	Max	515.6132	6.6773	4.7074
23	2.1250	Ext Event I	Max	515.6132	38.3561	-4.6861
23	4.2500	Ext Event I	Max	515.6132	70.0350	-76.3139
23	0.0000	Ext Event I	Min	-515.6132	-6.6773	3.9181
23	2.1250	Ext Event I	Min	-515.6132	-38.3561	-9.2203
23	4.2500	Ext Event I	Min	-515.6132	-70.0350	-84.5931

10. Material take-off

This section provides a material take-off.

Table 20: Material List 2 - By Section Property

Table 20: Material List 2 - By Section Property

Section	ObjectType	NumPieces	TotalLength	TotalWeight
			ft	Kip
SUPERSTRUCTURE	Frame	5	377.5000	6.482E-04
ABUTMENT CAP	Frame	4	23.1875	1325.166
PIER COLUMN	Frame	4	48.5000	417.269
PIER CAP	Frame	4	21.8333	1624.400
BEARING	Frame	2	0.8958	183.153

11. Design preferences

This section provides the design preferences for each type of design, which typically include material reduction factors, framing type, stress ratio limit, deflection limits, and other code specific items.

11.1. Steel design

Table 21: Preferences - Steel Design - AISC360-05-IBC2006, Part 1 of 3

Table 21: Preferences - Steel Design - AISC360-05-IBC2006, Part 1 of 3

FrameType	PatLLF	SRatioLimit	SDC	ImpFactor	SystemRho	SystemSds	SystemR	SystemCd
SMF	0.750000	0.950000	D	1.000000	1.000000	0.500000	8.000000	5.500000

Table 21: Preferences - Steel Design - AISC360-05-IBC2006, Part 2 of 3

Table 21: Preferences - Steel Design - AISC360-05-IBC2006, Part 2 of 3

Omega0	NLCoeff	PhiB	PhiC	PhiTY	PhiTF	PhiV	PhiVRolledI	PhiVT
3.000000	0.002000	0.900000	0.850000	0.900000	0.750000	0.900000	1.000000	0.900000

Table 21: Preferences - Steel Design - AISC360-05-IBC2006, Part 3 of 3

Table 21: Preferences - Steel Design - AISC360-05-IBC2006, Part 3 of 3

PlugWeld	HSSWelding	HSSReduceT	DLRat	SDLAndLLRat	LLRat	TotalRat	NetRat
Yes	ERW	No	120.000000	120.000000	360.000000	240.000000	240.000000

11.2. Concrete design

Table 22: Preferences - Concrete Design - ACI 318-05/IBC2003, Part 1 of 2

Table 22: Preferences - Concrete Design - ACI 318-05/IBC2003, Part 1 of 2

MinEccen	PatLLF	UFLimit	SeisCat
Yes	0.750000	0.950000	D

Table 22: Preferences - Concrete Design - ACI 318-05/IBC2003, Part 2 of 2

Table 22: Preferences - Concrete Design - ACI 318-05/IBC2003, Part 2 of 2

PhiT	PhiCTied	PhiCSpiral	PhiV	PhiVSeismic	PhiVJoint
0.900000	0.650000	0.700000	0.750000	0.600000	0.850000

11.3. Aluminum design

Table 23: Preferences - Aluminum Design - AA-ASD 2000

Table 23: Preferences - Aluminum Design - AA-ASD 2000

FrameType	SRatioLimit	LatFact	UseLatFact
Moment Frame	1.000000	1.333333	No

11.4. Cold formed design

Table 24: Preferences - Cold Formed Design - AISI-ASD96

Table 24: Preferences - Cold Formed Design - AISI-ASD96

FrameType	SRatioLimit	OmegaBS	OmegaBUS	OmegaBLTB	OmegaVS	OmegaVNS	OmegaT	OmegaC
Braced Frame	1.000000	1.670000	1.670000	1.670000	1.670000	1.500000	1.670000	1.800000

12. Design overwrites

This section provides the design overwrites for each type of design, which are assigned to individual members of the structure.

12.1. Concrete design

Table 25: Overwrites - Concrete Design - ACI 318-05/IBC2003, Part 1 of 2

Table 25: Overwrites - Concrete Design - ACI 318-05/IBC2003, Part 1 of 2

Frame	DesignSect	FrameType	RLLF	XLMajor	XLMinor	XKMajor	XKMinor
3	Program Determined	Program Determined	0.000000	0.000000	0.000000	0.000000	0.000000
7	Program Determined	Program Determined	0.000000	0.000000	0.000000	0.000000	0.000000
10	Program Determined	Program Determined	0.000000	0.000000	0.000000	0.000000	0.000000
13	Program Determined	Program Determined	0.000000	0.000000	0.000000	0.000000	0.000000
5	Program Determined	Program Determined	0.000000	0.000000	0.000000	0.000000	0.000000
19	Program Determined	Program Determined	0.000000	0.000000	0.000000	0.000000	0.000000
19	Program Determined	Program Determined	0.000000	0.000000	0.000000	0.000000	0.000000
20	Program Determined	Program Determined	0.000000	0.000000	0.000000	0.000000	0.000000
23	Program Determined	Program Determined	0.000000	0.000000	0.000000	0.000000	0.000000

Table 25: Overwrites - Concrete Design - ACI 318-05/IBC2003, Part 2 of 2

Table 25: Overwrites - Concrete Design - ACI 318-05/IBC2003, Part 2 of 2

Frame	CmMajor	CmMinor	DnsMajor	DnsMinor	DsMajor	DsMinor
3	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
7	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
10	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
13	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
5	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
19	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
19	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
20	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
23	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

SUMMARY OF LOADS FROM CSI LINE (2d) MODEL OUTPUT
PHASE 2 CONSTRUCTION

EXTREME EVENT I

MEMBER	DESCRIPTION	AXIAL LOAD	
5	ABUT. 1 UPPER CAP (BOTTOM)	1981.60	
20	ABUT. 6 UPPER CAP (BOTTOM)	1983.10	CONTROLED FOR SHEAR KEY DESIGN
3	PIER 2 CAP (TOP)	4603.09	
7	PIER 3 CAP (TOP)	4792.02	
10	PIER 4 CAP (TOP)	4793.23	CONTROLED FOR CONNECTION DESIGN (DOWELS)
13	PIER 5 CAP (TOP)	4604.40	

STRENGTH I (TEMP. + CREEP + SHRINKAGE FOR CONTRACTION)

MEMBER	DESCRIPTION	AXIAL LOAD	V2	V3	M2	M3	
5	ABUT. 1 UPPER CAP (TOP)	2066.00	29.45	53.58	393.45	308.03	CONTROLED FOR ABUT. DIAPH. DESIGN AT FF
19	ABUT. 1 LOWER CAP (BOTTOM)	2896.45	130.21	53.58	251.69	451.07	CONTROLED FOR ABUT. CAISSON DESIGN
20	ABUT. 6 UPPER CAP (TOP)	2075.17	15.12	51.77	386.16	248.04	
23	ABUT. 6 LOWER CAP (BOTTOM)	2921.38	54.91	51.77	247.03	412.69	
3	PIER 2 CAP (TOP)	5417.35	485.01	286.23	12870.57	0.00	
4	PIER 2 COLUMN (TOP)	5924.97	485.01	268.23	11709.75	2647.35	CONTROLED FOR PIER CAISSON DESIGN
4	PIER 2 COLUMN (BOTTOM)	6072.85	485.01	262.50	8802.72	9316.25	
7	PIER 3 CAP (TOP)	5602.20	242.51	334.14	10577.61	0.00	
8	PIER 3 COLUMN (TOP)	6109.82	242.51	334.03	9190.24	1323.71	
8	PIER 3 COLUMN (BOTTOM)	6246.04	242.51	328.59	6097.81	4395.52	
10	PIER 4 CAP (TOP)	5584.78	88.39	252.00	9928.88	0.00	
11	PIER 4 COLUMN (TOP)	6092.41	88.39	251.71	8810.88	493.16	
11	PIER 4 COLUMN (BOTTOM)	6216.98	88.39	246.74	6469.92	1539.72	
13	PIER 5 CAP (TOP)	5418.90	464.13	222.27	11650.30	0.00	
14	PIER 5 COLUMN (TOP)	5926.52	464.13	221.80	10747.56	2546.14	
14	PIER 5 COLUMN (BOTTOM)	6039.45	464.13	217.30	9108.83	7444.06	

STRENGTH I (TEMP. FOR EXPANSION)

MEMBER	DESCRIPTION	AXIAL LOAD	V2	V3	M2	M3	
5	ABUT. 1 UPPER CAP (TOP)	2102.83	106.28	53.58	400.58	683.06	CONTROLED FOR ABUT. DIAPH. DESIGN AT BF
19	ABUT. 1 LOWER CAP (BOTTOM)	2933.28	48.42	53.58	256.25	46.98	
20	ABUT. 6 UPPER CAP (TOP)	2090.93	99.79	51.77	380.18	591.97	
23	ABUT. 6 LOWER CAP (BOTTOM)	2921.38	54.91	51.77	247.03	40.27	
3	PIER 2 CAP (TOP)	5392.49	217.81	268.23	12891.84	0.00	
4	PIER 2 COLUMN (TOP)	5900.12	217.81	268.23	11713.25	1198.92	
4	PIER 2 COLUMN (BOTTOM)	6047.99	217.81	262.50	8870.40	4219.12	
7	PIER 3 CAP (TOP)	5586.40	123.06	334.14	10577.61	0.00	
8	PIER 3 COLUMN (TOP)	6094.02	123.06	334.03	9177.45	683.82	

398/588

8	PIER 3 COLUMN (BOTTOM)	6230.24	123.06	328.59	6169.39	2270.71
10	PIER 4 CAP (TOP)	5592.12	14.63	252.00	9928.88	0.00
11	PIER 4 COLUMN (TOP)	6099.75	14.63	251.71	8810.88	69.15
11	PIER 4 COLUMN (BOTTOM)	6224.32	14.63	246.74	6469.92	215.89
13	PIER 5 CAP (TOP)	5399.63	163.75	222.27	11650.30	0.00
14	PIER 5 COLUMN (TOP)	5907.25	163.75	221.80	10747.56	881.06
14	PIER 5 COLUMN (BOTTOM)	6020.17	163.75	217.30	9108.83	2575.94

Calculate Period of Bridge (C4.7.4.3.2e-3)

$$T_m = 2\pi\sqrt{\frac{W}{gk}} \qquad W = 15721.7\ k$$

* Longitudinal Direction

$P = 1000\ k$
$\Delta = 0.1148'$ } From CSI

$$K_L = \frac{1000}{0.1148} = 8710.8\ k/'$$

$$T_{m,L} = 2\pi\sqrt{\frac{15721.7}{32(8710.8)}} = 1.49\ \text{sec}$$

* Transverse Direction

$\Sigma P = 3000\ k$

$$\Delta_{Avg} = \frac{0.1276 + 0.119 + 0.1106 + 0.1094 + 0.1128 + 0.1183}{6} = 0.1163'$$ } From CSI

$$K_T = \frac{3000}{0.1163} = 25{,}795.4\ k/'$$

$$T_{m,T} = 2\pi\sqrt{\frac{15721.7}{32(25795.4)}} = 0.87\ \text{sec}$$

Use graph data on Design Spectral Acceleration Vs Time (Geology Report) interpolates to find Spectral acceleration

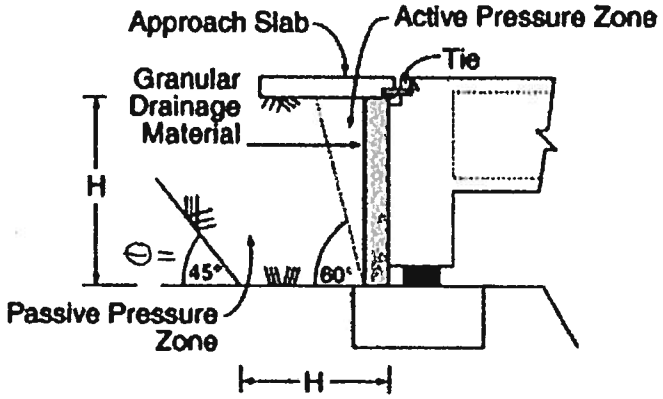
$T_{m,L} = 1.49$ sec $\rightarrow S_a = 0.05$

$$T_{m,T} = 0.87\ \text{sec} \rightarrow S_a = \frac{0.1 - 0.08}{0.8 - 1}(0.87 - 0.8) + 0.1 = 0.093$$

By: HB Date 7-13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: JE Date 8-13	Structure no. B-16-EV	Sheet 400 of 508

Abutment Longitudinal Response SDC D

- *Case 2:* **Earthquake Resisting System (ERS) with Abutment Contribution.**
  - Presumptive Passive Pressures
  - Computed passive pressure higher than presumptive and controlled by more stringent specifications.



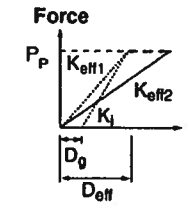
$\frac{2}{3}H^2 \times K\gamma H^2/2 \rightarrow K = \frac{4}{3} < K_p > K_o$

$\frac{1+\sin\Phi}{1-\sin\Phi} = \frac{4}{3} \rightarrow \Phi = \text{ASIN}(1/7) = 8.21°;\ \Theta = 40.89°$

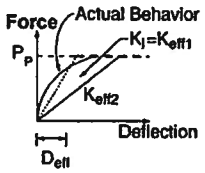
RLO/HJB 3-7-13

Presumptive Passive Pressures

- Soil in the "passive pressure zone" should be compacted to a dry density greater than 95% of the maximum per ASTM Standard Method D1557 or equivalent
- For cohesion less, non-plastic backfill (fines content less than 30%), the passive pressure may be assumed equal to 2H/3 ksf (H IN FEET)
- For cohesive backfill (clay fraction > 15%), the passive pressure may be assumed equal to 5 ksf provided the estimated unconfined compressive strength is greater than 4 ksf.



Seat Abutments



Diaphragm Abutments

401/508

Seismic Analysis :

Vertical Load from the Extreme Event I state (Sag Run)

	Gravity Load (A) (1.25 DC + 1.5 DW + 0.5 LL)	Gravity Load (B) (1.0 DC + 1.0 DW + 0 LL)
Abut 1	1981.6	951.3
pier 2	5110.7	3384.8
pier 3	5299.6	3526.1
pier 4	5290.9	3521.9
pier 5	5144.0	3387.2
Abut 6	1983.1	950.4

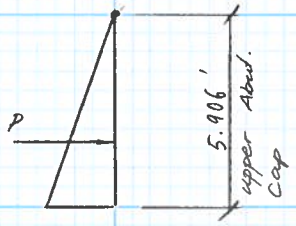
Earth Pressure

Passive pressure (Assuming $K_p = 4/3$)

$P = \frac{1}{2} \gamma K_p H^2$

$p = \frac{1}{2}(.125)(4/3)(5.906)^2 = 2.907$ k per ft

$P = 2.907\ (73/12) = 17.68$ k per Girder



$M = 17.68\ (5.906)(\frac{2}{3}) = 69.6$ k.ft per girder @ ℄ Girder

Active pressure ($\gamma K_a = 0.035$ k/ft^3)

$P = \frac{1}{2} \gamma K_a H^2$

$p = \frac{1}{2}(0.035)(5.906)^2 = 0.61$ k per ft

$P = 0.296\ (73/12) = 3.71$ k per Girder

$M = 3.71\ (5.906)(2/3) = 14.62$ k.ft per girder @ ℄ girder

SEISMIC FORCE EFFECTS FROM CSI 3D MODEL

$S_{a,long}$ = 0.05

$S_{a,trans}$ = 0.093

Bent	Longitudinal Direction			Transverse Direction		
	Gravity Load (*)	100% Seismic Force Effect	30% Seismic Force Effect	Gravity Load (*)	100% Seismic Force Effect	30% Seismic Force Effect
Abutment 1	1981.6	99.1	29.7	1981.6	184.3	55.3
Pier 2	5110.7	255.5	76.7	5110.7	475.3	142.6
Pier 3	5299.6	265.0	79.5	5299.6	492.9	147.9
Pier 4	5290.9	264.5	79.4	5290.9	492.1	147.6
Pier 5	5114.0	255.7	76.7	5114.0	475.6	142.7
Abutment 6	1983.1	99.2	29.7	1983.1	184.4	55.3

(*) = (1.25xDC + 1.5xDW + (1.5/1.35)xEH + 0.5xLL)

EARTHQUAKE LOAD RESULTS ON PIER COLUMNS

	100% Force Effects on Longitudinal Direction			100% Force Effects on Transverse Direction		
	M3 (K.FT)	M2 (K.FT)	M (K.FT)	M3 (K.FT)	M2 (K.FT)	M (K.FT)
Pier 2	728.1	71.7	731.6	371.5	400.8	546.5
	728.3	57.4	730.6	373.8	381.2	533.9
	729.6	58.9	732.0	375.3	384.2	537.1
Pier 3	806.8	81.8	810.9	413.7	443.5	606.5
	806.9	67.4	809.7	414.5	423.1	592.3
	808.2	69.3	811.2	415.4	426.8	595.6
Pier 4	766.1	79.2	770.2	395.4	343.5	523.8
	765.8	53.2	767.6	394	308.7	500.5
	766.8	56.3	768.9	393.3	313.5	503.0
Pier 5	786.5	81.1	790.7	408.1	349.5	537.3
	785.7	57.1	787.8	404.6	316.6	513.7
	786.5	59.9	788.8	403.4	321.1	515.6
			811.2			**606.5**

403/808

SUMMARY OF COLUMN LOADS FROM CSI 3D MODEL OUTPUT

STRENGTH I (CONTRACTION WITH DROPPED TEMP., CREEP & SHRINKAGE)

		M3 (K.FT)	M2 (K.FT)	V2 (KIP)	V3 (KIP)	P (KIP)	M (K.FT)	V (KIP)
Pier 2								
	Col. 1	726.7	435.5	38.2	30	467.6	847.2	48.6
	Col. 2	728.1	71.5	38.3	17.1	721.6	731.6	41.9
	Col. 3	730.6	22.9	38.5	5.4	688.5	731.0	38.9
Pier 3								
	Col. 1	806.2	157.7	45	37.8	462.5	821.5	58.8
	Col. 2	807.7	84.3	45.1	21.8	720.6	812.1	50.1
	Col. 3	810.2	27.1	45.2	6.9	682.6	810.7	45.7
Pier 4								
	Col. 1	766.1	115	45.5	30.1	460.6	774.7	54.6
	Col. 2	767.5	59.8	45.6	17.04	716.6	769.8	48.7
	Col. 3	769.9	19.6	45.7	5.5	680.5	770.1	46.0
Pier 5								
	Col. 1	787.2	111.3	50	34.3	460.7	795.0	60.6
	Col. 2	788.7	57.5	50.1	19.2	718.6	790.8	53.7
	Col. 3	791.5	18.8	50.3	6.2	682.3	791.7	50.7

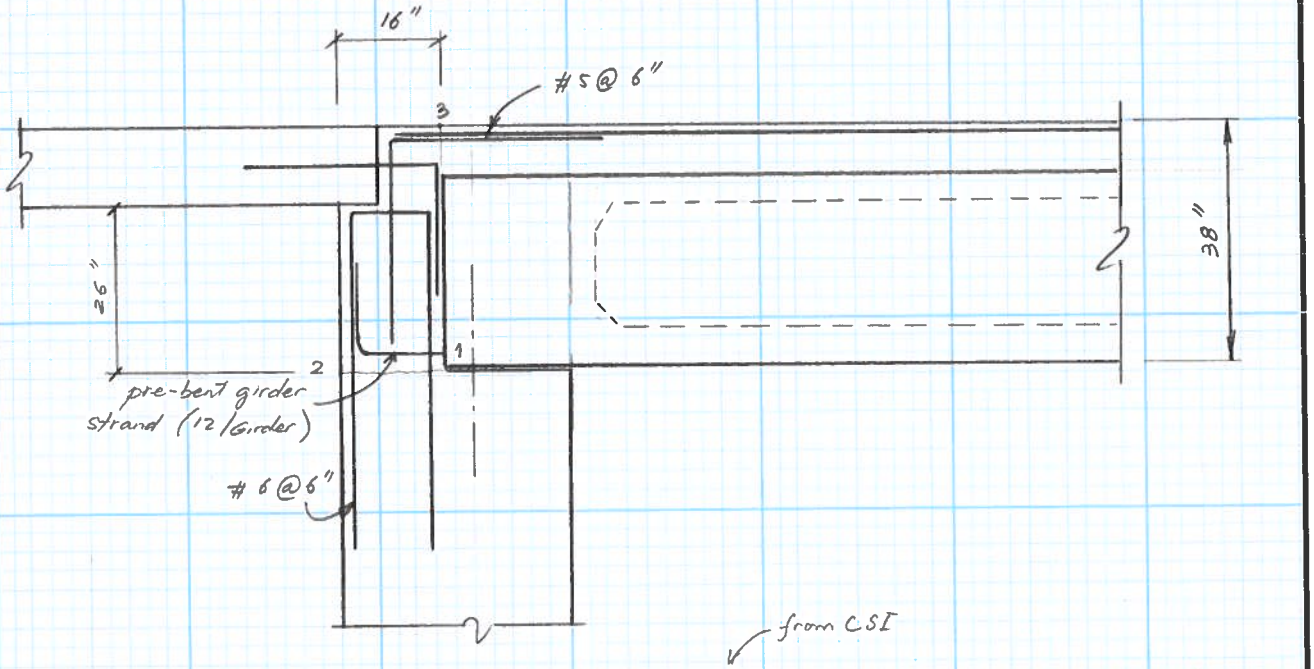
STRENGTH I (EXPANSION WITH RAISED TEMPERTURE)

Pier 2								
	Col. 1	766.5	45.9	40.3	22	724.4	767.9	45.9
	Col. 2	775.2	37	40.8	10.4	1257.7	776.1	42.1
	Col. 3	782.3	17.3	41.2	5.2	1224.6	782.5	41.5
Pier 3								
	Col. 1	677.4	47.4	37.8	25.1	721.2	679.1	45.4
	Col. 2	682.7	34.6	38.1	10.9	1259.5	683.6	39.6
	Col. 3	689	10.7	38.5	4.5	1236.1	689.1	38.8
Pier 4								
	Col. 1	477.3	15.6	28.4	18.3	715.2	477.6	33.8
	Col. 2	480.5	25.4	28.5	7	1255.7	481.2	29.3
	Col. 3	485.2	11.1	28.8	2.6	1230.3	485.3	28.9
Pier 5								
	Col. 1	320.3	10.6	20.3	18	714	320.5	27.1
	Col. 2	320.1	2	20.3	5.7	1260.2	320.1	21.1
	Col. 3	324.1	16.4	20.6	4.8	1234	324.5	21.2
			Use for column and caisson design			**1260.2**	**847.2**	**60.6**

404/08

use RC-Pier & Hand Calc for better Loads

ABUTMENT DIAPHRAGM DESIGN



$M_{12} > M_{21}$, $M_{12} = M_{31} = M_{13} = \frac{683.06}{124} = 5.51$ k.ft per ft. (683.06 from CSI)

$V_{31} = \frac{2102.83}{124} = 16.96$ k per ft.

$V_{21} = V_{12} = \frac{\sqrt{106.28^2 + 53.58^2}}{124} = 0.96$ k per ft

Resistance shear, $V_{R,31}$

$V_{R,31} = V_{n,31}\,\phi_s = \left[cA + \mu(A f_y + \overset{0}{P})\right]\phi$ (5.8.4.1-3 & 5.8.4.3)

$= \left\{0.075\,(38)(12) + 0.6\left[(0.62+2(0.217))\,60\right]\right\} 0.9 = 64.9$ k/ft

$V_{R,31} = 64.9$ k > 16.96 k OK

Resistance shear, $V_{R,21}$

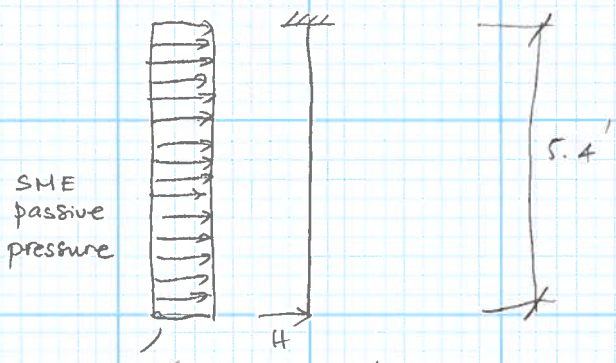
$V_{21} = 0.96$ ∴ by inspection, don't need to check for this shear

By: HB Date 7/13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 405 of 508

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)

Expansion : $\Delta = 0.617''$



$$H = G A \frac{\Delta}{h_{ri}}$$

$$H = 0.115 \left(16.5\right)^2 \frac{0.617}{4}$$

$$= 4.83^{K}$$

0.073 ksf (CDOT's Report No. CDOT-DTD-R-2006-2)

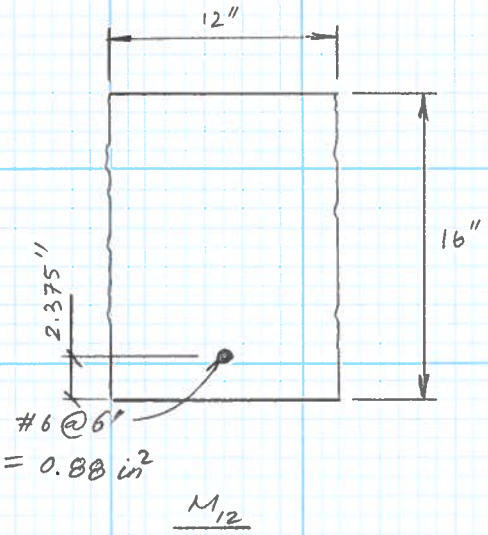
$$M = \frac{0.073 (5.4)^2}{2}(1.5) + \frac{4.83(5.4)(1.2)}{8.875} = 19.5 \text{ k.ft} < 51 \text{ k.ft} \quad \text{ok}$$

By: Date	Project no.	Project code (SA#):
Chk'd: Date	Structure no.	Sheet____of____

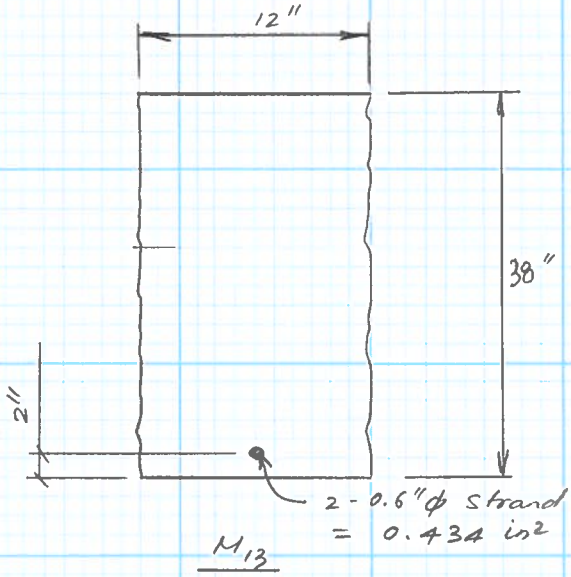
COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)

Moment design : Check for M_{12} & M_{13}



M_{12}



M_{13}

By: HB Date 7/13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 406 of 508

CDOT Form #1034 3/02

Ultimate Moment Using Strain Compatibility

Abutment Diaphragm Design for Moment

M_{U12} = 5.51 K.ft M_{CR} = 26.07 K.ft

Concrete	Depth (Fr. Top)	Width			
	16.00	12.00		#5 at 4" =	0.9300
	0.00	0.00		#5 at 5" =	0.7440
Mill Reinforcing	Depth (Fr. Top)	Area		#5 at 6" =	0.6200
	13.6250	0.8800		#5 at 7" =	0.5314
	0.0000	0.0000		#5 at 8" =	0.4650
	0.0000	0.0000		#5 at 9" =	0.4133
Pre-tension Steel	Depth (Fr. Top)	Area		#5 at 10" =	0.3720
T1	0.00	0.00		#5 at 11" =	0.3382
T2	0.00	0.00		#5 at 12" =	0.3100
T3	0.00	0.00		#5 at 13" =	0.2862
Material Properties				#5 at 14" =	0.2657
Percent of Jacking =	75	%			
Final Losses =	20.85	%			
E_{ps} =	28500	ksi			
fy (Prestressed Steel) =	270	ksi			
E_s =	29000	ksi			
fy (Mill Steel) =	60	ksi			
f'c =	4.5	ksi			

ULTIMATE MOMENT CAPACITY

Pj (T1)= 0.00 (Jacking Force after Losses)

Pj (T2)= 0.00 (Jacking Force after Losses)

Pj (T3)= 0.00 (Jacking Force after Losses)

Trial distance from the top to the N.A. (in) = 1.39

a = 1.15

Concrete	Depth (Fr. Top)	Width	Block Thicknes	Arm (fr. N.A.)	Block Area	Arm x Area
	16.00	12.00	1.15	0.82	13.80	11.31
	0.00	0.00	-16.00	-6.61	0.00	0.00
					13.80	11.31

Centroid of Compression Block (From Top) = 0.575

Mill Reinforcing	Depth (Fr. Top)	Area	Yi (fr. N.A.)	Strain (Tension)	Strain (Comp.)	* Stress (Ten.)	Stress (Comp.)	Tension (Ti)	(1) Ti x Yi	Comp. (Ci)	(1) Ci x Yi	Ti x di	(2) Ti x Arm	(2) Ci x Arm	(2) Ti x Arm x Phi	(2) Ci x Arm x Phi
	13.63	0.88	12.23	0.02632	0.00000	60.00	0.00	52.80	645.78	0.00	0.00	719.40	689.03	0.00	620.13	0.00
	0.00	0.00	1.39	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	1.39	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T1	0.00	0.00	1.39	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T2	0.00	0.00	1.39	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T3	0.00	0.00	1.39	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
								52.80	645.78	0.00	0.00	719.40	689.03	0.00	620.13	0.00

Press to solve for Mn 0.000000000 d_t = 13.63

Resistance Factor for Mill Steel = 0.90 TENSION CONTROLLED

Resistance Factor for Prestressed Steel = 1.00 TENSION CONTROLLED

Mn = 57.42 K.ft

Mr = 51.68 K.ft C/d_t = 0.10 OK

M(re'q) = 7.33 K.ft OK

* Not exceed the yield point stress in the tension prestressing steel by Collins & Mitchell equation (Prestressed Concrete Structures, eq. 3-26)

(1) Moment about N.A.

(2) Moment about Centroid of Compession Bock(s)

Ultimate Moment Using Strain Compatibility

Abutment Diaphragm Design for Moment

M_{U13} = 5.51 K.ft M_{CR} = 147.03 K.ft

Concrete	Depth (Fr. Top)	Width		
	38.00	12.00	#5 at 4" =	0.9300
	0.00	0.00	#5 at 5" =	0.7440
Mill Reinforcing	Depth (Fr. Top)	Area	#5 at 6" =	0.6200
	36.0000	0.4340	#5 at 7" =	0.5314
	0.0000	0.0000	#5 at 8" =	0.4650
	0.0000	0.0000	#5 at 9" =	0.4133
Pre-tension Steel	Depth (Fr. Top)	Area	#5 at 10" =	0.3720
T1	0.00	0.00	#5 at 11" =	0.3382
T2	0.00	0.00	#5 at 12" =	0.3100
T3	0.00	0.00	#5 at 13" =	0.2862
Material Properties			#5 at 14" =	0.2657

Percent of Jacking =	75	%
Final Losses =	20.85	%
E_{ps} =	28500	ksi
fy (Prestressed Steel) =	270	ksi
E_s =	29000	ksi
fy (Mill Steel) =	60	ksi
f'c =	4.5	ksi

ULTIMATE MOMENT CAPACITY

Pj (T1)= 0.00 (Jacking Force after Losses)

Pj (T2)= 0.00 (Jacking Force after Losses)

Pj (T3)= 0.00 (Jacking Force after Losses)

Trial distance from the top to the N.A. (in) = 0.69

a = 0.57

Concrete	Depth (Fr. Top)	Width	llock Thicknes	Arm (fr. N.A.)	Block Area	Arm x Area										
	38.00	12.00	0.57	0.40	6.81	2.75	Centroid of Compression Block (From Top) =			0.284						
	0.00	0.00	-38.00	-18.31	0.00	0.00										
					6.81	2.75			(1)		(1)		(2)	(2)	(2)	(2)
Mill Reinforcing	Depth (Fr. Top)	Area	Yi (fr. N.A.)	Strain (Tension)	Strain (Comp.)	* Stress (Ten.)	Stress (Comp.)	Tension (Ti)	Ti x Yi	Comp. (Ci)	Ci x Yi	Ti x di	Ti x Arm	Ci x Arm	Ti x Arm x Phi	Ci x Arm x Phi
	36.00	0.43	35.31	0.15405	0.00000	60.00	0.00	26.04	919.53	0.00	0.00	937.44	930.05	0.00	837.05	0.00
	0.00	0.00	0.69	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.69	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T1	0.00	0.00	0.69	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T2	0.00	0.00	0.69	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T3	0.00	0.00	0.69	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
								26.04	919.53	0.00	0.00	937.44	930.05	0.00	837.05	0.00

Press to solve for Mn 0.000000000 d_t = 36.00 Resistance Factor for Mill Steel = 0.90 TENSION CONTROLLED

Mn = 77.50 K.ft Resistance Factor for Prestressed Steel = 1.00 TENSION CONTROLLED

Mr = 69.75 K.ft C/d_t = 0.02 OK

M(re'q) = 7.33 K.ft OK

* Not exceed the yield point stress in the tension prestressing steel by Collins & Mitchell equation (Prestressed Concrete Structures, eq. 3-26)

(1) Moment about N.A.

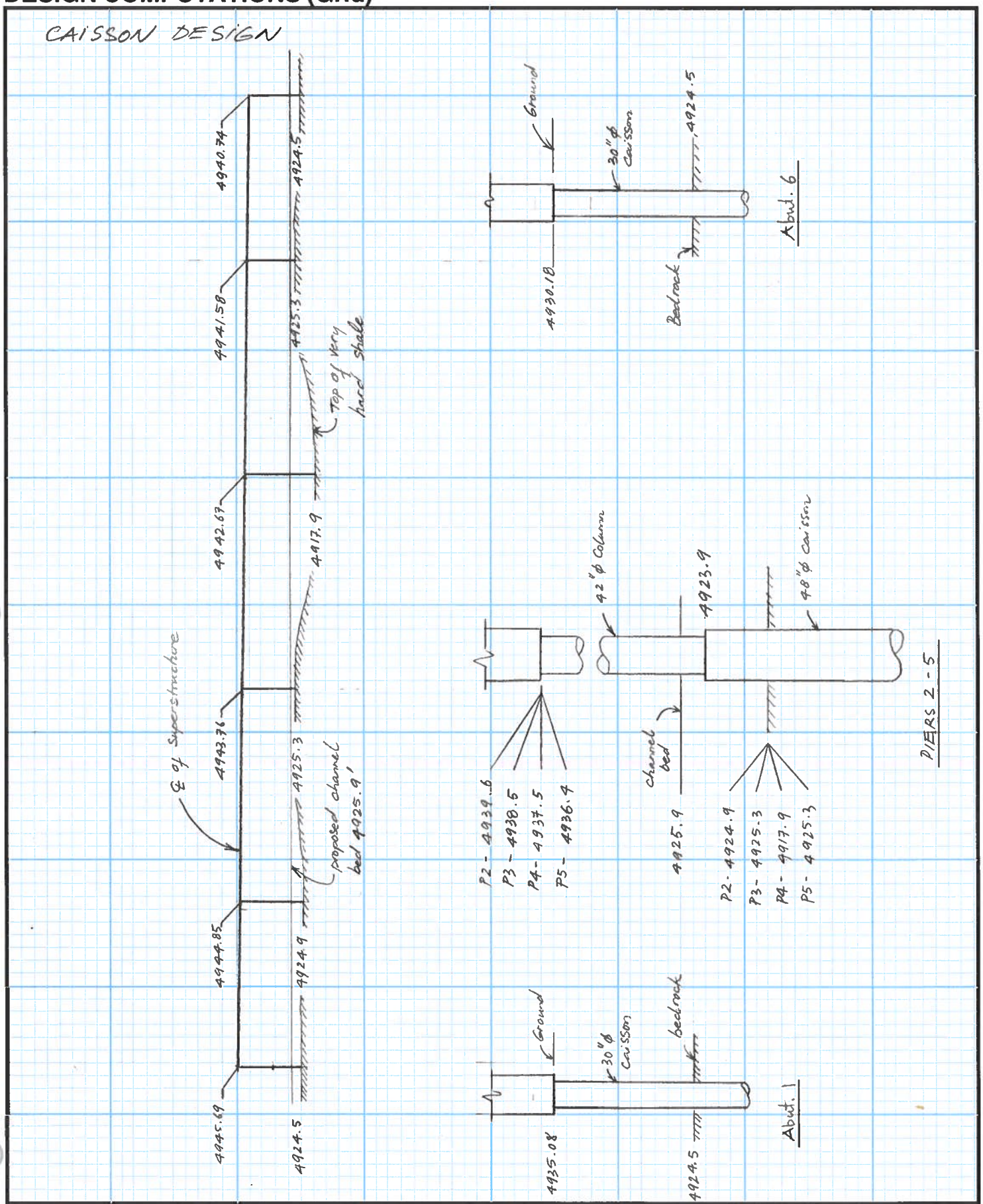
(2) Moment about Centroid of Compession Bock(s)

408/528

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)

CAISSON DESIGN



By: HB Date 7/13	Project no. FBR 0142 - 055	Project code (SA#): 18085
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 409 of 508

CDOT Form #1034 3/02

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)

LPILE ANALYSIS

ABUTMENTS 1 & 6

Caisson Diameter = 30", $A_g = \frac{\pi(30)^2}{4} = 706.8\ in^2$, $A_{st}/A_g \approx 2$

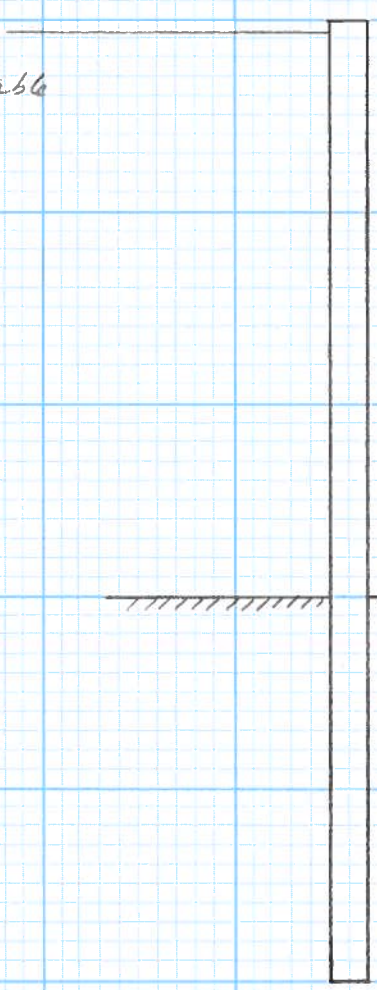
Axial Load ratio $\frac{P}{f'c\,A_g} = \frac{572}{4(706.8)} = 0.2 \Rightarrow$ Elastic Stiffness Ratio = 0.5

$I_e = 0.5\,I_g = 0.5\,\frac{\pi(30)^4}{64} = 19{,}880\ in^4$

$E = 3{,}834{,}253\ lb/in^2$

Elevation

Abut. 1	Abut 6
0	0
1	1



Sand & Gravel below water Table

$\phi = 33^\circ$

$C = 0$

$k_h = 60\ \#/in^3$

$\varepsilon_{50} =$ N/A

$\gamma = 0.0694\ lb/in^3$

128	69

Bedrock

$\phi = 0$

$C = 69.44\ lb/in^2$

$k_h = 2000\ lb/in^3$

$\varepsilon_{50} = 0.004\ in/in$

$\gamma = 0.081\ lb/in^3$

293	234
1000	1000

By: HB Date 7/13	Project no. FBR 1042-055	Project code (SA#): 18085
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 410 of 508

CDOT Form #1034 3/

DESIGN COMPUTATIONS (Grid)

PIERS 2 - 5

Column Dia. = 42", $A_g = \frac{\pi(42)^2}{4} = 1{,}385.4\ in^2$

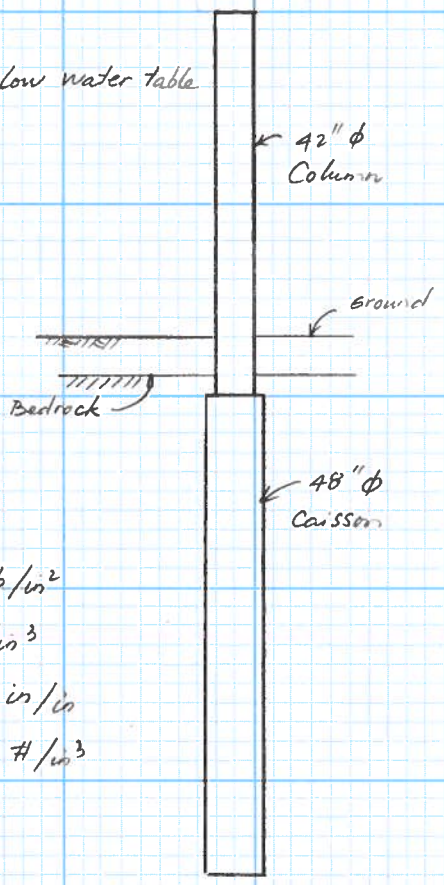
$I_e = 0.43\, I_g = 0.51\, \frac{\pi(42)^4}{64} = 77{,}900\ in^4$

$E = 4{,}066{,}840\ psi$

Caisson Dia = 48", $A_g = \frac{\pi(48)^2}{4} = 1{,}809.6\ in^2$

$I_e = 0.43\, I_g = 0.51\, \frac{\pi(48)^4}{64} = 132{,}894\ in^4$

$E = 3{,}834{,}253\ psi$



Sand & Gravel below water table

$\phi = 33°$

$C = 0$

$K_h = 60\ \#/in^3$

$\varepsilon_{50} = N/A$

$\gamma = 0.0694\ \#/in^3$

Bedrock

$\phi = 0$

$C = 69.44\ lb/in^2$

$K_h = 2000\ \#/in^3$

$\varepsilon_{50} = 0.004\ in/in$

$\gamma = 0.081\ \#/in^3$

Elevation	Pier 2	Pier 3	Pier 4	Pier 5
	0	0	0	0
	164	151	139	126
	176	158	235	133
	188	175	163	150
	452	439	499	414

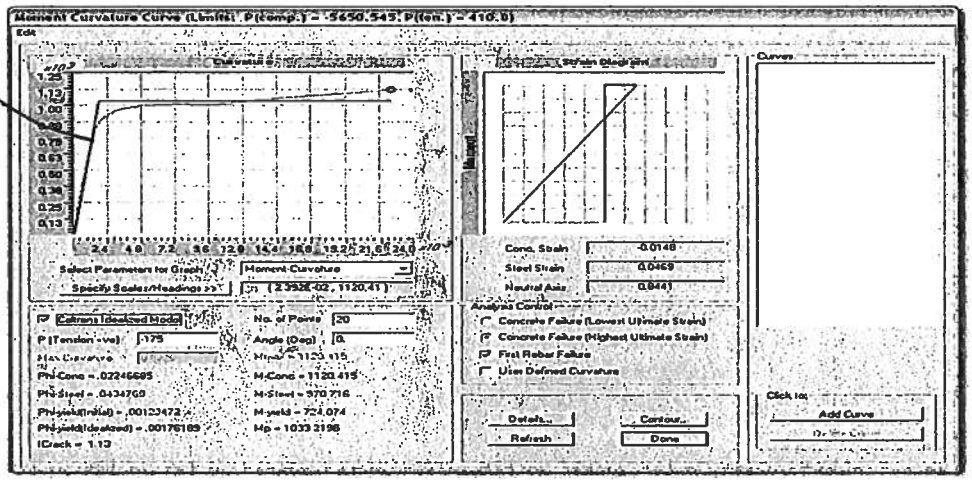
Axial Load Ratio $= \frac{P}{f'_c A_g} = \frac{1571}{4(1385.4)} = 0.28$

$\Rightarrow$ Elastic Stiffness Ratio = 0.51 (Assume $A_{st}/A_g \approx 2\%$)

By: HB Date 7/13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd KLP Date 8/13	Structure no. B-16-EV	Sheet 411 of 508

Step 9: Moment Curvature

(I_{crack}=0.32I=1.13 ft^4)



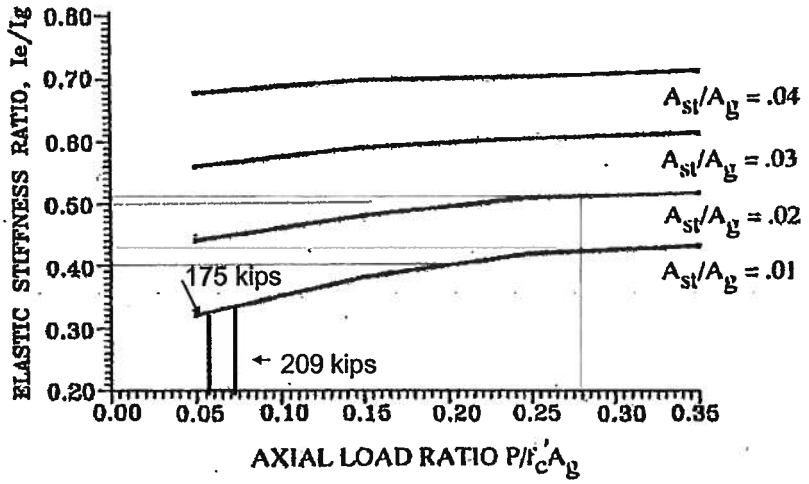
IMBSEN CONSULTING

CH2M HILL In-house Training

Module 6-45

Comparison of Moment Curvature

(I_{crack}=0.32I or 1.13 ft^4) to Article 5.6



a) Circular Sections

IMBSEN CONSULTING

CH2M HILL In-house Training

Module 6-46

412/508

ABUTMENT CAISSON DESIGN (CONTROLED AT ABUT. 1)

Strength I (Temp.+Creep+ Shrinkage for contraction)

Caisson Deflection at Top (CSi)

$u_2 = 0.0092'$

$u_3 = 0.0033'$

$$u_{Tot.} = \sqrt{0.0092^2 + 0.0033^2} = 0.0098' = 0.12''$$

Caisson Moment at Top (CSi)

$$M_3 = \frac{451.07}{8} = 56.38 \text{ k.ft} = 676,560 \text{ lb.in}$$

Caisson axial Load at Top (Hand's Calculation)

$P_{Tot.} = 605.21$ Kips $= 605,210$ lb

By: HB Date 7/13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 413 of 508

ABUT

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*                                                       *
*               DENVER, COLORADO 80222                  *
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ABUTMENT CAISSON DESIGN

UNITS--ENGLISH UNITS

I N P U T I N F O R M A T I O N

THE LOADING IS STATIC

PILE GEOMETRY AND PROPERTIES

PILE LENGTH = 293.00 IN
2 POINTS

X	DIAMETER	MOMENT OF INERTIA	AREA	MODULUS OF ELASTICITY
IN	IN	IN**4	IN**2	LBS/IN**2
.00	30.000	.159D+05	.707D+03	.383D+07
293.00	30.000	.159D+05	.707D+03	.383D+07

SOILS INFORMATION

X AT THE GROUND SURFACE = 1.00 IN

2 LAYER(S) OF SOIL

LAYER 1
THE SOIL IS A SAND
X AT THE TOP OF THE LAYER = 1.00 IN

ABUT
X AT THE BOTTOM OF THE LAYER = 128.00 IN
MODULUS OF SUBGRADE REACTION = .600D+02 LBS/IN**3

LAYER 2
THE SOIL IS A STIFF CLAY WITH WATER-INDUCED EROSION
X AT THE TOP OF THE LAYER = 128.00 IN
X AT THE BOTTOM OF THE LAYER = 1000.00 IN
MODULUS OF SUBGRADE REACTION = .200D+04 LBS/IN**3

DISTRIBUTION OF EFFECTIVE UNIT WEIGHT WITH DEPTH
4 POINTS

X,IN	WEIGHT,LBS/IN**3
1.00	.69D-01
128.00	.69D-01
128.00	.81D-01
1000.00	.81D-01

DISTRIBUTION OF STRENGTH PARAMETERS WITH DEPTH
4 POINTS

X,IN	C,LBS/IN**2	PHI,DEGREES	E50
1.00	.000D+00	.330D+02	-----
128.00	.000D+00	.330D+02	-----
128.00	.694D+02	.000	.400D-02
1000.00	.694D+02	.000	.400D-02

BOUNDARY AND LOADING CONDITIONS

LOADING NUMBER 1

BOUNDARY CONDITION CODE = 4
DEFLECTION AT THE PILE HEAD = .120D+00 IN
MOMENT AT THE PILE HEAD = .677D+06 IN-LBS
AXIAL LOAD AT THE PILE HEAD = .605D+06 LBS

FINITE-DIFFERENCE PARAMETERS

NUMBER OF PILE INCREMENTS = 300
DEFLECTION TOLERANCE ON DETERMINATION OF CLOSURE = .100D-05 IN
MAXIMUM NUMBER OF ITERATIONS ALLOWED FOR PILE ANALYSIS = 100
MAXIMUM ALLOWABLE DEFLECTION = .30D+03 IN

OUTPUT CODES

KOUTPT = 1
KPYOP = 1
INC = 1

DEPTH IN	DIAM IN	PHI	GAMMA LBS/IN**3	A	B	PCT	PCD
.00	30.00	33.0	.694D-01	2.83	2.14	.000D+00	.000D+00

Y IN	P LBS/IN
.000	.000
.042	.000
.083	.000
.125	.000

ABUT

.167	.000
.208	.000
.250	.000
.292	.000
.333	.000
.375	.000
.417	.000
.458	.000
.500	.000
1.125	.000
31.125	.000
61.125	.000
91.125	.000

DEPTH IN	DIAM IN	PHI	GAMMA LBS/IN**3	A	B	PCT	PCD
29.00	30.00	33.0	.694D-01	2.13	1.56	.332D+03	.252D+04

Y IN	P LBS/IN
.000	.000
.042	72.500
.083	145.000
.125	217.500
.167	290.000
.208	362.500
.250	422.443
.292	442.108
.333	459.881
.375	476.151
.417	491.191
.458	505.206
.500	518.349
1.125	709.600
31.125	709.600
61.125	709.600
91.125	709.600

DEPTH IN	DIAM IN	PHI	GAMMA LBS/IN**3	A	B	PCT	PCD
59.00	30.00	33.0	.694D-01	1.50	1.06	.982D+03	.513D+04

Y IN	P LBS/IN
.000	.000
.042	147.500
.083	295.000
.125	442.500
.167	590.000
.208	737.500
.250	834.257
.292	877.268
.333	916.313
.375	952.194
.417	985.479
.458	1016.591
.500	1045.850
1.125	1472.180
31.125	1472.180
61.125	1472.180
91.125	1472.180

ABUT

DEPTH IN	DIAM IN	PHI	GAMMA LBS/IN**3	A	B	PCT	PCD
89.00	30.00	33.0	.694D-01	1.07	.72	.194D+04	.773D+04

Y IN	P LBS/IN
.000	.000
.042	222.500
.083	445.000
.125	667.500
.167	890.000
.208	994.221
.250	1067.562
.292	1133.776
.333	1194.443
.375	1250.645
.417	1303.156
.458	1352.554
.500	1399.285
1.125	2082.085
31.125	2082.085
61.125	2082.085
91.125	2082.085

DEPTH IN	DIAM IN	PHI	GAMMA LBS/IN**3	A	B	PCT	PCD
119.00	30.00	33.0	.694D-01	.91	.54	.322D+04	.103D+05

Y IN	P LBS/IN
.000	.000
.042	297.500
.083	595.000
.125	802.733
.167	940.682
.208	1063.810
.250	1176.284
.292	1280.608
.333	1378.427
.375	1470.894
.417	1558.852
.458	1642.942
.500	1723.666
1.125	2911.365
31.125	2911.365
61.125	2911.365
91.125	2911.365

DEPTH IN	DIAM IN	C LBS/IN**2	CAVG LBS/IN**2	GAMMA LBS/IN**3	E50
149.00	30.000	.69D+02	.69D+02	.71D-01	.400D-02

AS =.60 AC =.30

Y,IN	P,LBS/IN
.000	.000
.036	6271.971
.072	8869.906
.108	10333.772
.144	11284.332
.180	11933.572

ABUT

.216	12367.254
.252	12634.386
.288	12766.593
.324	12785.860
.360	12708.284
.396	12546.116
.432	12308.964
.720	8878.723
1.008	5443.423
1.296	2008.123
14.400	2008.123

DEPTH IN	DIAM IN	C LBS/IN**2	CAVG LBS/IN**2	GAMMA LBS/IN**3	E50
179.00	30.000	.69D+02	.69D+02	.73D-01	.400D-02

AS =.60 AC =.30

Y,IN	P,LBS/IN
.000	.000
.036	6271.971
.072	8869.906
.108	10333.772
.144	11284.332
.180	11933.572
.216	12367.254
.252	12634.386
.288	12766.593
.324	12785.860
.360	12708.284
.396	12546.116
.432	12308.964
.720	8878.723
1.008	5443.423
1.296	2008.123
14.400	2008.123

DEPTH IN	DIAM IN	C LBS/IN**2	CAVG LBS/IN**2	GAMMA LBS/IN**3	E50
209.00	30.000	.69D+02	.69D+02	.74D-01	.400D-02

AS =.60 AC =.30

Y,IN	P,LBS/IN
.000	.000
.036	6271.971
.072	8869.906
.108	10333.772
.144	11284.332
.180	11933.572
.216	12367.254
.252	12634.386
.288	12766.593
.324	12785.860
.360	12708.284
.396	12546.116
.432	12308.964
.720	8878.723
1.008	5443.423
1.296	2008.123
14.400	2008.123

DEPTH IN	DIAM IN	C LBS/IN**2	CAVG LBS/IN**2	GAMMA LBS/IN**3	E50

ABUT

239.00	30.000	.69D+02	.69D+02	.75D-01	.400D-02

AS =.60 AC =.30

Y,IN	P,LBS/IN
.000	.000
.036	6271.971
.072	8869.906
.108	10333.772
.144	11284.332
.180	11933.572
.216	12367.254
.252	12634.386
.288	12766.593
.324	12785.860
.360	12708.284
.396	12546.116
.432	12308.964
.720	8878.723
1.008	5443.423
1.296	2008.123
14.400	2008.123

DEPTH IN	DIAM IN	C LBS/IN**2	CAVG LBS/IN**2	GAMMA LBS/IN**3	E50
292.00	30.000	.69D+02	.69D+02	.76D-01	.400D-02

AS =.60 AC =.30

Y,IN	P,LBS/IN
.000	.000
.036	6271.971
.072	8869.906
.108	10333.772
.144	11284.332
.180	11933.572
.216	12367.254
.252	12634.386
.288	12766.593
.324	12785.860
.360	12708.284
.396	12546.116
.432	12308.964
.720	8878.723
1.008	5443.423
1.296	2008.123
14.400	2008.123

O U T P U T I N F O R M A T I O N

****

LOADING NUMBER 1

BOUNDARY CONDITION CODE	=	4
DEFLECTION AT THE PILE HEAD	=	.120D+00 IN
MOMENT AT THE PILE HEAD	=	.677D+06 IN-LBS
AXIAL LOAD AT THE PILE HEAD	=	.605D+06 LBS

4/9/508

X	DEFLECTION	MOMENT	ABUT SHEAR	SOIL REACTION	TOTAL STRESS	FLEXURAL RIGIDITY
IN	IN	LBS-IN	LBS	LBS/IN	LBS/IN**2	LBS-IN**2
*****	**********	**********	**********	**********	**********	**********
.00	.120D+00	.677D+06	.430D+04	.000D+00	.149D+04	.609D+11
.98	.118D+00	.682D+06	.430D+04	.000D+00	.150D+04	.609D+11
1.95	.117D+00	.687D+06	.430D+04	-.667D+01	.150D+04	.609D+11
2.93	.115D+00	.693D+06	.429D+04	-.133D+02	.151D+04	.609D+11
3.91	.113D+00	.698D+06	.427D+04	-.198D+02	.151D+04	.609D+11
4.88	.112D+00	.703D+06	.425D+04	-.260D+02	.152D+04	.609D+11
5.86	.110D+00	.708D+06	.422D+04	-.321D+02	.152D+04	.609D+11
6.84	.108D+00	.713D+06	.419D+04	-.380D+02	.153D+04	.609D+11
7.81	.107D+00	.718D+06	.415D+04	-.437D+02	.153D+04	.609D+11
8.79	.105D+00	.723D+06	.410D+04	-.492D+02	.154D+04	.609D+11
9.77	.104D+00	.728D+06	.405D+04	-.545D+02	.154D+04	.609D+11
10.74	.102D+00	.733D+06	.400D+04	-.596D+02	.155D+04	.609D+11
11.72	.100D+00	.738D+06	.393D+04	-.646D+02	.155D+04	.609D+11
12.70	.989D-01	.743D+06	.387D+04	-.694D+02	.156D+04	.609D+11
13.67	.973D-01	.747D+06	.380D+04	-.740D+02	.156D+04	.609D+11
14.65	.958D-01	.752D+06	.372D+04	-.785D+02	.157D+04	.609D+11
15.63	.943D-01	.756D+06	.365D+04	-.827D+02	.157D+04	.609D+11
16.60	.928D-01	.761D+06	.356D+04	-.869D+02	.157D+04	.609D+11
17.58	.913D-01	.765D+06	.348D+04	-.908D+02	.158D+04	.609D+11
18.56	.898D-01	.769D+06	.339D+04	-.946D+02	.158D+04	.609D+11
19.53	.883D-01	.774D+06	.329D+04	-.982D+02	.159D+04	.609D+11
20.51	.869D-01	.778D+06	.319D+04	-.102D+03	.159D+04	.609D+11
21.49	.854D-01	.782D+06	.309D+04	-.105D+03	.159D+04	.609D+11
22.46	.840D-01	.785D+06	.299D+04	-.108D+03	.160D+04	.609D+11
23.44	.826D-01	.789D+06	.288D+04	-.111D+03	.160D+04	.609D+11
24.42	.811D-01	.793D+06	.277D+04	-.114D+03	.160D+04	.609D+11
25.39	.797D-01	.796D+06	.266D+04	-.117D+03	.161D+04	.609D+11
26.37	.784D-01	.800D+06	.254D+04	-.119D+03	.161D+04	.609D+11
27.35	.770D-01	.803D+06	.243D+04	-.122D+03	.161D+04	.609D+11
28.32	.756D-01	.806D+06	.231D+04	-.124D+03	.162D+04	.609D+11
29.30	.743D-01	.809D+06	.218D+04	-.126D+03	.162D+04	.609D+11
30.28	.729D-01	.812D+06	.206D+04	-.128D+03	.162D+04	.609D+11
31.25	.716D-01	.815D+06	.193D+04	-.130D+03	.162D+04	.609D+11
32.23	.703D-01	.817D+06	.181D+04	-.132D+03	.163D+04	.609D+11
33.21	.690D-01	.820D+06	.168D+04	-.133D+03	.163D+04	.609D+11
34.18	.677D-01	.822D+06	.155D+04	-.135D+03	.163D+04	.609D+11
35.16	.664D-01	.824D+06	.141D+04	-.136D+03	.163D+04	.609D+11
36.14	.652D-01	.827D+06	.128D+04	-.137D+03	.164D+04	.609D+11
37.11	.639D-01	.828D+06	.115D+04	-.139D+03	.164D+04	.609D+11
38.09	.627D-01	.830D+06	.101D+04	-.140D+03	.164D+04	.609D+11
39.07	.615D-01	.832D+06	.873D+03	-.140D+03	.164D+04	.609D+11
40.04	.603D-01	.833D+06	.735D+03	-.141D+03	.164D+04	.609D+11
41.02	.591D-01	.835D+06	.597D+03	-.142D+03	.164D+04	.609D+11
42.00	.579D-01	.836D+06	.458D+03	-.142D+03	.164D+04	.609D+11
42.97	.567D-01	.837D+06	.319D+03	-.143D+03	.165D+04	.609D+11
43.95	.556D-01	.838D+06	.180D+03	-.143D+03	.165D+04	.609D+11
44.93	.544D-01	.839D+06	.396D+02	-.143D+03	.165D+04	.609D+11
45.90	.533D-01	.840D+06	-.101D+03	-.144D+03	.165D+04	.609D+11
46.88	.522D-01	.840D+06	-.241D+03	-.144D+03	.165D+04	.609D+11
47.86	.511D-01	.840D+06	-.381D+03	-.144D+03	.165D+04	.609D+11
48.83	.500D-01	.841D+06	-.521D+03	-.143D+03	.165D+04	.609D+11
49.81	.489D-01	.841D+06	-.661D+03	-.143D+03	.165D+04	.609D+11
50.79	.478D-01	.841D+06	-.801D+03	-.143D+03	.165D+04	.609D+11
51.76	.468D-01	.840D+06	-.940D+03	-.143D+03	.165D+04	.609D+11
52.74	.458D-01	.840D+06	-.108D+04	-.142D+03	.165D+04	.609D+11
53.72	.447D-01	.840D+06	-.122D+04	-.141D+03	.165D+04	.609D+11
54.69	.437D-01	.839D+06	-.136D+04	-.141D+03	.165D+04	.609D+11
55.67	.427D-01	.838D+06	-.149D+04	-.140D+03	.165D+04	.609D+11
56.65	.417D-01	.837D+06	-.163D+04	-.139D+03	.165D+04	.609D+11

ABUT

57.62	.408D-01	.836D+06	-.176D+04	-.138D+03	.164D+04	.609D+11
58.60	.398D-01	.835D+06	-.190D+04	-.138D+03	.164D+04	.609D+11
59.58	.389D-01	.834D+06	-.203D+04	-.137D+03	.164D+04	.609D+11
60.55	.379D-01	.832D+06	-.217D+04	-.136D+03	.164D+04	.609D+11
61.53	.370D-01	.830D+06	-.230D+04	-.134D+03	.164D+04	.609D+11
62.51	.361D-01	.829D+06	-.243D+04	-.133D+03	.164D+04	.609D+11
63.48	.352D-01	.827D+06	-.256D+04	-.132D+03	.164D+04	.609D+11
64.46	.343D-01	.825D+06	-.269D+04	-.131D+03	.163D+04	.609D+11
65.44	.335D-01	.823D+06	-.281D+04	-.129D+03	.163D+04	.609D+11
66.41	.326D-01	.820D+06	-.294D+04	-.128D+03	.163D+04	.609D+11
67.39	.318D-01	.818D+06	-.306D+04	-.127D+03	.163D+04	.609D+11
68.37	.309D-01	.815D+06	-.319D+04	-.125D+03	.162D+04	.609D+11
69.34	.301D-01	.813D+06	-.331D+04	-.123D+03	.162D+04	.609D+11
70.32	.293D-01	.810D+06	-.343D+04	-.122D+03	.162D+04	.609D+11
71.30	.285D-01	.807D+06	-.355D+04	-.120D+03	.162D+04	.609D+11
72.27	.277D-01	.804D+06	-.366D+04	-.119D+03	.161D+04	.609D+11
73.25	.270D-01	.801D+06	-.378D+04	-.117D+03	.161D+04	.609D+11
74.23	.262D-01	.797D+06	-.389D+04	-.115D+03	.161D+04	.609D+11
75.20	.255D-01	.794D+06	-.400D+04	-.113D+03	.160D+04	.609D+11
76.18	.248D-01	.790D+06	-.411D+04	-.112D+03	.160D+04	.609D+11
77.16	.240D-01	.787D+06	-.422D+04	-.110D+03	.160D+04	.609D+11
78.13	.233D-01	.783D+06	-.433D+04	-.108D+03	.159D+04	.609D+11
79.11	.226D-01	.779D+06	-.443D+04	-.106D+03	.159D+04	.609D+11
80.09	.220D-01	.775D+06	-.453D+04	-.104D+03	.159D+04	.609D+11
81.06	.213D-01	.771D+06	-.464D+04	-.102D+03	.158D+04	.609D+11
82.04	.206D-01	.767D+06	-.473D+04	-.100D+03	.158D+04	.609D+11
83.02	.200D-01	.763D+06	-.483D+04	-.984D+02	.158D+04	.609D+11
83.99	.194D-01	.758D+06	-.493D+04	-.965D+02	.157D+04	.609D+11
84.97	.188D-01	.754D+06	-.502D+04	-.945D+02	.157D+04	.609D+11
85.95	.181D-01	.749D+06	-.511D+04	-.925D+02	.156D+04	.609D+11
86.92	.176D-01	.745D+06	-.520D+04	-.905D+02	.156D+04	.609D+11
87.90	.170D-01	.740D+06	-.529D+04	-.885D+02	.155D+04	.609D+11
88.88	.164D-01	.735D+06	-.537D+04	-.865D+02	.155D+04	.609D+11
89.85	.158D-01	.730D+06	-.546D+04	-.844D+02	.154D+04	.609D+11
90.83	.153D-01	.725D+06	-.554D+04	-.824D+02	.154D+04	.609D+11
91.81	.147D-01	.720D+06	-.562D+04	-.804D+02	.153D+04	.609D+11
92.78	.142D-01	.715D+06	-.570D+04	-.783D+02	.153D+04	.609D+11
93.76	.137D-01	.709D+06	-.577D+04	-.763D+02	.152D+04	.609D+11
94.74	.132D-01	.704D+06	-.584D+04	-.743D+02	.152D+04	.609D+11
95.71	.127D-01	.699D+06	-.592D+04	-.722D+02	.151D+04	.609D+11
96.69	.122D-01	.693D+06	-.599D+04	-.702D+02	.151D+04	.609D+11
97.67	.118D-01	.687D+06	-.605D+04	-.682D+02	.150D+04	.609D+11
98.64	.113D-01	.682D+06	-.612D+04	-.662D+02	.150D+04	.609D+11
99.62	.108D-01	.676D+06	-.618D+04	-.642D+02	.149D+04	.609D+11
100.60	.104D-01	.670D+06	-.624D+04	-.622D+02	.149D+04	.609D+11
101.57	.998D-02	.664D+06	-.630D+04	-.602D+02	.148D+04	.609D+11
102.55	.956D-02	.658D+06	-.636D+04	-.582D+02	.148D+04	.609D+11
103.53	.915D-02	.652D+06	-.642D+04	-.563D+02	.147D+04	.609D+11
104.50	.875D-02	.646D+06	-.647D+04	-.544D+02	.147D+04	.609D+11
105.48	.837D-02	.640D+06	-.652D+04	-.524D+02	.146D+04	.609D+11
106.46	.799D-02	.634D+06	-.657D+04	-.505D+02	.145D+04	.609D+11
107.43	.762D-02	.628D+06	-.662D+04	-.487D+02	.145D+04	.609D+11
108.41	.726D-02	.622D+06	-.667D+04	-.468D+02	.144D+04	.609D+11
109.39	.691D-02	.615D+06	-.671D+04	-.450D+02	.144D+04	.609D+11
110.36	.657D-02	.609D+06	-.676D+04	-.431D+02	.143D+04	.609D+11
111.34	.625D-02	.602D+06	-.680D+04	-.413D+02	.142D+04	.609D+11
112.32	.593D-02	.596D+06	-.684D+04	-.396D+02	.142D+04	.609D+11
113.29	.562D-02	.589D+06	-.688D+04	-.378D+02	.141D+04	.609D+11
114.27	.531D-02	.583D+06	-.691D+04	-.361D+02	.141D+04	.609D+11
115.25	.502D-02	.576D+06	-.695D+04	-.344D+02	.140D+04	.609D+11
116.22	.474D-02	.570D+06	-.698D+04	-.328D+02	.139D+04	.609D+11
117.20	.447D-02	.563D+06	-.701D+04	-.311D+02	.139D+04	.609D+11
118.18	.420D-02	.556D+06	-.704D+04	-.295D+02	.138D+04	.609D+11

ABUT

119.15	.394D-02	.550D+06	-.707D+04	-.280D+02	.137D+04	.609D+11
120.13	.370D-02	.543D+06	-.709D+04	-.264D+02	.137D+04	.609D+11
121.11	.346D-02	.536D+06	-.712D+04	-.249D+02	.136D+04	.609D+11
122.08	.323D-02	.529D+06	-.714D+04	-.234D+02	.136D+04	.609D+11
123.06	.300D-02	.522D+06	-.717D+04	-.220D+02	.135D+04	.609D+11
124.04	.279D-02	.515D+06	-.719D+04	-.206D+02	.134D+04	.609D+11
125.01	.258D-02	.509D+06	-.721D+04	-.192D+02	.134D+04	.609D+11
125.99	.238D-02	.502D+06	-.722D+04	-.179D+02	.133D+04	.609D+11
126.97	.219D-02	.495D+06	-.724D+04	-.166D+02	.132D+04	.609D+11
127.94	.201D-02	.488D+06	-.726D+04	-.153D+02	.132D+04	.609D+11
128.92	.184D-02	.481D+06	-.756D+04	-.601D+03	.131D+04	.609D+11
129.90	.167D-02	.473D+06	-.812D+04	-.550D+03	.130D+04	.609D+11
130.87	.151D-02	.465D+06	-.863D+04	-.500D+03	.129D+04	.609D+11
131.85	.135D-02	.457D+06	-.910D+04	-.452D+03	.129D+04	.609D+11
132.83	.121D-02	.448D+06	-.951D+04	-.405D+03	.128D+04	.609D+11
133.80	.107D-02	.438D+06	-.989D+04	-.361D+03	.127D+04	.609D+11
134.78	.938D-03	.428D+06	-.102D+05	-.318D+03	.126D+04	.609D+11
135.76	.813D-03	.418D+06	-.105D+05	-.277D+03	.125D+04	.609D+11
136.73	.695D-03	.408D+06	-.108D+05	-.238D+03	.124D+04	.609D+11
137.71	.582D-03	.397D+06	-.110D+05	-.201D+03	.123D+04	.609D+11
138.69	.476D-03	.387D+06	-.112D+05	-.165D+03	.122D+04	.609D+11
139.66	.376D-03	.376D+06	-.113D+05	-.131D+03	.121D+04	.609D+11
140.64	.282D-03	.365D+06	-.114D+05	-.990D+02	.120D+04	.609D+11
141.62	.194D-03	.354D+06	-.115D+05	-.684D+02	.119D+04	.609D+11
142.59	.111D-03	.342D+06	-.115D+05	-.394D+02	.118D+04	.609D+11
143.57	.335D-04	.331D+06	-.116D+05	-.119D+02	.117D+04	.609D+11
144.55	-.388D-04	.320D+06	-.116D+05	.139D+02	.116D+04	.609D+11
145.52	-.106D-03	.309D+06	-.115D+05	.383D+02	.115D+04	.609D+11
146.50	-.169D-03	.297D+06	-.115D+05	.611D+02	.114D+04	.609D+11
147.48	-.226D-03	.286D+06	-.114D+05	.825D+02	.113D+04	.609D+11
148.45	-.280D-03	.275D+06	-.113D+05	.103D+03	.112D+04	.609D+11
149.43	-.329D-03	.264D+06	-.112D+05	.121D+03	.110D+04	.609D+11
150.41	-.374D-03	.253D+06	-.111D+05	.138D+03	.109D+04	.609D+11
151.38	-.414D-03	.242D+06	-.110D+05	.154D+03	.108D+04	.609D+11
152.36	-.452D-03	.232D+06	-.108D+05	.169D+03	.107D+04	.609D+11
153.34	-.485D-03	.221D+06	-.106D+05	.183D+03	.106D+04	.609D+11
154.31	-.515D-03	.211D+06	-.104D+05	.195D+03	.105D+04	.609D+11
155.29	-.542D-03	.201D+06	-.102D+05	.206D+03	.105D+04	.609D+11
156.27	-.565D-03	.191D+06	-.100D+05	.216D+03	.104D+04	.609D+11
157.24	-.586D-03	.181D+06	-.983D+04	.225D+03	.103D+04	.609D+11
158.22	-.604D-03	.172D+06	-.960D+04	.233D+03	.102D+04	.609D+11
159.20	-.619D-03	.163D+06	-.937D+04	.240D+03	.101D+04	.609D+11
160.17	-.631D-03	.154D+06	-.914D+04	.246D+03	.100D+04	.609D+11
161.15	-.641D-03	.145D+06	-.889D+04	.251D+03	.992D+03	.609D+11
162.13	-.649D-03	.136D+06	-.865D+04	.256D+03	.984D+03	.609D+11
163.10	-.655D-03	.128D+06	-.839D+04	.259D+03	.976D+03	.609D+11
164.08	-.658D-03	.120D+06	-.814D+04	.262D+03	.969D+03	.609D+11
165.06	-.660D-03	.112D+06	-.788D+04	.264D+03	.962D+03	.609D+11
166.03	-.660D-03	.105D+06	-.762D+04	.265D+03	.954D+03	.609D+11
167.01	-.658D-03	.972D+05	-.737D+04	.266D+03	.947D+03	.609D+11
167.99	-.655D-03	.902D+05	-.711D+04	.266D+03	.941D+03	.609D+11
168.96	-.651D-03	.833D+05	-.685D+04	.265D+03	.934D+03	.609D+11
169.94	-.645D-03	.768D+05	-.659D+04	.264D+03	.928D+03	.609D+11
170.92	-.638D-03	.705D+05	-.633D+04	.262D+03	.922D+03	.609D+11
171.89	-.630D-03	.644D+05	-.608D+04	.260D+03	.916D+03	.609D+11
172.87	-.620D-03	.586D+05	-.582D+04	.258D+03	.911D+03	.609D+11
173.85	-.610D-03	.530D+05	-.557D+04	.255D+03	.906D+03	.609D+11
174.82	-.599D-03	.477D+05	-.533D+04	.251D+03	.901D+03	.609D+11
175.80	-.588D-03	.426D+05	-.508D+04	.248D+03	.896D+03	.609D+11
176.78	-.575D-03	.378D+05	-.484D+04	.243D+03	.891D+03	.609D+11
177.75	-.562D-03	.331D+05	-.461D+04	.239D+03	.887D+03	.609D+11
178.73	-.549D-03	.287D+05	-.437D+04	.234D+03	.883D+03	.609D+11
179.71	-.535D-03	.246D+05	-.415D+04	.230D+03	.879D+03	.609D+11

ABUT

180.68	-.521D-03	.206D+05	-.393D+04	.224D+03	.875D+03	.609D+11
181.66	-.506D-03	.169D+05	-.371D+04	.219D+03	.872D+03	.609D+11
182.64	-.491D-03	.134D+05	-.350D+04	.214D+03	.868D+03	.609D+11
183.61	-.476D-03	.100D+05	-.329D+04	.208D+03	.865D+03	.609D+11
184.59	-.461D-03	.690D+04	-.309D+04	.202D+03	.862D+03	.609D+11
185.57	-.446D-03	.397D+04	-.290D+04	.196D+03	.859D+03	.609D+11
186.54	-.430D-03	.123D+04	-.271D+04	.190D+03	.857D+03	.609D+11
187.52	-.415D-03	-.134D+04	-.253D+04	.184D+03	.857D+03	.609D+11
188.50	-.399D-03	-.373D+04	-.235D+04	.178D+03	.859D+03	.609D+11
189.47	-.384D-03	-.594D+04	-.218D+04	.172D+03	.861D+03	.609D+11
190.45	-.369D-03	-.800D+04	-.201D+04	.166D+03	.863D+03	.609D+11
191.43	-.354D-03	-.989D+04	-.185D+04	.160D+03	.865D+03	.609D+11
192.40	-.339D-03	-.116D+05	-.170D+04	.154D+03	.867D+03	.609D+11
193.38	-.324D-03	-.132D+05	-.155D+04	.148D+03	.868D+03	.609D+11
194.36	-.309D-03	-.147D+05	-.141D+04	.142D+03	.870D+03	.609D+11
195.33	-.295D-03	-.160D+05	-.127D+04	.136D+03	.871D+03	.609D+11
196.31	-.281D-03	-.172D+05	-.114D+04	.130D+03	.872D+03	.609D+11
197.29	-.267D-03	-.183D+05	-.102D+04	.124D+03	.873D+03	.609D+11
198.26	-.253D-03	-.192D+05	-.903D+03	.118D+03	.874D+03	.609D+11
199.24	-.240D-03	-.200D+05	-.790D+03	.112D+03	.875D+03	.609D+11
200.22	-.227D-03	-.208D+05	-.683D+03	.107D+03	.875D+03	.609D+11
201.19	-.215D-03	-.214D+05	-.581D+03	.101D+03	.876D+03	.609D+11
202.17	-.202D-03	-.219D+05	-.485D+03	.959D+02	.876D+03	.609D+11
203.15	-.190D-03	-.223D+05	-.394D+03	.906D+02	.877D+03	.609D+11
204.12	-.179D-03	-.227D+05	-.308D+03	.855D+02	.877D+03	.609D+11
205.10	-.168D-03	-.230D+05	-.227D+03	.804D+02	.877D+03	.609D+11
206.08	-.157D-03	-.231D+05	-.151D+03	.755D+02	.878D+03	.609D+11
207.05	-.146D-03	-.233D+05	-.793D+02	.708D+02	.878D+03	.609D+11
208.03	-.136D-03	-.233D+05	-.125D+02	.661D+02	.878D+03	.609D+11
209.01	-.126D-03	-.233D+05	.499D+02	.616D+02	.878D+03	.609D+11
209.98	-.117D-03	-.232D+05	.108D+03	.573D+02	.878D+03	.609D+11
210.96	-.108D-03	-.231D+05	.162D+03	.530D+02	.878D+03	.609D+11
211.94	-.992D-04	-.229D+05	.212D+03	.490D+02	.877D+03	.609D+11
212.91	-.909D-04	-.227D+05	.258D+03	.450D+02	.877D+03	.609D+11
213.89	-.829D-04	-.224D+05	.300D+03	.412D+02	.877D+03	.609D+11
214.87	-.753D-04	-.221D+05	.338D+03	.376D+02	.877D+03	.609D+11
215.84	-.680D-04	-.218D+05	.373D+03	.341D+02	.876D+03	.609D+11
216.82	-.611D-04	-.214D+05	.405D+03	.307D+02	.876D+03	.609D+11
217.80	-.545D-04	-.210D+05	.433D+03	.275D+02	.876D+03	.609D+11
218.77	-.482D-04	-.206D+05	.459D+03	.245D+02	.875D+03	.609D+11
219.75	-.423D-04	-.201D+05	.481D+03	.215D+02	.875D+03	.609D+11
220.73	-.367D-04	-.196D+05	.501D+03	.187D+02	.874D+03	.609D+11
221.70	-.313D-04	-.191D+05	.518D+03	.161D+02	.874D+03	.609D+11
222.68	-.263D-04	-.186D+05	.532D+03	.136D+02	.873D+03	.609D+11
223.66	-.216D-04	-.181D+05	.544D+03	.112D+02	.873D+03	.609D+11
224.63	-.171D-04	-.176D+05	.554D+03	.889D+01	.872D+03	.609D+11
225.61	-.130D-04	-.170D+05	.562D+03	.675D+01	.872D+03	.609D+11
226.59	-.906D-05	-.165D+05	.567D+03	.473D+01	.871D+03	.609D+11
227.56	-.541D-05	-.159D+05	.571D+03	.284D+01	.871D+03	.609D+11
228.54	-.201D-05	-.154D+05	.573D+03	.106D+01	.870D+03	.609D+11
229.52	.115D-05	-.148D+05	.573D+03	-.606D+00	.870D+03	.609D+11
230.49	.407D-05	-.142D+05	.572D+03	-.216D+01	.869D+03	.609D+11
231.47	.677D-05	-.137D+05	.569D+03	-.361D+01	.869D+03	.609D+11
232.45	.926D-05	-.131D+05	.565D+03	-.495D+01	.868D+03	.609D+11
233.42	.115D-04	-.126D+05	.559D+03	-.619D+01	.868D+03	.609D+11
234.40	.136D-04	-.121D+05	.553D+03	-.734D+01	.867D+03	.609D+11
235.38	.155D-04	-.115D+05	.545D+03	-.839D+01	.867D+03	.609D+11
236.35	.172D-04	-.110D+05	.537D+03	-.935D+01	.866D+03	.609D+11
237.33	.188D-04	-.105D+05	.527D+03	-.102D+02	.866D+03	.609D+11
238.31	.202D-04	-.996D+04	.517D+03	-.110D+02	.865D+03	.609D+11
239.28	.214D-04	-.946D+04	.505D+03	-.117D+02	.865D+03	.609D+11
240.26	.225D-04	-.897D+04	.494D+03	-.124D+02	.864D+03	.609D+11
241.24	.234D-04	-.850D+04	.481D+03	-.129D+02	.864D+03	.609D+11

ABUT

242.21	.242D-04	-.804D+04	.469D+03	-.134D+02	.863D+03	.609D+11
243.19	.249D-04	-.758D+04	.455D+03	-.138D+02	.863D+03	.609D+11
244.17	.254D-04	-.715D+04	.442D+03	-.142D+02	.862D+03	.609D+11
245.14	.259D-04	-.672D+04	.428D+03	-.145D+02	.862D+03	.609D+11
246.12	.262D-04	-.631D+04	.413D+03	-.147D+02	.862D+03	.609D+11
247.10	.265D-04	-.592D+04	.399D+03	-.149D+02	.861D+03	.609D+11
248.07	.266D-04	-.553D+04	.384D+03	-.151D+02	.861D+03	.609D+11
249.05	.267D-04	-.517D+04	.369D+03	-.151D+02	.861D+03	.609D+11
250.03	.266D-04	-.481D+04	.355D+03	-.152D+02	.860D+03	.609D+11
251.00	.266D-04	-.447D+04	.340D+03	-.152D+02	.860D+03	.609D+11
251.98	.264D-04	-.415D+04	.325D+03	-.151D+02	.860D+03	.609D+11
252.96	.262D-04	-.384D+04	.310D+03	-.151D+02	.859D+03	.609D+11
253.93	.259D-04	-.354D+04	.296D+03	-.149D+02	.859D+03	.609D+11
254.91	.255D-04	-.326D+04	.281D+03	-.148D+02	.859D+03	.609D+11
255.89	.251D-04	-.299D+04	.267D+03	-.146D+02	.859D+03	.609D+11
256.86	.247D-04	-.274D+04	.253D+03	-.144D+02	.858D+03	.609D+11
257.84	.242D-04	-.250D+04	.239D+03	-.142D+02	.858D+03	.609D+11
258.82	.237D-04	-.227D+04	.225D+03	-.139D+02	.858D+03	.609D+11
259.79	.231D-04	-.206D+04	.211D+03	-.136D+02	.858D+03	.609D+11
260.77	.225D-04	-.186D+04	.198D+03	-.133D+02	.857D+03	.609D+11
261.75	.219D-04	-.167D+04	.185D+03	-.130D+02	.857D+03	.609D+11
262.72	.212D-04	-.150D+04	.173D+03	-.126D+02	.857D+03	.609D+11
263.70	.206D-04	-.133D+04	.161D+03	-.123D+02	.857D+03	.609D+11
264.68	.199D-04	-.118D+04	.149D+03	-.119D+02	.857D+03	.609D+11
265.65	.192D-04	-.104D+04	.138D+03	-.115D+02	.857D+03	.609D+11
266.63	.184D-04	-.911D+03	.126D+03	-.111D+02	.857D+03	.609D+11
267.61	.177D-04	-.792D+03	.116D+03	-.107D+02	.856D+03	.609D+11
268.58	.169D-04	-.684D+03	.106D+03	-.103D+02	.856D+03	.609D+11
269.56	.162D-04	-.585D+03	.957D+02	-.985D+01	.856D+03	.609D+11
270.54	.154D-04	-.496D+03	.863D+02	-.941D+01	.856D+03	.609D+11
271.51	.146D-04	-.416D+03	.773D+02	-.896D+01	.856D+03	.609D+11
272.49	.138D-04	-.344D+03	.688D+02	-.850D+01	.856D+03	.609D+11
273.47	.130D-04	-.280D+03	.607D+02	-.804D+01	.856D+03	.609D+11
274.44	.122D-04	-.224D+03	.531D+02	-.757D+01	.856D+03	.609D+11
275.42	.114D-04	-.176D+03	.459D+02	-.710D+01	.856D+03	.609D+11
276.40	.106D-04	-.134D+03	.392D+02	-.662D+01	.856D+03	.609D+11
277.37	.983D-05	-.979D+02	.330D+02	-.614D+01	.856D+03	.609D+11
278.35	.902D-05	-.681D+02	.273D+02	-.565D+01	.856D+03	.609D+11
279.33	.821D-05	-.437D+02	.220D+02	-.516D+01	.856D+03	.609D+11
280.30	.740D-05	-.242D+02	.172D+02	-.467D+01	.856D+03	.609D+11
281.28	.659D-05	-.915D+01	.129D+02	-.417D+01	.856D+03	.609D+11
282.26	.578D-05	.192D+01	.904D+01	-.367D+01	.856D+03	.609D+11
283.23	.497D-05	.949D+01	.570D+01	-.316D+01	.856D+03	.609D+11
284.21	.416D-05	.140D+02	.286D+01	-.266D+01	.856D+03	.609D+11
285.19	.335D-05	.161D+02	.517D+00	-.215D+01	.856D+03	.609D+11
286.16	.254D-05	.160D+02	-.133D+01	-.163D+01	.856D+03	.609D+11
287.14	.173D-05	.144D+02	-.267D+01	-.112D+01	.856D+03	.609D+11
288.12	.924D-06	.118D+02	-.351D+01	-.597D+00	.856D+03	.609D+11
289.09	.115D-06	.857D+01	-.384D+01	-.746D-01	.856D+03	.609D+11
290.07	-.694D-06	.528D+01	-.365D+01	.451D+00	.856D+03	.609D+11
291.05	-.150D-05	.241D+01	-.295D+01	.979D+00	.856D+03	.609D+11
292.02	-.231D-05	.486D+00	-.174D+01	.151D+01	.856D+03	.609D+11
293.00	-.312D-05	.000D+00	.000D+00	.205D+01	.856D+03	.609D+11

OUTPUT VERIFICATION

THE MAXIMUM MOMENT IMBALANCE FOR ANY ELEMENT = -.868D-06 IN-LBS
THE MAX. LATERAL FORCE IMBALANCE FOR ANY ELEMENT = -.850D-06 LBS

OUTPUT SUMMARY

ABUT

PILE-HEAD DEFLECTION	=	.120D+00 IN
MAXIMUM BENDING MOMENT	=	.841D+06 LBS-IN
MAXIMUM SHEAR FORCE	=	-.116D+05 LBS
NO. OF ITERATIONS	=	4
NO. OF ZERO DEFLECTION POINTS	=	3

S U M M A R Y T A B L E
****

BOUNDARY CONDITION BC1	BOUNDARY CONDITION BC2	AXIAL LOAD LBS	PILE HEAD DEFLECTION IN	MAX. MOMENT IN-LBS	MAX. SHEAR LBS
.1200D+00	.6770D+06	.6050D+06	.1200D+00	.8407D+06	-.1157D+05

840,700 lb. in = 70. k. ft

425/508

General Information:
==========
File Name: C:\DOCUME~1\BUIH\DESKTOP\BUI'SS~1\ABUT30IN.COL
Project: FBR 0142-055 Code: ACI 318-89
Column: Units: US in-lbs
Engineer: BUIH Date: 04/01/13 Time: 14:01:47

Run Option: Investigation Short (nonslender) column
Run Axis: X-axis Column Type: Structural

Material Properties:
==========
f'c = 4 ksi fy = 60 ksi
Ec = 3834.25 ksi Es = 29000 ksi
fc = 3.4 ksi erup = 0 in/in
eu = 0.003 in/in
Stress Profile: Block Beta1 = 0.85

Geometry:
==========
Circular: Diameter = 30 in

Gross section area, Ag = 706.858 in^2
Ix = 39760.8 in^4 Xo = 0 in
Iy = 39760.8 in^4 Yo = 0 in

Reinforcement:
==========
Rebar Database: ASTM

Size	Diam	Area	Size	Diam	Area	Size	Diam	Area
3	0.38	0.11	4	0.50	0.20	5	0.63	0.31
6	0.75	0.44	7	0.88	0.60	8	1.00	0.79
9	1.13	1.00	10	1.27	1.27	11	1.41	1.56
14	1.69	2.25	18	2.26	4.00			

Confinement: Spiral; phi(c) = 0.75, phi(b) = 0.9, a = 0.85
#5 ties with #10 bars, #4 with larger bars.

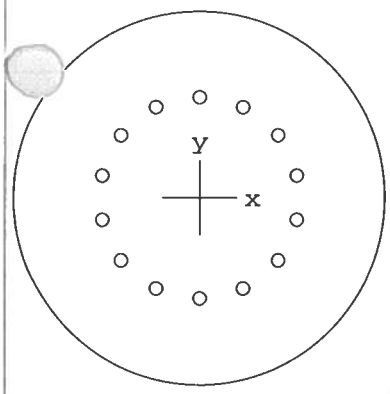
Pattern: Irregular

Total steel area, As = 14.00 in^2 at 1.98%

Area (in^2)	X-Loc (in)	Y-Loc (in)	Area (in^2)	X-Loc (in)	Y-Loc (in)	Area (in^2)	X-Loc (in)	Y-Loc (in)
1.00	0.0	8.1	1.00	3.5	7.3	1.00	6.3	5.0
1.00	7.9	1.8	1.00	7.9	-1.8	1.00	6.3	-5.0
1.00	3.5	-7.3	1.00	0.0	-8.1	1.00	-3.5	-7.3
1.00	-6.3	-5.0	1.00	-7.9	-1.8	1.00	-7.9	1.8
1.00	-6.3	5.0	1.00	-3.5	7.3			

Pt.	Applied Loads P (kips)	Mx (ft-k)	Computed Strength P (kips)	Mx (ft-k)	Computed/ Applied Ray length
1	605	56	2037	190	3.367

Program completed as requested!



30.0 inch diam.

f'c = 4.0 ksi

fy = 60.0 ksi

Confinement: Spiral

clr cover = 6.37 in

spacing = 2.46 in

14-#9 at 1.98%

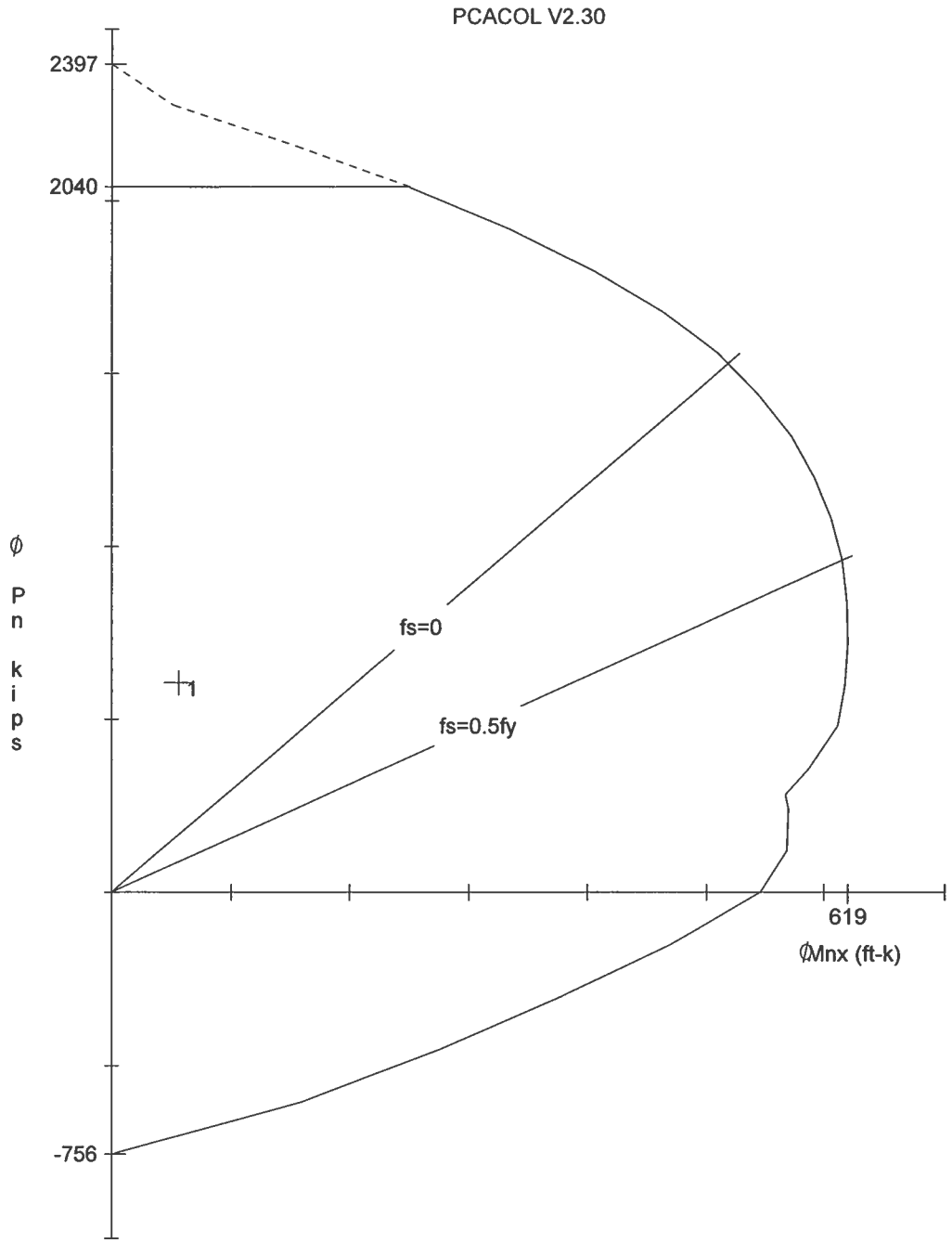
= 14 in^2

Ix = 39761 in^4

Iy = 39761 in^4

Xo = 0.00 in

Yo = 0.00 in



Licensed To: Licensee name not yet specified.

File name: C:\DOCUME~1\BUIH\DESKTOP\BUI'SS~1\ABUT30IN.COL

Project: FBR 0142-055

Column Id:

Engineer: BUIH

Date: 04/01/13 Time: 14:01:47

Code: ACI 318-89

Units: in-lb

X-axis slenderness is not considered.

Material Properties:

Ec = 3834 ksi eu = 0.003 in/in

fc = 3.40 ksi Es = 29000 ksi

Beta1 = 0.85

Stress Profile: Block

phi(c) = 0.75, phi(b) = 0.90

PIER CAISSON DESIGN (CONTROLED AT PIER 2)

Strength I (Temp. + Creep + Shrinkage for Contraction)

Column deflection at top (csi)

$u_2 = 0.098'$

$u_3 = 0.0057'$

$u_{Tot.} = \sqrt{0.098^2 + 0.0057^2} = 0.0982' = 1.18''$

Moment at Top of Column (csi & RC-pier)

$M_3 = 2647.35/6 = 441.225$ k.ft (csi)

$M_2 = 980$ k ft (from RC-pier, Member 10, node 15 - Envelope Strength)

$M_{Tot} = \sqrt{441.225^2 + 980^2} = 1074.75$ k.ft $= 12,896,955$ lb.in

Axial load at Top of column (Hand's calculation)

$P_{Tot} = 1510.57$ kip $= 1,510,570$ lb

By: HB Date 7/13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 429 of 508	

PIER

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**********************************************************
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*    (C) COPYRIGHT 1986 ENSOFT, INC.                     *
*    ALL RIGHTS RESERVED                                 *
*   ---------------------------------------------        *
*                                                        *
*              PREPARED ESPECIALLY FOR                   *
*                                                        *
*            STATE DEPARTMENT OF HIGHWAYS                *
*                                                        *
*              DENVER, COLORADO 80222                    *
*                                                        *
*                 LICENSE NO. 138                        *
*                                                        *
**********************************************************
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PIER CAISSON DESIGN (CONTROLED PIER 2)

UNITS--ENGLISH UNITS

I N P U T I N F O R M A T I O N

THE LOADING IS STATIC

PILE GEOMETRY AND PROPERTIES

PILE LENGTH = 452.00 IN
4 POINTS

X	DIAMETER	MOMENT OF INERTIA	AREA	MODULUS OF ELASTICITY
IN	IN	IN**4	IN**2	LBS/IN**2
.00	42.000	.779D+05	.139D+04	.407D+07
188.00	42.000	.779D+05	.139D+04	.407D+07
188.00	48.000	.133D+06	.181D+04	.383D+07
452.00	48.000	.133D+06	.181D+04	.383D+07

SOILS INFORMATION

X AT THE GROUND SURFACE = 164.00 IN

2 LAYER(S) OF SOIL

LAYER 1

PIER

THE SOIL IS A SAND
X AT THE TOP OF THE LAYER = 164.00 IN
X AT THE BOTTOM OF THE LAYER = 176.00 IN
MODULUS OF SUBGRADE REACTION = .600D+02 LBS/IN**3

LAYER 2
THE SOIL IS A STIFF CLAY WITH WATER-INDUCED EROSION
X AT THE TOP OF THE LAYER = 176.00 IN
X AT THE BOTTOM OF THE LAYER = 1000.00 IN
MODULUS OF SUBGRADE REACTION = .200D+04 LBS/IN**3

DISTRIBUTION OF EFFECTIVE UNIT WEIGHT WITH DEPTH
4 POINTS

X,IN	WEIGHT,LBS/IN**3
164.00	.69D-01
176.00	.69D-01
176.00	.81D-01
1000.00	.81D-01

DISTRIBUTION OF STRENGTH PARAMETERS WITH DEPTH
4 POINTS

X,IN	C,LBS/IN**2	PHI,DEGREES	E50
164.00	.000D+00	.330D+02	-----
176.00	.000D+00	.330D+02	-----
176.00	.694D+00	.000	.400D-02
1000.00	.694D+02	.000	.400D-02

BOUNDARY AND LOADING CONDITIONS

LOADING NUMBER 1

BOUNDARY CONDITION CODE = 4
DEFLECTION AT THE PILE HEAD = .118D+01 IN
MOMENT AT THE PILE HEAD = .129D+08 IN-LBS
AXIAL LOAD AT THE PILE HEAD = .151D+07 LBS

FINITE-DIFFERENCE PARAMETERS
NUMBER OF PILE INCREMENTS = 300
DEFLECTION TOLERANCE ON DETERMINATION OF CLOSURE = .100D-05 IN
MAXIMUM NUMBER OF ITERATIONS ALLOWED FOR PILE ANALYSIS = 100
MAXIMUM ALLOWABLE DEFLECTION = .48D+03 IN

OUTPUT CODES
KOUTPT = 1
KPYOP = 1
INC = 1

DEPTH IN	DIAM IN	PHI	GAMMA LBS/IN**3	A	B	PCT	PCD
.00	42.00	33.0	.694D-01	2.83	2.14	.000D+00	.000D+00

Y IN	P LBS/IN
.000	.000
.058	.000

PIER

.117	.000
.175	.000
.233	.000
.292	.000
.350	.000
.408	.000
.467	.000
.525	.000
.583	.000
.642	.000
.700	.000
1.575	.000
43.575	.000
85.575	.000
127.575	.000

DEPTH IN	DIAM IN	C LBS/IN**2	CAVG LBS/IN**2	GAMMA LBS/IN**3	E50
32.00	48.000	.24D+01	.24D+01	.77D-01	.400D-02

AS =.60 AC =.30

Y,IN	P,LBS/IN
.000	.000
.058	341.488
.115	482.936
.173	562.639
.230	614.394
.288	649.742
.346	673.355
.403	687.899
.461	695.098
.518	696.147
.576	691.923
.634	683.093
.691	670.181
1.152	483.416
1.613	296.376
2.074	109.335
23.040	109.335

DEPTH IN	DIAM IN	C LBS/IN**2	CAVG LBS/IN**2	GAMMA LBS/IN**3	E50
64.00	48.000	.50D+01	.37D+01	.79D-01	.400D-02

AS =.60 AC =.30

Y,IN	P,LBS/IN
.000	.000
.058	727.305
.115	1028.565
.173	1198.316
.230	1308.544
.288	1383.831
.346	1434.121
.403	1465.098
.461	1480.429
.518	1482.663
.576	1473.667
.634	1454.862
.691	1427.362
1.152	1029.587
1.613	631.226
2.074	232.864
23.040	232.864

DEPTH IN	DIAM IN	C LBS/IN**2	CAVG LBS/IN**2	GAMMA LBS/IN**3	E50
96.00	48.000	.77D+01	.50D+01	.80D-01	.400D-02

AS =.60 AC =.30

Y,IN	P,LBS/IN
.000	.000
.058	1113.123
.115	1574.193
.173	1833.994
.230	2002.695
.288	2117.919
.346	2194.887
.403	2242.297
.461	2265.760
.518	2269.180
.576	2255.412
.634	2226.631
.691	2184.542
1.152	1575.758
1.613	966.075
2.074	356.393
23.040	356.393

DEPTH IN	DIAM IN	C LBS/IN**2	CAVG LBS/IN**2	GAMMA LBS/IN**3	E50
128.00	48.000	.10D+02	.64D+01	.80D-01	.400D-02

AS =.60 AC =.30

Y,IN	P,LBS/IN
.000	.000
.058	1498.940
.115	2119.822
.173	2469.671
.230	2696.846
.288	2852.008
.346	2955.654
.403	3019.496
.461	3051.092
.518	3055.696
.576	3037.156
.634	2998.400
.691	2941.723
1.152	2121.928
1.613	1300.925
2.074	479.922
23.040	479.922

DEPTH IN	DIAM IN	C LBS/IN**2	CAVG LBS/IN**2	GAMMA LBS/IN**3	E50
160.00	48.000	.13D+02	.77D+01	.80D-01	.400D-02

AS =.60 AC =.30

Y,IN	P,LBS/IN
.000	.000
.058	1884.758
.115	2665.450
.173	3105.349
.230	3390.997
.288	3586.096
.346	3716.420
.403	3796.694

PIER

.461	3836.423
.518	3842.213
.576	3818.901
.634	3770.169
.691	3698.903
1.152	2668.099
1.613	1635.775
2.074	603.451
23.040	603.451

DEPTH IN	DIAM IN	C LBS/IN**2	CAVG LBS/IN**2	GAMMA LBS/IN**3	E50
192.00	48.000	.16D+02	.90D+01	.80D-01	.400D-02

AS =.60 AC =.30

Y,IN	P,LBS/IN
.000	.000
.058	2270.575
.115	3211.078
.173	3741.026
.230	4085.147
.288	4320.185
.346	4477.186
.403	4573.893
.461	4621.755
.518	4628.729
.576	4600.645
.634	4541.937
.691	4456.084
1.152	3214.270
1.613	1970.625
2.074	726.979
23.040	726.979

DEPTH IN	DIAM IN	C LBS/IN**2	CAVG LBS/IN**2	GAMMA LBS/IN**3	E50
224.00	48.000	.18D+02	.10D+02	.80D-01	.400D-02

AS =.60 AC =.30

Y,IN	P,LBS/IN
.000	.000
.058	2656.393
.115	3756.707
.173	4376.703
.230	4779.298
.288	5054.273
.346	5237.952
.403	5351.092
.461	5407.086
.518	5415.246
.576	5382.390
.634	5313.706
.691	5213.264
1.152	3760.441
1.613	2305.474
2.074	850.508
23.040	850.508

DEPTH IN	DIAM IN	C LBS/IN**2	CAVG LBS/IN**2	GAMMA LBS/IN**3	E50
256.00	48.000	.21D+02	.12D+02	.80D-01	.400D-02

PIER

AS =.60	AC =.30	Y,IN	P,LBS/IN
		.000	.000
		.058	3042.210
		.115	4302.335
		.173	5012.381
		.230	5473.449
		.288	5788.362
		.346	5998.719
		.403	6128.291
		.461	6192.417
		.518	6201.763
		.576	6164.134
		.634	6085.475
		.691	5970.445
		1.152	4306.611
		1.613	2640.324
		2.074	974.037
		23.040	974.037

DEPTH IN	DIAM IN	C LBS/IN**2	CAVG LBS/IN**2	GAMMA LBS/IN**3	E50
288.00	48.000	.24D+02	.13D+02	.81D-01	.400D-02

AS =.60	AC =.30	Y,IN	P,LBS/IN
		.000	.000
		.058	3428.028
		.115	4847.964
		.173	5648.058
		.230	6167.600
		.288	6522.450
		.346	6759.485
		.403	6905.489
		.461	6977.749
		.518	6988.279
		.576	6945.879
		.634	6857.244
		.691	6727.625
		1.152	4852.782
		1.613	2975.174
		2.074	1097.566
		23.040	1097.566

O U T P U T I N F O R M A T I O N

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LOADING NUMBER 1

BOUNDARY CONDITION CODE	=	4
DEFLECTION AT THE PILE HEAD	=	.118D+01 IN
MOMENT AT THE PILE HEAD	=	.129D+08 IN-LBS
AXIAL LOAD AT THE PILE HEAD	=	.151D+07 LBS

X	DEFLECTION	MOMENT	SHEAR	SOIL REACTION	TOTAL STRESS	FLEXURAL RIGIDITY

PIER

IN	IN	LBS-IN	LBS	LBS/IN	LBS/IN**2	LBS-IN**2
.00	.118D+01	.129D+08	-.191D+05	.000D+00	.456D+04	.317D+12
1.51	.117D+01	.129D+08	-.191D+05	.000D+00	.456D+04	.317D+12
3.01	.115D+01	.129D+08	-.191D+05	.000D+00	.456D+04	.317D+12
4.52	.114D+01	.129D+08	-.191D+05	.000D+00	.456D+04	.317D+12
6.03	.112D+01	.129D+08	-.191D+05	.000D+00	.456D+04	.317D+12
7.53	.111D+01	.129D+08	-.191D+05	.000D+00	.455D+04	.317D+12
9.04	.110D+01	.129D+08	-.191D+05	.000D+00	.455D+04	.317D+12
10.55	.108D+01	.128D+08	-.191D+05	.000D+00	.455D+04	.317D+12
12.05	.107D+01	.128D+08	-.191D+05	.000D+00	.455D+04	.317D+12
13.56	.106D+01	.128D+08	-.191D+05	.000D+00	.454D+04	.317D+12
15.07	.104D+01	.128D+08	-.191D+05	.000D+00	.454D+04	.317D+12
16.57	.103D+01	.128D+08	-.191D+05	.000D+00	.454D+04	.317D+12
18.08	.102D+01	.128D+08	-.191D+05	.000D+00	.454D+04	.317D+12
19.59	.101D+01	.128D+08	-.191D+05	.000D+00	.453D+04	.317D+12
21.09	.993D+00	.128D+08	-.191D+05	.000D+00	.453D+04	.317D+12
22.60	.980D+00	.128D+08	-.191D+05	.000D+00	.453D+04	.317D+12
24.11	.967D+00	.128D+08	-.191D+05	.000D+00	.453D+04	.317D+12
25.61	.955D+00	.128D+08	-.191D+05	.000D+00	.452D+04	.317D+12
27.12	.942D+00	.127D+08	-.191D+05	.000D+00	.452D+04	.317D+12
28.63	.930D+00	.127D+08	-.191D+05	.000D+00	.452D+04	.317D+12
30.13	.918D+00	.127D+08	-.191D+05	.000D+00	.452D+04	.317D+12
31.64	.906D+00	.127D+08	-.191D+05	.000D+00	.451D+04	.317D+12
33.15	.894D+00	.127D+08	-.191D+05	.000D+00	.451D+04	.317D+12
34.65	.882D+00	.127D+08	-.191D+05	.000D+00	.451D+04	.317D+12
36.16	.870D+00	.127D+08	-.191D+05	.000D+00	.450D+04	.317D+12
37.67	.858D+00	.127D+08	-.191D+05	.000D+00	.450D+04	.317D+12
39.17	.846D+00	.127D+08	-.191D+05	.000D+00	.450D+04	.317D+12
40.68	.835D+00	.126D+08	-.191D+05	.000D+00	.450D+04	.317D+12
42.19	.823D+00	.126D+08	-.191D+05	.000D+00	.449D+04	.317D+12
43.69	.812D+00	.126D+08	-.191D+05	.000D+00	.449D+04	.317D+12
45.20	.801D+00	.126D+08	-.191D+05	.000D+00	.449D+04	.317D+12
46.71	.789D+00	.126D+08	-.191D+05	.000D+00	.448D+04	.317D+12
48.21	.778D+00	.126D+08	-.191D+05	.000D+00	.448D+04	.317D+12
49.72	.767D+00	.126D+08	-.191D+05	.000D+00	.448D+04	.317D+12
51.23	.756D+00	.126D+08	-.191D+05	.000D+00	.447D+04	.317D+12
52.73	.745D+00	.126D+08	-.191D+05	.000D+00	.447D+04	.317D+12
54.24	.734D+00	.125D+08	-.191D+05	.000D+00	.447D+04	.317D+12
55.75	.724D+00	.125D+08	-.191D+05	.000D+00	.446D+04	.317D+12
57.25	.713D+00	.125D+08	-.191D+05	.000D+00	.446D+04	.317D+12
58.76	.703D+00	.125D+08	-.191D+05	.000D+00	.446D+04	.317D+12
60.27	.692D+00	.125D+08	-.191D+05	.000D+00	.445D+04	.317D+12
61.77	.682D+00	.125D+08	-.191D+05	.000D+00	.445D+04	.317D+12
63.28	.672D+00	.125D+08	-.191D+05	.000D+00	.445D+04	.317D+12
64.79	.661D+00	.124D+08	-.191D+05	.000D+00	.444D+04	.317D+12
66.29	.651D+00	.124D+08	-.191D+05	.000D+00	.444D+04	.317D+12
67.80	.641D+00	.124D+08	-.191D+05	.000D+00	.443D+04	.317D+12
69.31	.631D+00	.124D+08	-.191D+05	.000D+00	.443D+04	.317D+12
70.81	.622D+00	.124D+08	-.191D+05	.000D+00	.443D+04	.317D+12
72.32	.612D+00	.124D+08	-.191D+05	.000D+00	.442D+04	.317D+12
73.83	.602D+00	.124D+08	-.191D+05	.000D+00	.442D+04	.317D+12
75.33	.593D+00	.123D+08	-.191D+05	.000D+00	.442D+04	.317D+12
76.84	.583D+00	.123D+08	-.191D+05	.000D+00	.441D+04	.317D+12
78.35	.574D+00	.123D+08	-.191D+05	.000D+00	.441D+04	.317D+12
79.85	.565D+00	.123D+08	-.191D+05	.000D+00	.440D+04	.317D+12
81.36	.556D+00	.123D+08	-.191D+05	.000D+00	.440D+04	.317D+12
82.87	.546D+00	.123D+08	-.191D+05	.000D+00	.440D+04	.317D+12
84.37	.537D+00	.123D+08	-.191D+05	.000D+00	.439D+04	.317D+12
85.88	.528D+00	.122D+08	-.191D+05	.000D+00	.439D+04	.317D+12
87.39	.520D+00	.122D+08	-.191D+05	.000D+00	.438D+04	.317D+12
88.89	.511D+00	.122D+08	-.191D+05	.000D+00	.438D+04	.317D+12
90.40	.502D+00	.122D+08	-.191D+05	.000D+00	.437D+04	.317D+12

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91.91	.494D+00	.122D+08	-.191D+05	.000D+00	.437D+04	.317D+12
93.41	.485D+00	.122D+08	-.191D+05	.000D+00	.437D+04	.317D+12
94.92	.477D+00	.122D+08	-.191D+05	.000D+00	.436D+04	.317D+12
96.43	.468D+00	.121D+08	-.191D+05	.000D+00	.436D+04	.317D+12
97.93	.460D+00	.121D+08	-.191D+05	.000D+00	.435D+04	.317D+12
99.44	.452D+00	.121D+08	-.191D+05	.000D+00	.435D+04	.317D+12
100.95	.444D+00	.121D+08	-.191D+05	.000D+00	.434D+04	.317D+12
102.45	.436D+00	.121D+08	-.191D+05	.000D+00	.434D+04	.317D+12
103.96	.428D+00	.121D+08	-.191D+05	.000D+00	.434D+04	.317D+12
105.47	.420D+00	.120D+08	-.191D+05	.000D+00	.433D+04	.317D+12
106.97	.413D+00	.120D+08	-.191D+05	.000D+00	.433D+04	.317D+12
108.48	.405D+00	.120D+08	-.191D+05	.000D+00	.432D+04	.317D+12
109.99	.398D+00	.120D+08	-.191D+05	.000D+00	.432D+04	.317D+12
111.49	.390D+00	.120D+08	-.191D+05	.000D+00	.431D+04	.317D+12
113.00	.383D+00	.119D+08	-.191D+05	.000D+00	.431D+04	.317D+12
114.51	.375D+00	.119D+08	-.191D+05	.000D+00	.430D+04	.317D+12
116.01	.368D+00	.119D+08	-.191D+05	.000D+00	.430D+04	.317D+12
117.52	.361D+00	.119D+08	-.191D+05	.000D+00	.429D+04	.317D+12
119.03	.354D+00	.119D+08	-.191D+05	.000D+00	.429D+04	.317D+12
120.53	.347D+00	.119D+08	-.191D+05	.000D+00	.428D+04	.317D+12
122.04	.340D+00	.118D+08	-.191D+05	.000D+00	.428D+04	.317D+12
123.55	.334D+00	.118D+08	-.191D+05	.000D+00	.427D+04	.317D+12
125.05	.327D+00	.118D+08	-.191D+05	.000D+00	.427D+04	.317D+12
126.56	.320D+00	.118D+08	-.191D+05	.000D+00	.426D+04	.317D+12
128.07	.314D+00	.118D+08	-.191D+05	.000D+00	.426D+04	.317D+12
129.57	.307D+00	.117D+08	-.191D+05	.000D+00	.425D+04	.317D+12
131.08	.301D+00	.117D+08	-.191D+05	.000D+00	.425D+04	.317D+12
132.59	.295D+00	.117D+08	-.191D+05	.000D+00	.424D+04	.317D+12
134.09	.289D+00	.117D+08	-.191D+05	.000D+00	.424D+04	.317D+12
135.60	.283D+00	.117D+08	-.191D+05	.000D+00	.423D+04	.317D+12
137.11	.277D+00	.116D+08	-.191D+05	.000D+00	.423D+04	.317D+12
138.61	.271D+00	.116D+08	-.191D+05	.000D+00	.422D+04	.317D+12
140.12	.265D+00	.116D+08	-.191D+05	.000D+00	.422D+04	.317D+12
141.63	.259D+00	.116D+08	-.191D+05	.000D+00	.421D+04	.317D+12
143.13	.253D+00	.116D+08	-.191D+05	.000D+00	.420D+04	.317D+12
144.64	.248D+00	.115D+08	-.191D+05	.000D+00	.420D+04	.317D+12
146.15	.242D+00	.115D+08	-.191D+05	.000D+00	.419D+04	.317D+12
147.65	.237D+00	.115D+08	-.191D+05	.000D+00	.419D+04	.317D+12
149.16	.231D+00	.115D+08	-.191D+05	.000D+00	.418D+04	.317D+12
150.67	.226D+00	.115D+08	-.191D+05	.000D+00	.418D+04	.317D+12
152.17	.221D+00	.114D+08	-.191D+05	.000D+00	.417D+04	.317D+12
153.68	.216D+00	.114D+08	-.191D+05	.000D+00	.417D+04	.317D+12
155.19	.211D+00	.114D+08	-.191D+05	.000D+00	.416D+04	.317D+12
156.69	.206D+00	.114D+08	-.191D+05	.000D+00	.415D+04	.317D+12
158.20	.201D+00	.114D+08	-.191D+05	.000D+00	.415D+04	.317D+12
159.71	.196D+00	.113D+08	-.191D+05	.000D+00	.414D+04	.317D+12
161.21	.192D+00	.113D+08	-.191D+05	.000D+00	.414D+04	.317D+12
162.72	.187D+00	.113D+08	-.191D+05	.000D+00	.413D+04	.317D+12
164.23	.182D+00	.113D+08	-.191D+05	-.248D+01	.413D+04	.317D+12
165.73	.178D+00	.113D+08	-.191D+05	-.185D+02	.412D+04	.317D+12
167.24	.174D+00	.112D+08	-.191D+05	-.338D+02	.411D+04	.317D+12
168.75	.169D+00	.112D+08	-.192D+05	-.482D+02	.411D+04	.317D+12
170.25	.165D+00	.112D+08	-.193D+05	-.620D+02	.410D+04	.317D+12
171.76	.161D+00	.112D+08	-.194D+05	-.750D+02	.410D+04	.317D+12
173.27	.157D+00	.111D+08	-.195D+05	-.873D+02	.409D+04	.317D+12
174.77	.153D+00	.111D+08	-.196D+05	-.989D+02	.408D+04	.317D+12
176.28	.149D+00	.111D+08	-.198D+05	-.149D+03	.408D+04	.317D+12
177.79	.145D+00	.111D+08	-.201D+05	-.173D+03	.407D+04	.317D+12
179.29	.142D+00	.110D+08	-.204D+05	-.197D+03	.406D+04	.317D+12
180.80	.138D+00	.110D+08	-.207D+05	-.221D+03	.406D+04	.317D+12
182.31	.134D+00	.110D+08	-.210D+05	-.244D+03	.405D+04	.317D+12
183.81	.131D+00	.110D+08	-.214D+05	-.267D+03	.404D+04	.317D+12
185.32	.127D+00	.109D+08	-.218D+05	-.289D+03	.403D+04	.317D+12

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186.83	.124D+00	.109D+08	-.139D+07	-.311D+03	.403D+04	.317D+12
188.33	.121D+00	.109D+08	-.222D+07	-.360D+03	.280D+04	.509D+12
189.84	.118D+00	.108D+08	-.233D+05	-.381D+03	.279D+04	.509D+12
191.35	.114D+00	.108D+08	-.239D+05	-.402D+03	.279D+04	.509D+12
192.85	.111D+00	.108D+08	-.246D+05	-.422D+03	.278D+04	.509D+12
194.36	.108D+00	.108D+08	-.252D+05	-.441D+03	.277D+04	.509D+12
195.87	.105D+00	.107D+08	-.259D+05	-.459D+03	.277D+04	.509D+12
197.37	.102D+00	.107D+08	-.266D+05	-.477D+03	.276D+04	.509D+12
198.88	.994D-01	.106D+08	-.273D+05	-.494D+03	.276D+04	.509D+12
200.39	.965D-01	.106D+08	-.281D+05	-.510D+03	.275D+04	.509D+12
201.89	.937D-01	.106D+08	-.289D+05	-.526D+03	.274D+04	.509D+12
203.40	.909D-01	.105D+08	-.297D+05	-.541D+03	.273D+04	.509D+12
204.91	.881D-01	.105D+08	-.305D+05	-.555D+03	.273D+04	.509D+12
206.41	.855D-01	.104D+08	-.313D+05	-.569D+03	.272D+04	.509D+12
207.92	.828D-01	.104D+08	-.322D+05	-.582D+03	.271D+04	.509D+12
209.43	.802D-01	.104D+08	-.331D+05	-.594D+03	.270D+04	.509D+12
210.93	.777D-01	.103D+08	-.340D+05	-.606D+03	.270D+04	.509D+12
212.44	.752D-01	.103D+08	-.349D+05	-.617D+03	.269D+04	.509D+12
213.95	.727D-01	.102D+08	-.358D+05	-.627D+03	.268D+04	.509D+12
215.45	.703D-01	.102D+08	-.368D+05	-.636D+03	.267D+04	.509D+12
216.96	.679D-01	.101D+08	-.378D+05	-.645D+03	.266D+04	.509D+12
218.47	.656D-01	.101D+08	-.387D+05	-.654D+03	.265D+04	.509D+12
219.97	.633D-01	.100D+08	-.397D+05	-.661D+03	.264D+04	.509D+12
221.48	.611D-01	.994D+07	-.407D+05	-.668D+03	.263D+04	.509D+12
222.99	.589D-01	.989D+07	-.417D+05	-.674D+03	.262D+04	.509D+12
224.49	.568D-01	.983D+07	-.428D+05	-.680D+03	.261D+04	.509D+12
226.00	.547D-01	.976D+07	-.438D+05	-.685D+03	.260D+04	.509D+12
227.51	.526D-01	.970D+07	-.448D+05	-.689D+03	.258D+04	.509D+12
229.01	.506D-01	.963D+07	-.459D+05	-.693D+03	.257D+04	.509D+12
230.52	.486D-01	.957D+07	-.469D+05	-.696D+03	.256D+04	.509D+12
232.03	.467D-01	.950D+07	-.480D+05	-.699D+03	.255D+04	.509D+12
233.53	.448D-01	.943D+07	-.490D+05	-.700D+03	.254D+04	.509D+12
235.04	.430D-01	.936D+07	-.501D+05	-.702D+03	.252D+04	.509D+12
236.55	.412D-01	.928D+07	-.511D+05	-.702D+03	.251D+04	.509D+12
238.05	.394D-01	.921D+07	-.522D+05	-.702D+03	.250D+04	.509D+12
239.56	.377D-01	.913D+07	-.532D+05	-.701D+03	.248D+04	.509D+12
241.07	.360D-01	.905D+07	-.543D+05	-.700D+03	.247D+04	.509D+12
242.57	.344D-01	.897D+07	-.554D+05	-.698D+03	.245D+04	.509D+12
244.08	.328D-01	.889D+07	-.564D+05	-.695D+03	.244D+04	.509D+12
245.59	.312D-01	.881D+07	-.575D+05	-.692D+03	.242D+04	.509D+12
247.09	.297D-01	.872D+07	-.585D+05	-.688D+03	.241D+04	.509D+12
248.60	.282D-01	.864D+07	-.595D+05	-.683D+03	.239D+04	.509D+12
250.11	.268D-01	.855D+07	-.605D+05	-.678D+03	.238D+04	.509D+12
251.61	.254D-01	.846D+07	-.616D+05	-.672D+03	.236D+04	.509D+12
253.12	.240D-01	.837D+07	-.626D+05	-.665D+03	.234D+04	.509D+12
254.63	.227D-01	.827D+07	-.636D+05	-.658D+03	.233D+04	.509D+12
256.13	.214D-01	.818D+07	-.646D+05	-.650D+03	.231D+04	.509D+12
257.64	.202D-01	.808D+07	-.655D+05	-.642D+03	.229D+04	.509D+12
259.15	.189D-01	.798D+07	-.665D+05	-.632D+03	.228D+04	.509D+12
260.65	.178D-01	.789D+07	-.674D+05	-.622D+03	.226D+04	.509D+12
262.16	.166D-01	.778D+07	-.684D+05	-.612D+03	.224D+04	.509D+12
263.67	.155D-01	.768D+07	-.693D+05	-.600D+03	.222D+04	.509D+12
265.17	.144D-01	.758D+07	-.702D+05	-.588D+03	.220D+04	.509D+12
266.68	.134D-01	.747D+07	-.710D+05	-.575D+03	.218D+04	.509D+12
268.19	.124D-01	.737D+07	-.719D+05	-.561D+03	.216D+04	.509D+12
269.69	.114D-01	.726D+07	-.727D+05	-.547D+03	.214D+04	.509D+12
271.20	.104D-01	.715D+07	-.736D+05	-.531D+03	.212D+04	.509D+12
272.71	.951D-02	.704D+07	-.743D+05	-.515D+03	.211D+04	.509D+12
274.21	.863D-02	.693D+07	-.751D+05	-.497D+03	.208D+04	.509D+12
275.72	.778D-02	.682D+07	-.758D+05	-.479D+03	.206D+04	.509D+12
277.23	.696D-02	.670D+07	-.765D+05	-.459D+03	.204D+04	.509D+12
278.73	.616D-02	.659D+07	-.772D+05	-.438D+03	.202D+04	.509D+12
280.24	.540D-02	.647D+07	-.779D+05	-.416D+03	.200D+04	.509D+12

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281.75	.467D-02	.636D+07	-.785D+05	-.391D+03	.198D+04	.509D+12
283.25	.396D-02	.624D+07	-.790D+05	-.365D+03	.196D+04	.509D+12
284.76	.328D-02	.612D+07	-.796D+05	-.337D+03	.194D+04	.509D+12
286.27	.263D-02	.600D+07	-.801D+05	-.306D+03	.192D+04	.509D+12
287.77	.201D-02	.588D+07	-.805D+05	-.270D+03	.190D+04	.509D+12
289.28	.141D-02	.576D+07	-.809D+05	-.229D+03	.187D+04	.509D+12
290.79	.836D-03	.564D+07	-.812D+05	-.179D+03	.185D+04	.509D+12
292.29	.289D-03	.552D+07	-.814D+05	-.107D+03	.183D+04	.509D+12
293.80	-.234D-03	.540D+07	-.814D+05	.967D+02	.181D+04	.509D+12
295.31	-.732D-03	.528D+07	-.812D+05	.173D+03	.179D+04	.509D+12
296.81	-.121D-02	.515D+07	-.809D+05	.225D+03	.176D+04	.509D+12
298.32	-.166D-02	.503D+07	-.805D+05	.267D+03	.174D+04	.509D+12
299.83	-.209D-02	.491D+07	-.801D+05	.303D+03	.172D+04	.509D+12
301.33	-.250D-02	.479D+07	-.796D+05	.335D+03	.170D+04	.509D+12
302.84	-.288D-02	.467D+07	-.791D+05	.365D+03	.168D+04	.509D+12
304.35	-.325D-02	.456D+07	-.785D+05	.391D+03	.166D+04	.509D+12
305.85	-.359D-02	.444D+07	-.779D+05	.416D+03	.164D+04	.509D+12
307.36	-.392D-02	.432D+07	-.773D+05	.439D+03	.161D+04	.509D+12
308.87	-.422D-02	.421D+07	-.766D+05	.461D+03	.159D+04	.509D+12
310.37	-.451D-02	.409D+07	-.759D+05	.481D+03	.157D+04	.509D+12
311.88	-.478D-02	.398D+07	-.751D+05	.501D+03	.155D+04	.509D+12
313.39	-.503D-02	.387D+07	-.744D+05	.519D+03	.153D+04	.509D+12
314.89	-.527D-02	.376D+07	-.736D+05	.537D+03	.151D+04	.509D+12
316.40	-.548D-02	.365D+07	-.727D+05	.553D+03	.149D+04	.509D+12
317.91	-.568D-02	.354D+07	-.719D+05	.569D+03	.147D+04	.509D+12
319.41	-.587D-02	.343D+07	-.710D+05	.584D+03	.145D+04	.509D+12
320.92	-.604D-02	.332D+07	-.701D+05	.598D+03	.143D+04	.509D+12
322.43	-.620D-02	.322D+07	-.692D+05	.612D+03	.142D+04	.509D+12
323.93	-.634D-02	.312D+07	-.683D+05	.625D+03	.140D+04	.509D+12
325.44	-.646D-02	.301D+07	-.673D+05	.637D+03	.138D+04	.509D+12
326.95	-.658D-02	.291D+07	-.664D+05	.649D+03	.136D+04	.509D+12
328.45	-.668D-02	.281D+07	-.654D+05	.660D+03	.134D+04	.509D+12
329.96	-.677D-02	.272D+07	-.644D+05	.671D+03	.132D+04	.509D+12
331.47	-.684D-02	.262D+07	-.634D+05	.681D+03	.131D+04	.509D+12
332.97	-.691D-02	.253D+07	-.623D+05	.690D+03	.129D+04	.509D+12
334.48	-.696D-02	.243D+07	-.613D+05	.699D+03	.127D+04	.509D+12
335.99	-.700D-02	.234D+07	-.602D+05	.707D+03	.126D+04	.509D+12
337.49	-.703D-02	.225D+07	-.592D+05	.715D+03	.124D+04	.509D+12
339.00	-.706D-02	.216D+07	-.581D+05	.723D+03	.122D+04	.509D+12
340.51	-.707D-02	.208D+07	-.570D+05	.730D+03	.121D+04	.509D+12
342.01	-.707D-02	.199D+07	-.559D+05	.736D+03	.119D+04	.509D+12
343.52	-.706D-02	.191D+07	-.548D+05	.742D+03	.118D+04	.509D+12
345.03	-.705D-02	.183D+07	-.536D+05	.748D+03	.116D+04	.509D+12
346.53	-.703D-02	.175D+07	-.525D+05	.753D+03	.115D+04	.509D+12
348.04	-.700D-02	.167D+07	-.514D+05	.758D+03	.114D+04	.509D+12
349.55	-.696D-02	.159D+07	-.502D+05	.762D+03	.112D+04	.509D+12
351.05	-.691D-02	.152D+07	-.491D+05	.766D+03	.111D+04	.509D+12
352.56	-.686D-02	.144D+07	-.479D+05	.769D+03	.109D+04	.509D+12
354.07	-.680D-02	.137D+07	-.468D+05	.772D+03	.108D+04	.509D+12
355.57	-.674D-02	.130D+07	-.456D+05	.775D+03	.107D+04	.509D+12
357.08	-.667D-02	.123D+07	-.444D+05	.777D+03	.106D+04	.509D+12
358.59	-.660D-02	.117D+07	-.432D+05	.779D+03	.104D+04	.509D+12
360.09	-.651D-02	.110D+07	-.421D+05	.780D+03	.103D+04	.509D+12
361.60	-.643D-02	.104D+07	-.409D+05	.781D+03	.102D+04	.509D+12
363.11	-.634D-02	.980D+06	-.397D+05	.782D+03	.101D+04	.509D+12
364.61	-.624D-02	.921D+06	-.385D+05	.782D+03	.100D+04	.509D+12
366.12	-.615D-02	.863D+06	-.374D+05	.781D+03	.990D+03	.509D+12
367.63	-.604D-02	.808D+06	-.362D+05	.781D+03	.980D+03	.509D+12
369.13	-.594D-02	.754D+06	-.350D+05	.780D+03	.970D+03	.509D+12
370.64	-.583D-02	.702D+06	-.338D+05	.778D+03	.961D+03	.509D+12
372.15	-.571D-02	.652D+06	-.327D+05	.776D+03	.952D+03	.509D+12
373.65	-.560D-02	.603D+06	-.315D+05	.774D+03	.943D+03	.509D+12
375.16	-.548D-02	.556D+06	-.303D+05	.772D+03	.935D+03	.509D+12

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376.67	-.536D-02	.511D+06	-.292D+05	.769D+03	.927D+03	.509D+12
378.17	-.524D-02	.468D+06	-.280D+05	.765D+03	.919D+03	.509D+12
379.68	-.511D-02	.426D+06	-.269D+05	.761D+03	.911D+03	.509D+12
381.19	-.499D-02	.387D+06	-.257D+05	.757D+03	.904D+03	.509D+12
382.69	-.486D-02	.349D+06	-.246D+05	.753D+03	.897D+03	.509D+12
384.20	-.473D-02	.312D+06	-.235D+05	.748D+03	.891D+03	.509D+12
385.71	-.459D-02	.278D+06	-.223D+05	.742D+03	.884D+03	.509D+12
387.21	-.446D-02	.244D+06	-.212D+05	.737D+03	.878D+03	.509D+12
388.72	-.433D-02	.213D+06	-.201D+05	.730D+03	.873D+03	.509D+12
390.23	-.419D-02	.183D+06	-.190D+05	.724D+03	.867D+03	.509D+12
391.73	-.406D-02	.155D+06	-.179D+05	.717D+03	.862D+03	.509D+12
393.24	-.392D-02	.129D+06	-.169D+05	.710D+03	.858D+03	.509D+12
394.75	-.378D-02	.104D+06	-.158D+05	.702D+03	.853D+03	.509D+12
396.25	-.365D-02	.810D+05	-.147D+05	.693D+03	.849D+03	.509D+12
397.76	-.351D-02	.594D+05	-.137D+05	.685D+03	.845D+03	.509D+12
399.27	-.337D-02	.393D+05	-.127D+05	.675D+03	.841D+03	.509D+12
400.77	-.323D-02	.207D+05	-.117D+05	.666D+03	.838D+03	.509D+12
402.28	-.309D-02	.369D+04	-.107D+05	.656D+03	.835D+03	.509D+12
403.79	-.296D-02	-.119D+05	-.970D+04	.645D+03	.836D+03	.509D+12
405.29	-.282D-02	-.259D+05	-.873D+04	.634D+03	.839D+03	.509D+12
406.80	-.268D-02	-.386D+05	-.779D+04	.622D+03	.841D+03	.509D+12
408.31	-.254D-02	-.498D+05	-.686D+04	.609D+03	.843D+03	.509D+12
409.81	-.240D-02	-.597D+05	-.595D+04	.596D+03	.845D+03	.509D+12
411.32	-.227D-02	-.682D+05	-.507D+04	.583D+03	.847D+03	.509D+12
412.83	-.213D-02	-.754D+05	-.420D+04	.568D+03	.848D+03	.509D+12
414.33	-.199D-02	-.813D+05	-.335D+04	.553D+03	.849D+03	.509D+12
415.84	-.185D-02	-.859D+05	-.253D+04	.537D+03	.850D+03	.509D+12
417.35	-.172D-02	-.893D+05	-.174D+04	.520D+03	.850D+03	.509D+12
418.85	-.158D-02	-.915D+05	-.967D+03	.502D+03	.851D+03	.509D+12
420.36	-.145D-02	-.926D+05	-.225D+03	.483D+03	.851D+03	.509D+12
421.87	-.131D-02	-.926D+05	.487D+03	.463D+03	.851D+03	.509D+12
423.37	-.118D-02	-.916D+05	.117D+04	.441D+03	.851D+03	.509D+12
424.88	-.104D-02	-.895D+05	.181D+04	.417D+03	.850D+03	.509D+12
426.39	-.910D-03	-.865D+05	.242D+04	.392D+03	.850D+03	.509D+12
427.89	-.777D-03	-.826D+05	.299D+04	.364D+03	.849D+03	.509D+12
429.40	-.644D-03	-.779D+05	.352D+04	.334D+03	.848D+03	.509D+12
430.91	-.511D-03	-.724D+05	.400D+04	.299D+03	.847D+03	.509D+12
432.41	-.379D-03	-.662D+05	.442D+04	.259D+03	.846D+03	.509D+12
433.92	-.247D-03	-.595D+05	.477D+04	.210D+03	.845D+03	.509D+12
435.43	-.115D-03	-.523D+05	.501D+04	.105D+03	.844D+03	.509D+12
436.93	.163D-04	-.448D+05	.508D+04	-.149D+02	.842D+03	.509D+12
438.44	.148D-03	-.374D+05	.496D+04	-.135D+03	.841D+03	.509D+12
439.95	.279D-03	-.302D+05	.469D+04	-.228D+03	.840D+03	.509D+12
441.45	.410D-03	-.236D+05	.431D+04	-.278D+03	.839D+03	.509D+12
442.96	.541D-03	-.177D+05	.385D+04	-.322D+03	.837D+03	.509D+12
444.47	.671D-03	-.124D+05	.334D+04	-.360D+03	.836D+03	.509D+12
445.97	.802D-03	-.798D+04	.277D+04	-.396D+03	.836D+03	.509D+12
447.48	.933D-03	-.445D+04	.215D+04	-.429D+03	.835D+03	.509D+12
448.99	.106D-02	-.190D+04	.148D+04	-.461D+03	.835D+03	.509D+12
450.49	.119D-02	-.393D+03	.762D+03	-.491D+03	.834D+03	.509D+12
452.00	.133D-02	.000D+00	.000D+00	-.520D+03	.834D+03	.509D+12

OUTPUT VERIFICATION

THE MAXIMUM MOMENT IMBALANCE FOR ANY ELEMENT = -.261D-04 IN-LBS
THE MAX. LATERAL FORCE IMBALANCE FOR ANY ELEMENT = .204D-04 LBS

OUTPUT SUMMARY

PILE-HEAD DEFLECTION = .118D+01 IN

PIER

MAXIMUM BENDING MOMENT	=	.129D+08 LBS-IN
MAXIMUM SHEAR FORCE	=	-.222D+07 LBS
NO. OF ITERATIONS	=	16
NO. OF ZERO DEFLECTION POINTS	=	2

S U M M A R Y T A B L E

BOUNDARY CONDITION BC1	BOUNDARY CONDITION BC2	AXIAL LOAD LBS	PILE HEAD DEFLECTION IN	MAX. MOMENT IN-LBS	MAX. SHEAR LBS
.1180D+01	.1290D+08	.1510D+07	.1180D+01	.1290D+08	-.2219D+07

General Information:
====================
File Name: C:\DOCUME~1\BUIH\DESKTOP\BUI'SS~1\PIER48IN.COL
Project: FBR 0142-055 Code: ACI 318-89
Column: 48IN CAISSON Units: US in-lbs
Engineer: BUIH Date: 04/01/13 Time: 14:13:31

Run Option: Investigation Short (nonslender) column
Run Axis: X-axis Column Type: Structural

Material Properties:
====================
f'c = 4 ksi fy = 60 ksi
Ec = 3834.25 ksi Es = 29000 ksi
fc = 3.4 ksi erup = 0 in/in
eu = 0.003 in/in
Stress Profile: Block Beta1 = 0.85

Geometry:
=========
Circular: Diameter = 48 in

Gross section area, Ag = 1809.56 in^2
Ix = 260576 in^4 Xo = 0 in
Iy = 260576 in^4 Yo = 0 in

Reinforcement:
==============
Rebar Database: ASTM

Size	Diam	Area	Size	Diam	Area	Size	Diam	Area
3	0.38	0.11	4	0.50	0.20	5	0.63	0.31
6	0.75	0.44	7	0.88	0.60	8	1.00	0.79
9	1.13	1.00	10	1.27	1.27	11	1.41	1.56
14	1.69	2.25	18	2.26	4.00			

Confinement: Spiral; phi(c) = 0.75, phi(b) = 0.9, a = 0.85
#5 ties with #10 bars, #4 with larger bars.

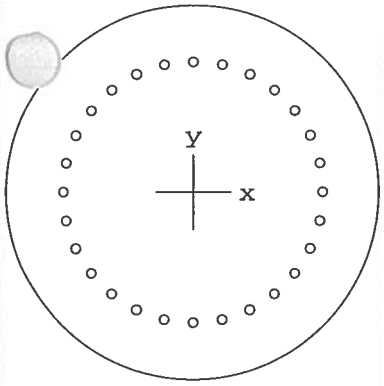
Layout: Circular
Pattern: All Sides Equal [Cover to transverse reinforcement (ties)]

Total steel area, As = 35.56 in^2 at 1.97%

28-#10 Cover = 6 in

Pt.	Applied Loads P (kips)	Mx (ft-k)	Computed Strength P (kips)	Mx (ft-k)	Computed/ Applied Ray length
1	1510	1075	3519	2548	2.344

Program completed as requested!



48.0 inch diam.

f'c = 4.0 ksi

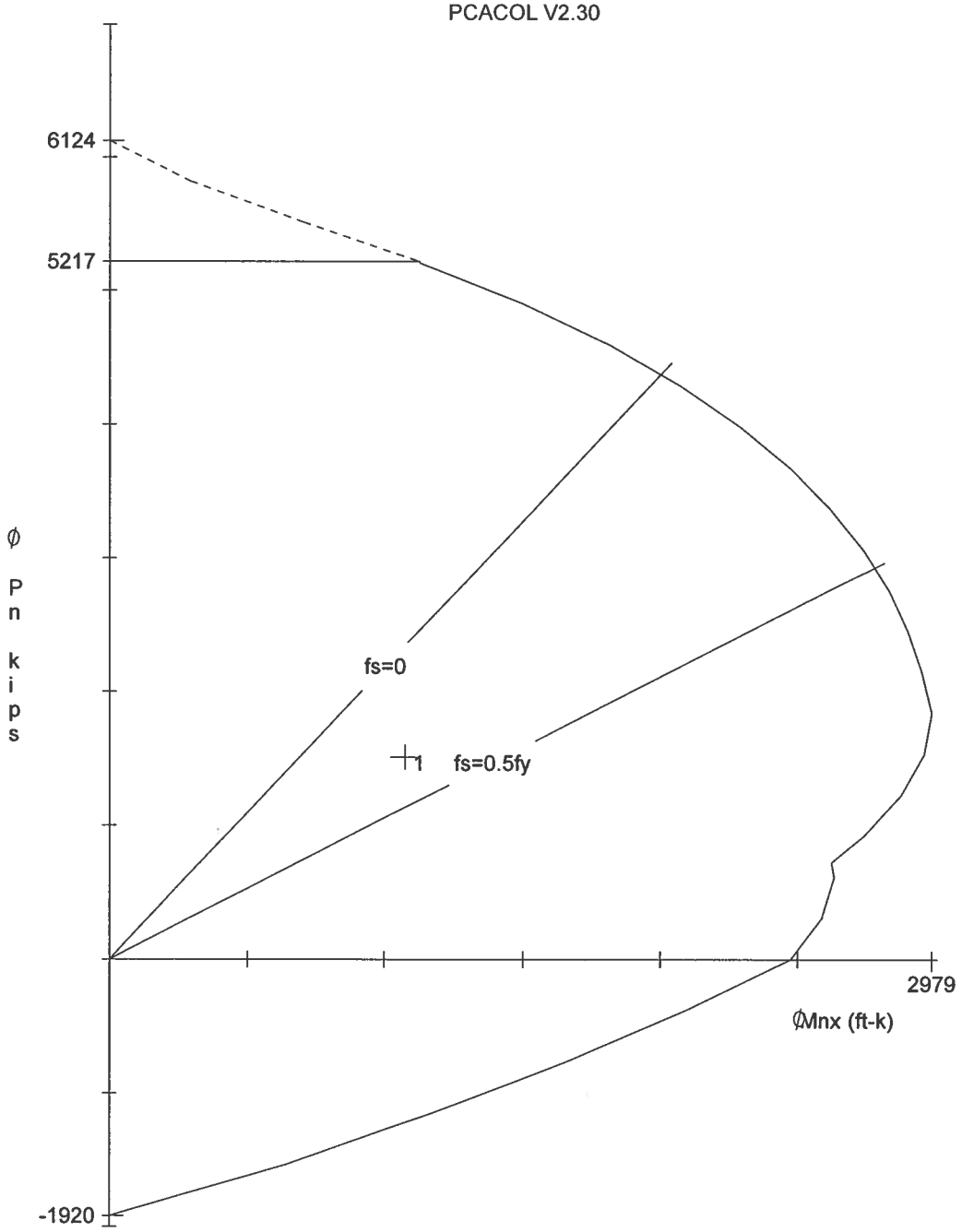
fy = 60.0 ksi

Confinement: Spiral
clr cover = 6.63 in
spacing = 2.48 in
28-#10 at 1.97%
= 36 in^2

Ix = 260576 in^4
Iy = 260576 in^4

Xo = 0.00 in
Yo = 0.00 in

PCACOL V2.30



Licensed To: Licensee name not yet specified.

File name: C:\DOCUME~1\BUIH\DESKTOP\BUI'SS~1\PIER48IN.COL

Project: FBR 0142-055

Column Id: 48IN CAISSON

Engineer: BUIH

Date: 04/01/13 Time: 14:13:31

Code: ACI 318-89

Units: in-lb

X-axis slenderness is not considered.

Material Properties:

Ec = 3834 ksi eu = 0.003 in/in

fc = 3.40 ksi Es = 29000 ksi

Beta1 = 0.85

Stress Profile: Block

phi(c) = 0.75, phi(b) = 0.90

General Information:
====================
File Name: C:\DOCUME~1\BUIH\DESKTOP\BUI'SS~1\PIER42IN.COL
Project: FBR 0142-055 Code: ACI 318-89
Column: 42IN COLUMN Units: US in-lbs
Engineer: BUIH Date: 04/01/13 Time: 15:29:32

Run Option: Investigation Short (nonslender) column
Run Axis: X-axis Column Type: Structural

Material Properties:
====================
f'c = 4.5 ksi fy = 60 ksi
Ec = 4066.84 ksi Es = 29000 ksi
fc = 3.825 ksi erup = 0 in/in
eu = 0.003 in/in
Stress Profile: Block Beta1 = 0.825

Geometry:
=========
Circular: Diameter = 42 in

Gross section area, Ag = 1385.44 in^2
Ix = 152745 in^4 Xo = 0 in
Iy = 152745 in^4 Yo = 0 in

Reinforcement:
==============
Rebar Database: ASTM

Size	Diam	Area	Size	Diam	Area	Size	Diam	Area
3	0.38	0.11	4	0.50	0.20	5	0.63	0.31
6	0.75	0.44	7	0.88	0.60	8	1.00	0.79
9	1.13	1.00	10	1.27	1.27	11	1.41	1.56
14	1.69	2.25	18	2.26	4.00			

Confinement: Spiral; phi(c) = 0.75, phi(b) = 0.9, a = 0.85
#5 ties with #10 bars, #4 with larger bars.

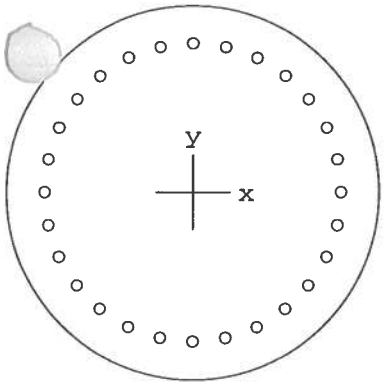
Layout: Circular
Pattern: All Sides Equal [Cover to transverse reinforcement (ties)]

Total steel area, As = 35.56 in^2 at 2.57%

28-#10 Cover = 3 in

Pt.	Applied Loads P (kips)	Mx (ft-k)	Computed Strength P (kips)	Mx (ft-k)	Computed/ Applied Ray length
1	1510	1075	2958	2202	1.989

Program completed as requested!



42.0 inch diam.

f'c = 4.5 ksi

fy = 60.0 ksi

Confinement: Spiral

clr cover = 3.63 in

spacing = 2.48 in

28-#10 at 2.57%

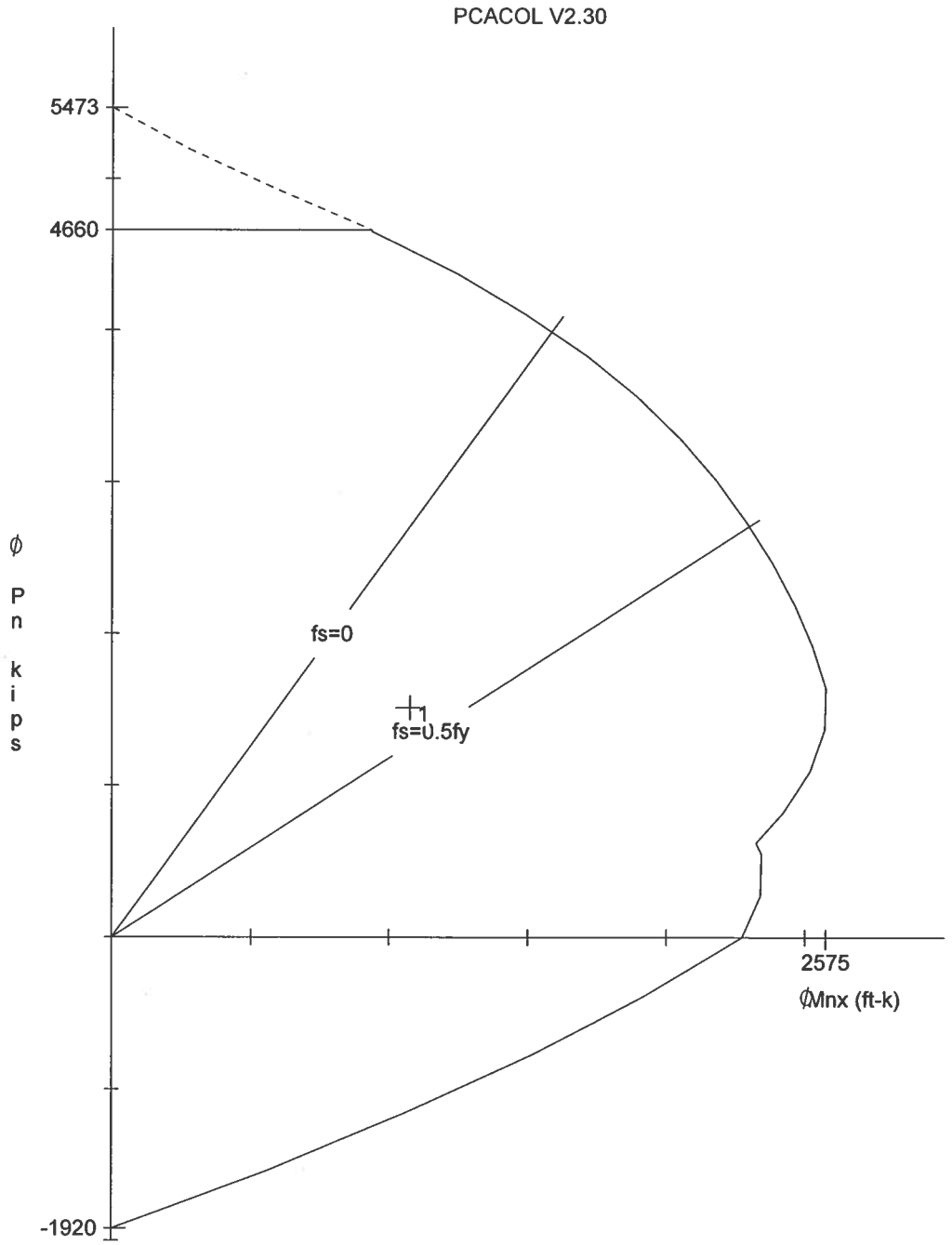
= 36 in^2

Ix = 152745 in^4

Iy = 152745 in^4

Xo = 0.00 in

Yo = 0.00 in



Licensed To: Licensee name not yet specified.

File name: C:\DOCUME~1\BUIH\DESKTOP\BUI'SS~1\PIER42IN.COL

Project: FBR 0142-055

Column Id: 42IN COLUMN

Engineer: BUIH

Date: 04/01/13 Time: 15:29:32

Code: ACI 318-89

Units: in-lb

X-axis slenderness is not considered.

Material Properties:

Ec = 4067 ksi eu = 0.003 in/in

fc = 3.83 ksi Es = 29000 ksi

Beta1 = 0.82

Stress Profile: Block

phi(c) = 0.75, phi(b) = 0.90

CAP DESIGN

CAP DESIGN
Code: AASHTO LRFD 2007 (with Interims)
Units: US
Pier View: Upstation.

DESIGN PARAMETERS	
f'c = 4500.0 psi	
Fy flex = 60000.0 psi	Fy shear = 60000.0 psi
phi tens = 0.90	
phi comp = 0.75	phi shear = 0.90
Tens below = 0.375	Comp Above = 0.600
Ec = 4066.8 ksi	Es = 29000.0 ksi
Crack check as per 2005 Interims	
Crack control Exposure = 1.00	
Concrete Type : Normal Weight.	
Design of cap at face of column.	

CAP GEOMETRY
Straight Cap : Length(X) = 124.00 ft Depth(Z) = 48.00 in

Cap Section Properties			
Sec.	Area ft ^2	Ixx in ^4	Izz in ^4
1	16.00	442368.00	442368.00

MAIN REINFORCEMENT							
	Bar size	Quantity	Bar dist. in	As total in^2	From ft	To ft	Hook
TOP							
	# 10	6	3.26	7.620	0.25	123.75	Both
	# 10	6	4.53	7.620	0.25	123.75	Both
BOTTOM							
	# 10	7	3.26	8.890	0.25	123.75	Both
	# 10	7	4.53	8.890	0.25	123.75	Both

STIRRUPS

From ft	To ft	Stirrup Size	n legs	Spacing in	Aprv/s in^2 / ft
0.25	2.00	# 5	4	10.50	1.42
2.50	12.50	# 5	4	6.00	2.48
13.50	21.50	# 5	4	12.00	1.24
21.91	36.00	# 5	4	4.97	2.99
37.00	44.00	# 5	4	12.00	1.24
44.30	57.50	# 5	4	3.77	3.95
57.50	66.50	# 5	4	12.00	1.24
66.81	80.00	# 5	4	3.77	3.95
81.00	88.00	# 5	4	12.00	1.24
88.41	102.50	# 5	4	4.97	2.99
103.50	111.50	# 5	4	12.00	1.24
112.00	122.00	# 5	4	6.00	2.48
122.88	123.75	# 5	4	10.50	1.42

Clear Cover on Sides = 2.00 in

FLEXURE DESIGN

Span 1: From 0.00 ft To 5.75 ft

Loc ft	AbsLoc ft	H in	Mmax Mmin kips-ft	Mr kips-ft	Comb	CL	Asb-req in^2	Asb-prv in^2	Asb-eff in^2	Ast-req in^2	Ast-prv in^2	Ast-eff in^2
4.2	4.2	48	0.0	3327.0	0	T	1.04	17.78	17.78	1.04	15.24	15.24
			-31.7	-2870.1	4345	T	1.04	17.78	17.78	1.04	15.24	15.24

Span 2: From 5.75 ft To 28.25 ft

Loc ft	AbsLoc ft	H in	Mmax Mmin kips-ft	Mr kips-ft	Comb	CL	Asb-req in^2	Asb-prv in^2	Asb-eff in^2	Ast-req in^2	Ast-prv in^2	Ast-eff in^2
1.6	7.3	48	634.5	3327.0	1750	T	4.32	17.78	17.78	1.04	15.24	15.24
			0.0	-2870.1	0	T	1.04	17.78	17.78	1.04	15.24	15.24
4.6	10.3	48	1838.5	3327.0	83	T	9.61	17.78	17.78	1.04	15.24	15.24
			0.0	-2870.1	0	T	1.04	17.78	17.78	1.04	15.24	15.24
10.6	16.4	48	2520.3	3327.0	102	T	13.36	17.78	17.78	1.04	15.24	15.24
			0.0	-2870.1	0	T	1.04	17.78	17.78	1.04	15.24	15.24
16.7	22.5	48	898.4	3327.0	23	T	6.16	17.78	17.78	1.04	15.24	15.24
			-206.5	-2870.1	1314	T	1.04	17.78	17.78	1.39	15.24	15.24
20.9	26.7	48	0.0	3327.0	0	T	1.04	17.78	17.78	1.04	15.24	15.24
			-2237.6	-2870.1	95	T	1.04	17.78	17.78	11.79	15.24	15.24

Span 3: From 28.25 ft To 50.75 ft

Loc ft	AbsLoc ft	H in	Mmax Mmin kips-ft	Mr kips-ft	Comb	CL	Asb-req in^2	Asb-prv in^2	Asb-eff in^2	Ast-req in^2	Ast-prv in^2	Ast-eff in^2
1.6	29.8	48	0.0	3327.0	0	T	1.04	17.78	17.78	1.04	15.24	15.24
			-1600.6	-2870.1	94	T	1.04	17.78	17.78	8.32	15.24	15.24
6.4	34.6	48	1191.7	3327.0	87	T	7.50	17.78	17.78	1.04	15.24	15.24
			0.0	-2870.1	0	T	1.04	17.78	17.78	1.04	15.24	15.24
12.5	40.7	48	1923.3	3327.0	18	T	10.07	17.78	17.78	1.04	15.24	15.24
			0.0	-2870.1	0	T	1.04	17.78	17.78	1.04	15.24	15.24
18.6	46.8	48	179.9	3327.0	1382	T	1.21	17.78	17.78	1.04	15.24	15.24
			-597.5	-2870.1	15	T	1.04	17.78	17.78	4.06	15.24	15.24
20.9	49.2	48	0.0	3327.0	0	T	1.04	17.78	17.78	1.04	15.24	15.24
			-1818.3	-2870.1	85	T	1.04	17.78	17.78	9.50	15.24	15.24

Span 4: From 50.75 ft To 73.25 ft

Loc ft	AbsLoc ft	H in	Mmax Mmin kips-ft	Mr kips-ft	Comb	CL	Asb-req in^2	Asb-prv in^2	Asb-eff in^2	Ast-req in^2	Ast-prv in^2	Ast-eff in^2
1.6	52.3	48	0.0	3327.0	0	T	1.04	17.78	17.78	1.04	15.24	15.24
			-1460.9	-2870.1	74	T	1.04	17.78	17.78	7.57	15.24	15.24
2.1	52.9	48	0.0	3327.0	0	T	1.04	17.78	17.78	1.04	15.24	15.24
			-1104.0	-2870.1	74	T	1.04	17.78	17.78	7.50	15.24	15.24
8.2	59.0	48	1738.9	3327.0	15	T	9.07	17.78	17.78	1.04	15.24	15.24
			0.0	-2870.1	0	T	1.04	17.78	17.78	1.04	15.24	15.24
14.3	65.1	48	1733.5	3327.0	6	T	9.04	17.78	17.78	1.04	15.24	15.24
			0.0	-2870.1	0	T	1.04	17.78	17.78	1.04	15.24	15.24
20.4	71.1	48	0.0	3327.0	0	T	1.04	17.78	17.78	1.04	15.24	15.24
			-1113.7	-2870.1	63	T	1.04	17.78	17.78	7.50	15.24	15.24
20.9	71.7	48	0.0	3327.0	0	T	1.04	17.78	17.78	1.04	15.24	15.24
			-1458.5	-2870.1	63	T	1.04	17.78	17.78	7.56	15.24	15.24

Span 5: From 73.25 ft To 95.75 ft

Loc ft	AbsLoc ft	H in	Mmax Mmin kips-ft	Mr kips-ft	Comb	CL	Asb-req in^2	Asb-prv in^2	Asb-eff in^2	Ast-req in^2	Ast-prv in^2	Ast-eff in^2
1.6	74.8	48	0.0	3327.0	0	T	1.04	17.78	17.78	1.04	15.24	15.24
			-1818.7	-2870.1	58	T	1.04	17.78	17.78	9.50	15.24	15.24
4.0	77.2	48	186.9	3327.0	1351	T	1.26	17.78	17.78	1.04	15.24	15.24
			-590.3	-2870.1	6	T	1.04	17.78	17.78	4.02	15.24	15.24
10.1	83.3	48	1925.6	3327.0	2	T	10.08	17.78	17.78	1.04	15.24	15.24
			0.0	-2870.1	0	T	1.04	17.78	17.78	1.04	15.24	15.24
16.1	89.4	48	1186.4	3327.0	47	T	7.50	17.78	17.78	1.04	15.24	15.24
			0.0	-2870.1	0	T	1.04	17.78	17.78	1.04	15.24	15.24
20.9	94.2	48	0.0	3327.0	0	T	1.04	17.78	17.78	1.04	15.24	15.24
			-1602.0	-2870.1	46	T	1.04	17.78	17.78	8.33	15.24	15.24

Span 6: From 95.75 ft To 118.25 ft

Loc ft	AbsLoc ft	H in	Mmax Mmin kips-ft	Mr kips-ft	Comb	CL	Asb-req in^2	Asb-prv in^2	Asb-eff in^2	Ast-req in^2	Ast-prv in^2	Ast-eff in^2
1.6	97.3	48	0.0	3327.0	0	T	1.04	17.78	17.78	1.04	15.24	15.24
			-2236.8	-2870.1	41	T	1.04	17.78	17.78	11.78	15.24	15.24
5.8	101.6	48	908.3	3327.0	4	T	6.23	17.78	17.78	1.04	15.24	15.24
			-201.4	-2870.1	1298	T	1.04	17.78	17.78	1.36	15.24	15.24

Units: US (English)

Design Code: AASHTO LRFD

Loc ft	AbsLoc ft	H in	Mmax Mmin kips-ft	Mr kips-ft	Comb	CL	Asb-req in^2	Asb-prv in^2	Asb-eff in^2	Ast-req in^2	Ast-prv in^2	Ast-eff in^2
11.9	107.6	48	2521.3	3327.0	34	T	13.37	17.78	17.78	1.04	15.24	15.24
			0.0	-2870.1	0	T	1.04	17.78	17.78	1.04	15.24	15.24
18.0	113.7	48	1830.6	3327.0	29	T	9.56	17.78	17.78	1.04	15.24	15.24
			0.0	-2870.1	0	T	1.04	17.78	17.78	1.04	15.24	15.24
20.9	116.7	48	667.4	3327.0	1749	T	4.55	17.78	17.78	1.04	15.24	15.24
			0.0	-2870.1	0	T	1.04	17.78	17.78	1.04	15.24	15.24

Span 7: From 118.25 ft To 124.00 ft

Loc ft	AbsLoc ft	H in	Mmax Mmin kips-ft	Mr kips-ft	Comb	CL	Asb-req in^2	Asb-prv in^2	Asb-eff in^2	Ast-req in^2	Ast-prv in^2	Ast-eff in^2
1.6	119.8	48	0.0	3327.0	0	T	1.04	17.78	17.78	1.04	15.24	15.24
			-31.7	-2870.1	4345	T	1.04	17.78	17.78	1.04	15.24	15.24

Flexure Design : Notes

CL: Section classification as per LRFD 2006 interims for provided reinforcement.

C = Compression controlled, I = In-Transition, T = Tension controlled.

* The provided reinforcement is not adequate, either less than required or larger than maximum allowed.

SHEAR AND TORSION DESIGN

Span 1: From 0.00 ft To 5.75 ft

Loc ft	AbsLoc ft	Pos	Vu kips	Comb	Tu kips-ft	Comb	phi*Vc kips	T-lim kips-ft	Avs/s in^2/ft	2Ats/s in^2/ft	Av/s in^2/ft	Aprv/s in^2/ft	Alx in^2
4.20	4.20	L	15.1	4345	0.0	0	545.1	137.5	0.00	0.00	0.00	2.48	0.00

Span 2: From 5.75 ft To 28.25 ft

Loc ft	AbsLoc ft	Pos	Vu kips	Comb	Tu kips-ft	Comb	phi*Vc kips	T-lim kips-ft	Avs/s in^2/ft	2Ats/s in^2/ft	Av/s in^2/ft	Aprv/s in^2/ft	Alx in^2
1.55	7.30	R	525.5	83	508.5	538	226.6	137.5	1.18	0.62	1.80	2.48	0.00
4.55	10.30	L	516.5	83	508.5	538	226.5	137.5	1.14	0.62	1.76	2.48	0.11
		R	149.1	23	391.0	456	300.3	137.5	0.22	0.43	0.64	2.48	0.00
10.64	16.39	L	130.8	23	391.0	456	255.5	137.5	0.19	0.45	0.64	1.24	0.00
		R	291.2	83	301.9	533	232.4	137.5	0.28	0.36	0.64	1.24	0.56
16.72	22.47	L	309.5	83	301.9	533	301.6	137.5	0.31	0.33	0.64	2.99	0.00
		R	686.2	23	268.3	852	191.3	137.5	2.11	0.35	2.46	2.99	0.00
20.95	26.70	L	698.9	23	268.3	852	170.0	137.5	2.40	0.38	2.78	2.99	4.91

Span 3: From 28.25 ft To 50.75 ft

Loc ft	AbsLoc ft	Pos	Vu kips	Comb	Tu kips-ft	Comb	phi*Vc kips	T-lim kips-ft	Avs/s in^2/ft	2Ats/s in^2/ft	Av/s in^2/ft	Aprv/s in^2/ft	Alx in^2
1.55	29.80	R	535.0	18	475.0	525	203.5	137.5	1.37	0.61	1.98	2.99	0.00
6.39	34.64	L	520.5	18	475.0	525	227.9	137.5	1.15	0.58	1.73	2.99	0.00
		R	146.8	90	336.2	523	368.8	137.5	0.30	0.34	0.64	2.99	0.00
12.47	40.72	L	128.5	90	336.2	523	304.5	137.5	0.28	0.37	0.64	1.24	0.00
		R	312.4	411	266.7	831	262.8	137.5	0.34	0.31	0.64	1.24	0.00
18.55	46.80	L	330.7	411	266.7	831	270.0	137.5	0.34	0.30	0.64	3.95	0.00
		R	690.9	188	341.6	621	190.4	137.5	2.14	0.45	2.59	3.95	0.00
20.95	49.20	L	698.1	188	341.6	621	170.1	137.5	2.39	0.48	2.87	3.95	1.35

Span 4: From 50.75 ft To 73.25 ft

Loc ft	AbsLoc ft	Pos	Vu kips	Comb	Tu kips-ft	Comb	phi*Vc kips	T-lim kips-ft	Avs/s in^2/ft	2Ats/s in^2/ft	Av/s in^2/ft	Aprv/s in^2/ft	Alx in^2
1.55	52.30	R	794.3	76	582.8	509	155.1	137.5	3.06	0.86	3.92	3.95	2.25
2.14	52.89	L	792.5	76	582.8	509	155.3	137.5	3.05	0.86	3.91	3.95	0.00
		R	424.8	15	423.0	502	234.7	137.5	0.74	0.51	1.25	3.95	0.00
8.22	58.97	L	406.6	15	423.0	502	246.2	137.5	0.61	0.50	1.11	1.24	0.29
		R	80.4	825	326.9	821	377.7	137.5	0.31	0.33	0.64	1.24	0.00
14.30	65.05	L	81.7	176	326.9	713	374.1	137.5	0.31	0.33	0.64	1.24	0.00
		R	407.9	6	423.0	497	246.2	137.5	0.62	0.50	1.11	1.24	0.29
20.39	71.14	L	426.2	6	423.0	497	234.3	137.5	0.75	0.51	1.25	3.95	0.00
		R	793.7	61	582.7	485	155.1	137.5	3.06	0.86	3.92	3.95	0.00
20.95	71.70	L	795.4	61	582.7	485	154.9	137.5	3.07	0.86	3.93	3.95	2.26

Span 5: From 73.25 ft To 95.75 ft

Loc ft	AbsLoc ft	Pos	Vu kips	Comb	Tu kips-ft	Comb	phi*Vc kips	T-lim kips-ft	Avs/s in^2/ft	2Ats/s in^2/ft	Av/s in^2/ft	Aprv/s in^2/ft	Alx in^2
1.55	74.80	R	696.8	164	341.4	584	170.3	137.5	2.39	0.48	2.86	3.95	1.34
3.97	77.22	L	689.5	164	341.4	584	190.7	137.5	2.13	0.45	2.58	3.95	0.00
		R	329.8	371	266.7	810	270.4	137.5	0.34	0.30	0.64	3.95	0.00
10.05	83.30	L	311.6	371	266.7	810	262.7	137.5	0.34	0.31	0.64	1.24	0.00
		R	129.8	48	336.0	481	304.1	137.5	0.28	0.37	0.64	1.24	0.00
16.14	89.39	L	148.0	48	336.0	481	369.0	137.5	0.30	0.34	0.64	2.99	0.00
		R	521.9	2	475.2	471	227.6	137.5	1.16	0.58	1.73	2.99	0.00
20.95	94.20	L	536.3	2	475.2	471	203.2	137.5	1.38	0.61	1.99	2.99	0.00

Span 6: From 95.75 ft To 118.25 ft

Loc ft	AbsLoc ft	Pos	Vu kips	Comb	Tu kips-ft	Comb	phi*Vc kips	T-lim kips-ft	Avs/s in^2/ft	2Ats/s in^2/ft	Av/s in^2/ft	Aprv/s in^2/ft	Alx in^2
1.55	97.30	R	697.5	4	268.4	796	170.2	137.5	2.39	0.38	2.77	2.99	4.87
5.80	101.55	L	684.7	4	268.4	796	191.5	137.5	2.10	0.35	2.45	2.99	0.00
		R	308.0	29	301.5	468	302.3	137.5	0.32	0.33	0.64	2.99	0.00
11.89	107.64	L	289.8	29	301.5	468	232.6	137.5	0.28	0.36	0.64	1.24	0.53
		R	132.3	4	390.9	440	255.3	137.5	0.19	0.45	0.64	1.24	0.00
17.97	113.72	L	150.6	4	390.9	440	300.5	137.5	0.22	0.43	0.64	2.48	0.00
		R	518.4	29	508.1	462	226.6	137.5	1.15	0.62	1.77	2.48	0.11
20.95	116.70	L	527.3	29	508.1	462	226.2	137.5	1.19	0.62	1.81	2.48	0.00

Span 7: From 118.25 ft To 124.00 ft

Loc ft	AbsLoc ft	Pos	Vu kips	Comb	Tu kips-ft	Comb	phi*Vc kips	T-lim kips-ft	Avs/s in^2/ft	2Ats/s in^2/ft	Av/s in^2/ft	Aprv/s in^2/ft	Alx in^2
1.55	119.80	R	15.1	4345	0.0	0	545.1	137.5	0.00	0.00	0.00	2.48	0.00

Units: US (English)

Design Code: AASHTO LRFD

Shear and Torsion Design : Notes

- Pos is the design position. L suggests the calculation is done at immediate left of "Loc" and R suggests at immediate right of it.
- T-lim is the limiting value of torsion for the concrete section. If actual torsion is higher than this value, torsional steel has to be provided.
- Avs/s is the required area of steel per unit length for shear force.
- 2Ats/s is the required area of steel per unit length for two legs of torsional reinforcement.
- Av/s is the total required area of steel per unit length due to shear plus torsion.
- Aprvs/s is the total provided area of steel per unit length due to shear (stirrups).
- Alx is the EFFECTIVE longitudinal steel required in addition to the PROVIDED EFFECTIVE flexural steel.

CRACKING/FATIGUE CHECK

Span 1: From 0.00 ft To 5.75 ft

Loc ft	AbsLoc ft	H in	Cracking Comb	Cracking fs-t fs-b ksi	Cracking dc in	Cracking Srqt Srqb in	Cracking Sprt Sprb in	Fatigue fs-t fs-b ksi	Fatigue ratio fs-t ratio fs-b	Fatigue Comb
4.20	4.2	48.0	1753	0.4	3.3	48.0	8.3	0.0	0.00	0
			0	0.0	3.3	48.0	6.9	0.0	0.00	0

Span 2: From 5.75 ft To 28.25 ft

Loc ft	AbsLoc ft	H in	Cracking Comb	Cracking fs-t fs-b ksi	Cracking dc in	Cracking Srqt Srqb in	Cracking Sprt Sprb in	Fatigue fs-t fs-b ksi	Fatigue ratio fs-t ratio fs-b	Fatigue Comb
1.55	7.3	48.0	0	0.0	3.3	48.0	8.3	0.0	0.00	0
			1986	22.4	3.3	21.8	6.9	0.0	0.00	0
4.55	10.3	48.0	0	0.0	3.3	48.0	8.3	0.0	0.00	0
			3563	35.9	3.3	11.2	6.9	0.0	0.00	0
10.64	16.4	48.0	0	0.0	3.3	48.0	8.3	0.0	0.00	0
			3582	36.9	3.3	10.6	6.9	0.0	0.00	0
16.72	22.5	48.0	3498	4.5	3.3	48.0	8.3	0.0	0.00	0
			3503	8.3	3.3	48.0	6.9	0.0	0.00	0
20.95	26.7	48.0	3575	43.4	3.3	8.1	8.3*	0.0	0.00	0
			0	0.0	3.3	48.0	6.9	0.0	0.00	0

$\frac{8.3}{8.1} = 1.025$

2.5% < 5% ok

Span 3: From 28.25 ft To 50.75 ft

Loc ft	AbsLoc ft	H in	Cracking Comb	Cracking fs-t fs-b ksi	Cracking dc in	Cracking Srqt Srqb in	Cracking Sprt Sprb in	Fatigue fs-t fs-b ksi	Fatigue ratio fs-t ratio fs-b	Fatigue Comb
1.55	29.8	48.0	3574	20.2	3.3	24.9	8.3	0.0	0.00	0
			0	0.0	3.3	48.0	6.9	0.0	0.00	0
6.39	34.6	48.0	0	0.0	3.3	48.0	8.3	0.0	0.00	0

Units: US (English)

Design Code: AASHTO LRFD

Loc ft	AbsLoc ft	H in	Cracking Comb	Cracking fs-t fs-b ksi	Cracking dc in	Cracking Srqt Srqb in	Cracking Sprt Sprb in	Fatigue fs-t fs-b ksi	Fatigue ratio fs-t ratio fs-b	Fatigue Comb
			3567	16.9	3.3	31.0	6.9	0.0	0.00	0
12.47	40.7	48.0	0	0.0	3.3	48.0	8.3	0.0	0.00	0
			3498	24.4	3.3	19.5	6.9	0.0	0.00	0
18.55	46.8	48.0	3495	11.2	3.3	48.0	8.3	0.0	0.00	0
			0	0.0	3.3	48.0	6.9	0.0	0.00	0
20.95	49.2	48.0	3565	30.6	3.3	14.2	8.3	0.0	0.00	0
			0	0.0	3.3	48.0	6.9	0.0	0.00	0

Span 4: From 50.75 ft To 73.25 ft

Loc ft	AbsLoc ft	H in	Cracking Comb	Cracking fs-t fs-b ksi	Cracking dc in	Cracking Srqt Srqb in	Cracking Sprt Sprb in	Fatigue fs-t fs-b ksi	Fatigue ratio fs-t ratio fs-b	Fatigue Comb
1.55	52.3	48.0	3554	20.9	3.3	23.9	8.3	0.0	0.00	0
			0	0.0	3.3	48.0	6.9	0.0	0.00	0
2.14	52.9	48.0	3554	15.5	3.3	34.5	8.3	0.0	0.00	0
			0	0.0	3.3	48.0	6.9	0.0	0.00	0
8.22	59.0	48.0	0	0.0	3.3	48.0	8.3	0.0	0.00	0
			3495	23.1	3.3	20.9	6.9	0.0	0.00	0
14.30	65.1	48.0	0	0.0	3.3	48.0	8.3	0.0	0.00	0
			3486	23.0	3.3	21.0	6.9	0.0	0.00	0
20.39	71.1	48.0	3543	15.6	3.3	34.1	8.3	0.0	0.00	0
			0	0.0	3.3	48.0	6.9	0.0	0.00	0
20.95	71.7	48.0	3543	20.8	3.3	23.9	8.3	0.0	0.00	0
			0	0.0	3.3	48.0	6.9	0.0	0.00	0

Span 5: From 73.25 ft To 95.75 ft

Loc ft	AbsLoc ft	H in	Cracking Comb	Cracking fs-t fs-b ksi	Cracking dc in	Cracking Srqt Srqb in	Cracking Sprt Sprb in	Fatigue fs-t fs-b ksi	Fatigue ratio fs-t ratio fs-b	Fatigue Comb
1.55	74.8	48.0	3538	30.6	3.3	14.2	8.3	0.0	0.00	0
			0	0.0	3.3	48.0	6.9	0.0	0.00	0
3.97	77.2	48.0	3486	11.1	3.3	48.0	8.3	0.0	0.00	0
			0	0.0	3.3	48.0	6.9	0.0	0.00	0
10.05	83.3	48.0	0	0.0	3.3	48.0	8.3	0.0	0.00	0
			3482	24.4	3.3	19.5	6.9	0.0	0.00	0
16.14	89.4	48.0	0	0.0	3.3	48.0	8.3	0.0	0.00	0
			3527	16.8	3.3	31.2	6.9	0.0	0.00	0
20.95	94.2	48.0	3526	20.2	3.3	24.8	8.3	0.0	0.00	0
			0	0.0	3.3	48.0	6.9	0.0	0.00	0

Span 6: From 95.75 ft To 118.25 ft

Loc ft	AbsLoc ft	H in	Cracking Comb	Cracking fs-t fs-b ksi	Cracking dc in	Cracking Srqt Srqb in	Cracking Sprt Sprb in	Fatigue fs-t fs-b ksi	Fatigue ratio fs-t ratio fs-b	Fatigue Comb
1.55	97.3	48.0	3521	43.4	3.3	8.1	8.3*	0.0	0.00	0
			0	0.0	3.3	48.0	6.9	0.0	0.00	0
5.80	101.6	48.0	3482	4.4	3.3	48.0	8.3	0.0	0.00	0
			3484	8.4	3.3	48.0	6.9	0.0	0.00	0

$\frac{8.3}{8.1} = 1.025$

$2.5\% < 5\%$ OK

455/508

Units: US (English)

Design Code: AASHTO LRFD

Loc ft	AbsLoc ft	H in	Cracking Comb	Cracking fs-t fs-b ksi	Cracking dc in	Cracking Srqt Srqb in	Cracking Sprt Sprb in	Fatigue fs-t fs-b ksi	Fatigue ratio fs-t ratio fs-b	Fatigue Comb
11.89	107.6	48.0	0	0.0	3.3	48.0	8.3	0.0	0.00	0
			3514	37.0	3.3	10.6	6.9	0.0	0.00	0
17.97	113.7	48.0	0	0.0	3.3	48.0	8.3	0.0	0.00	0
			3509	35.8	3.3	11.2	6.9	0.0	0.00	0
20.95	116.7	48.0	0	0.0	3.3	48.0	8.3	0.0	0.00	0
			2186	22.5	3.3	21.6	6.9	0.0	0.00	0

Span 7: From 118.25 ft To 124.00 ft

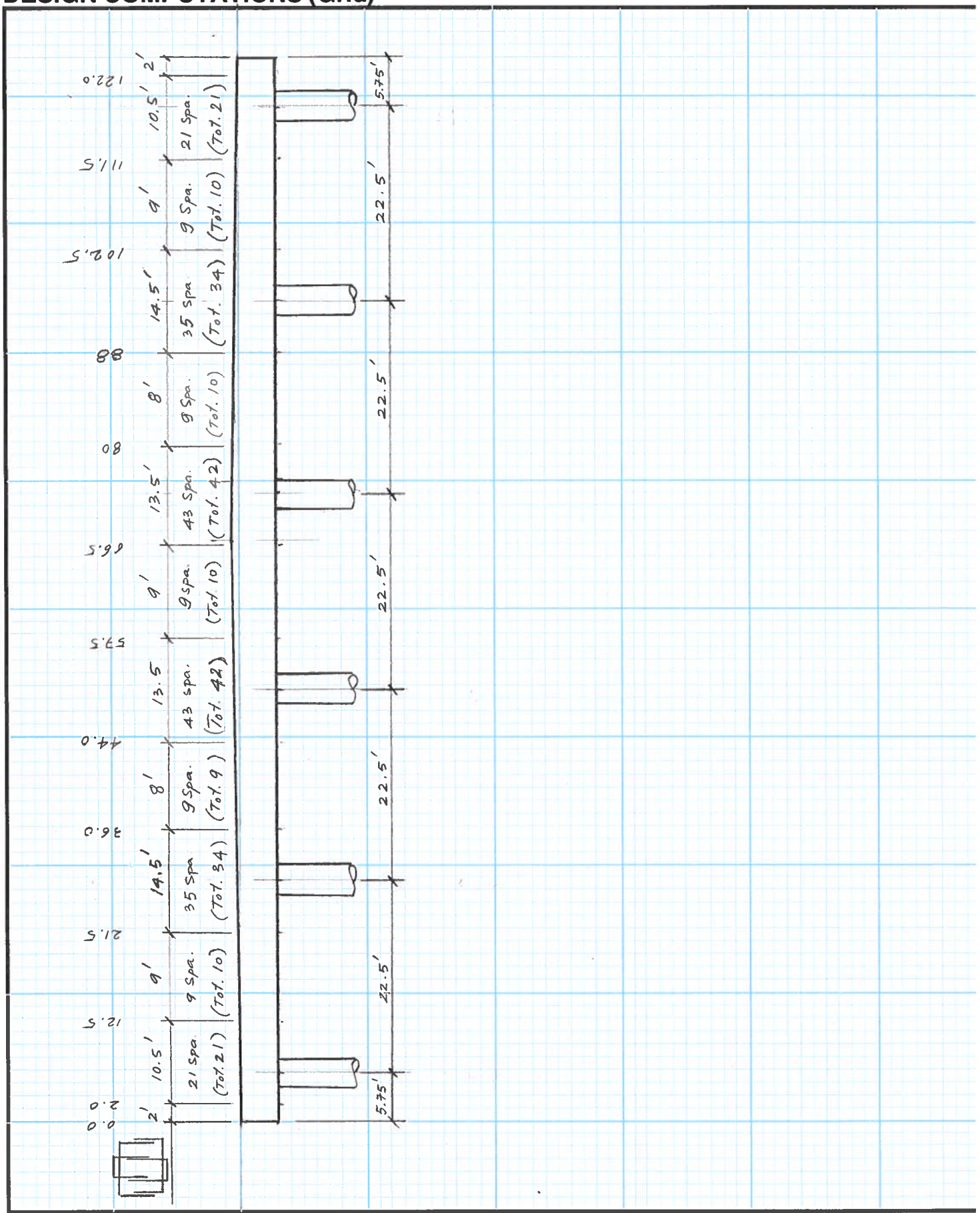
Loc ft	AbsLoc ft	H in	Cracking Comb	Cracking fs-t fs-b ksi	Cracking dc in	Cracking Srqt Srqb in	Cracking Sprt Sprb in	Fatigue fs-t fs-b ksi	Fatigue ratio fs-t ratio fs-b	Fatigue Comb
1.55	119.8	48.0	1969	0.4	3.3	48.0	8.3	0.0	0.00	0
			0	0.0	3.3	48.0	6.9	0.0	0.00	0

Cracking and fatigue Check : Notes

* Provided rebar spacing is not adequate for crack control.

COLORADO DEPARTMENT OF TRANSPORTATION

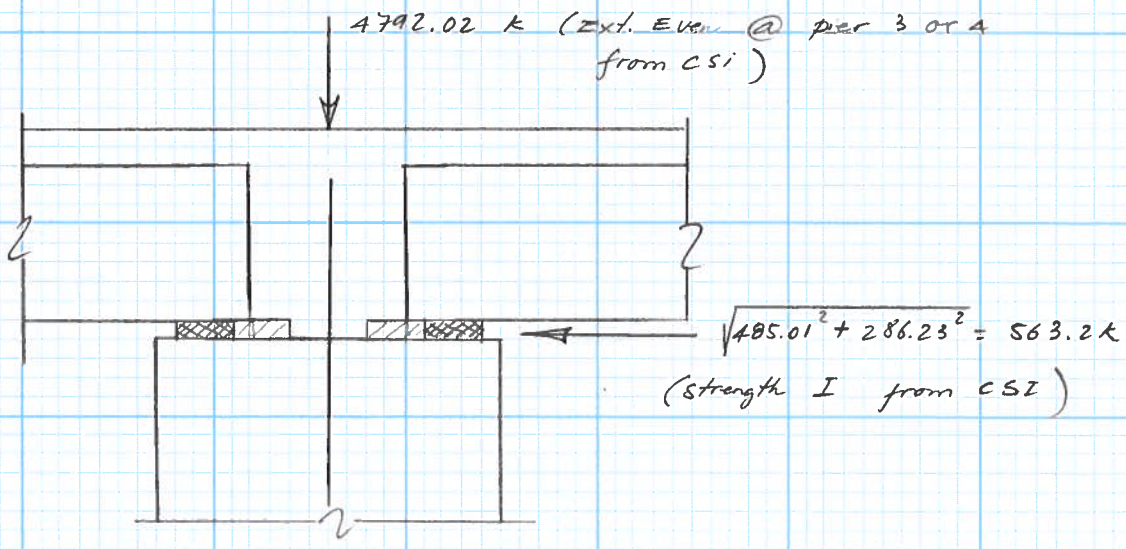
DESIGN COMPUTATIONS (Grid)



By: HB Date 7/13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 457 of 508

CDOT Form #1034 3/

Dowel Design at pier



Design Shear Load

$V_u = \max(4792.02(0.15), 563.2) = 718.8$ k

Diaphragm Length = 121.5'

$p_u = \frac{718.8}{121.5} = 5.91$ k per ft

$V_r = \phi \mu A_{vf} f_y$ (5.8.4.1-3)

$\phi = 0.9$ (5.5.4.2)

$\mu = 0.6$ (5.8.4.3)

$V_r > p_u \Rightarrow A_{vf} \geq \frac{p_u}{\phi \mu f_y} = \frac{5.91}{0.9(0.6)(60)} = 0.18$ in^2 per ft

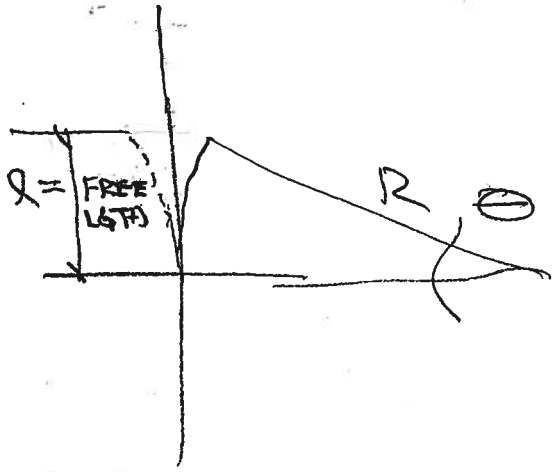
or $A_{vf} = 0.18(1.5) = 0.27$ in^2 per 1'-6"

Use #6 @ 1'-6"

By: HB Date 7/13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 458 of 508

PIER DOWEL FATIGUE CHECK

RLO 2-5-03



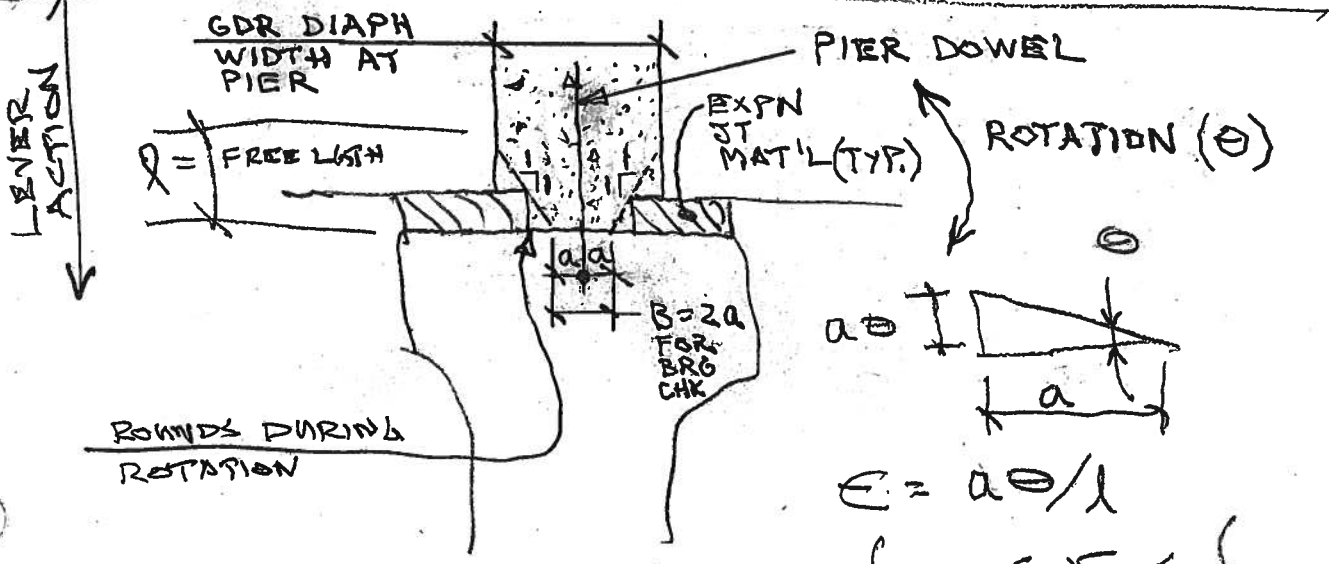
$$\ell \approx l = R\theta \rightarrow R = \frac{l}{\theta}$$

$$\frac{1}{\rho} = \frac{M}{EI} \rightarrow M = \frac{EI}{\rho} = \frac{EI}{R}$$

$$f = \frac{M}{S} = \frac{32M}{\pi D^3} \le f_{fsr}$$

PURE ROTATION

LEVER ACTION



$$\epsilon = a\theta / l$$

$$f = \epsilon E \le f_{fsr}$$

PIER DOWEL FATIGUE CHECK

$\theta = 0.0005$ rad (Assumed)

$a = \frac{1}{2}(5 - 2(0.75)) = 1.75''$

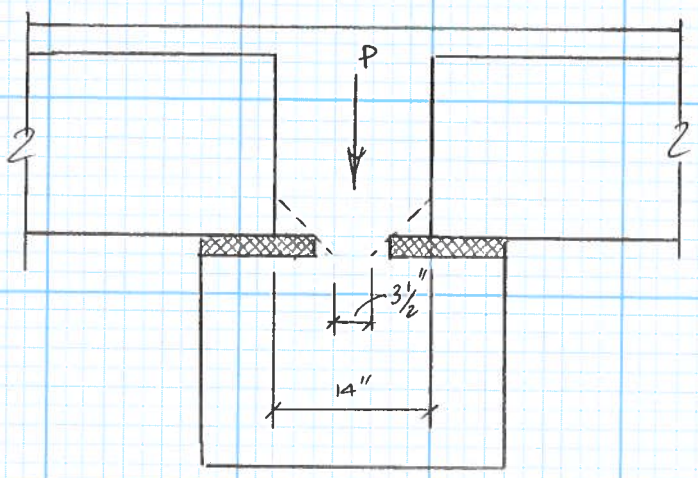
$f_f = 24 - 0.33 f_{min}$, $f_{min} = 0$ (5.5.3.2-1)

$\Rightarrow f_f = 24$ ksi

$\epsilon = \frac{a\theta}{l} \Rightarrow l = \frac{a\theta}{\epsilon} = \left(\frac{1.75(0.0005)}{24/29000}\right) = 1.06''$ Say OK

By: HB Date 7/13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 460 of 508

Concrete bearing Design @ diaphragm dowel



$P = 6246.04$ k from CSI

$A_1 = 12(3.5) = 42$ in^2

$A_2 = 12(14) = 168$ in^2

$p = \frac{6246.04}{121.5} = 51.41$ k per ft

$m = 0.75\sqrt{\frac{A_2}{A_1}} \leq 1.5$ (5.7.5-4), $m = 0.75\sqrt{\frac{168}{42}} = 1.5$

$P_R = \phi\, 0.85\, f'_c\, A_1\, m$ (5.7.5-2) $\phi = 0.7$ (5.5.4.2)

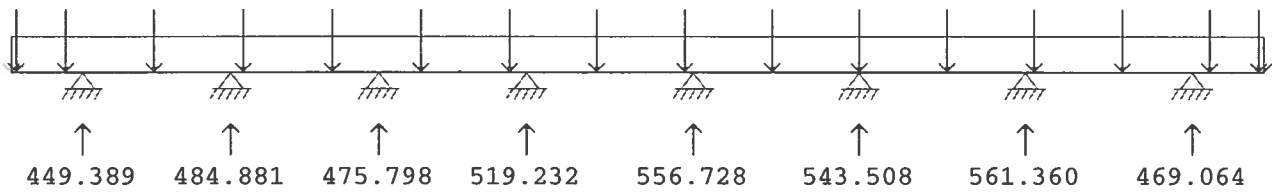
$P_R = 0.7(0.85)(4.5)(42)(1.5) = 168.7$ k per ft > 51.41 k per ft OK

By: HB Date 7/13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 461 of 508	

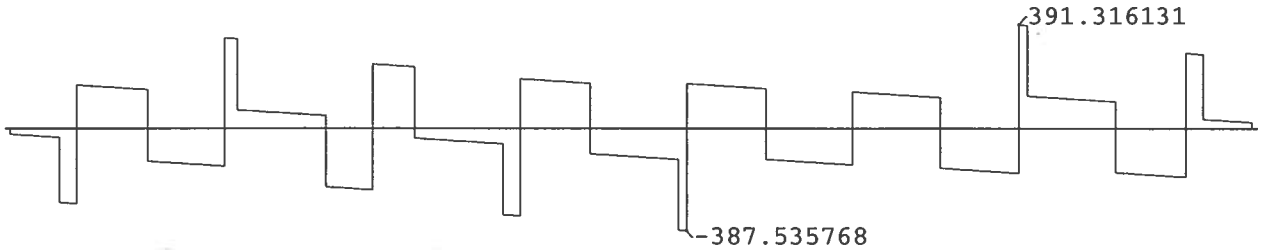
WinBeam

Project:				
By:	Date:	Checked:	Date:	Page:

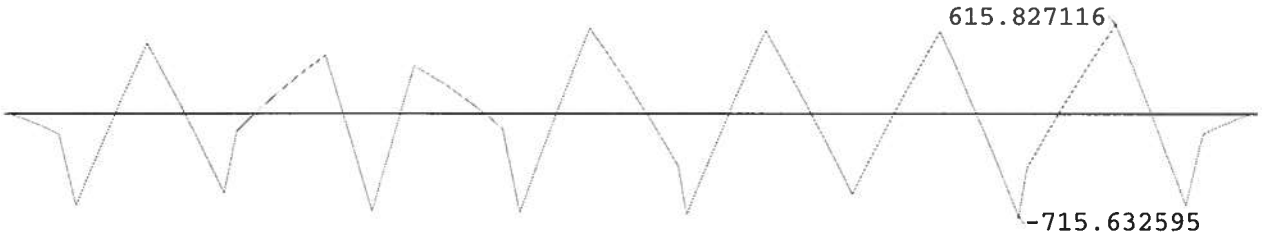
Reactions - kips, kip ft



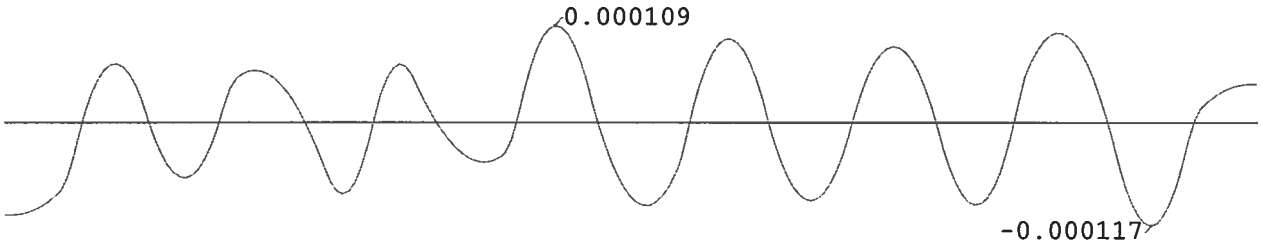
Shear - kips



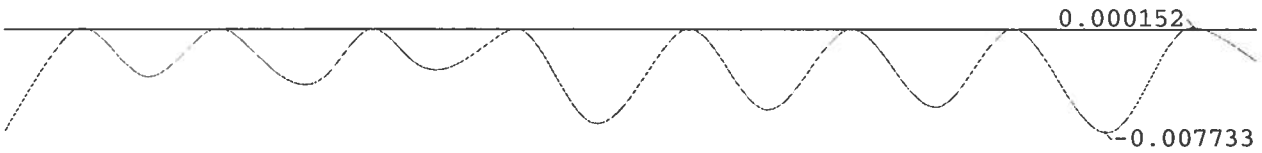
Moment - kip ft



Rotation - radians



Deflection - inches



WinBeam

Project:				
By:	Date:	Checked:	Date:	Page:

Analysis Data:

Beam Length = 127. feet
Number of Nodes = 224
Number of Elements = 223
Number of Degrees of Freedom = 448

Reactions:

X feet	Vert kips	Rot kip ft
7.250	449.389	
22.250	484.881	
37.250	475.798	
52.250	519.232	
69.125	556.728	
86.000	543.508	
102.875	561.360	
119.750	469.064	

Equilibrium:

	Force	Reaction	Diff
Vert	-4059.960	4059.960	0.000 kips
Rot	258045.841	-258046	-0.000 kip ft

Min & Max values:

Min Shear	=	-387.536 kips	at	69.125 feet
Max Shear	=	391.316 kips	at	102.875 feet
Min Moment	=	-715.633 kip ft	at	102.875 feet
Max Moment	=	615.827 kip ft	at	112.625 feet
Min Rotation	=	-0.0001166 radians	at	116.205 feet
Max Rotation	=	0.0001093 radians	at	55.880 feet
Min Deflection	=	-0.007733 in	at	111.760 feet
Max Deflection	=	0.0001519 in	at	120.650 feet

WinBeam

Project:

By: **Date:** **Checked:** **Date:** **Page:**

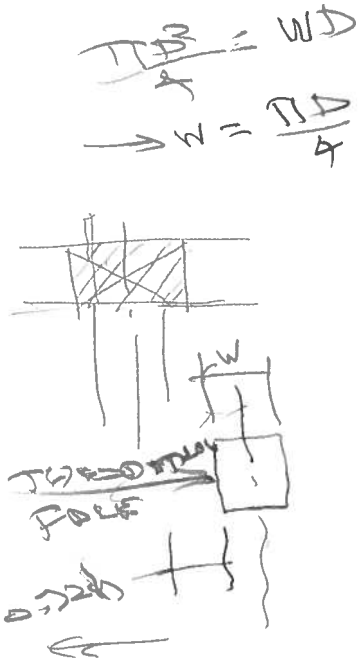
	X in	EI kip in^2	Shear kips	Moment kip in	Rotation rad	Disp in	
	0.000	1.921e+009	0.000	0.000	-0.0001049	-0.007691	
	7.620	1.921e+009	-22.968	-40.531	-0.0001049	-0.006891	
	22.860	1.921e+009	-26.003	-413.687	-0.0001031	-0.005303	
	38.100	1.921e+009	-29.038	-833.101	-9.818e-005	-0.003765	
	53.340	1.921e+009	-32.074	-1298.773	-8.975e-005	-0.002328	
	66.000	1.921e+009	-34.595	-1720.785	-7.982e-005	-0.001252	
	76.200	1.921e+009	-283.193	-4598.998	-6.305e-005	-0.000510	
*	87.000	1.921e+009	-285.344	-7669.103	-2.858e-005	0.000000	
	99.060	1.921e+009	161.643	-5705.207	1.338e-005	0.000079	
	114.300	1.921e+009	158.607	-3264.900	4.893e-005	-0.000420	
	129.540	1.921e+009	155.572	-870.851	6.53e-005	-0.001315	
	144.780	1.921e+009	152.537	1476.940	6.286e-005	-0.002315	
	160.020	1.921e+009	149.502	3778.473	4.199e-005	-0.003137	
	174.000	1.921e+009	146.717	5849.043	6.938e-006	-0.003497	
	182.880	1.921e+009	-126.459	4733.937	-1.753e-005	-0.003446	
	198.120	1.921e+009	-129.495	2783.567	-4.737e-005	-0.002932	
	213.360	1.921e+009	-132.530	786.939	-6.156e-005	-0.002081	
	228.600	1.921e+009	-135.565	-1255.946	-5.973e-005	-0.001137	
	243.840	1.921e+009	-138.601	-3345.090	-4.152e-005	-0.000344	
	259.080	1.921e+009	-141.636	-5480.491	-6.542e-006	0.000044	
*	267.000	1.921e+009	-143.213	-6608.494	1.837e-005	0.000000	
	281.940	1.921e+009	338.692	-1526.206	4.997e-005	-0.000560	
	289.560	1.921e+009	67.834	-987.365	5.492e-005	-0.000961	
	304.800	1.921e+009	64.799	23.303	5.871e-005	-0.001837	
	320.040	1.921e+009	61.764	987.713	5.467e-005	-0.002710	
	335.280	1.921e+009	58.729	1905.865	4.317e-005	-0.003465	
	350.520	1.921e+009	55.693	2777.759	2.456e-005	-0.003990	
	365.760	1.921e+009	52.658	3603.395	-7.81e-007	-0.004180	
	381.000	1.921e+009	49.623	4382.773	-3.249e-005	-0.003934	
	390.000	1.921e+009	47.830	4821.311	-5.405e-005	-0.003546	
	403.860	1.921e+009	-224.723	1725.776	-7.769e-005	-0.002607	
	419.100	1.921e+009	-227.759	-1722.136	-7.774e-005	-0.001388	
	434.340	1.921e+009	-230.794	-5216.306	-5.025e-005	-0.000378	
*	447.000	1.921e+009	-233.315	-8154.118	-6.211e-006	0.000000	
	457.200	1.921e+009	240.451	-5691.160	3.053e-005	-0.000135	
	472.440	1.921e+009	237.415	-2049.821	6.12e-005	-0.000871	
	487.680	1.921e+009	234.380	1545.260	6.318e-005	-0.001855	
	498.000	1.921e+009	Max 232.325	3953.457	4.84e-005	-0.002442	
	510.540	1.921e+009	-40.220	3464.759	2.417e-005	-0.002893	
	525.780	1.921e+009	-43.255	2828.679	-8.211e-007	-0.003065	
	541.020	1.921e+009	-46.290	2146.341	-2.058e-005	-0.002895	
	556.260	1.921e+009	-49.326	1417.745	-3.475e-005	-0.002466	
	571.500	1.921e+009	-52.361	642.892	-4.295e-005	-0.001866	
	586.740	1.921e+009	-55.396	-178.220	-4.483e-005	-0.001189	* @ Support
	601.980	1.921e+009	-58.432	-1045.590	-4e-005	-0.000534	
	609.600	1.921e+009	-328.518	-2463.470	-3.406e-005	-0.000248	
*	624.840	1.921e+009	-331.554	-7493.218	5.399e-006	0.000021	
	632.460	1.921e+009	186.161	-7190.431	3.611e-005	-0.000139	
	647.700	1.921e+009	183.126	-4376.466	8.196e-005	-0.001067	
	662.940	1.921e+009	180.090	-1608.758	0.0001057	-0.002524	
	678.180	1.921e+009	177.055	1112.691	0.0001076	-0.004177	
	693.420	1.921e+009	174.020	3787.882	8.813e-005	-0.005695	
	708.660	1.921e+009	170.985	6416.815	4.763e-005	-0.006756	
	716.280	1.921e+009	-97.551	6704.607	2.059e-005	-0.007017	
	731.520	1.921e+009	-100.586	5194.799	-2.663e-005	-0.006956	
	746.760	1.921e+009	-103.622	3638.733	-6.17e-005	-0.006267	
	762.000	1.921e+009	-106.657	2036.409	-8.424e-005	-0.005139	

WinBeam

Project:

By: **Date:** **Checked:** **Date:** **Page:**

	777.240	1.921e+009	-109.692	387.827	-9.388e-005	-0.003765
	792.480	1.921e+009	-112.728	-1307.013	-9.027e-005	-0.002344
	807.720	1.921e+009	-115.763	-3048.111	-7.303e-005	-0.001083
	819.000	1.921e+009	-118.010	-4366.587	-5.127e-005	-0.000374
*	829.500	1.921e+009	-387.536	-8424.734	-1.633e-005	0.000000
	838.200	1.921e+009	167.460	-6960.298	1.85e-005	-0.000014
	853.440	1.921e+009	164.424	-4431.344	6.365e-005	-0.000666
	868.680	1.921e+009	161.389	-1948.648	8.893e-005	-0.001853
	883.920	1.921e+009	158.354	487.791	9.469e-005	-0.003277
	899.160	1.921e+009	155.318	2877.971	8.131e-005	-0.004642
	914.400	1.921e+009	152.283	5221.894	4.915e-005	-0.005660
	925.500	1.921e+009	150.072	6899.966	1.412e-005	-0.006020
	937.260	1.921e+009	-119.599	5507.255	-2.386e-005	-0.005955
	952.500	1.921e+009	-122.634	3661.438	-6.026e-005	-0.005295
	967.740	1.921e+009	-125.670	1769.364	-8.183e-005	-0.004193
	982.980	1.921e+009	-128.705	-168.968	-8.821e-005	-0.002878
	998.220	1.921e+009	-131.740	-2153.559	-7.903e-005	-0.001584
	1013.460	1.921e+009	-134.775	-4184.407	-5.392e-005	-0.000550
	1028.700	1.921e+009	-137.811	-6261.513	-1.252e-005	-0.000023
*	1036.320	1.921e+009	136.846	-6124.340	1.307e-005	-0.000026
	1051.560	1.921e+009	133.811	-4061.936	5.344e-005	-0.000553
	1066.800	1.921e+009	130.775	-2045.790	7.763e-005	-0.001572
	1082.040	1.921e+009	127.740	-75.902	8.601e-005	-0.002839
	1097.280	1.921e+009	124.705	1847.728	7.896e-005	-0.004116
	1112.520	1.921e+009	121.669	3725.100	5.682e-005	-0.005169
	1127.760	1.921e+009	118.634	5556.214	1.998e-005	-0.005773
	1138.500	1.921e+009	116.495	6818.859	-1.462e-005	-0.005808
	1150.620	1.921e+009	-153.338	4975.034	-5.184e-005	-0.005393
	1165.860	1.921e+009	-156.373	2615.037	-8.197e-005	-0.004350
	1181.100	1.921e+009	-159.408	208.783	-9.32e-005	-0.002991
	1196.340	1.921e+009	-162.444	-2243.729	-8.516e-005	-0.001607
	1211.580	1.921e+009	-165.479	-4742.500	-5.748e-005	-0.000495
	1226.820	1.921e+009	-168.514	-7287.528	-9.799e-006	0.000043
*	1234.500	1.921e+009	-170.044	-8587.591	2.193e-005	0.000000
	1245.000	1.921e+009	389.225	-4489.751	5.765e-005	-0.000437
	1257.300	1.921e+009	119.702	-3002.349	8.162e-005	-0.001304
	1272.540	1.921e+009	116.667	-1201.217	9.826e-005	-0.002693
	1287.780	1.921e+009	113.632	553.656	0.0001008	-0.004227
	1303.020	1.921e+009	110.596	2262.272	8.96e-005	-0.005695
	1318.260	1.921e+009	107.561	3924.629	6.503e-005	-0.006890
	1333.500	1.921e+009	104.526	5540.729	2.746e-005	-0.007611
	1348.740	1.921e+009	101.490	7110.571	-2.275e-005	-0.007663
	1356.360	1.921e+009	-168.400	6573.852	-5.083e-005	-0.007381
	1371.600	1.921e+009	-171.436	3984.302	-9.274e-005	-0.006261
	1386.840	1.921e+009	-174.471	1348.494	-0.0001139	-0.004660
	1402.080	1.921e+009	-177.506	-1333.572	-0.000114	-0.002896
	1417.320	1.921e+009	-180.542	-4061.895	-9.264e-005	-0.001294
	1432.560	1.921e+009	-183.577	-6836.477	-4.944e-005	-0.000183
*	1440.180	1.921e+009	283.969	-6749.492	-2.078e-005	0.000085
	1455.420	1.921e+009	280.934	-2444.931	1.566e-005	0.000080
	1463.040	1.921e+009	33.591	-1548.956	2.274e-005	-0.000068
	1478.280	1.921e+009	30.556	-1060.155	3.306e-005	-0.000498
	1493.520	1.921e+009	27.521	-617.612	3.968e-005	-0.001057
	1508.760	1.921e+009	24.485	-221.327	4.298e-005	-0.001691
	1518.000	1.921e+009	22.645	-3.585	4.351e-005	-0.002091



Shear Design for Abutment Lower Cap
Cap 51' x 36'

Ultimate Loads from Winbeam

$M_u := 715.633$ K-ft $\quad M_u = 715.633$ K-ft

$V_u := 234.38$ K $\quad V_u = 234.38$ K

Materials

$f_y := 60$ ksi $\quad f'_c := 4.5$ ksi

Total Strength I Flexure required (bending about transverse horizontal axis)
(AASHTO LRFD Design 2012 - Sec. 5.7.3.3.2 & Sec. 5.4.2.6)

$f_r := 0.24 \cdot \sqrt{f'_c}$ $\quad f_r = 0.509$ ksi

$I := \frac{36 \cdot (51)^3}{12}$ $\quad I = 3.98 \times 10^5$ in^4

$S_c := \frac{I}{\left(\frac{51}{2}\right)}$ $\quad S_c = 1.561 \times 10^4$ in^3

$M_{cr} := (0.75 \cdot 1.6 \cdot S_c \cdot f_r) \cdot \frac{1}{12}$ $\quad M_{cr} = 794.528$ K-ft

$M_u := \max(M_u, \min(M_{cr}, 1.33 \cdot M_u))$ $\quad M_u = 794.528$ K-ft

$d_s := 46.67$ in $\quad A_s := 1.56 \cdot 3$ in^2 $\quad b := 36$ in

$a := \frac{A_s \cdot f_y}{0.85 \cdot f'_c \cdot b}$ $\quad a = 2.039$ in

Shear resistance by stirrups # 5 spacing 12"
(AASHTO LRFD Design 2012 - Sec. 5.8.2.5, 5.8.3.3, 5.8.3.4, & App. B5)

$M_{uu} := M_u \cdot (12)$ $\quad M_u = 9.534 \times 10^3$ K-in

$E_s := 29000$ ksi $\quad V_u = 234.38$ K

$A_{ss} := 3 \cdot (1.56)$ in^2 $\quad A_s = 4.68$ in^2

No prestress: $V_p := 0$ $\quad Apsfpo := 0$ $\quad EpAps := 0$

No factored axial force: $N_u := 0$

$\phi := 0.9$ $\quad s_w := 12$ in $\quad b_v := 36$ in

$d_v := d_s - \frac{a}{2}$ $\quad d_v = 45.65$ in

$A_v := 0.31 \cdot 2$ in^2 $\quad A_v = 0.62$ in^2

$A_v = 0.62$ in^2 > $0.0316 \cdot \sqrt{f'_c} \cdot \frac{b_v \cdot s}{f_y} = 0.483$ in^2

OK

$$\varepsilon_s := \frac{\frac{|M_u|}{d_v} + 0.5 \cdot N_u + |V_u - V_p| - Apsfpo}{E_s \cdot A_s + EpAps} \qquad \varepsilon_s = 3.266 \times 10^{-3}$$

$\theta := 29 + 3500 \cdot \varepsilon_s$ $\quad \theta = 40.43$ °

$\theta_w := (\theta) \cdot \left(\frac{\pi}{180}\right)$ $\quad \theta = 0.706$ rad

$s_x := \min(d_v, 43.34)$ $\quad s_x = 43.34$ in

$a_g := 0.75$ in

$$s_{xe} := \min\left(\max\left(12.0, s_x \cdot \frac{1.38}{a_g + 0.63}\right), 80.0\right)$$ $s_{xe} = 43.34$ in

$$\beta := \begin{cases} \dfrac{4.8}{1 + 750 \cdot \varepsilon_s} & \text{if } A_v \geq 0.0316 \cdot \sqrt{f'_c} \cdot \dfrac{b_v \cdot s}{f_y} \\ \left(\dfrac{4.8}{1 + 750 \cdot \varepsilon_s}\right) \cdot \left(\dfrac{51}{39 + s_{xe}}\right) & \text{otherwise} \end{cases}$$ $\beta = 1.392$

$V_c := 0.0316 \cdot \beta \cdot \sqrt{f'_c} \cdot b_v \cdot d_v$ $V_c = 153.301$ K

$\alpha := (90) \cdot \left(\frac{\pi}{180}\right)$

$$V_s := \frac{A_v \cdot f_y \cdot d_v \cdot \left(\frac{1}{\tan(\theta)} + \frac{1}{\tan(\alpha)}\right) \cdot \sin(\alpha)}{s}$$ $V_s = 166.103$ K

$V_n := \min\left[\left(V_c + V_s + V_p\right), \left(0.25 \cdot f'_c \cdot b_v \cdot d_v + V_p\right)\right]$ $V_n = 319.403$ K

$\phi := 0.9$

$V_r := \phi \cdot V_n$ $V_r = 287.463$ K

$V_u < V_r$ OK

Ultimate Moment Using Strain Compatibility

Project Number: FBR 0142-055

Moment Capacity for abutment Lower Cap

Hoang Bui, 03/01/2013

Concrete	Depth (Fr. Top)	Width
	51.00	36.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00

Mill Reinforcing	Depth (Fr. Top)	Area
	46.67	4.68
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00

Pre-tension Steel	Depth (Fr. Top)	Area
T1	0.00	0.00
T2	0.00	0.00
T3	0.00	0.00

Material Properties

Percent of Jacking =	75	%
Final Losses =	20	%
E_{ps} =	28500	ksi
fy (Prestressed Steel) =	270	ksi
E_s =	29000	ksi
fy (Mill Steel) =	60	ksi
f'c =	4.5	ksi

ULTIMATE MOMENT CAPACITY

Pj (T1)=	0.00	(Jacking Force after Losses)
Pj (T2)=	0.00	(Jacking Force after Losses)
Pj (T3)=	0.00	(Jacking Force after Losses)

Trial distance from the top to the N.A. (in) = 2.47

a = 2.04

Concrete	Depth (Fr. Top)	Width	Block Thickness	Arm (fr. N.A.)	Block Area	Arm x Area
	51.00	36.00	2.04	1.45	73.41	106.61
	0.00	0.00	-51.00	-23.03	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
					73.41	106.61

Centroid of Compression Block (From Top) = 1.020

										(1)		(1)		(2)	(2)	(2)	(2)
Mill Reinforcing	Depth (Fr. Top)	Area	Yi (fr. N.A.)	Strain (Tension)	Strain (Comp.)	* Stress (Ten.)	Stress (Comp.)	Tension (Ti)	Ti x Yi	Comp. (Ci)	Ci x Yi	Ti x di	Ti x Arm	Ci x Arm	Ti x Arm x Phi	Ci x Arm x Phi
	46.67	4.68	44.20	0.05364	0.00000	60.00	0.00	280.80	12410.86	0.00	0.00	13104.94	12818.63	0.00	11536.77	0.00
	0.00	0.00	2.47	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	2.47	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	2.47	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	2.47	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	2.47	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	2.47	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	2.47	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	2.47	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T1	0.00	0.00	2.47	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T2	0.00	0.00	2.47	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T3	0.00	0.00	2.47	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
								280.80	12410.86	0.00	0.00	13104.94	12818.63	0.00	11536.77	0.00

Press to solve for Mn 0.000000000

d_t = 46.67

Resistance Factor for Mill Steel = 0.90 TENSION CONTROLLED

Resistance Factor for Prestressed Steel = 1.00 TENSION CONTROLLED

Mn = 1068.22 K.ft

Mr = 961.40 K.ft

C/d_t = 0.05 OK

* Not exceed the yield point stress in the tension prestressing steel by Collins & Mitchell equation (Prestressed Concrete Structures, eq. 3-26)

(1) Moment about N.A.

(2) Moment about Centroid of Compession Bock(s)

ABUTMENT SHEAR KEY DESIGN FOR SEISMIC LOAD

From the CSi (SAP 2000) output for Extreme Event I load combination, The gravity factored Load on top of Abutment bearing is 1981.6 k

Seismic Lateral Load

From Geology report, $SD1 = 0.08 < 0.15 \Rightarrow$ Seismic Zone 1 (Tab. 3.10.6-1)

$A_S = 0.094 > 0.05 \Rightarrow$ Horizontal connection force shall not be less than 0.15 times the vertical reaction (3.10.9.2)

The maximum spectral acceleration is 20.2%

Lateral Load on Longitudinal Direction:

Load on Bearing Type I

$P_u = 1981.6\ (0.202) = 400.3$ k/Abut.

$P_u = \frac{400.3}{14} = 28.6$ k/Bearing

$P_R = P_n \phi \quad (\phi = 1.0,\ 14.6.1)$

$P_n = GA \frac{\Delta_u}{h_{rt}}, \quad h_{rt} \geq 2\Delta_u \quad (14.7.5.3.2\text{-}1)$

$P_n \leq GA \frac{\Delta_u}{2\Delta_u} = \frac{GA}{2}$

$P_n \leq \frac{0.1(16.5)^2}{2} = 13.61$ k

Bearings: $P_R = 13.61\ (14)(1) = 190.6$ k/Abut.

Backfill: $P_R = \frac{4}{2(3)}(.125)(8.03)^2(125) = 671.7$ k/Abut., $K = \frac{4}{3}$

$190.6 + 671.7 = 862.3\ k > 400.3\ k$ OK

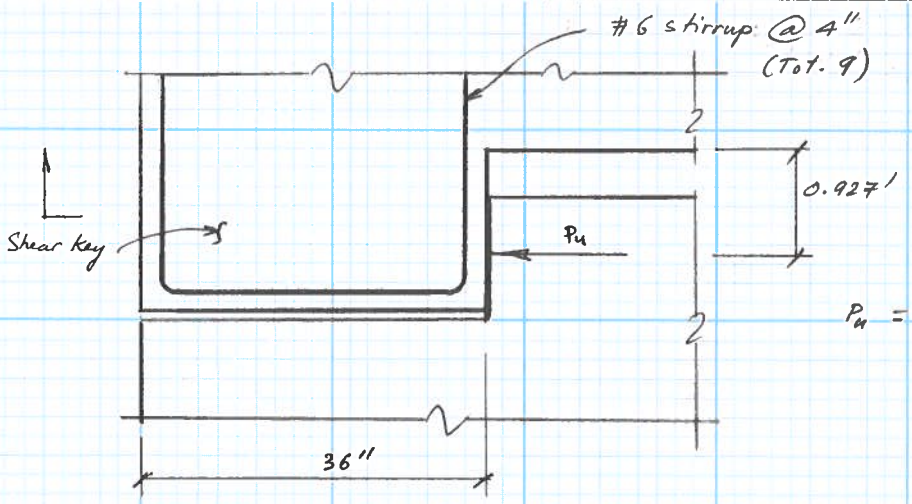
Lateral Load on transverse direction

Load on Shear Key

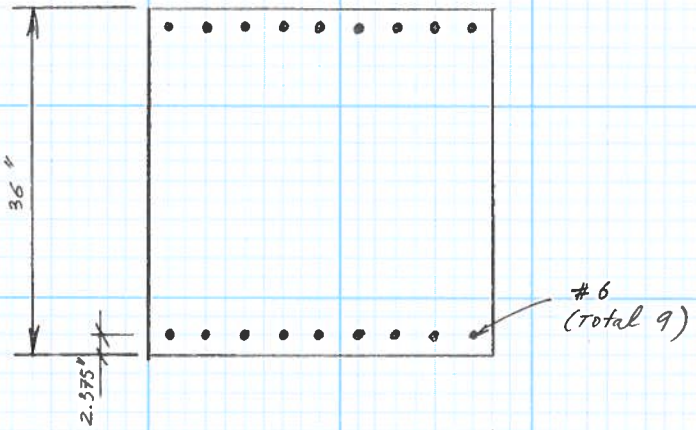
$P_u = 1983.1\ (0.25) = 495.8$ k/Abut

By: HB Date 7/13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 471 of 508	

DESIGN COMPUTATIONS (Grid)



$P_u = 495.8\ k$



$A_s = (.44)(9) = 3.96\ in^2$

$M_u = 495.8\ (0.927) = 459.6\ k.ft < M_R = 583.8\ k$

By: HB Date 7/13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 472 of 508

Ultimate Moment Using Strain Compatibility

Project Number: FBR 0142-055

Moment Capacity for abutment Lower Cap (shear key)

Hoang Bui, 03/01/2013

Concrete	Depth (Fr. Top)	Width
	36.00	36.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00

Mill Reinforcing	Depth (Fr. Top)	Area
	33.63	3.96
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00

Pre-tension Steel	Depth (Fr. Top)	Area
T1	0.00	0.00
T2	0.00	0.00
T3	0.00	0.00

Material Properties		
Percent of Jacking =	75	%
Final Losses =	20	%
E_{ps} =	28500	ksi
fy (Prestressed Steel) =	270	ksi
E_s =	29000	ksi
fy (Mill Steel) =	60	ksi
f'c =	4.5	ksi

4 13/508

ULTIMATE MOMENT CAPACITY

Pj (T1)= 0.00 (Jacking Force after Losses)
Pj (T2)= 0.00 (Jacking Force after Losses)
Pj (T3)= 0.00 (Jacking Force after Losses)
Trial distance from the top to the N.A. (in) = 2.09
a = 1.73

Concrete	Depth (Fr. Top)	Width	Block Thickness	Arm (fr. N.A.)	Block Area	Arm x Area
	36.00	36.00	1.73	1.23	62.12	76.33
	0.00	0.00	-36.00	-15.91	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
					62.12	76.33

Centroid of Compression Block (From Top) = 0.863

									(1)		(1)		(2)	(2)	(2)	(2)
Mill Reinforcing	Depth (Fr. Top)	Area	Yi (fr. N.A.)	Strain (Tension)	Strain (Comp.)	* Stress (Ten.)	Stress (Comp.)	Tension (Ti)	Ti x Yi	Comp. (Ci)	Ci x Yi	Ti x di	Ti x Arm	Ci x Arm	Ti x Arm x Phi	Ci x Arm x Phi
	33.63	3.96	31.53	0.04523	0.00000	60.00	0.00	237.60	7492.36	0.00	0.00	7989.30	7784.31	0.00	7005.88	0.00
	0.00	0.00	2.09	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	2.09	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	2.09	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	2.09	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	2.09	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	2.09	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	2.09	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	2.09	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T1	0.00	0.00	2.09	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T2	0.00	0.00	2.09	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T3	0.00	0.00	2.09	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
								237.60	7492.36	0.00	0.00	7989.30	7784.31	0.00	7005.88	0.00

Press to solve for Mn 0.000000000 d_t = 33.63 Resistance Factor for Mill Steel = 0.90 TENSION CONTROLLED

Mn = 648.69 K.ft Resistance Factor for Prestressed Steel = 1.00 TENSION CONTROLLED

Mr = 583.82 K.ft C/d_t = 0.06 OK

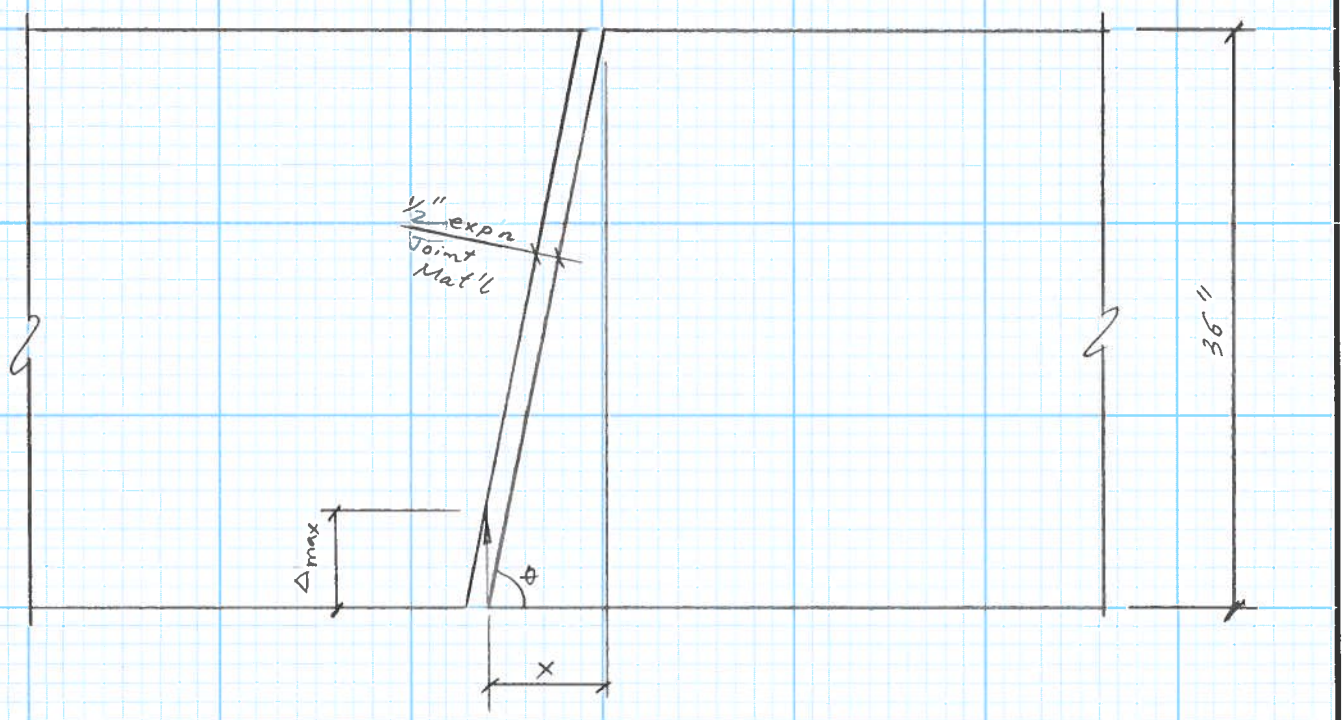
* Not exceed the yield point stress in the tension prestressing steel by Collins & Mitchell equation (Prestressed Concrete Structures, eq. 3-26)

(1) Moment about N.A.

(2) Moment about Centroid of Compession Bock(s)

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)



$\Delta_{max} = 0.00036\,(381)(12) = 1.65''$

$\frac{x}{36} = \frac{0.5}{1.65} \Rightarrow x = 10.9''$ by inspection ½" expansion joint material @ shear key is enough for construction tolerance.

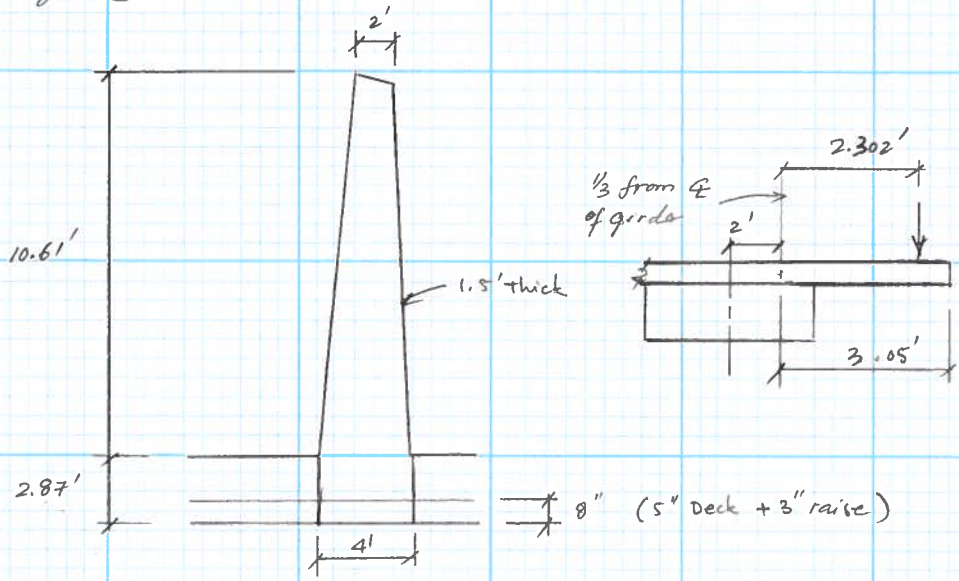
By: HB Date 7/13	Project no. FBR-0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 475 of 508

CDOT Form #1034 3/02

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)

Overhang Design @ Stone Column



DL: $\left[(2.87)(4)(1.5) + \left(\frac{4+2}{2}\right)(1.5)(10.61)\right](0.15) = 9.74$ k/column

WL: $\frac{4+2}{2}(10.61)(0.04) = 1.27$ k/column

Factored Load for Moment

$$M = 9.74(2.302)1.25 + (3.05)(4)(0.05)\left(\frac{3.05}{2}\right)(1.5) + 1.27\left(\frac{10.61}{2}\right)(1.25) = 37.56 \text{ k}'\text{/column}$$

$$M = \frac{37.56}{4} = 9.39 \text{ k.ft per ft} < 22.57 \text{ k.ft} \quad \underline{\text{OK}}$$

The Stone Column now was revised to 6' wide with same Height

⇒ M per ft is still considered same as 9.39 k.ft

HB, 5/2014

By: HB Date 7/13	Project no. FBR - 0142 - 055	Project code (SA#): 18085
Chk'd: JE Date 8/13	Structure no. B - 16 - EV	Sheet 476 of 508

CDOT Form #1034 3/02

Ultimate Moment Using Strain Compatibility

Project Number: FBR 0142-055

Moment Capacity for Deck Overhang with Stone Column

Hoang Bui, 05/07/2013

Concrete	Depth (Fr. Top)	Width
	8.00	12.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00

Mill Reinforcing	Depth (Fr. Top)	Area
	8.00	0.93
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00
	0.00	0.00

Pre-tension Steel	Depth (Fr. Top)	Area
T1	0.00	0.00
T2	0.00	0.00
T3	0.00	0.00

Material Properties

Percent of Jacking =	75	%
Final Losses =	20	%
E_{pu} =	28500	ksi
fy (Prestressed Steel) =	270	ksi
E_s =	29000	ksi
fy (Mill Steel) =	60	ksi
f'c =	4.5	ksi

4 of 8

ULTIMATE MOMENT CAPACITY

Pj (T1)= 0.00 (Jacking Force after Losses)
Pj (T2)= 0.00 (Jacking Force after Losses)
Pj (T3)= 0.00 (Jacking Force after Losses)
Trial distance from the top to the N.A. (in) = 1.47
a = 1.22

Concrete	Depth (Fr. Top)	Width	Block Thickness	Arm (fr. N.A.)	Block Area	Arm x Area
	8.00	12.00	1.22	0.87	14.59	12.63
	0.00	0.00	-8.00	-2.53	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00
					14.59	12.63

Centroid of Compression Block (From Top) = 0.608

									(1)		(1)		(2)	(2)	(2)	(2)
Mill Reinforcing	Depth (Fr. Top)	Area	Yi (fr. N.A.)	Strain (Tension)	Strain (Comp.)	* Stress (Ten.)	Stress (Comp.)	Tension (Ti)	Ti x Yi	Comp. (Ci)	Ci x Yi	Ti x di	Ti x Arm	Ci x Arm	Ti x Arm x Phi	Ci x Arm x Phi
	6.00	0.93	4.53	0.00922	0.00000	60.00	0.00	55.80	252.58	0.00	0.00	334.80	300.88	0.00	270.79	0.00
	0.00	0.00	1.47	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	1.47	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	1.47	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	1.47	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	1.47	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	1.47	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	1.47	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	1.47	0.00000	0.00300	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T1	0.00	0.00	1.47	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T2	0.00	0.00	1.47	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pre-tension T3	0.00	0.00	1.47	0.00000	0.00300	0.00	85.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
								55.80	252.58	0.00	0.00	334.80	300.88	0.00	270.79	0.00

Press to solve for Mn 0.000000000 d_t = 6.00 Resistance Factor for Mill Steel = 0.90 TENSION CONTROLLED
Mn = 25.07 K.ft Resistance Factor for Prestressed Steel = 1.00 TENSION CONTROLLED
Mr = 22.57 K.ft C/d_t = 0.25 OK

* Not exceed the yield point stress in the tension prestressing steel by Collins & Mitchell equation (Prestressed Concrete Structures, eq. 3-26)
(1) Moment about N.A.
(2) Moment about Centroid of Compession Bock(s)

SH 14 at Poudre - Scour Results at upstream BR face

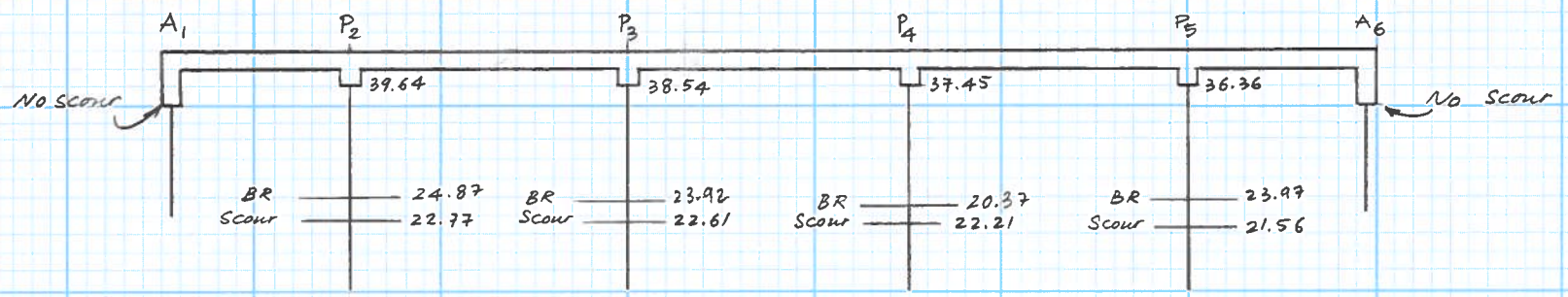
`	Ground Elev (ft)	Long-Term Degradation (ft)	Contraction Scour (ft)	Abutment Scour (ft)	Pressure Scour (ft)	Pier Scour (ft)	Total Scour (ft)	Scour Elev (ft)	Total Scour (ft) with Abutment Protection (negates Abutment Scour)	Scour Elev (ft) with Abutment Protection
Abutment 1	4931.00	1.00	0.00	24.70	0.00		25.70	4905.30	1.00	4930.00
Pier 2	4930.27	1.00	0.00		0.00	5.77	6.77	4923.50	6.77	4923.50
Pier 3	4930.12	1.00	0.00		0.00	5.78	6.78	4923.34	6.78	4923.34
Pier 4	4929.34	1.00	0.00		0.00	6.39	7.39	4921.95	7.39	4921.95
Channel	4926.15	1.00	0.00		0.00		1.00	4925.15	1.00	4925.15
Pier 5	4928.75	1.00	0.00		0.00	6.46	7.46	4921.29	7.46	4921.29
Abutment 6	4932.59	1.00	0.00	16.80	0.00		17.80	4914.79	1.00	4931.59

100-Year Scour Results

`	Ground Elev (ft)	Long-Term Degradation (ft)	Contraction Scour (ft)	Abutment Scour (ft)	Pressure Scour (ft)	Pier Scour (ft)	Total Scour (ft)	Scour Elev (ft)	Total Scour (ft) with Abutment Protection (negates Abutment Scour)	Scour Elev (ft) with Abutment Protection
Abutment 1	4931.00	1.00	0.00	29.70	0.00		30.70	4900.30	1.00	4930.00
Pier 2	4930.27	1.00	0.00		0.00	6.50	7.50	4922.77	7.50	4922.77
Pier 3	4930.12	1.00	0.00		0.00	6.51	7.51	4922.61	7.51	4922.61
Pier 4	4929.34	1.00	0.00		0.00	6.13	7.13	4922.21	7.13	4922.21
Channel	4926.15	1.00	0.00		0.00		1.00	4925.15	1.00	4925.15
Pier 5	4928.75	1.00	0.00		0.00	6.19	7.19	4921.56	7.19	4921.56
Abutment 6	4932.59	1.00	0.00	24.50	0.00		25.50	4907.09	1.00	4931.59

500-Year Scour Results

By: HB Date 7/13 | Project no. FBR-0142-055 | Project code (SA#): 18085
Chk'd: KLP Date 8/13 | Structure no. B-16-EV | Sheet 480 of 508



Bedrock: $K_h = 2000\ lb/in^3 = 24\ ksi/ft$

$I = \frac{\pi d^4}{64}$, $A = \frac{\pi d^2}{4}$ $\quad r = \sqrt{\frac{I}{A}} = \sqrt{\frac{\pi d^4 4}{64\ \pi d^2}} = \frac{d}{4} = \frac{42}{4} = 10.5''$

$\frac{K l_u}{r} < 22 \Rightarrow$ Neglect slender check (5.7.4.3), $K = 0.5$

$l_u < \frac{r(22)}{K} = \frac{10.5(22)}{0.5} = 462'' = 38.5'$

Fixity point location of pier caisson in bedrock (C.10.7.3.13.4)

$\bar{D} = 1.8 \sqrt[5]{\frac{EI}{K_h}}$ $\quad E = 3320\ ksi$, $\quad I = \frac{\pi 4^4}{64} = 12.566\ ft^4$

$\bar{D} = 1.8 \sqrt[5]{\frac{3320(12.566)}{24}} = 8.0'$

Pier 2

$l_u = (39.64 - 22.77) + 8 = 24.87' < 38.5' \Rightarrow$ Neglect slender check

Pier 3

$l_u = (38.54 - 22.61) + 8 = 23.93' < 38.5' \Rightarrow$ Neglect slender check

Pier 4

$l_u = (37.45 - 22.21) + 8 = 23.24' < 38.5' \Rightarrow$ Neglect slender check

Pier 5

$l_u = (36.36 - 21.56) + 8 = 22.8' < 38.5' \Rightarrow$ Neglect slender check

TEMPORARY BRACING AT ABUTMENTS

Service Loads, V_1:

Girder : 41.8 k per girder
Wet concrete Deck : 27.8 k per girder
} From Conspan

Construction Load : $0.05(6)(64.5)\frac{1}{2} = 9.7$ k. per girder

Screed Load : $\frac{2.23}{8}\frac{1}{2} + \frac{0.64}{8} = 0.22$ k per girder

Factored Load, V_1:

$V_1 = (41.8 + 27.8)\,1.25 + (9.7 + 0.22)\,1.5 = 101.88$ k per girder

$V_1 = \frac{101.88}{6} = 16.98$ k per ft

Factored Load V_2:

$V_2 = 3(5.75)(1)(0.15)(1.25) = 3.23$ k per ft

Factored Wind Load, P_{wind}

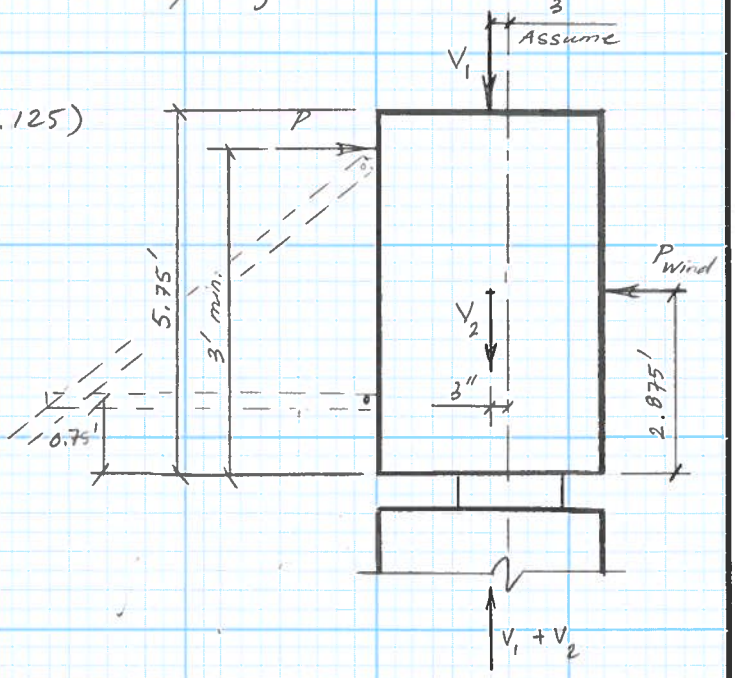
$P_{wind} = 0.05(5.75)(1)(1.5) = 0.43$ k per ft

$P(2.5) = V_1(0.25) + V_2(0.25) + P_{wind}(2.125)$

$P = \frac{0.25(V_1 + V_2) + 2.125\,P_{wind}}{2.5}$

$P = \frac{0.25(16.98 + 3.23) + 2.125(0.43)}{2.5}$

$P = 2.4$ k per ft



By: HB Date 7/13	Project no. FBR - 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 481 of 508

f'c =	4.5
fy =	60
Spacing	6
Clear Cover	2

Concrete Class D

	Dia. (in.)	Area (in^2)	(1.25*Ab*fy)/sqrt(f'c)	0.4*db*fy	l_{db}	Epoxy Factor	Mod. Factor	BLACK STEEL SPLICE CLASS A	BLACK STEEL SPLICE CLASS B	BLACK STEEL SPLICE CLASS C	EPOXY STEEL SPLICE CLASS A	EPOXY STEEL SPLICE CLASS B	EPOXY STEEL SPLICE CLASS C
Bar #4	0.5	0.20	6.94	12.00	12.00	1.2	0.8	9.6	12.5	16.3	14.4	15.0	24.5
Bar #5	0.625	0.31	10.85	15.00	15.00	1.2	0.8	12.0	15.6	20.4	18.0	18.7	30.6
Bar #6	0.75	0.44	15.62	18.00	18.00	1.5	0.8	14.4	18.7	24.5	27.0	28.1	45.9
Bar #7	0.875	0.60	21.26	21.00	21.26	1.5	0.8	17.0	22.1	28.9	31.9	33.2	54.2
Bar #8	1	0.79	27.77	24.00	27.77	1.5	0.8	22.2	28.9	37.8	41.7	43.3	70.8
Bar #9	1.128	1.00	35.33	27.07	35.33	1.5	0.8	28.3	36.7	48.1	53.0	55.1	90.1
Bar #10	1.27	1.27	44.79	30.48	44.79	1.5	0.8	35.8	46.6	60.9	67.2	69.9	114.2
Bar #11	1.41	1.56	55.21	33.84	55.21	1.5	0.8	44.2	57.4	75.1	82.8	86.1	140.8

	BLACK STEEL SPLICE CLASS A	BLACK STEEL SPLICE CLASS B	BLACK STEEL SPLICE CLASS C	EPOXY STEEL SPLICE CLASS A	EPOXY STEEL SPLICE CLASS B *	EPOXY STEEL SPLICE CLASS C
Bar #4	1' - 0"	**1' - 1"**	1' - 5"	1' - 3"	**1' - 3"**	2' - 1"
Bar #5	1' - 0"	**1' - 4"**	1' - 9"	1' - 6"	**1' - 7"**	2' - 7"
Bar #6	1' - 3"	**1' - 7"**	2' - 1"	2' - 4"	**2' - 5"**	3' - 10"
Bar #7	1' - 6"	**1' - 11"**	2' - 5"	2' - 8"	**2' - 10"**	4' - 7"
Bar #8	1' - 11"	**2' - 5"**	3' - 2"	3' - 6"	**3' - 8"**	5' - 11"
Bar #9	2' - 5"	**3' - 1"**	4' - 1"	4' - 5"	**4' - 8"**	7' - 7"
Bar #10	3' - 0"	**3' - 11"**	5' - 1"	5' - 8"	**5' - 10"**	9' - 7"
Bar #11	3' - 9"	**4' - 10"**	6' - 4"	6' - 11"	**7' - 3"**	11' - 9"

* For use on this project

Structure B-16-EV

Expansion Joint Design:
By: H. Bui, 05/2013

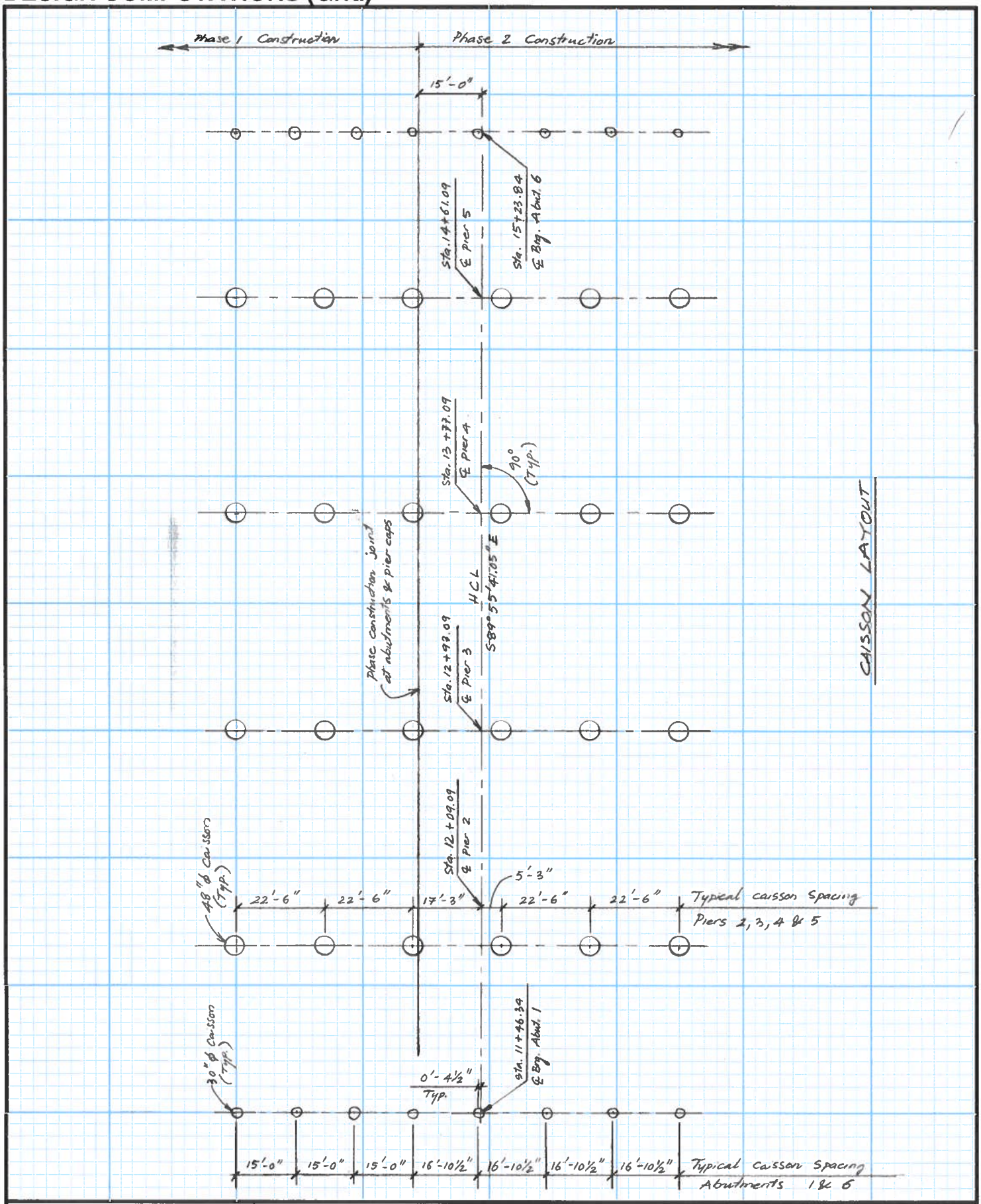
Length from zero movement =	220	ft.	
Structural Temperature (Concrete)			-30
Max. Rise =	45 °F		0
max. Drop =	60 °F		30
Air Temperature			60
Min. Temp. =	-30 °F		90
Max. Temp. =	120 °F		120
Coefficient of structure / air =	0.5		
Minimum of "A" =	1.8	in. at 60 deg. F	
E =	1.25	Min.	

At Sleepers

Air Temp.	"A"	"W"
-30 °F	2.69	5.19
0 °F	2.45	4.95
30 °F	2.21	4.71
60 °F	1.98	4.48
90 °F	1.74	4.24
120 °F	1.50	4.00
-30 °F	2 13/16	5 5/16
0 °F	2 9/16	5 1/16
30 °F	2 5/16	4 13/16
60 °F	2 1/16	4 9/16
90 °F	1 12/16	4 4/16
120 °F	1 8/16	4

COLORADO DEPARTMENT OF TRANSPORTATION

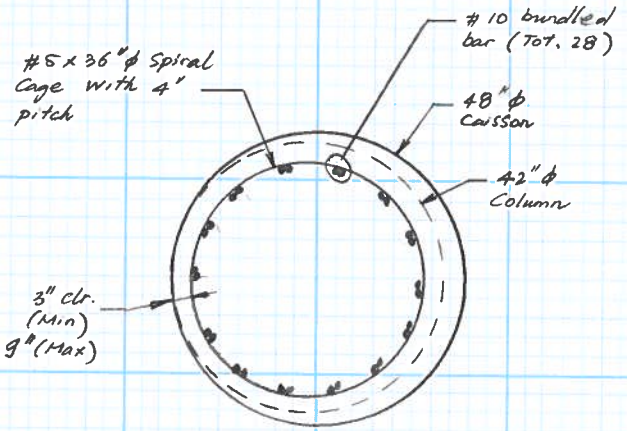
DESIGN COMPUTATIONS (Grid)



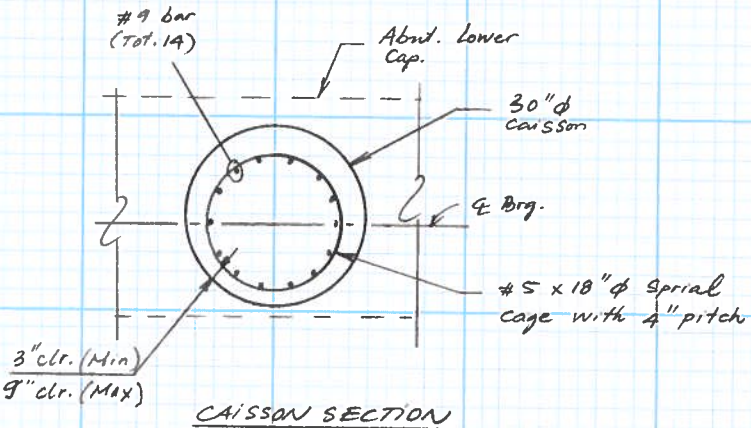
By: HB Date 2/15/13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 484 of 508

CDOT Form #1034 3/02

DESIGN COMPUTATIONS (Grid)



CAISSON SECTION
PIER

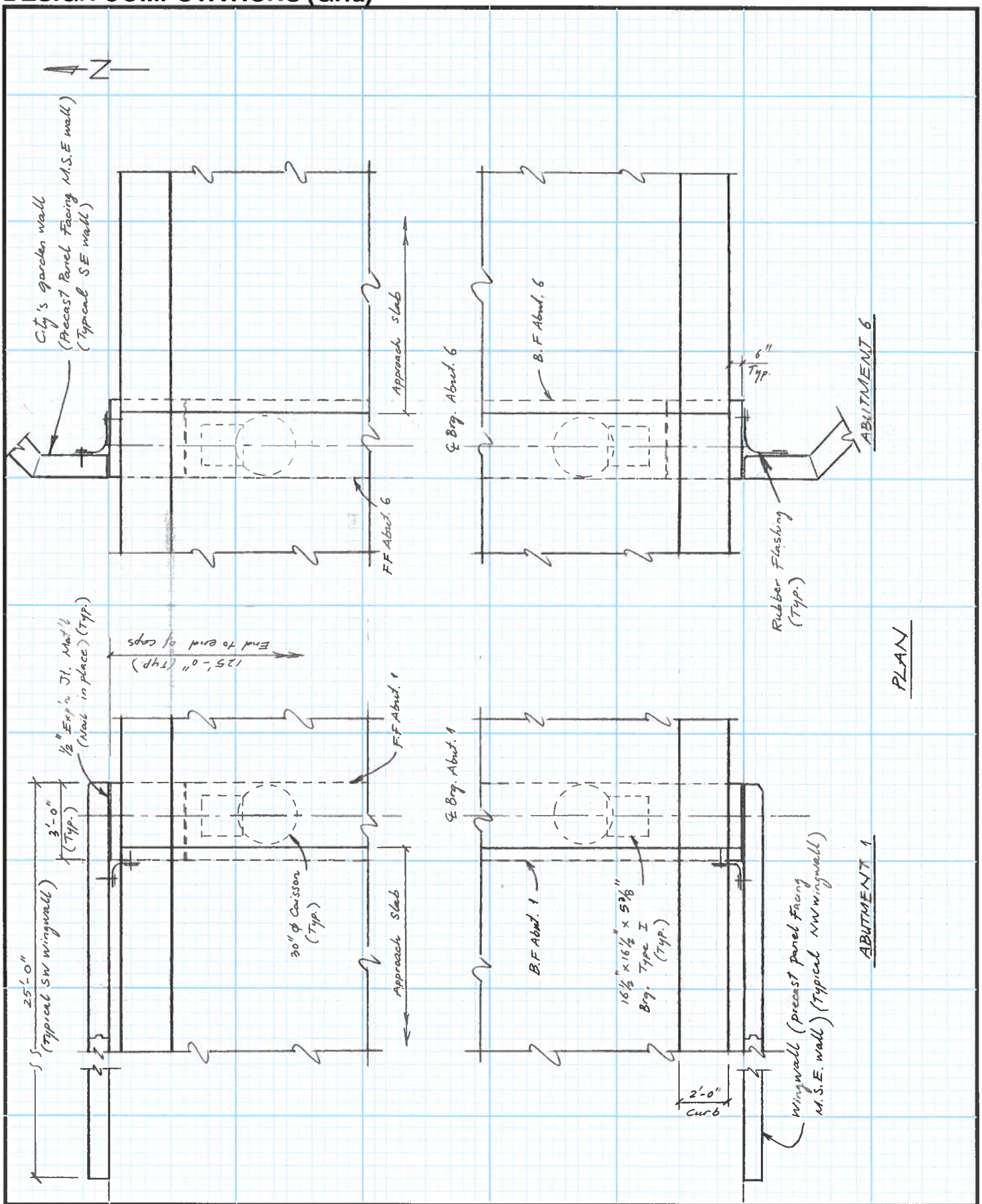


CAISSON SECTION
ABUTMENT

Location	Caisson Size (Inch)	Top of caisson Elevation (Ft.)	Estimated Tip Elevation (Ft.)	Δ Min. penetration into Bedrock (Ft.)	Max Factored Load (kip)	Max. Unfactored Load (kip)
Abutment 1	30	4935.08	4912.0	12.5	610.0	441.0
Pier 2	48	4923.9	4902.9	22.0	1511.0	1110.0
Pier 3	48	4923.9	4903.3	22.0	1511.0	1110.0
Pier 4	48	4923.9	4895.9	22.0	1511.0	1110.0
Pier 5	48	4923.9	4903.3	22.0	1511.0	1110.0
Abutment 6	30	4930.18	4912.0	12.5	610.0	441.0

COLORADO DEPARTMENT OF TRANSPORTATION

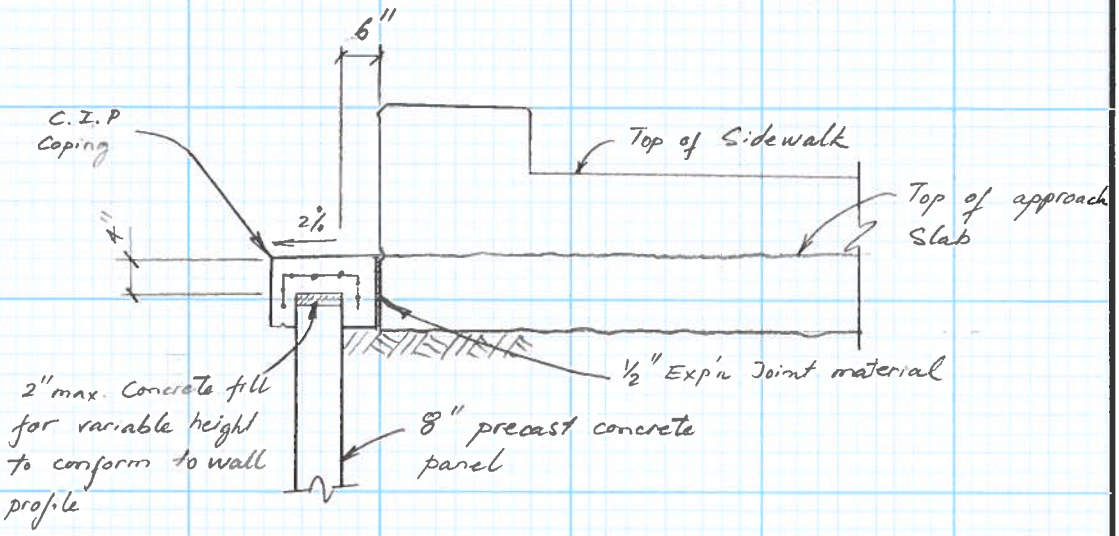
DESIGN COMPUTATIONS (Grid)



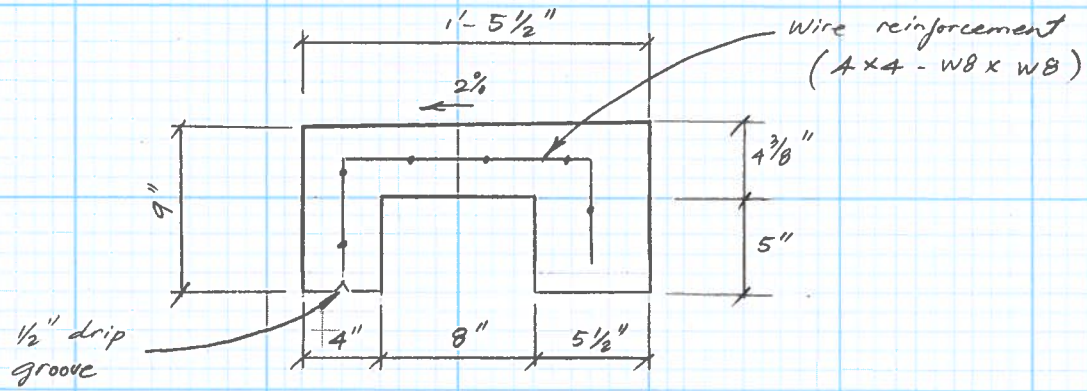
By: HB Date 3/13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 486 of 508	

CDOT Form #1034 3/02

DESIGN COMPUTATIONS (Grid)



SECTION

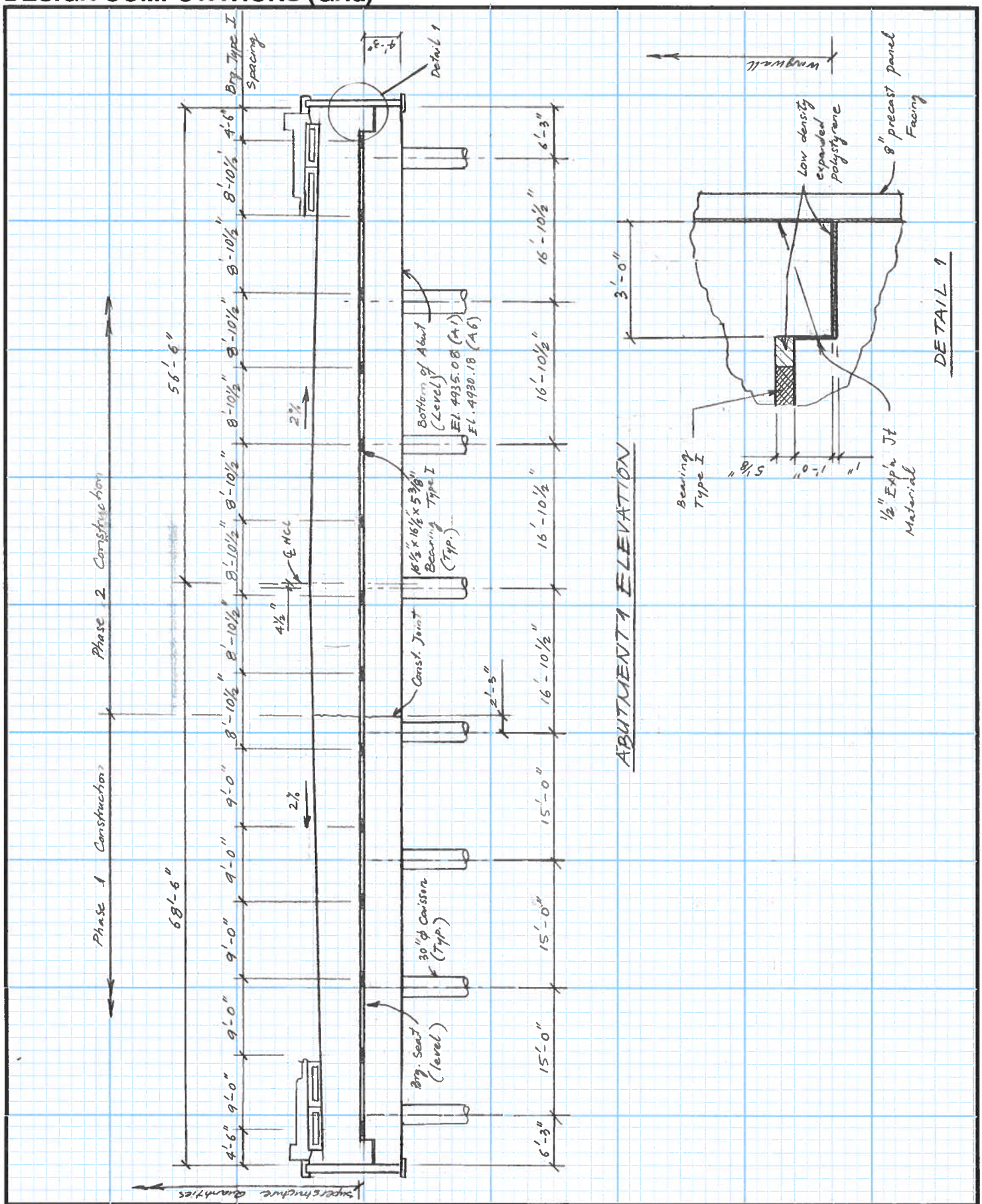


COPING DETAIL

By: HB Date 6/13	Project no. FBR 0142 - 055	Project code (SA#): 18095	
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 487 of 508	

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)

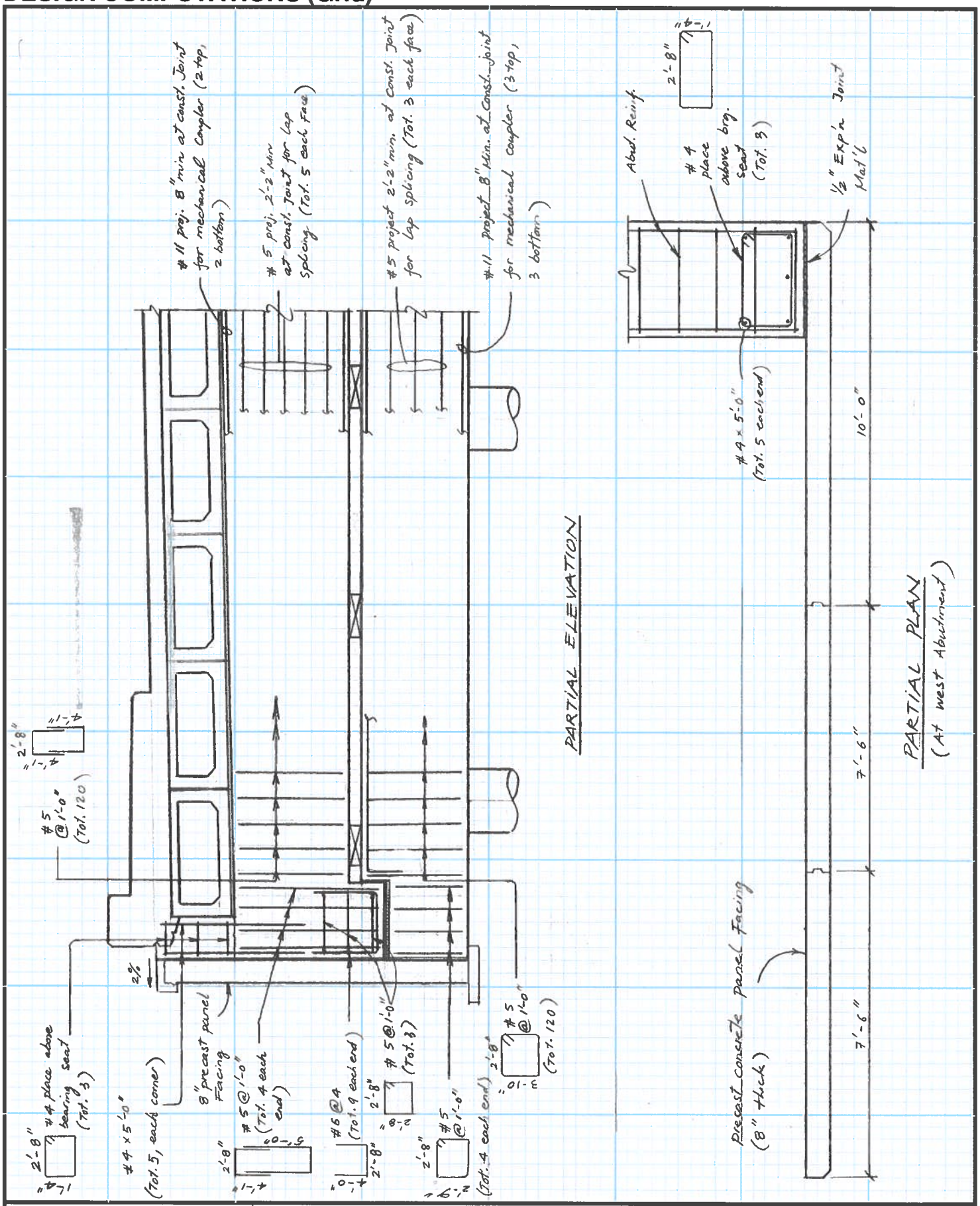


By: HB Date 2/15/13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 488 of 508	

CDOT Form #1034 3/02

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)

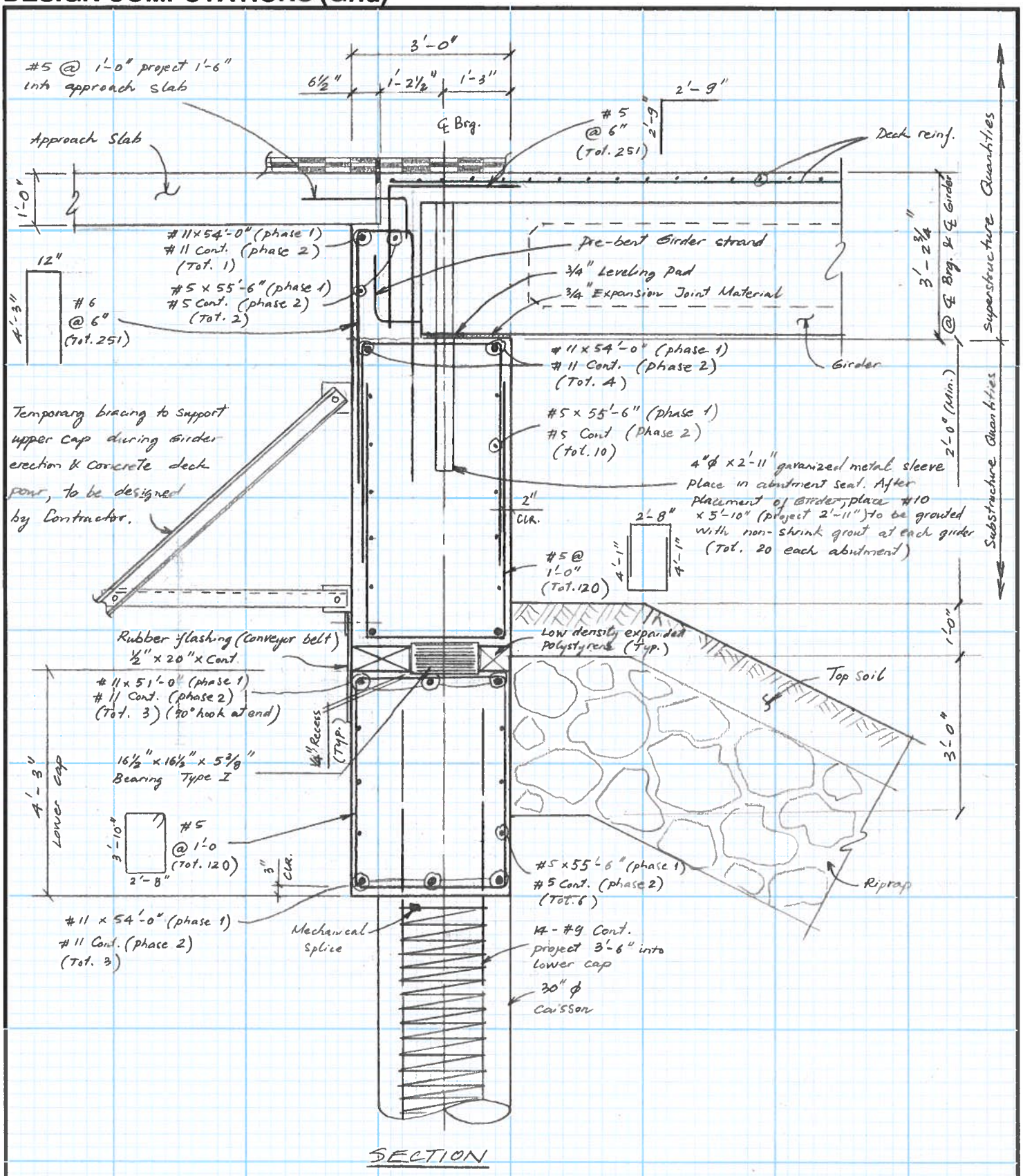


By: HB Date 3/13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 489 of 508	

CDOT Form #1034 3/02

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)

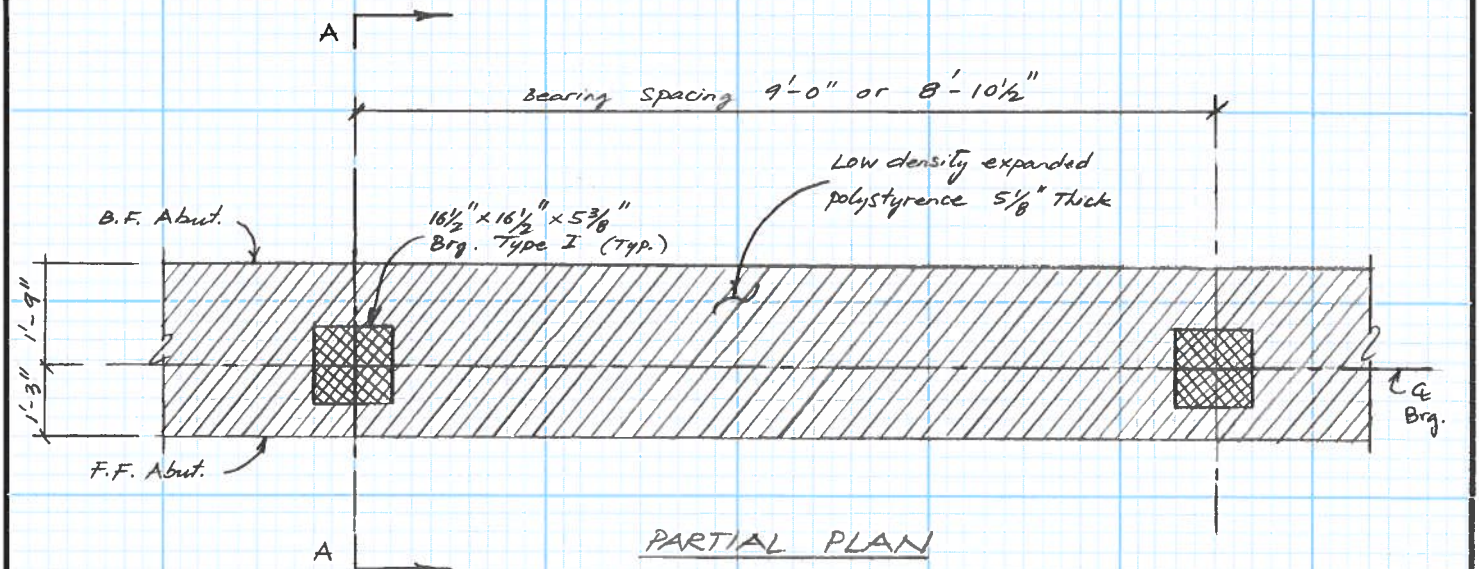


By: HB Date 2/15/13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 490 of 508	

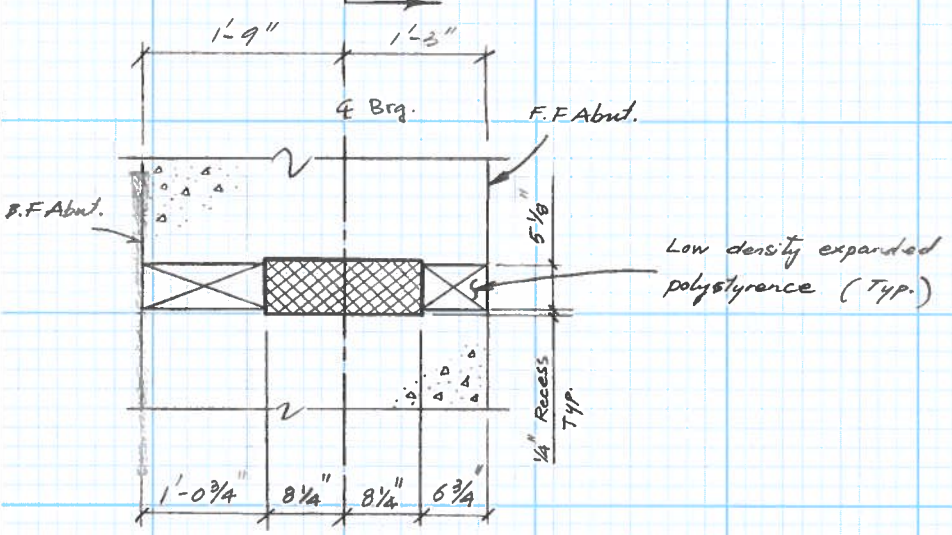
CDOT Form #1034 3/02

COLORADO DEPARTMENT OF TRANSPORTATION

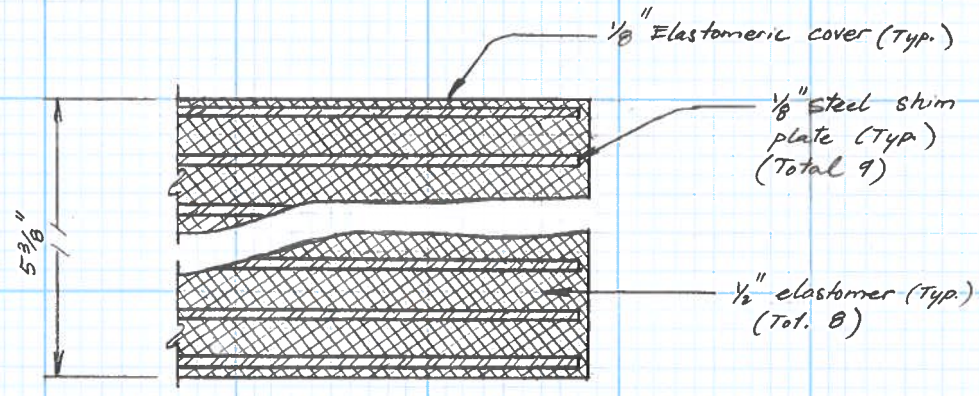
DESIGN COMPUTATIONS (Grid)



PARTIAL PLAN



SECTION A-A



BEARING TYPE I DETAIL

By: HB Date 3/13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 491 of 508	

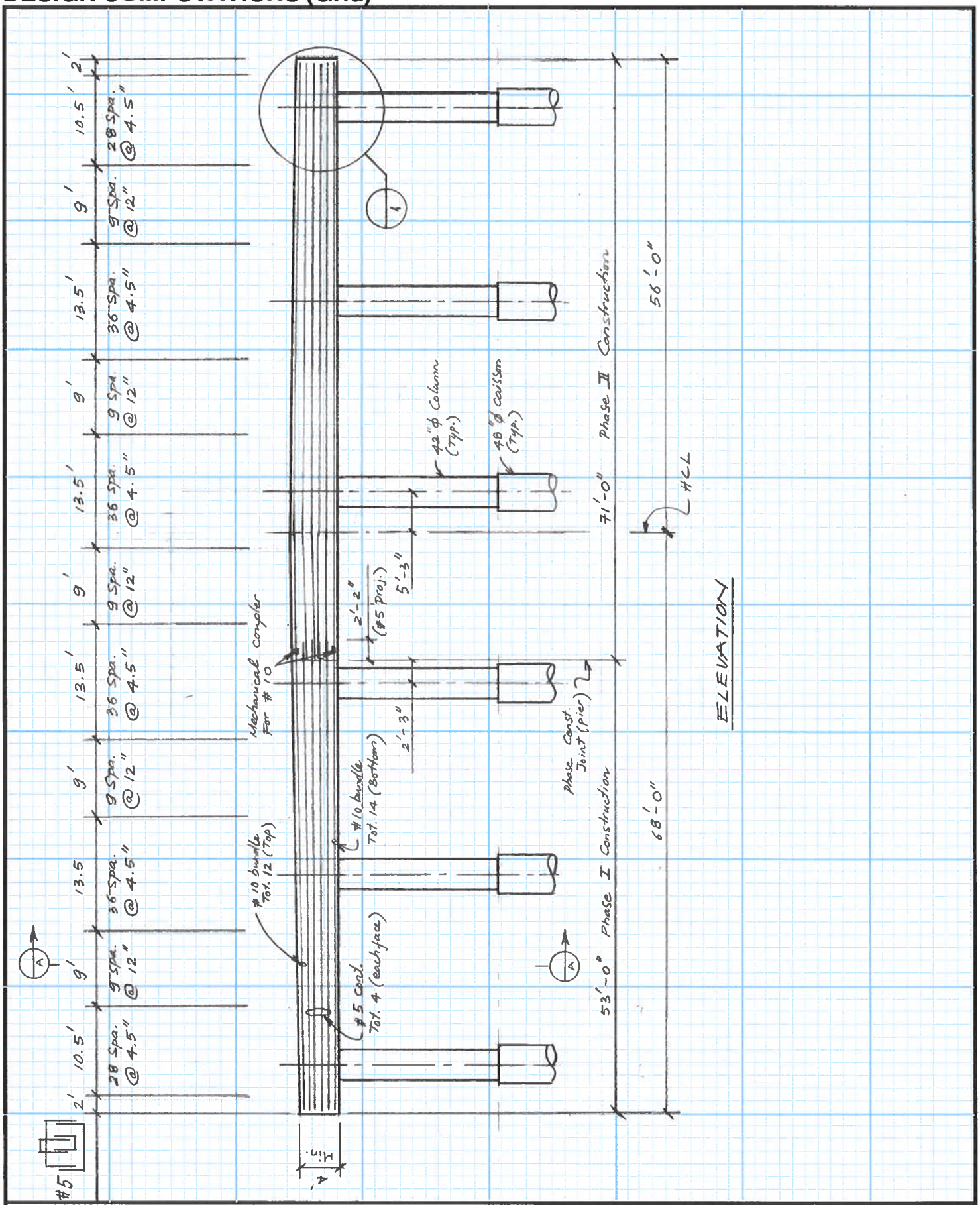
CDOT Form #1034 3/02

NOTES:

1. Elastomeric pad, expanded polystyrene and miscellaneous hardware shall be included in the bid price for item 512, Bearing Device (Type I).
2. Grade 3 elastomer shall be used. Higher grade elastomer may be substituted for grade 3 at no additional cos to the project.
3. Shear modulus $G = 0.1$ ksi +/- 15% at 73°F.
4. AASHTO design method A has been used.
5. Contractor shall support the abutment sufficiently to ensure that it remains vertical during and after superstructure construction. The contractor shall submit support details to the Engineer for approval. The details shall be prepared and sealed by a professional Engineer registered in the State of Colorado.

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)

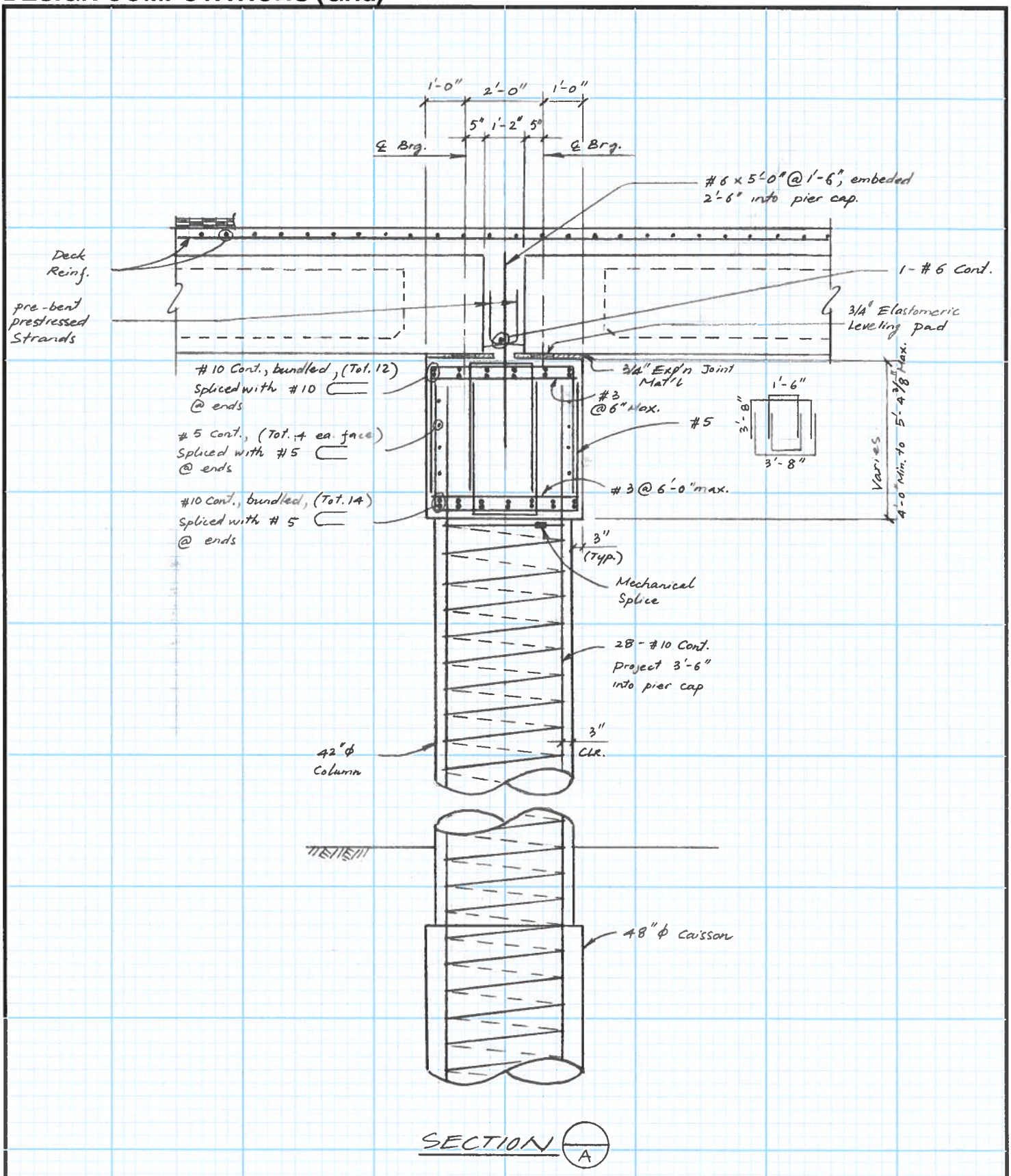


By: HB Date 3/13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 493 of 508	

CDOT Form #1034 3/02

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)

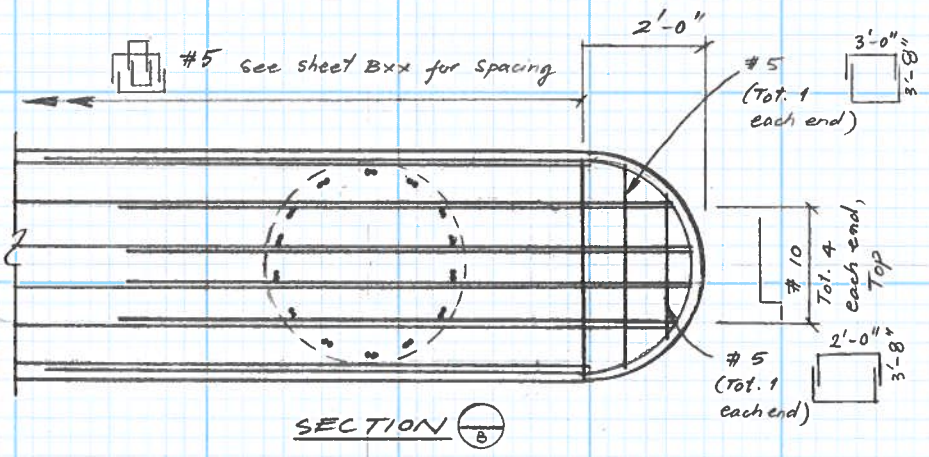


SECTION A

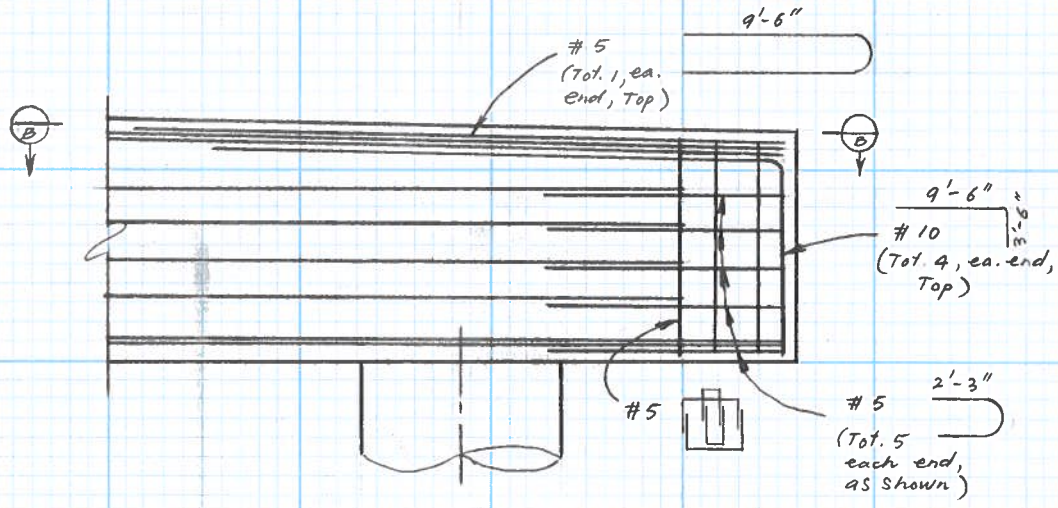
By: HB Date 3/13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 494 of 508

CDOT Form #1034 3/02

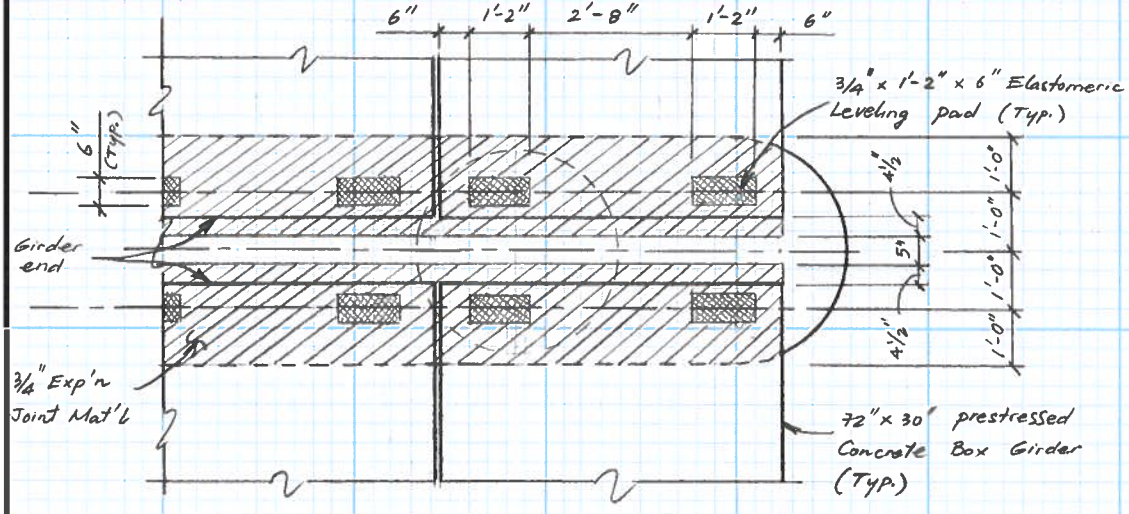
DESIGN COMPUTATIONS (Grid)



SECTION (B)



DETAIL 1



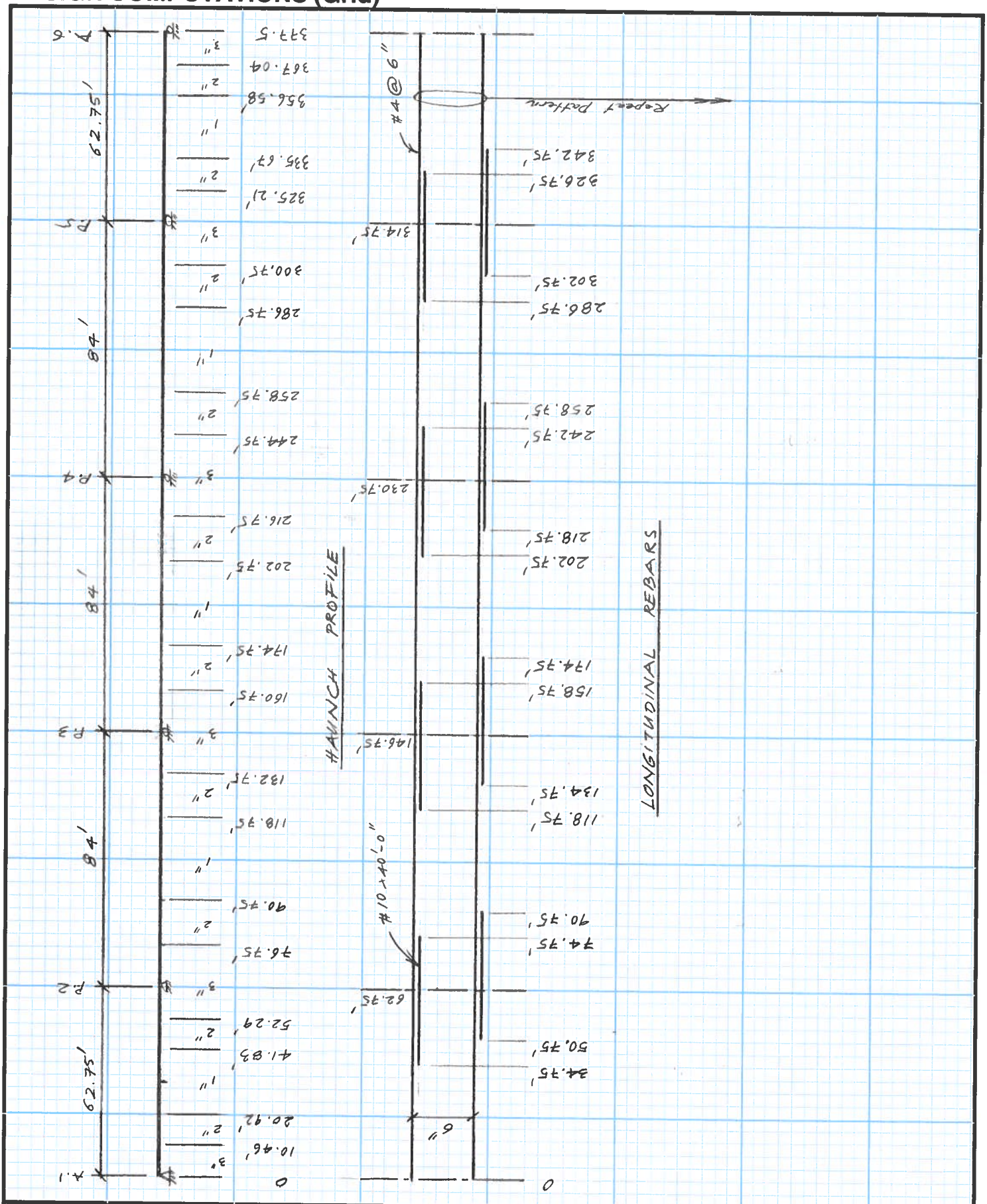
LEVELING PAD DETAIL

By: HB Date 3/13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 495 of 508	

CDOT Form #1034 3/02

COLORADO DEPARTMENT OF TRANSPORTATION

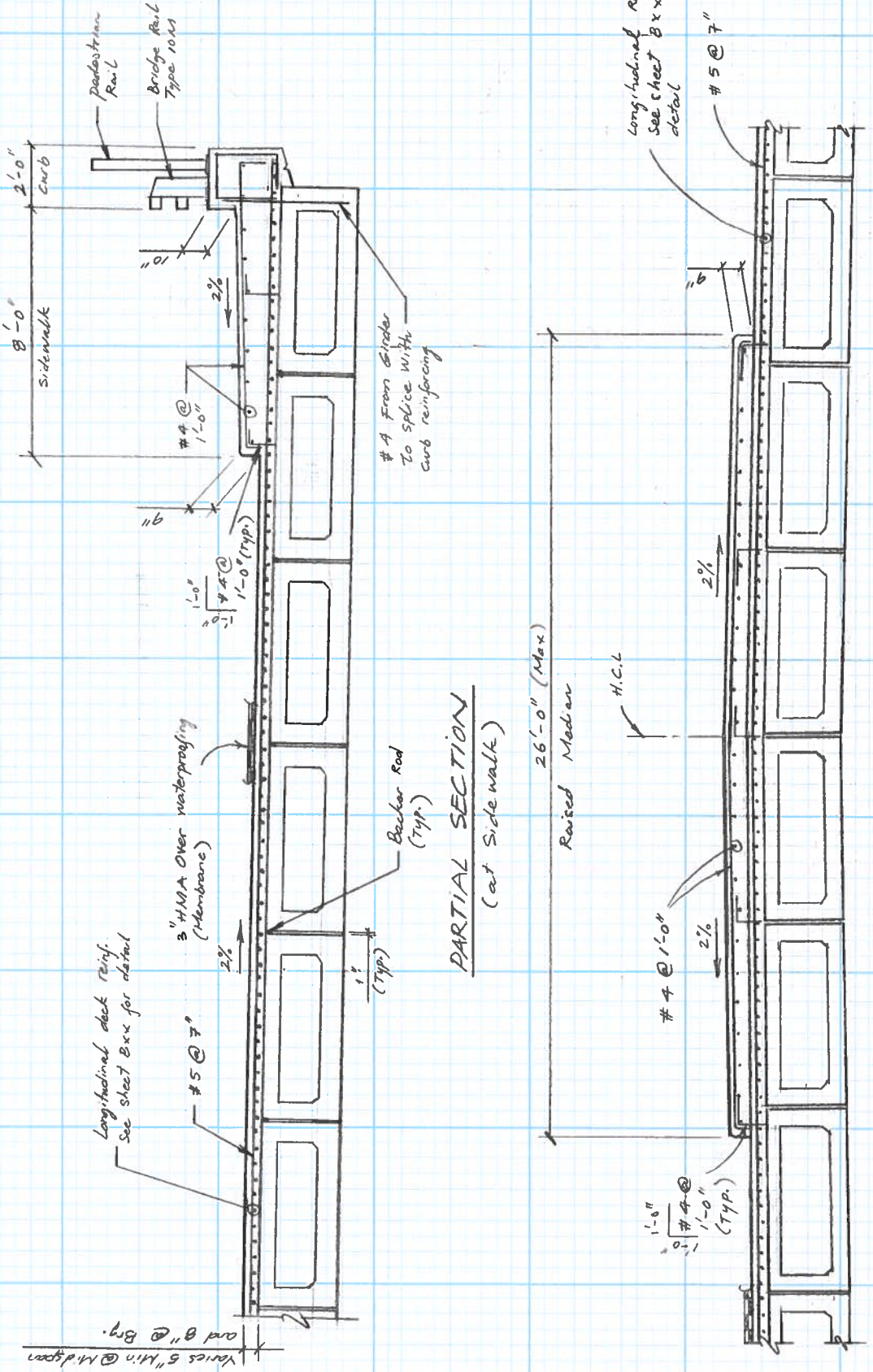
DESIGN COMPUTATIONS (Grid)



By: #B Date 3/13	Project no. FBR 0142 - 055	Project code (SA#): 18085
Chk'd JE Date 8/13	Structure no. B-16-EV	Sheet 496 of 508

CDOT Form #1034 3/02

DESIGN COMPUTATIONS (Grid)



By: HB Date 2/15/13	Project no.	FBR 0142-055	Project code (SA#): 18085
Chk'd: JE Date 8/13	Structure no.	B-16-EV	Sheet 497 of 508

CDOT Form #1034 3/02

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)

By: HB Date 6/13

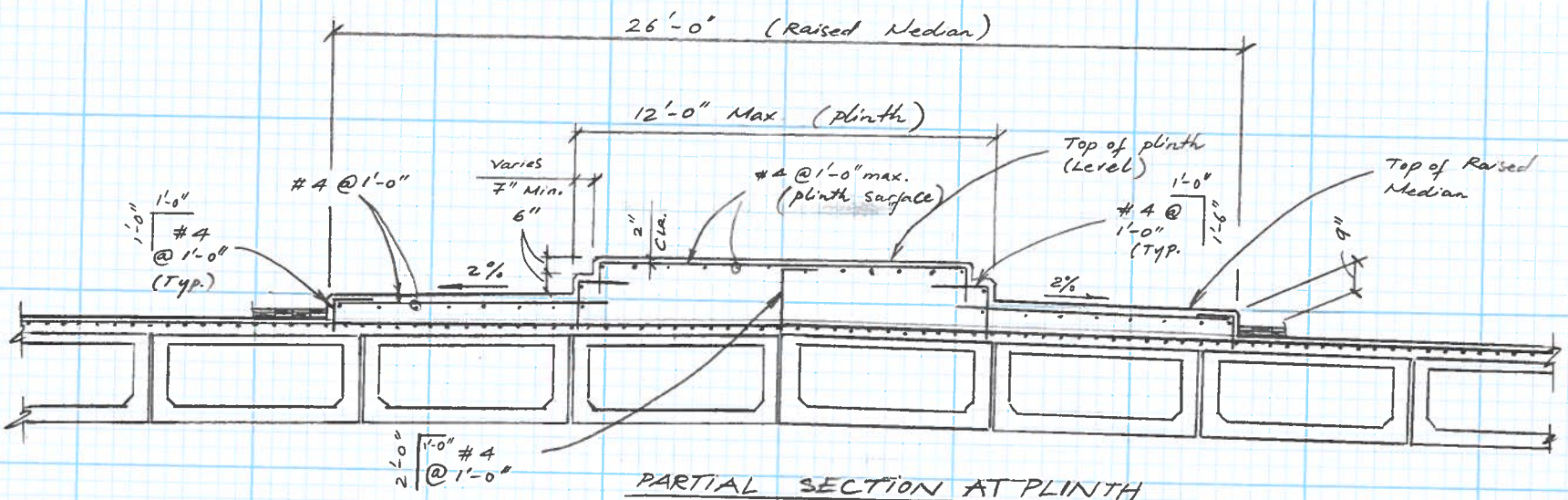
Chk'd: JE Date 8/13

Project no. FBR 0142-055

Structure no. B-16-EV

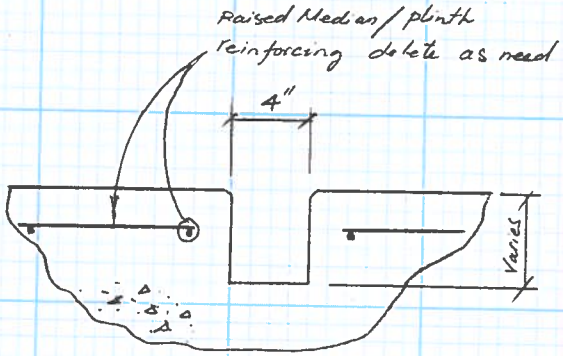
Project code (SA#): 18085

Sheet 448 of 508



PARTIAL SECTION AT PLINTH

(Electrical conduit & irrigation sleeve not shown for clarity)



DRAINAGE TRENCH DETAIL

PLINTH'S QUANTITIES FOR INFORMATION ONLY

Description	unit	plinth at pier 2 or 5 (ea.)	plinth at pier 3 or 4 (ea.)
Concrete Class D (Bridge)	CY	8.23	13.41
Reinforcing Steel (Epoxy Coated)	Lb	663	903

Notes:

1. For structural concrete stain details on raised median, See Urban Design plans sheets Bxx & xx.
2. For drainage trench details for planter pots, see Urban Design plans sheets Bxx & xx
3. For planter Lighting & Junction Box locations, see Urban Design plans sheets Bxx & xx.

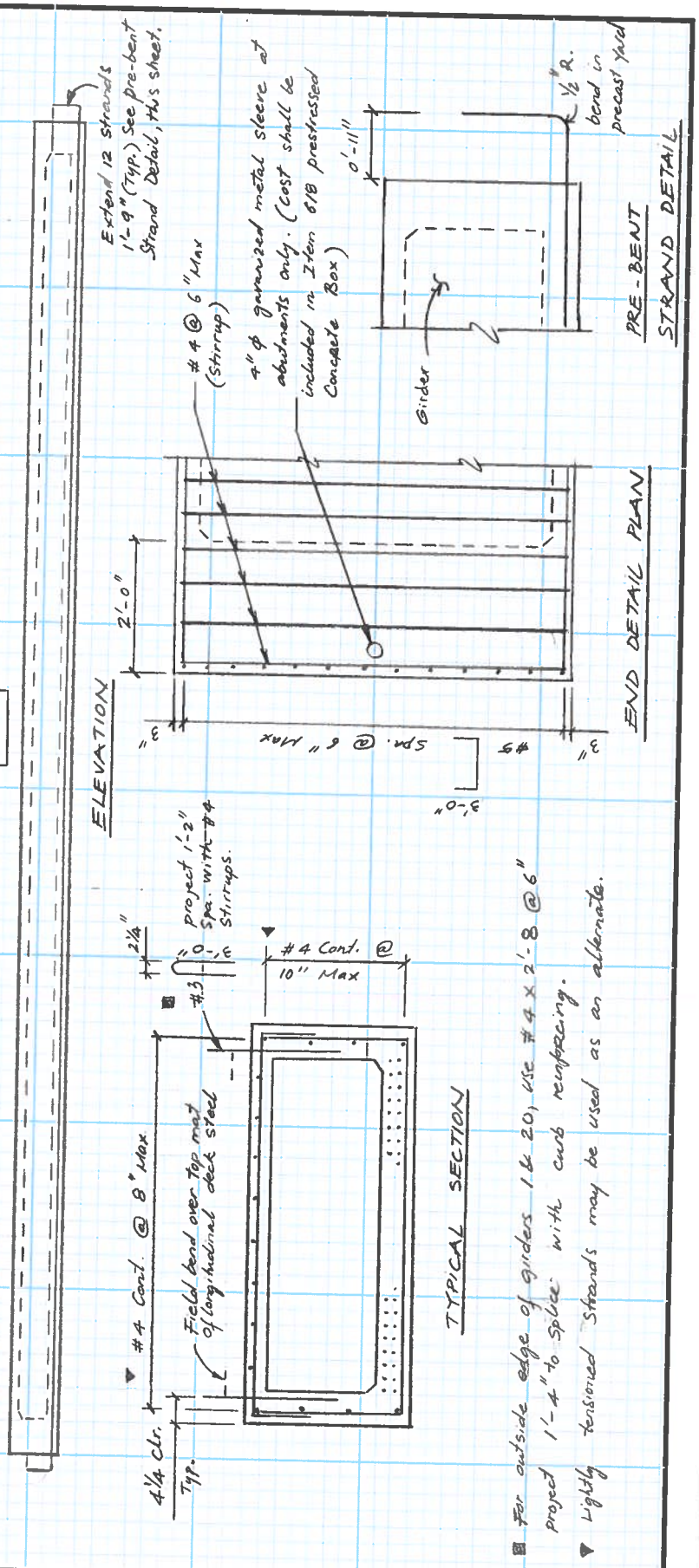
CDOT Form #1034 3/02

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)

GIRDER SCHEDULE

Span No.	Girder No.	L (FT)	W (IN)	D (IN)	ϕ (DEG)	T_w (IN)	Tbm (IN)	Ttm (IN)	Tbe (IN)	The (IN)	L_H (FT)	L_h (FT)	A_s^* (IN^2)	Debonded Strands (%)	E_E (IN)	E_{MS} (IN)	F_j (K)	F_f (K)	Concrete Strength f'_c (PSI)	Concrete Strength f'_c (PSI)	Predicted Release Camber (IN)	Predicted Camber (IN)
1&5	ALL	62.583	72	30	90	6	6	4	6	4	0	0	5.21	25	3.25	3.25	1054.6	933.8	6,500	8500	0.663	1.163
2-4	ALL	82.833	72	30	90	6	6	4	6	4	0	0	7.38	23.5	3.19	3.19	1494	1292.1	6,500	8,500	1.29	2.23

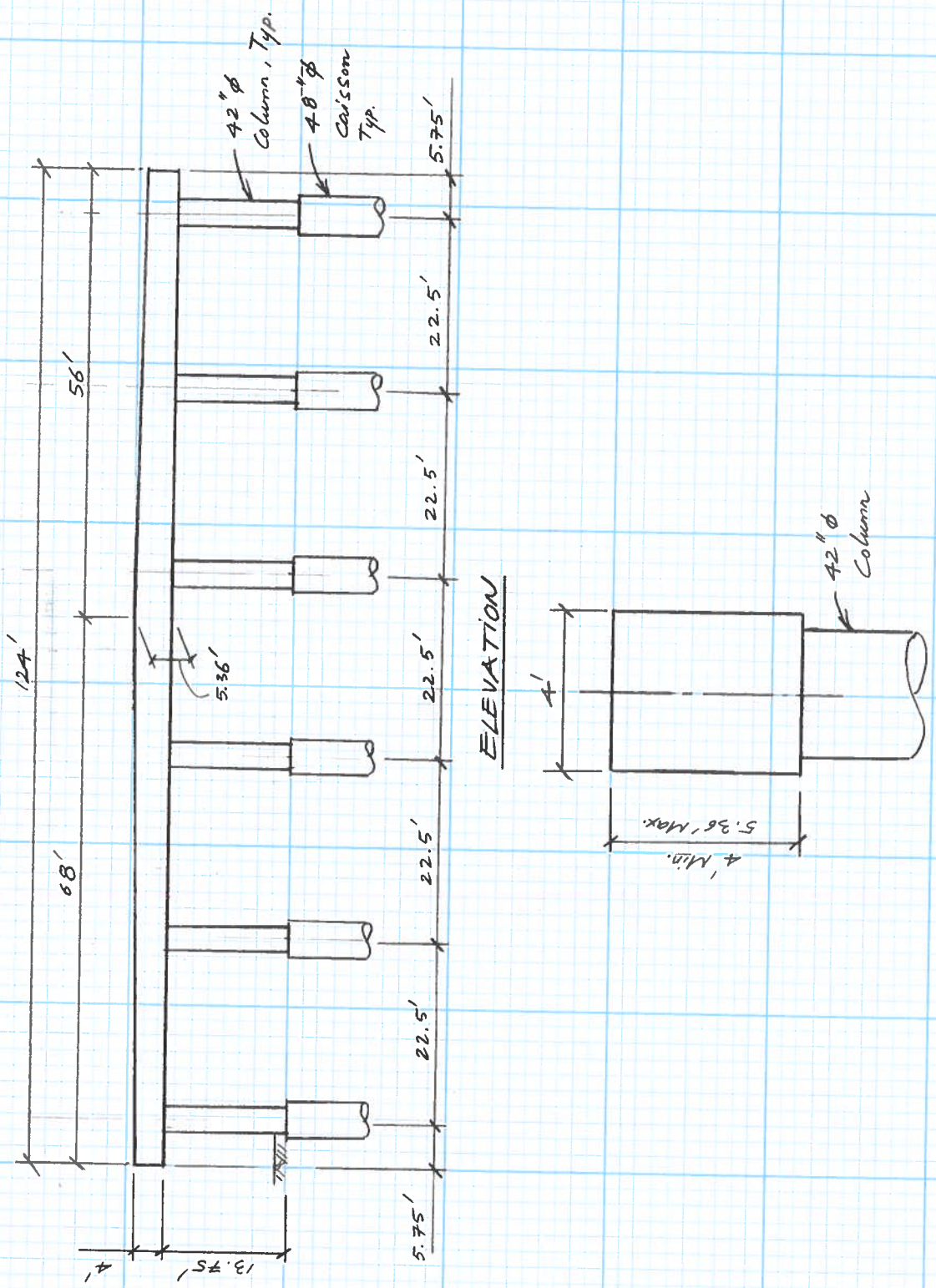


By: HB Date 3/13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: JE Date 8/13	Structure no. B-16-EV	Sheet 499 of 508	

CDOT Form #1034 3/02

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)

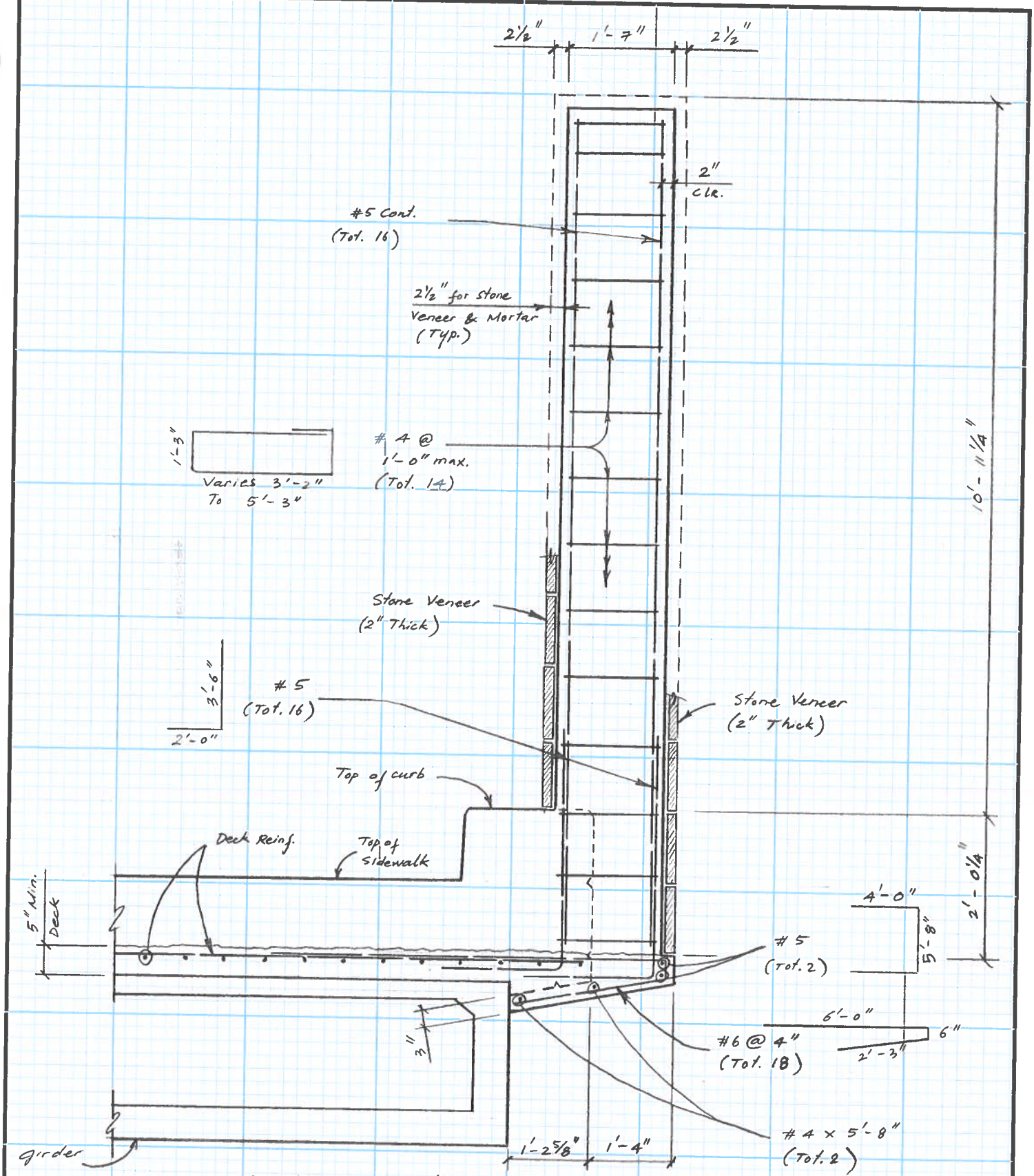


By: HB Date 3/13	Project no. FBR-0142-055	Project code (SA#): 18085	
Chk'd KLP Date 8/13	Structure no. B-16-EV	Sheet 500 of 508	

CDOT Form #1034 3/02

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)



OVERHANG DETAIL

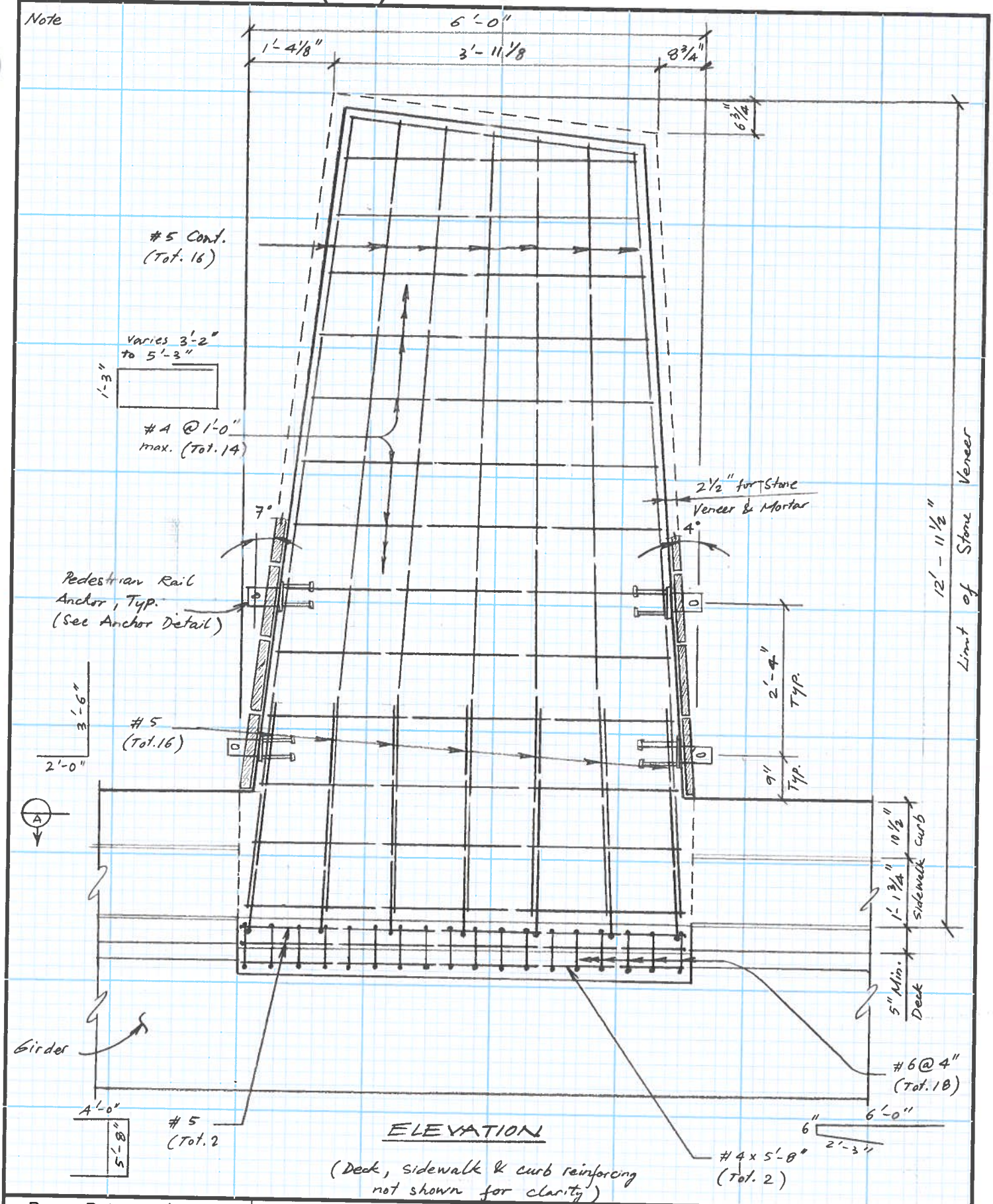
(Taken at Stone Column. Curb & Sidewalk Reinforcing not shown for clarity)

By: HB Date 5/13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: JE Date 8/13	Structure no. B-16-EV	Sheet 501 of 508

CDOT Form #1034 3/02

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)



ELEVATION

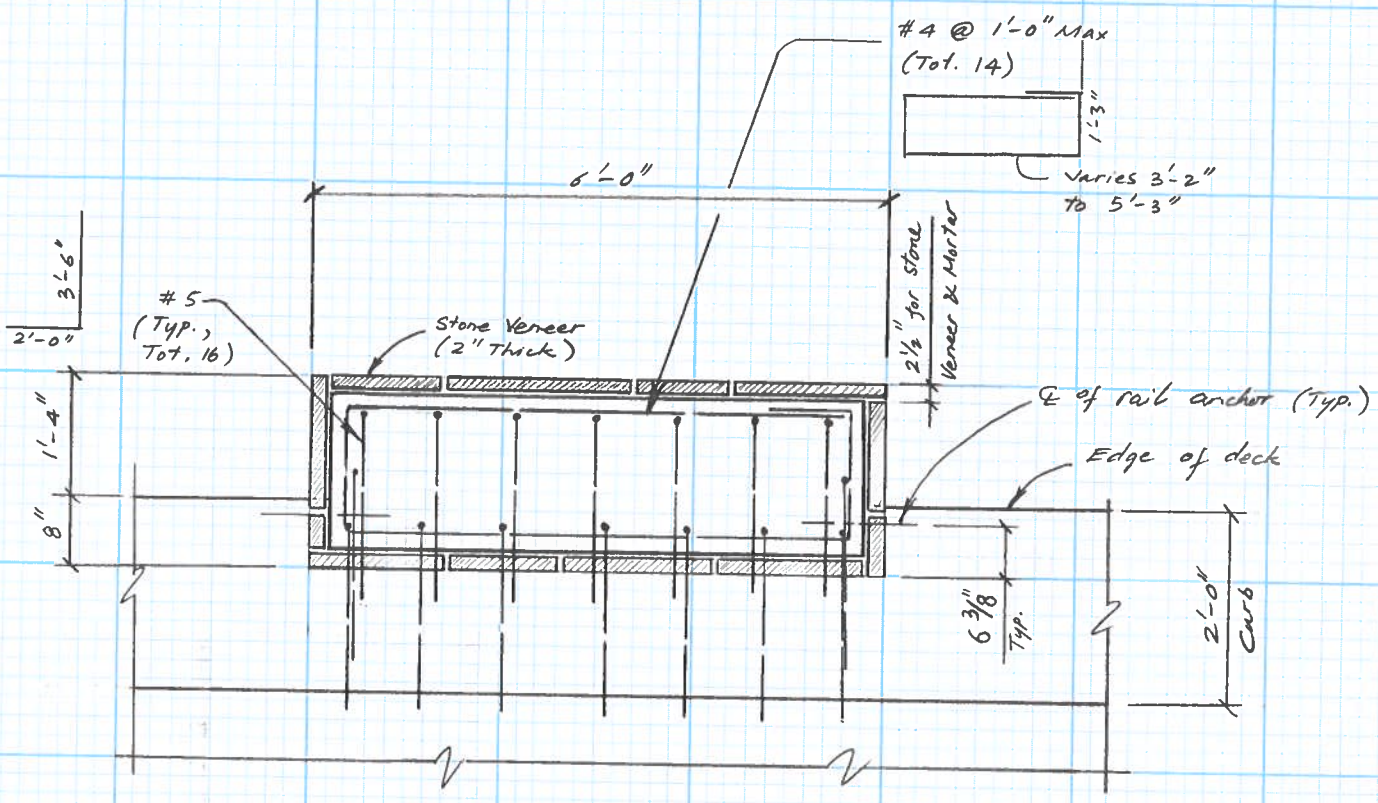
(Deck, sidewalk & curb reinforcing not shown for clarity)

By: HB Date 5/13	Project no. FBR 0142-055	Project code (SA#): 18085
Chk'd: JE Date 8/13	Structure no. B-16-EV	Sheet 502 of 508

CDOT Form #1034 3/02

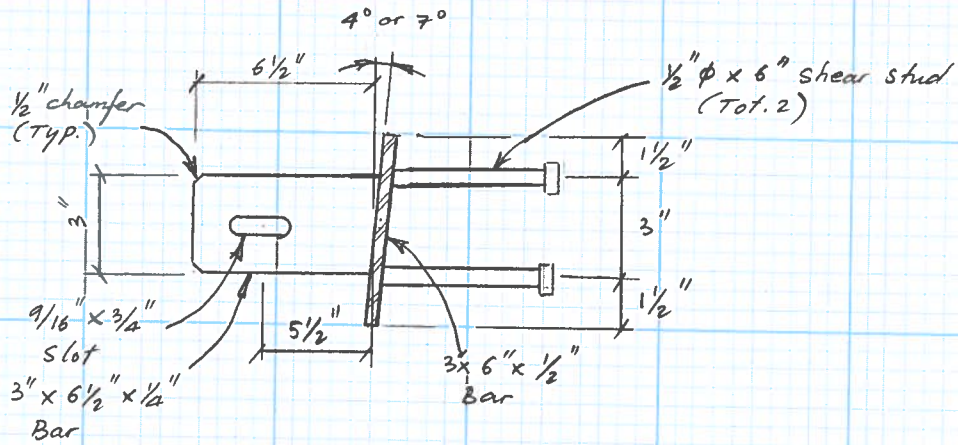
DESIGN COMPUTATIONS (Grid)

3.5 - 8
5.375



SECTION (A)

(Curb & Sidewalk reinforcing not shown for clarity)

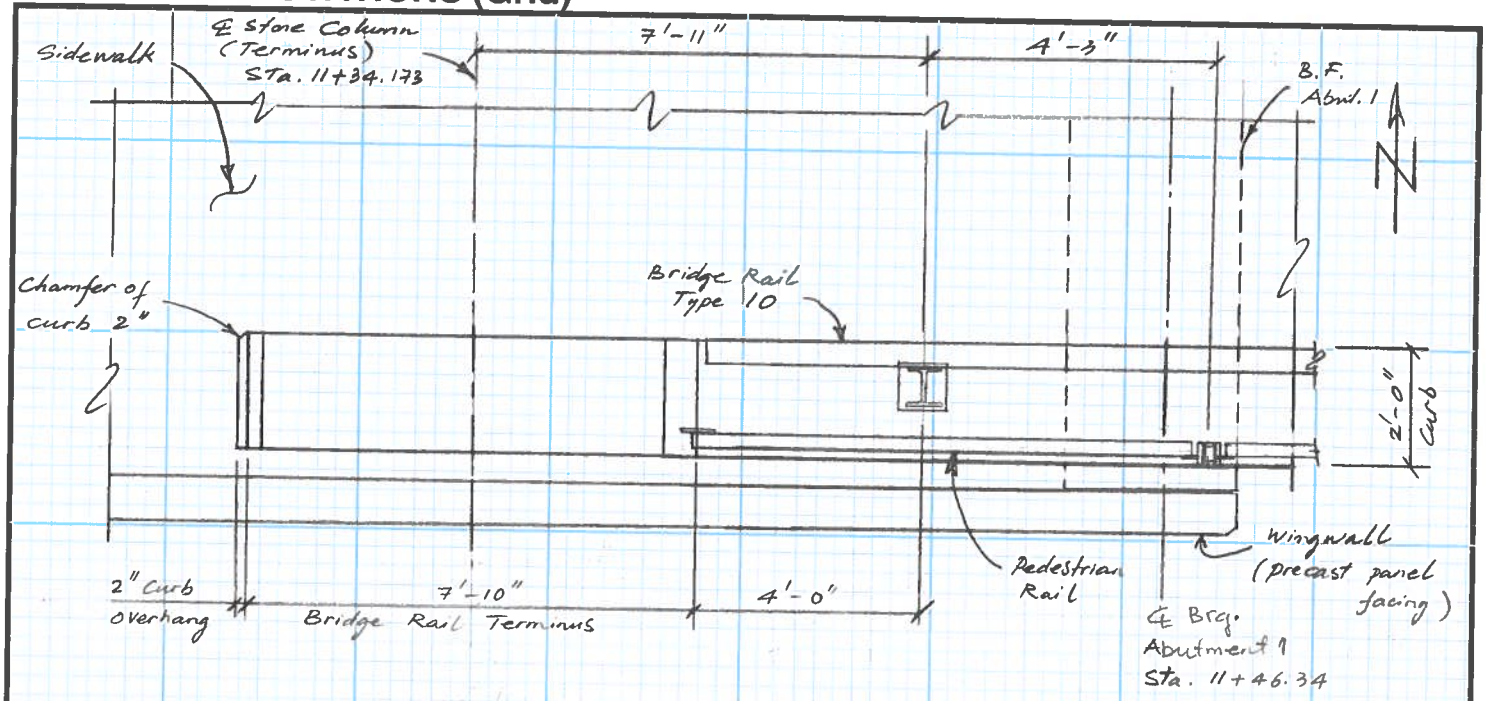


ANCHOR DETAIL

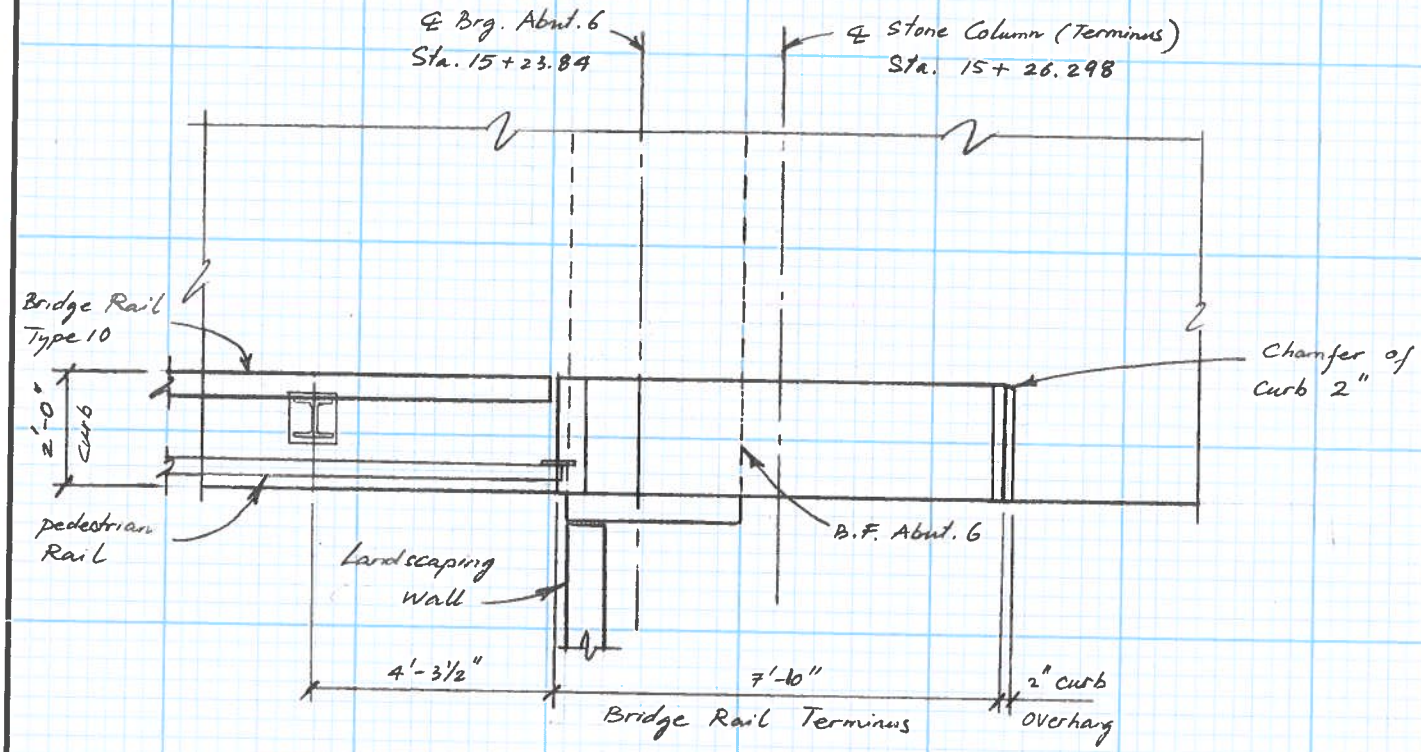
By: HB Date 5/13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: JE Date 8/13	Structure no. B-16-EV	Sheet 503 of 508	

COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)



PARTIAL PLAN
(Typical North corner of Abutment 1)

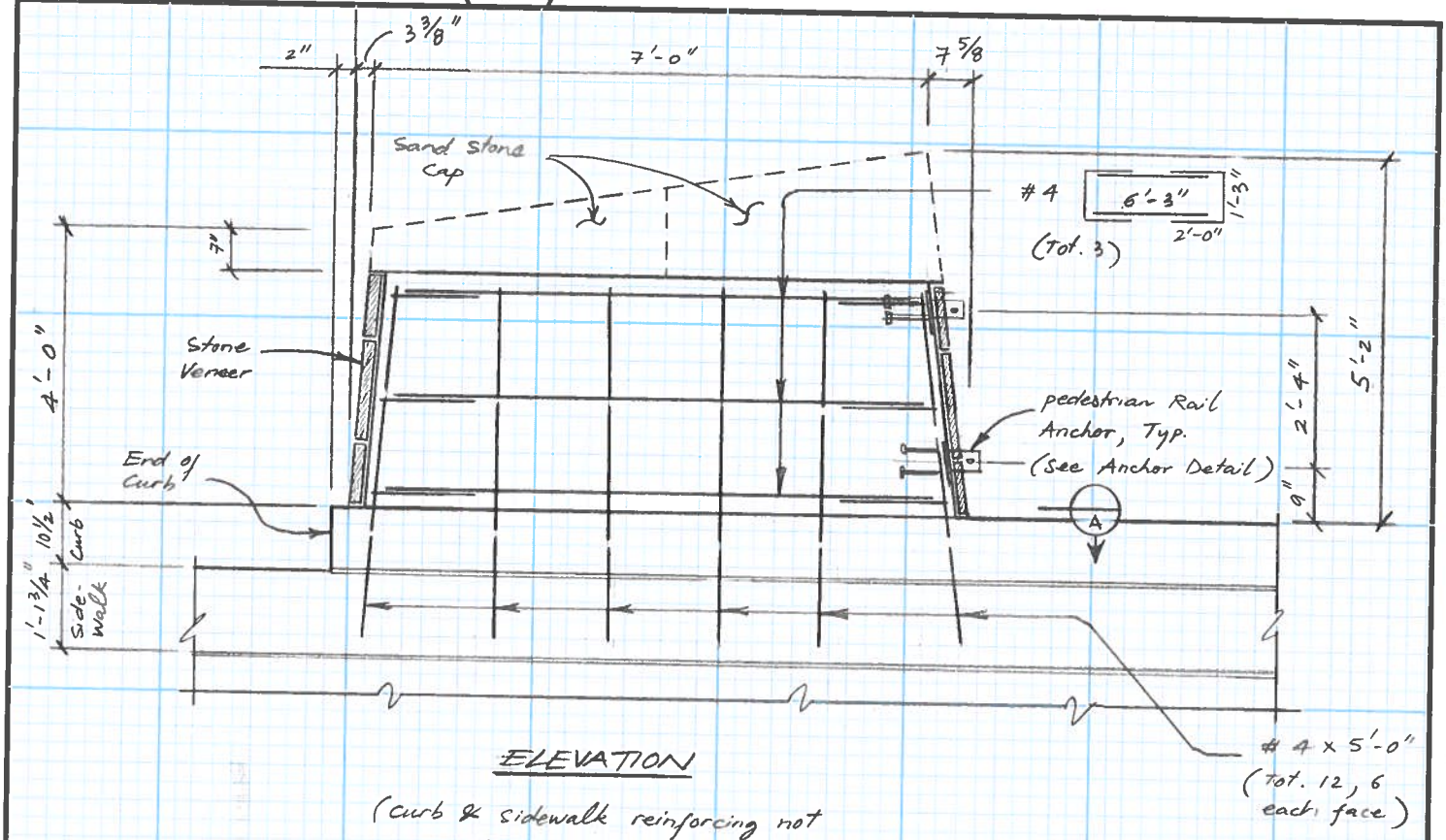


PARTIAL PLAN
(Typical North corner of Abutment 6)

By: HB Date 5/13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: JE Date 8/13	Structure no. B-16-EV	Sheet 504 of 508	

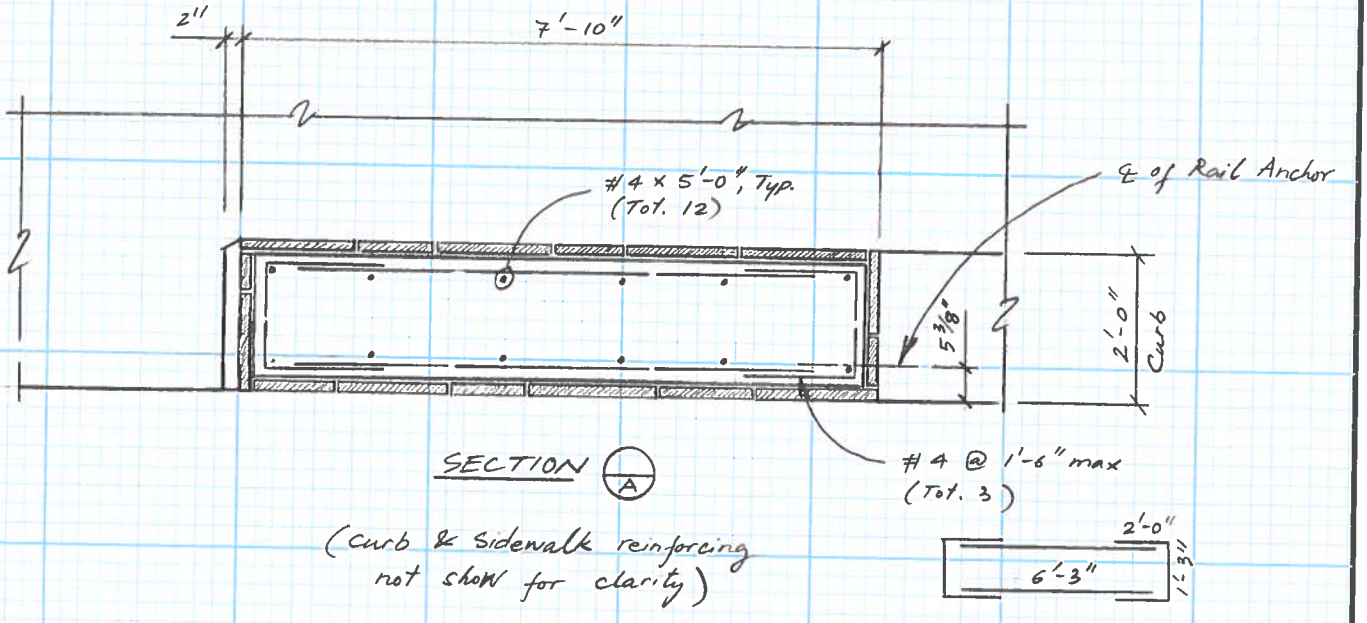
COLORADO DEPARTMENT OF TRANSPORTATION

DESIGN COMPUTATIONS (Grid)



ELEVATION

(curb & sidewalk reinforcing not shown for clarity)

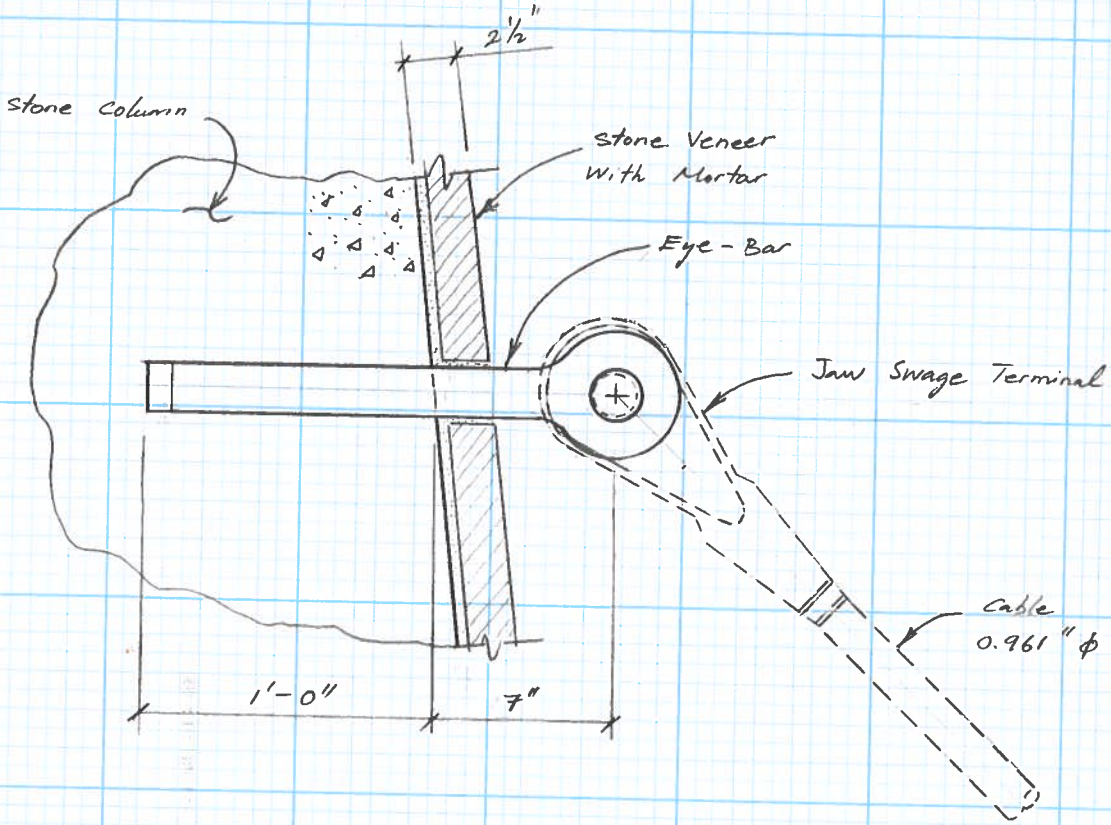


SECTION (A)

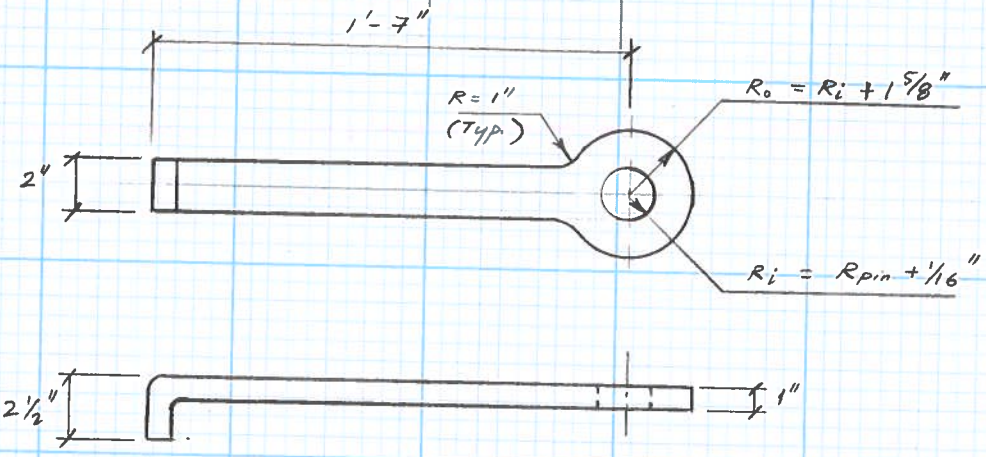
(curb & Sidewalk reinforcing not show for clarity)

By: HB Date 5/13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: JE Date 8/13	Structure no. B-16-EV	Sheet 505 of 508	

CDOT Form #1034 3/02



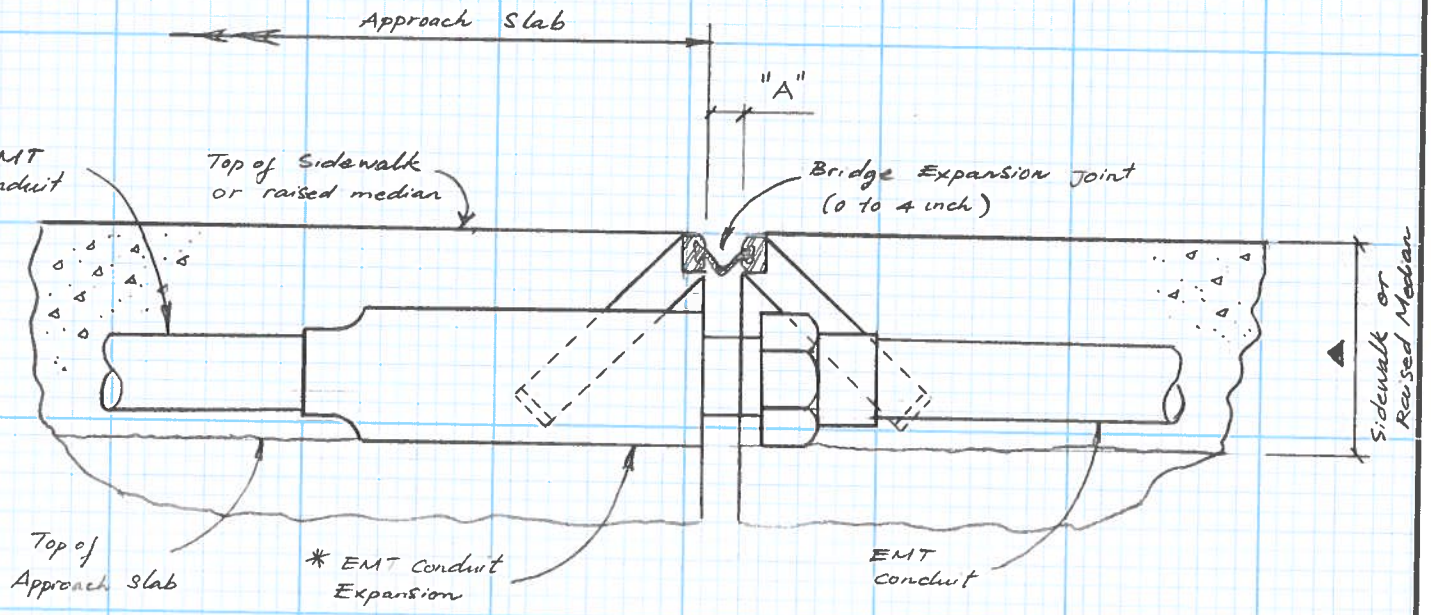
CABLE ATTACHMENT DETAIL



EYE-BAR

(R_{pin} = Radius of Jaw Swage Terminal pin)

By: HB Date 5/13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: JE Date 8/13	Structure no. B-16-EV	Sheet 506 of 508	



UTILITY CONDUIT EXPANSION DETAIL AT EXPANSION JOINT ON BRIDGE

▲ Sidewalk varies: 9" to 1'-1¾"
Raised Median: 9"

Sleeves

* Acceptable Conduit Expansion for irrigation & electrical lines
Appleton Electric Co. or equal
- XJ400-4 for 4"ϕ EMT conduit
6⅜"ϕ x 10¾" ; 4" max. movement
- XJ200-4 for 2"ϕ EMT conduit
4 5/16"ϕ x 9⅛" , 4" max. movement
- XJ 300-4 for 3"ϕ EMT conduit
5½"ϕ x 10" , 4" max. movement

By: HB Date 5/13	Project no. FBR 0142-055	Project code (SA#): 18085	
Chk'd: KLP Date 8/13	Structure no. B-16-EV	Sheet 507 of 508	

PIER GEOMETRY

LOCATION	FINISHED GADE AT A	ELEV. A	ELEV. B	ELEV. C	ELEV. D	ELEV. E	ELEV. F
Pier 2	4948.27	4944.79	4943.67	4943.43	4944.49	4939.43	4923.9
Pier 3	4947.18	4943.70	4942.58	4942.34	4943.40	4938.34	4923.9
Pier 4	4946.09	4942.61	4941.49	4941.25	4942.31	4937.25	4923.9
Pier 5	4945.00	4941.52	4940.40	4940.16	4941.22	4936.16	4923.9

SUPERSTRUCTURE DEPTH		
Asphalt	3	
Deck	5	
haunch	3	
Girder	30	
Leveling pad	0.75	
	41.75	3.479 FT.

OFFSET	
A to B	56
A to C	68
A to D	15
C to E	4