

Structure No.: 7777-777 Route: US ### Cycle No.: 1  
Name: US ### over Road Insp. Date: 06/12/2012

**LOAD RATING SUMMARY SHEET (LRSS)**

(Form NJ-BI-101 Created 1/25/2011)

**Project Information:**

Group: STXX Agreement No.: 2011BI999Z Contract ID: 01-00001 Agree/Mod No.: 00

**Rating Information:**

Method: LRFR: Yes LFR: Yes ASR: No Other (Specify): \_\_\_\_\_

Rating Date: 9/5/2012 Computer Software Used: LARS Bridge V8i Version: 5.00.06.09

Load Testing: No Cycle when Rating Performed: 1 Design Load: HL93

**Structure Information:**

Plans Available? Yes Contract Designation: I-999-99(99)99

Overlay? No Considered in Rating? N/A Type/Thickness: N/A

Section Losses? No Considered in Rating? N/A Item 59: 9

**For LRFR Use Only:**

Dynamic Load Allowance: 1 Condition Factor: 1 System Factor: 1

ADTT (one direction): 300 Resistance Factor: LARS Calculated FCM: No

**Load Rating Engineer (LRE):**

Name: John A. Smith Firm: ABC Consultants Initial: JAS

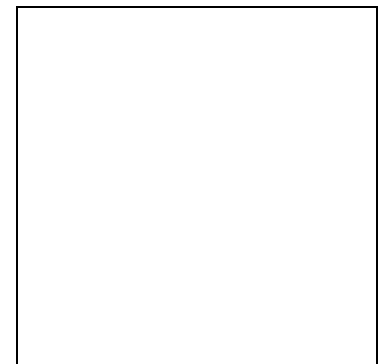
**Load Rating Reviewer (LRR) certification as per the NBIS Title 23 CFR Section 650.309(c):**

Name: Jane B. Brown N.J. P.E. No.: 24GE00000001

Firm: ABC Consultants

I certify that this rating is an accurate representation of the subject structure, considering all deterioration and/or changes to loading conditions, to the extent determinable by research and visual inspection and testing performed. I am charged with the overall responsibility for bridge capacity evaluation for the above mentioned structure.

\_\_\_\_\_  
Sign Date



Structure No.: 7777-777 Route: US ### Cycle No.: 1  
 Name: US ### over Road Insp. Date: 06/12/2012

**LOAD RATING SUMMARY SHEET (LRSS) (cont.)**

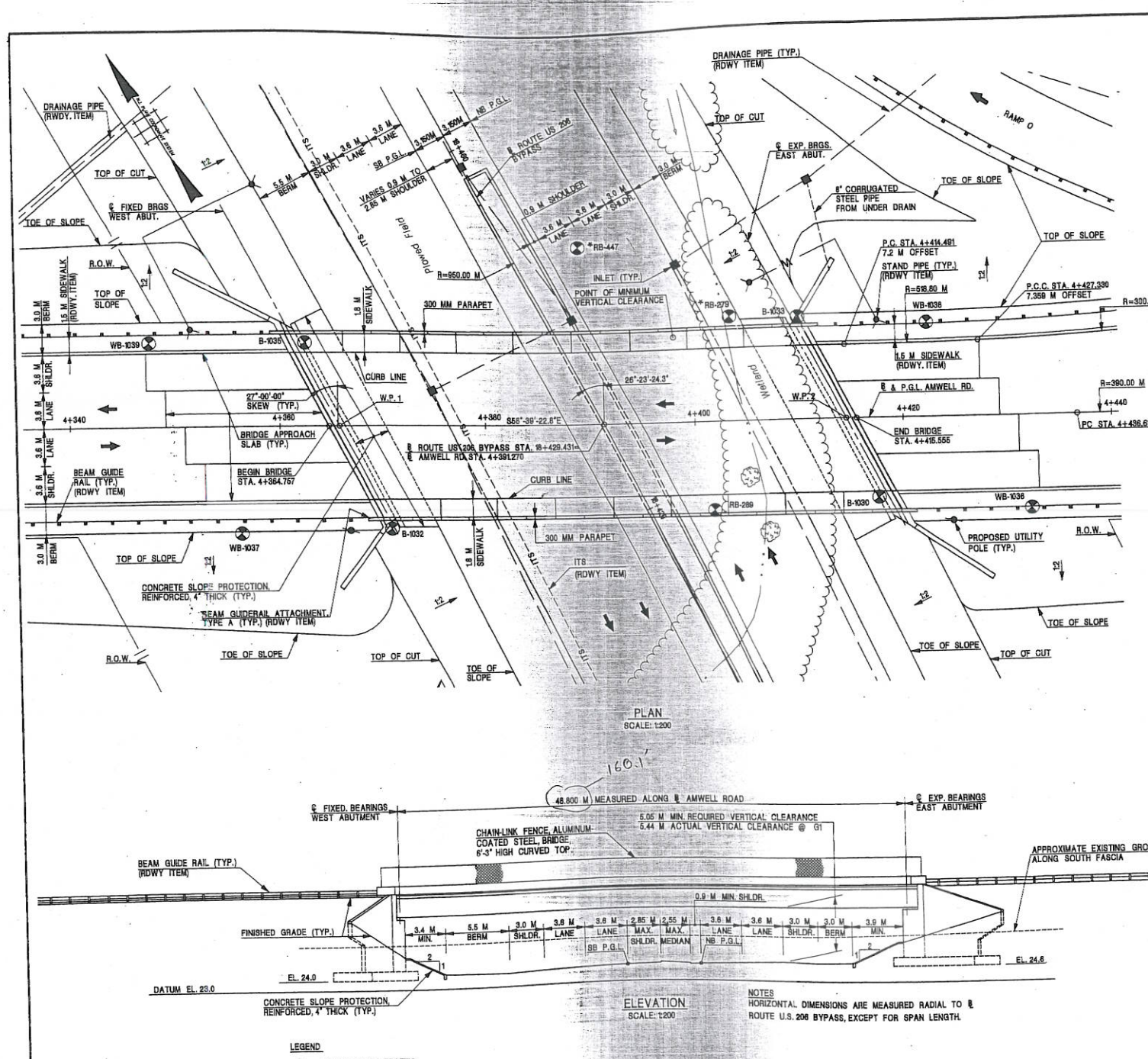
**Rating Comments:**

The Load Factor and LRFR ratings, computed in accordance with the FHWA directive dated November 1993, AASHTO Manual for Bridge Evaluation, 2011, as modified by the NJDOT Highway Bridge Load Rating Manual and Section 43 of the NJDOT Design Manual, Bridges and Structures, are as follows:

			<u>Allowable Stresses (Psi)</u>							
<u>Material</u>	<u>Compressive Strength f'c</u>		<u>Tensile Strength</u>		<u>Yield</u>		<u>Inventory</u>		<u>Operating</u>	
Concrete	4,000		---		---		1,200		1,650	
Reinforcing Steel	---		---		60,000		24,000		36,000	
Structural Steel	---		---		50,000		27,500		37,500	
			<u>Rating (Tons) / Rating Factor</u>							
			<u>LFR</u>				<u>LRFR</u>			
<u>Member</u>	<u>Truck Type (Tons)</u>		<u>As-Built</u>		<u>As-Insp.</u>		<u>As-Built</u>		<u>As-Insp.</u>	
			<u>Inv.</u>	<u>Op.</u>	<u>Inv.</u>	<u>Op.</u>	<u>Inv.</u>	<u>Op.</u> <sup>1</sup>	<u>Inv.</u>	<u>Op.</u> <sup>1</sup>
Interior Girder <sup>2</sup> 01-IG002 Cond. Rating = 9	H15	(15T)	---	---	---	---	---	---	---	---
	HL-93	(NL)	---	---	---	---	1.72	2.24	1.72	2.24
	HS-20	(36T)	62	104	62	104	2.74	3.57	2.74	3.57
	3	(25T)	65	109	65	109	---	3.87	---	3.87
	3S2	(40T)	72	120	72	120	---	2.67	---	2.67
	3-3	(40T)	76	126	76	126	---	2.81	---	2.81
	SU4	(27T)	64	107	64	107	---	3.52	---	3.52
	SU5	(31T)	65	109	65	109	---	3.12	---	3.12
	SU6	(35T)	65	109	65	109	---	2.78	---	2.78
	SU7	(39T)	66	110	66	110	---	2.52	---	2.52

<sup>1</sup> Operating level rating of design load or legal load rating

<sup>2</sup> Controlling Rating  
(NL) = Notional Load



STATE	FEDERAL PROJECT NO.	SHEET	TOTAL SHEETS
N.J.			
STRUCTURE NO.:			
STRUCTURE NAME:			

- GENERAL NOTES:**
- DESIGN SPECIFICATIONS**  
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION, 2007, AS MODIFIED BY SECTION 3 OF THE NJDOT DESIGN MANUAL FOR BRIDGES AND STRUCTURES.
  - CONSTRUCTION SPECIFICATIONS**  
THE 2007 NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS MODIFIED BY THE SPECIAL PROVISIONS.
  - LIVE LOAD**  
AASHTO LRFD HL-93 VEHICULAR LIVE LOADING OR NJDOT PERMIT VEHICLE, WHICHEVER GOVERNS.
  - CONCRETE COMPRESSIVE STRESSES**  
(a) DESIGN COMPRESSIVE STRENGTH - f'<sub>c</sub> 4000 PSI  
CLASS A ..... 28 MPa  
CLASS B ..... 21 MPa  
(b) CLASS MIX DESIGN STRENGTHS  
(IN ACCORDANCE WITH TABLE 903.03.06-3 OF THE NJDOT STANDARD SPECIFICATIONS.)  
CLASS A ..... 32 MPa  
CLASS B ..... 26 MPa
  - REINFORCEMENT STEEL**  
ASTM A615M GRADE 420
  - SUPERSTRUCTURE**  
(a) DEAD LOAD INCLUDES 12 kPa PROVISION FOR A FUTURE 50 MM THICK CONCRETE OVERLAY PROTECTIVE SYSTEM ON THE BRIDGE DECK.  
(b) SINGLE SPAN, WELDED STEEL PLATE GIRDERS WITH COMPOSITE ONE COURSE CONSTRUCTION REINFORCED HIGH PERFORMANCE CONCRETE DECK SLAB. 350,000 PSI  
(c) STRUCTURAL STEEL: AASHTO M 270/M 270, GRADE 345W (ASTM A 709/A 709M, GRADE 345W) WITH SUPPLEMENTARY REQUIREMENTS FOR NOTCH TOUGHNESS FOR ALL MEMBER COMPONENTS MARKED (T).  
(d) SEE STRUCTURAL STEEL PLANS FOR CLEANING AND PAINTING SYSTEMS, AND FINISH COAT COLOR.
  - SEISMIC DESIGN NOTES**  
SEISMIC PERFORMANCE ZONE 2  
ACCELERATION COEFFICIENT 'A' = 0.18  
SOIL PROFILE TYPE I
  - BORINGS:**  
(a) ⊗ INDICATES LOCATION OF SOIL BORINGS  
LOG NO.  
(b) \* INDICATES LOCATION OF OBSERVATION WELLS
  - FOUNDATION DESIGN CRITERIA**  
ABUTMENTS TO BE FOUNDED ON ROCK:  
NOMINAL BEARING RESISTANCE ..... 1,140 kPa  
FACTORED BEARING RESISTANCE ..... 833 kPa
  - DETAILS AND DIMENSIONS AS SHOWN ON THE PLANS GOVERN OVER THE STANDARD BRIDGE CONSTRUCTION DETAILS AND SPECIFICATIONS.**

- REFERENCES**
- FOR INDEX OF DRAWINGS, SUMMARY OF QUANTITIES AND WORKING POINT LAYOUT, SEE SHEET NO. B-17
  - FOR BRIDGE TYPICAL SECTION AND APPROACH ROADWAY SECTIONS, SEE SHEET NO. B-18
  - FOR PROFILES, SEE SHEET NO. B-19
  - FOR DETAILS OF CONCRETE SLOPE PROTECTION, SEE STANDARD BRIDGE CONSTRUCTION DETAIL BCD-504-3.1

BRIDGE NO. 8

ALL DIMENSIONS SHOWN ON THIS SHEET ARE IN METRIC UNITS

NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF STRUCTURAL ENGINEERING

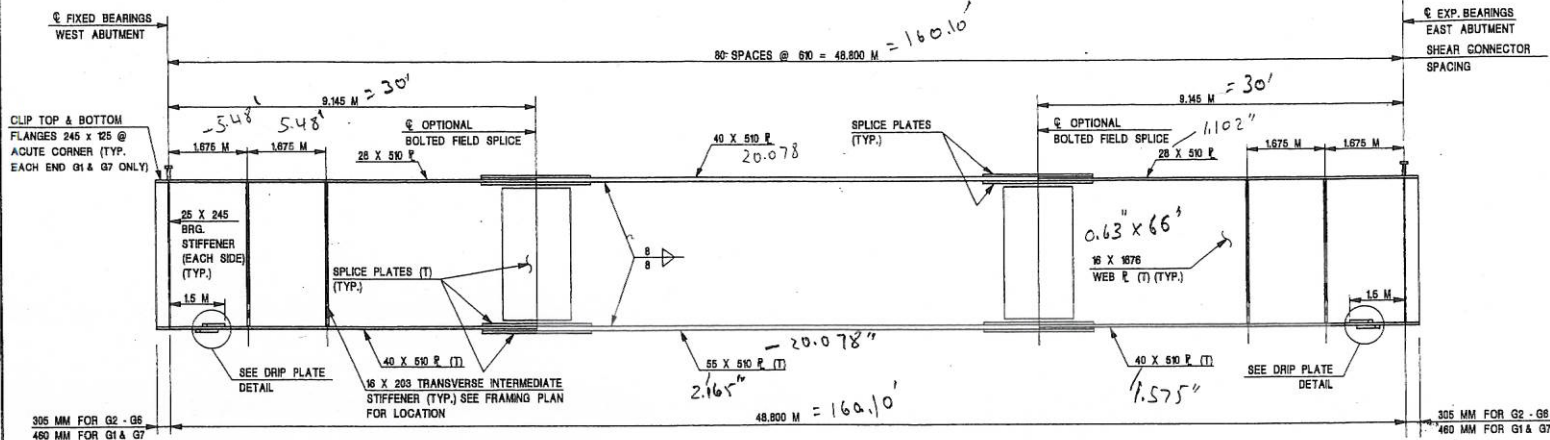
GENERAL PLAN AND ELEVATION

SAMPLE

CONTROL SECTION	JOB NO.
DEB.1 - 4THMAN	

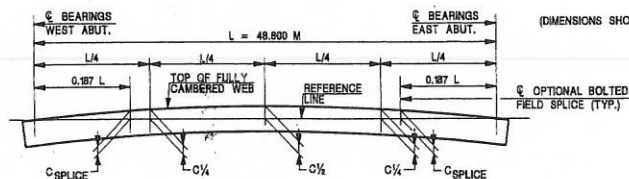
DEWEY-HY-0000000, INC.  
CERTIFICATE OF AUTHORIZATION NO. 2440A20047000





GIRDER ELEVATION

NOT TO SCALE  
(DIMENSIONS SHOWN ARE IN MILLIMETERS UNLESS NOTED OTHERWISE)



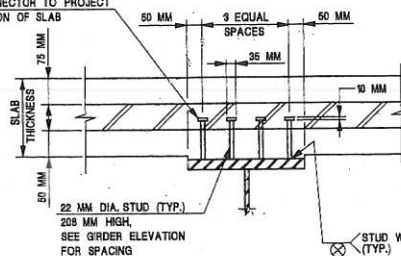
CAMBER DIAGRAM  
NOT TO SCALE

CAMBER TABLE (MM)						
GIRDER	CAMBER	BEARINGS W. ABUT.	C/4	C/2	C/4	BEARINGS E. ABUT.
G1	STRUCT. STEEL	0	44	61	35	0
	CONC. SLAB	0	100	139	79	0
	S.I.P. & ADD. CONC.	0	9	13	7	0
	S.D.L. & F.W.S.	0	31	43	25	0
	V.C. CAMBER	0	71	95	59	0
	ARCH. CAMBER	0	0	0	0	0
G2 - G4	TOTAL	0	255	350	204	0
	STRUCT. STEEL	0	44	61	35	0
	CONC. SLAB	0	109	151	86	0
	S.I.P. & ADD. CONC.	0	18	25	15	0
	S.D.L. & F.W.S.	0	26	41	23	0
	V.C. CAMBER	0	75	100	61	0
G5 & G6	ARCH. CAMBER	0	0	0	0	0
	TOTAL	0	275	378	220	0
	STRUCT. STEEL	0	44	61	35	0
	CONC. SLAB	0	109	151	86	0
	S.I.P. & ADD. CONC.	0	18	25	15	0
	S.D.L. & F.W.S.	0	29	41	23	0
G7	V.C. CAMBER	0	79	105	64	0
	ARCH. CAMBER	0	0	0	0	0
	TOTAL	0	279	383	223	0
	STRUCT. STEEL	0	44	61	35	0
	CONC. SLAB	0	100	139	79	0
	S.I.P. & ADD. CONC.	0	9	13	7	0
G7	S.D.L. & F.W.S.	0	31	43	25	0
	V.C. CAMBER	0	79	105	64	0
	ARCH. CAMBER	0	0	0	0	0
	TOTAL	0	283	390	220	0

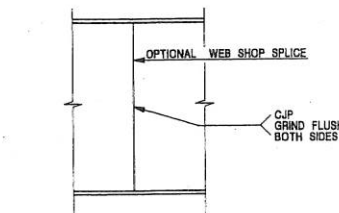
CAMBER TABLE NOTES:

1. THE TOTAL CAMBER, AS TABULATED, IS ASSUMED TO BE MEASURED VERTICALLY TO THE TOP OF THE FULLY CAMBERED WEB FROM A STRAIGHT LINE DRAWN FROM THE INTERSECTION OF TOP OF WEB AND CENTERLINE OF BEARING AT ONE END OF THE GIRDER TO THE INTERSECTION OF TOP OF WEB AND CENTERLINE OF BEARING AT THE OTHER END OF THE GIRDER.
2. THE CAMBER LABELED "STRUCT. STEEL" IN THE TABLE IS THE CAMBER REQUIRED IN THE GIRDER TO OFFSET THE DEFLECTION DUE TO THE DEAD LOAD WEIGHT OF THE STEEL IN THE GIRDER, DIAPHRAGMS AND STIFFENERS.
3. THE CAMBER LABELED "CONC. SLAB" IN THE TABLE IS THE CAMBER REQUIRED IN THE GIRDER TO OFFSET THE DEFLECTION DUE TO THE DEAD LOAD WEIGHT OF THE CONCRETE DECK AND THE HAUNCHES.
4. THE CAMBER LABELED "S.I.P. & ADD. CONC." IN THE TABLE IS THE CAMBER REQUIRED IN THE GIRDER TO OFFSET THE DEFLECTION DUE TO THE DEAD LOAD WEIGHT OF THE STAY-IN-PLACE DECK FORMS AND DUE TO THE WEIGHT OF ADDED CONCRETE THAT IS NEEDED TO MEET DECK GRADES AND BOTTOM MAT REINFORCEMENT CLEARANCES.
5. THE CAMBER LABELED "S.D.L. & F.W.S." IN THE TABLE IS THE CAMBER REQUIRED IN THE GIRDER TO OFFSET THE DEFLECTION DUE TO THE SUPERIMPOSED DEAD LOAD WEIGHT OF THE PARAPETS, SIDEWALK, FENCE AND THE FUTURE WEARING SURFACE.
6. THE CAMBER LABELED "V.C. CAMBER" IN THE TABLE IS THE CAMBER REQUIRED IN THE GIRDER TO FOLLOW THE VERTICAL CURVE.
7. VERTICAL CURVE CAMBER VALUES EXCEED THE MINIMUM ARCHITECTURAL APPEARANCE REQUIREMENTS, THEREFORE, ARCHITECTURAL CAMBER VALUES IN THE TABLE ARE SHOWN AS ZERO.
8. POSITIVE CAMBER VALUES DENOTE UPWARD CAMBER. NEGATIVE CAMBER VALUES DENOTE DOWNWARD CAMBER.
9. THE CAMBERS TABULATED ARE IN MILLIMETERS.

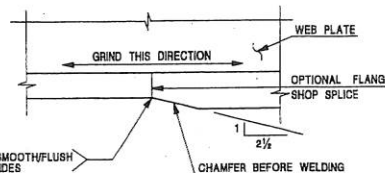
HEAD OF SHEAR CONNECTOR TO PROJECT INTO HATCHED PORTION OF SLAB



SHEAR CONNECTOR DETAIL  
NOT TO SCALE



OPTIONAL WEB SHOP SPICE DETAIL  
NOT TO SCALE



OPTIONAL FLANGE SHOP SPICE DETAIL  
NOT TO SCALE

STRUCTURAL STEEL NOTES:

1. WELDING SHALL CONFORM TO THE CURRENT AASHTO/AWS D1.5M BRIDGE WELDING CODE WITH NADOT AMENDMENTS. WELDING AND NONDESTRUCTIVE TESTING SYMBOLS SHALL CONFORM TO SYMBOLS FOR WELDING, BRAZING AND NONDESTRUCTIVE EXAMINATION AWS A2.4. ALL GIRDERS AND GIRDER COMPONENTS INCLUDING STIFFENERS, SPLICE PLATES, DIAPHRAGM CONNECTION PLATES AND DRIP PLATES ARE CONSIDERED MAIN MEMBERS.
2. JOINT WELDING PROCEDURES, OVERALL FABRICATION METHODS AND QUALITY CONTROL INSPECTION PROCEDURE SHALL BE INCLUDED AS WRITTEN PROCEDURE SPECIFICATIONS WITH THE SHOP DRAWING SUBMISSION.
3. LOCATION OF OPTIONAL FLANGE AND WEB SHOP SPLICES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. LENGTHS OF PLATES SHALL BE CONSISTENT WITH LENGTHS OF PLATES AVAILABLE FROM THE MILL. LOCATION SHALL BE AT POINTS OF REDUCED TENSILE STRESS. WEB SPLICES SHALL BE AT LEAST 300 MM FROM FLANGE SPLICES AND/OR TRANSVERSE INTERMEDIATE STIFFENER AND/OR CONNECTION PLATES FOR DIAPHRAGMS.
4. WHEN FLANGES OR WEBS ARE DETAILED ON THE CONTRACT PLANS AS A SERIES OF VARYING THICKNESS PLATES, THE CONTRACTOR MAY, FOR THE PURPOSE OF ELIMINATING BUTT WELDS, EXTEND THE LENGTH OF THE THICKER PLATE TO THE END OF THE NEXT THINNER PLATE OR TO THE END OF THE MEMBER, PROVIDED THE MAXIMUM PLATE THICKNESS DOES NOT EXCEED 15 TIMES THE THICKNESS OF THE THINNER PLATE PLUS 9.5 MILLIMETERS. SUBJECT TO APPROVAL BY THE ENGINEER. IF THE CONTRACTOR INCREASES THE THICKNESS OF THE BOTTOM FLANGE PLATE AT A BEARING LOCATION, HE SHALL MAINTAIN THE ORIGINAL GIRDER ELEVATION BY MAKING SUITABLE CHANGES IN THE ELEVATION OF THE CONCRETE MASONRY.
5. ALLOWANCES SHALL BE MADE IN THE SHOP FOR SHRINKAGE DUE TO WELDING AND BURNING. IF UNEVEN SHRINKAGE IS ANTICIPATED, CAMBER ORDINATES SHALL BE ADJUSTED ACCORDINGLY.
6. FLANGE AND WEB SHOP SPLICES ARE TO BE COMPLETED AND WELDMENTS INSPECTED BEFORE FITTING AND WELDING FLANGES TO WEBS. FABRICATION METHODS WHICH MAY BE REQUIRED FOR SPECIAL CONDITIONS, SHALL BE INCLUDED IN THE WRITTEN WELDING AND PROCEDURE SPECIFICATIONS OF THE SHOP DRAWINGS.
7. ALL TRANSVERSE INTERMEDIATE STIFFENERS, INTERMEDIATE AND END DIAPHRAGM CONNECTION PLATES ARE TO BE NORMAL TO THE WEB.
8. ALL BEARING STIFFENERS, END DIAPHRAGMS AND ENDS OF GIRDERS SHALL BE PLUMB UNDER FULL DEAD LOAD. ALL BEARING STIFFENERS ARE TO BE NORMAL TO THE WEB.
9. DETAIL AND FABRICATE GIRDERS AND DIAPHRAGMS SO THAT THE GIRDER WEBS ARE PLUMB UNDER FULL DEAD LOAD.
10. ALL FIELD CONNECTIONS SHALL BE MADE WITH SIZE M22, A 325M, TYPE 3 HIGH STRENGTH BOLTS IN 24 MM DIAMETER OPEN HOLES UNLESS NOTED OTHERWISE. ALL CONNECTING PARTS SHALL HAVE CLASS B CONTACT SURFACES.
11. NO FIELD WELDING TO GIRDERS SHALL BE PERMITTED FOR MEMBER COMPONENTS MARKED (T) UNLESS NOTED OTHERWISE.
12. FILL PLATES IN BOLTED FIELD SPICE MAY BE FABRICATED WITH 2 PLATE THICKNESSES.

LEGEND:

- (T) - MAIN LOAD CARRYING MEMBER SUBJECT TO NOTCH TOUGHNESS REQUIREMENTS.

CJP - COMPLETE JOINT PENETRATION

PAINTING NOTES:

1. CLEANING AND PAINTING OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATION REQUIREMENTS FOR WEATHERING STEEL. COATING SYSTEM: IEU FINISH COAT COLOR: BROWN
2. CONTACT SURFACES FOR BOLTED CONNECTIONS SHALL BE CLASS B.

REFERENCES:

1. FOR BOLTED FIELD SPICE, BEARING STIFFENER, TRANSVERSE INTERMEDIATE STIFFENER, DIAPHRAGM CONNECTION PLATE, DRIP PLATE AND FILLET WELD TERMINATION DETAILS, SEE SHEET NO. B-135.
2. FOR DIAPHRAGM DETAILS, SEE SHEET NO. B-138.
3. FOR BEARING DETAILS, SEE SHEET NO. B-137.

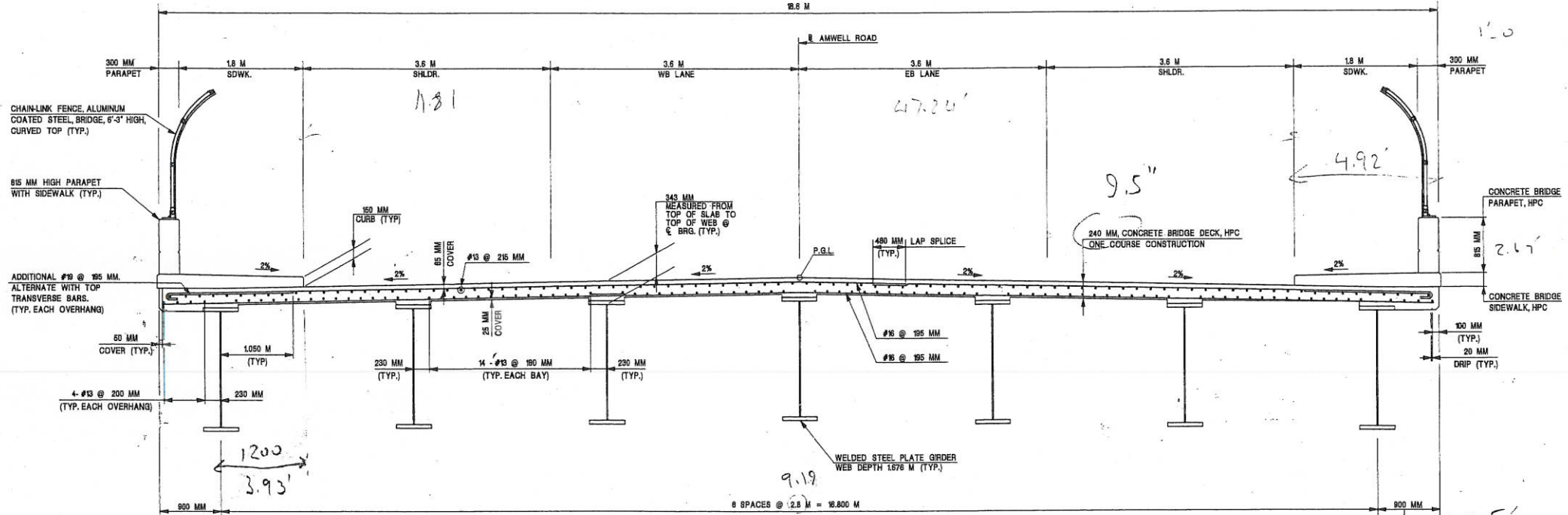
ALL DIMENSIONS SHOWN ON THIS SHEET ARE IN METRIC UNITS

NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF STRUCTURAL ENGINEERING

GIRDER ELEVATION,

SAMPLE

STATE	FEDERAL PROJECT NO.	SHEET	TOTAL SHEETS
N.J.			
STRUCTURE NO.:			
STRUCTURE NAME:			



TYPICAL SECTION  
SCALE: 1:50

NOTES:

- ALL REINFORCEMENT STEEL IN DECK SLAB, PARAPETS AND SIDEWALKS SHALL BE EPOXY COATED.
- THE SPLICES IN BOTTOM TRANSVERSE BARS SHALL BE ALTERNATED OVER ADJACENT BEAMS AT THE CENTER PORTION OF THE ROADWAY. THE SPLICES IN TOP TRANSVERSE BARS SHALL ALTERNATE OVER THE CENTERS BETWEEN ADJACENT BEAMS AT THE CENTER PORTION OF THE ROADWAY.

REFERENCES

- FOR SIDEWALK AND PARAPET DETAILS AND FOR DETAILS OF CONCRETE REINFORCEMENT AT PARAPET OPEN JOINTS, SEE BCD-607-2.
- FOR CHAIN LINK FENCE DETAILS, SEE BCD-608-1.

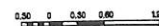
NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF STRUCTURAL ENGINEERING

SUPERSTRUCTURE CROSS SECTION

SAMPLE

ALL DIMENSIONS SHOWN ON THIS  
SHEET ARE IN METRIC UNITS

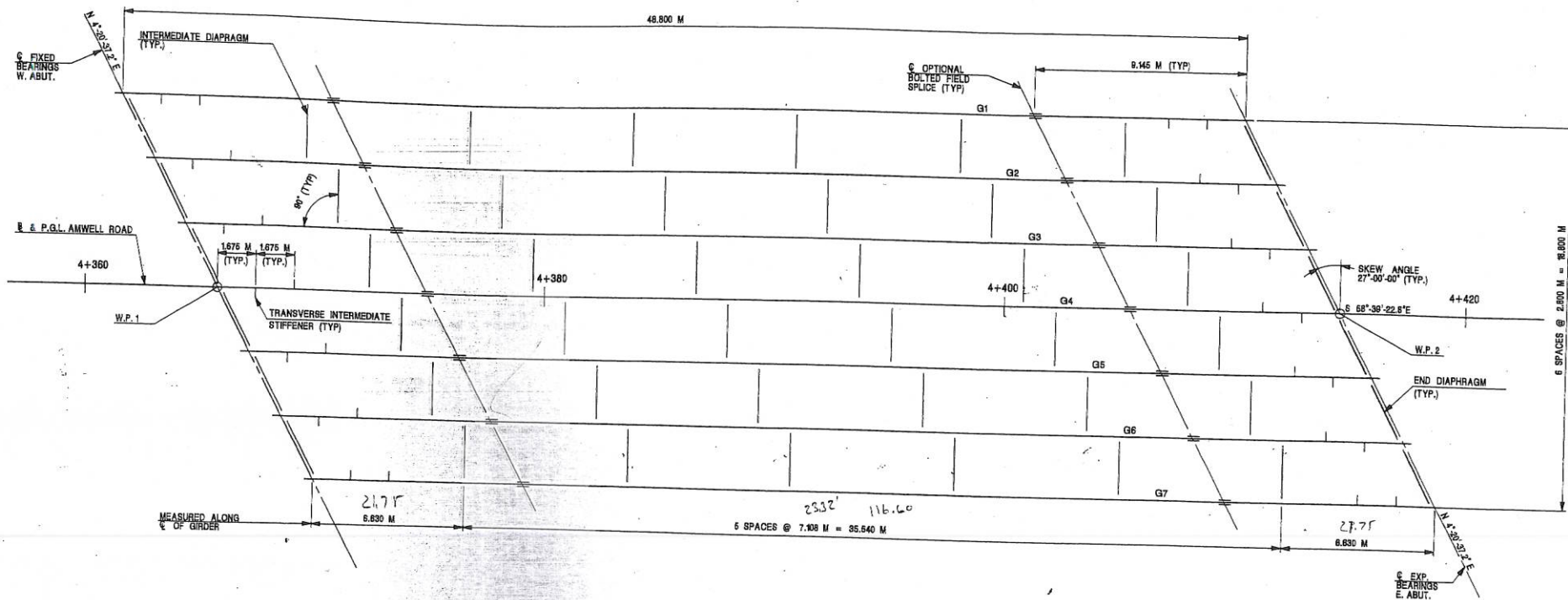
CONTROL SECTION	JOB NO.
DES. BY T. STRAD	CHK. BY A. BERHADI
DWN. BY S. ENOS	



SEABERRY-ROCKING, INC.  
CERTIFICATE OF AUTHORIZATION NO. 240A28047800



STRUCTURE NAME:

FRAMING PLAN  
SCALE: 1:100

QUANTITIES			
ITEM NO. (ENGLISH)	DESCRIPTION (ENGLISH)	UNIT	METRIC QUANTITY
608003P	STRUCTURAL STEEL (APPROX. 815,705 LB)	L.S.	LUMP SUM
608008P	REINFORCED ELASTOMERIC BEARING ASSEMBLY	UNIT	14
608012P	SHEAR CONNECTOR	UNIT	2,286

TOP OF STEEL ELEVATIONS (AT C BEARINGS)		
GIRDER	WEST ABUTMENT	EAST ABUTMENT
G1	31.848	32.276
G2	32.019	32.226
G3	32.090	32.276
G4	32.101	32.325
G5	32.120	32.281
G6	32.079	32.196
G7	32.038	32.131

## REFERENCES:

1. FOR WORKING POINT LAYOUT, SEE SHEET NO. B-107.
2. FOR GIRDER ELEVATION, CAMBER TABLE AND STRUCTURAL STEEL NOTES, SEE SHEET NO. B-134.
3. FOR BOLTED FIELD SPLICE AND GIRDER DETAILS, SEE SHEET NO. B-135.
4. FOR DIAPHRAGM DETAILS, SEE SHEET NO. B-136.

ALL DIMENSIONS SHOWN ON THIS  
SHEET ARE IN METRIC UNITSSCALE IN METERS  
1:100NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF STRUCTURAL ENGINEERING

## FRAMING PLAN

SAMPLE

CONTROL SECTION	JOB NO.
DES. BY T. STRNAD	CHK. BY A. SERNADW
DWN. BY S. ERDAS	

IN CHARGE OF S. JAKOT

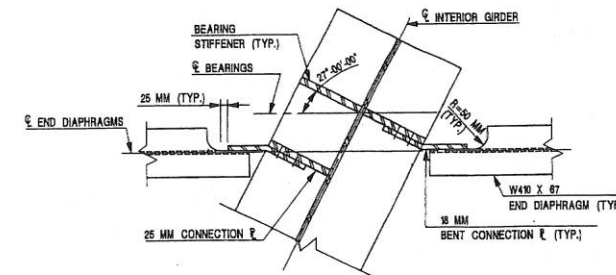
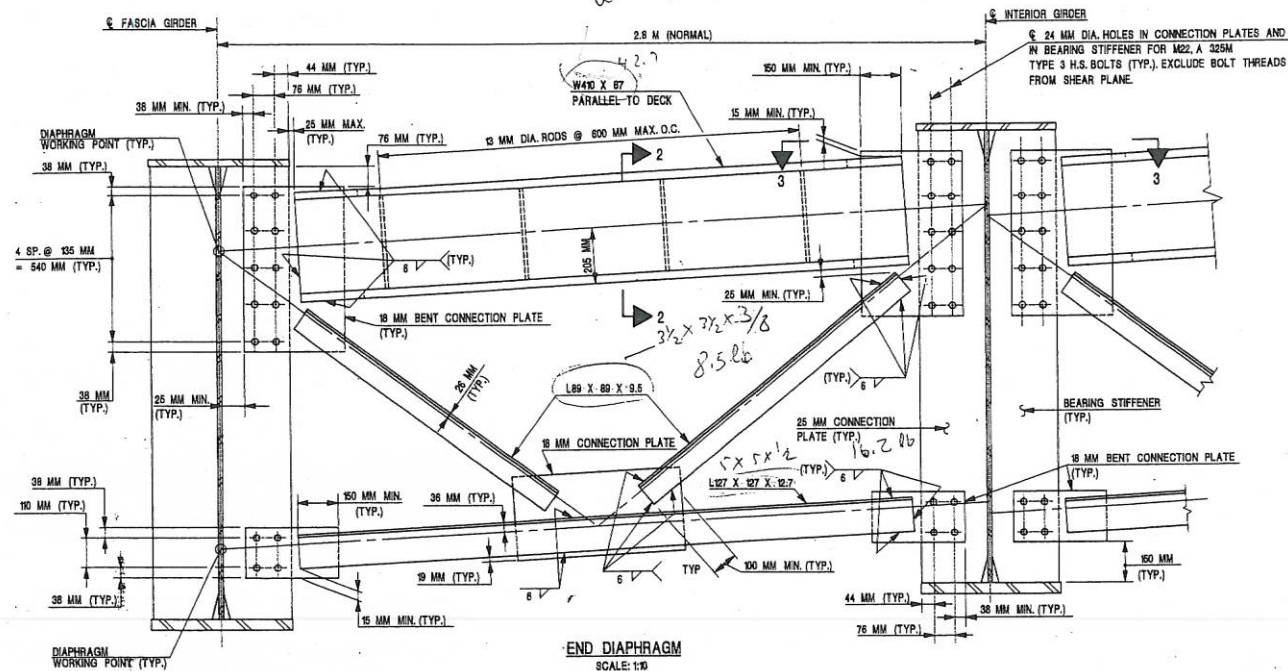
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DEWBERRY-GOODWIN, INC.  
CERTIFICATE OF AUTHORIZATION NO. 240A38047000DAVID M. HICKS  
NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. 240E00307000

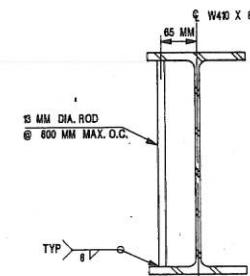
BRIDGE SHEET NO. B-133 OF B-157

508  
532

STATE	FEDERAL PROJECT NO.	SHEET	TOTAL SHEETS
N.J.			
STRUCTURE NO.:			
STRUCTURE NAME:			



**SECTION 3-3**  
**SCALE: 1"=10'**



**SECTION 2-2**  
**SCALE: 1:5**

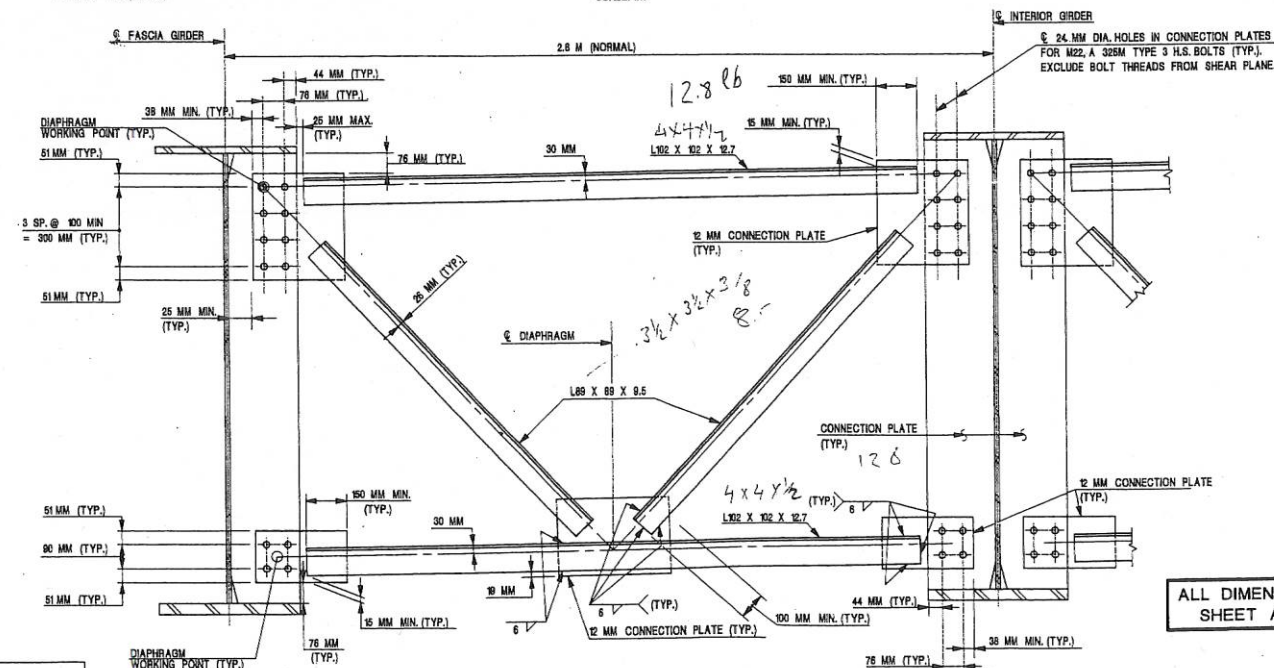
REFERENCE:

1 FOR CONNECTION PLATES AND BEARING STIFFENER DETAILS, SEE SHEET NO. B-135.

NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF STRUCTURAL ENGINEERING

### DIAPHRAGM DETAILS

## SAMPLE



ALL DIMENSIONS SHOWN ON THIS  
SHEET ARE IN METRIC UNITS

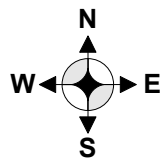
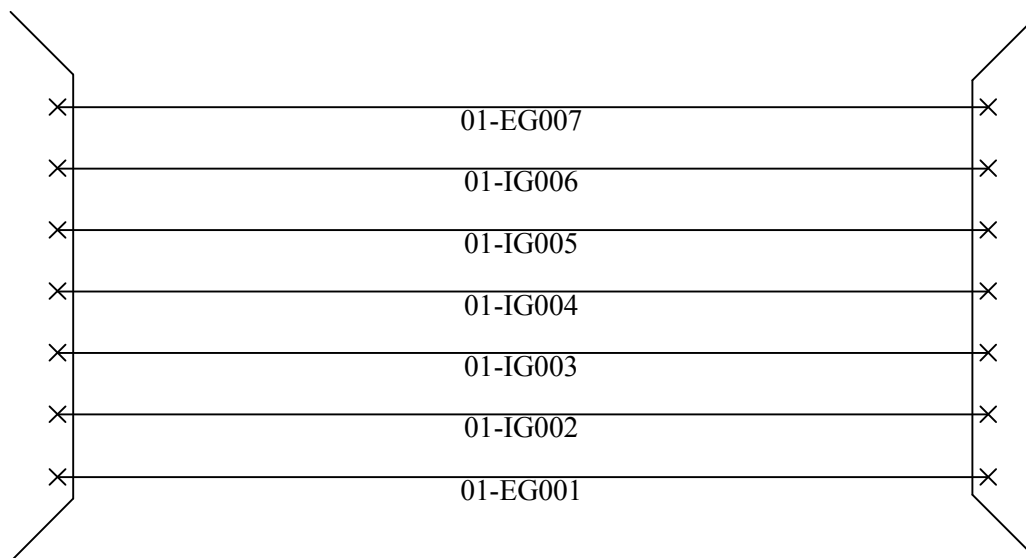
CONTROL SECTION		JOB NO.	
DES. BY	T. STRNAD	CHK. BY	A. SESHADRI
DWN.	A. SESHADRI		

INTERMEDIATE DIAPHRAGM  
SCALE: 1:10

DEWBERRY-GOODKIND, INC.  
CERTIFICATE OF AUTHORIZATION NO. 24GAT064700

Structure No.: 7777-777 Route: US ### Cycle No.: 1  
Name: US ### over Road Insp. Date: 06/12/2012

**LARS Member Identification Sketch:**



☐ Simply-Supported



Structure No.: 7777-777 Route: US ### Cycle No.: 1  
 Name: US ### over Road Insp. Date: 06/12/2012

### **CALCULATIONS – DEAD LOAD:**

<b>SAMPLE RATINGS FOR BRIDGE 7777-777</b>			
RATINGS:	<b>COMPUTE 1ST CYCLE RATINGS USING BENTLEY LARS BRIDGE</b>		
BRIDGE TYPE:	SINGLE SPAN, WELDED STEEL PLATE MULTIPLE STRINGERS WITH COMPOSITE CONCRETE DECK		
BEAMS RATED:	EXTERIOR BEAMS G01 & G07 AND INTERIOR BEAMS G02, G03, G04, G05, & G06 (Interior beams all equivalent)		
<b>BRIDGE CROSS-SECTION:</b>			
<b>CROSS SECTION INFORMATION:</b>			
Curb to Curb =	47.25	Ft	Width (Out-to-Out) (W) = 61.02 Ft
			Span Length (L) = 160.1 Ft
Number of Lanes =	47.25	/ 12	= 3.94
Say =	3		
<b>DECK</b>			
FULL SLAB THICKNESS:	9.50	"	
<b>EFFECTIVE SLAB THICKNESS:</b>			
Min Deck Thickness =	9.5" - 0.5" integral wearing surface =	9.00	"
<b>EFFECTIVE FLANGE WIDTH - LFD</b>			
Interior Beam	(AASHTO Standard Specifications 10.38.3)		
Minimum of:			
C-C spacing =	9.19	ft.	Use 9.19 ft. = 110.3 in.
Overhang width =	2.95	ft.	
Exterior Beam			
Half spacing + Overhang =	4.60	+ 2.95	= 90.6 in.

Structure No.: 7777-777 Route: US ### Cycle No.: 1  
 Name: US ### over Road Insp. Date: 06/12/2012

<b>Diaphragms</b>									
Two (2) Interior End Diaphragms: X-Frames									
W 16 x 45.0 - 45.0 lbs/ft									
2 x 45.0 x Bm s : ## lbs									
Six (6) Interior Diaphragms: X-Frames									
2 - 4" x 4" x 1/2" angles - 12.8 lbs/ft (Conservative)									
2 - 3.5 x 3.5" x 3/8" angles - 8.5 lbs/ft (Conservative)									
Top & bottom total length = 18.36 ft.									
X-Bracing Total Length = 13.1 ft. (Conservative)									
Angle Total Length = 31.46 ft.									
6 x 31.5 ft x 8.2 lbs/ft = 1547.8 lbs									
Assume 15% additional weight for connections and gusset plates									
Total = ( 1547.8 lbs + 826.7 lbs ) x 1.15 = 2730.8 lbs.									
2730.8 lbs / 160.1 ft = 17.1 lbs/ft									
Total = 17.1 lbs/ft for interior beams									
8.5 lbs/ft for exterior beams									
<b>S.I.P. Forms</b>									
Since exact type of S.I.P. forms not specified in plans, assume typical weight as specified in NJDOT Bridge Load Rating Manual - Appendix E.									
Interior Beams = 12.00 lbs/SF x 9.19 ft (beam spacing) = 110.2 lbs/ft									
Exterior Beams = 12.00 lbs/SF x 4.59 ft (1/2 beam spacing) = 55.1 lbs/ft									
<b>TOTAL DEADLOAD DL1</b>									
<u>Interior Beam</u>					<u>Exterior Beam G1</u>				
Haunch = 0.0 lbs/ft					Haunch = 0.0 lbs/ft				
Diaphragms = 17.1 lbs/ft					Diaphragms = 8.5 lbs/ft				
Stiffeners = 0.0 lbs/ft					Stiffeners = 0.0 lbs/ft				
S.I.P. Forms = 110.2 lbs/ft					S.I.P. Forms = 55.1 lbs/ft				
TOTAL = 127.3 lbs/ft					TOTAL = 63.6 lbs/ft				
Say = 127 lbs/ft					Say = 64 lbs/ft				

Structure No.: 7777-777 Route: US ### Cycle No.: 1  
 Name: US ### over Road Insp. Date: 06/12/2012

### COMPOSITE DEADLOAD DL2

Concrete Parapet: 2.67' high x 1' wide

2.67 ft x 1.00 ft x 150 lbs/C.F. = 400.5 lbs/ft

Two Parapets = 801 lbs/ft

Concrete Sidewalk: 0.583' high x 7' wide

0.583 ft x 7.00 ft x 150 lbs/C.F. = 612.2 lbs/ft

Two Sidewalk = 1224 lbs/ft

6'-0" Chain link fence

10 lbs/ft (NJDOT Bridge Load Rating Manual - Appendix E)

Two Rails = 20 lbs/ft

Total = 0.0 lbs/ft + 801 lbs/ft + 1224 lbs/ft + 20 lbs/ft = 2045.3 lbs/ft

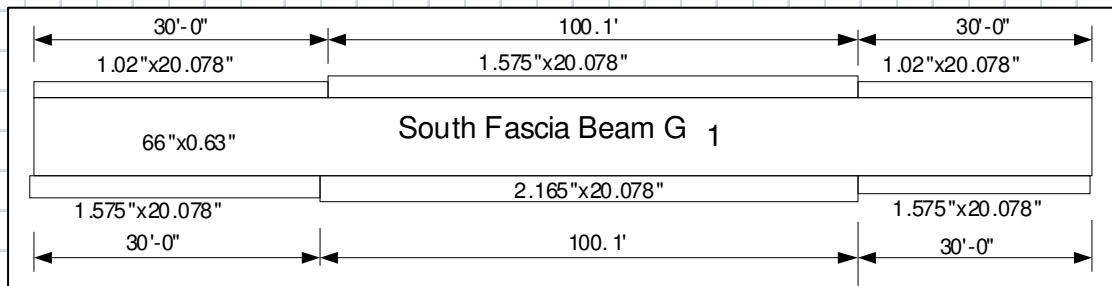
2045.3 lbs/ft / 7 beams = 292.2 lbs/ft

**Say Total DL 2 = 295 lbs/ft per beam**

### Bridge Material Information

Deck Concrete  $f'_c$  = 4.0 ksi  $F_y$  = 50.0 ksi

Original Beam : Welded Steel Plate Stringers (Both Exterior and Interior)

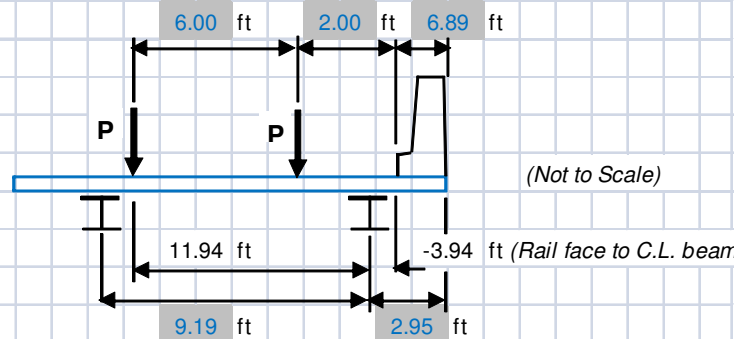




### LFD - Concrete Deck on Steel Stringers

#### EXTERIOR GIRDERS

Note: Average overhang for G07 used throughout - Conservative for G01.



#### SHEAR - LEVER RULE

$$\begin{aligned} \text{D.F.} &= [ ( 9.19 \text{ ft} - 11.94 \text{ ft} ) + ( 9.19 \text{ ft} - 5.94 ) / 9.19 \text{ ft} ] \\ &= [ ( 0 \text{ ft} + 3.246 \text{ ft} ) / 9.19 \text{ ft} ] \\ &= 0.353 \text{ per Wheel} \end{aligned}$$

AASHTO 3.23.1 (LFD)

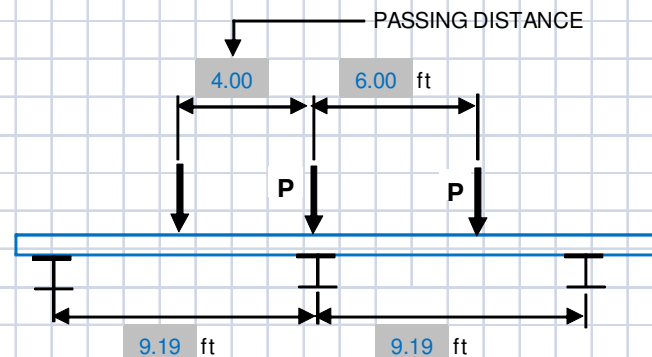
#### MOMENT

(Same as Shear)

AASHTO 3.23.1

$$\text{D.F.} = 0.353 \text{ per Wheel}$$

#### INTERIOR GIRDERS



#### SHEAR

$$\begin{aligned} \text{D.F.} &= [ 1 + ( 9.19 \text{ ft} - 4.00 \text{ ft} ) / 9.19 \text{ ft} + ( 9.19 \text{ ft} - 6.00 ) / 9.19 \text{ ft} ] \\ &= [ 1 + ( 5.186 \text{ ft} / 9.19 \text{ ft} ) + ( 3.186 \text{ ft} ) / 9.19 \text{ ft} ] \\ &= 1.911 \text{ per Wheel} \end{aligned}$$

AASHTO 3.23.1 (LFD)

#### MOMENT

$$\begin{aligned} \text{D.F.} &= [ S / 5.5 ] \\ &= [ 9.19 \text{ ft} / 5.5 ] \\ &= 1.670 \text{ per Wheel} \end{aligned}$$

AASHTO 3.23.1 (LFD)

Structure No.: 7777-777 Route: US ### Cycle No.: 1  
 Name: US ### over Road Insp. Date: 06/12/2012

# **CALCULATIONS - LARS MEMBER SUMMARY (TABULAR) REPORT:**

LOAD ANALYSIS AND RATING SYSTEM -- ASD/LFD/LRFD v5.00.06.09 PAGE 1

## **BRIDGE / MEMBER DATA**

### **SUMMARY REPORT**

Bridge ID: 7777777\_20120905cy01\_01of01  
 Bridge Name US ### over Road  
 Path Name T:\ 7777777\_20120905cy01\  
 File Name 7777777\_20120905cy01\_01of01.BMD

Comments:

Member Descr: 01-EG001

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		LRFD		LRFD		LRFD		LRFD		LRFD	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G01	HL93	150	M	362	M	318	M	530	M	6.02	M	7.80	M		
G01	HS20	150	M	362	M	318	M	530	M	9.59	M	12.43	M		
G01	3	156	M	377	M	331	M	552	M	13.50	M	17.50	M	13.56	S
G01	3S2	173	M	418	M	367	M	611	M	9.34	M	12.11	M	9.38	S
G01	3-3	182	M	439	M	385	M	642	M	9.81	M	12.72	M	9.85	S
G01	SU4	154	M	371	M	326	M	543	M	12.30	M	15.95	M	12.35	S
G01	SU5	156	M	377	M	331	M	552	M	10.89	M	14.11	M	10.93	S
G01	SU6	156	M	378	M	332	M	553	M	9.73	M	12.61	M	9.77	S
G01	SU7	158	M	381	M	334	M	557	M	8.79	M	11.40	M	8.83	S

Member Descr: 01-IG002

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		LRFD		LRFD		LRFD		LRFD		LRFD	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G02	HL93	14	M	63	M	62	M	104	M	1.72	S	2.24	S		
G02	HS20	14	M	63	M	62	M	104	M	2.74	S	3.57	S		
G02	3	15	M	66	M	65	M	109	M	3.87	S	5.02	S	3.87	S
G02	3S2	16	M	73	M	72	M	120	M	2.67	S	3.48	S	2.67	S
G02	3-3	17	M	77	M	76	M	126	M	2.81	S	3.65	S	2.81	S
G02	SU4	14	M	65	M	64	M	107	M	3.52	S	4.58	S	3.52	S
G02	SU5	15	M	66	M	65	M	109	M	3.12	S	4.05	S	3.12	S
G02	SU6	15	M	66	M	65	M	109	M	2.78	S	3.62	S	2.78	S
G02	SU7	15	M	67	M	66	M	110	M	2.52	S	3.27	S	2.52	S

Member Descr: 01-IG003

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		LRFD		LRFD		LRFD		LRFD		LRFD	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G03	HL93	14	M	63	M	62	M	104	M	1.72	S	2.24	S		
G03	HS20	14	M	63	M	62	M	104	M	2.74	S	3.57	S		
G03	3	15	M	66	M	65	M	109	M	3.87	S	5.02	S	3.87	S
G03	3S2	16	M	73	M	72	M	120	M	2.67	S	3.48	S	2.67	S
G03	3-3	17	M	77	M	76	M	126	M	2.81	S	3.65	S	2.81	S
G03	SU4	14	M	65	M	64	M	107	M	3.52	S	4.58	S	3.52	S

Structure No.:	7777-777	Route:	US ###	Cycle No.:	1
Name:	US ### over Road			Insp. Date:	06/12/2012

G03	SU5	15	M	66	M	65	M	109	M	3.12	S	4.05	S	3.12	S
G03	SU6	15	M	66	M	65	M	109	M	2.78	S	3.62	S	2.78	S
G03	SU7	15	M	67	M	66	M	110	M	2.52	S	3.27	S	2.52	S

Member Descr: 01-IG004

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		LRFD		LRFD		LRFD		LRFD		LRFD	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G04	HL93	14	M	63	M	62	M	104	M	1.72	S	2.24	S		
G04	HS20	14	M	63	M	62	M	104	M	2.74	S	3.57	S		
G04	3	15	M	66	M	65	M	109	M	3.87	S	5.02	S	3.87	S
G04	3S2	16	M	73	M	72	M	120	M	2.67	S	3.48	S	2.67	S
G04	3-3	17	M	77	M	76	M	126	M	2.81	S	3.65	S	2.81	S
G04	SU4	14	M	65	M	64	M	107	M	3.52	S	4.58	S	3.52	S
G04	SU5	15	M	66	M	65	M	109	M	3.12	S	4.05	S	3.12	S
G04	SU6	15	M	66	M	65	M	109	M	2.78	S	3.62	S	2.78	S
G04	SU7	15	M	67	M	66	M	110	M	2.52	S	3.27	S	2.52	S

Member Descr: 01-IG005

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		LRFD		LRFD		LRFD		LRFD		LRFD	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G05	HL93	14	M	63	M	62	M	104	M	1.72	S	2.24	S		
G05	HS20	14	M	63	M	62	M	104	M	2.74	S	3.57	S		
G05	3	15	M	66	M	65	M	109	M	3.87	S	5.02	S	3.87	S
G05	3S2	16	M	73	M	72	M	120	M	2.67	S	3.48	S	2.67	S
G05	3-3	17	M	77	M	76	M	126	M	2.81	S	3.65	S	2.81	S
G05	SU4	14	M	65	M	64	M	107	M	3.52	S	4.58	S	3.52	S
G05	SU5	15	M	66	M	65	M	109	M	3.12	S	4.05	S	3.12	S
G05	SU6	15	M	66	M	65	M	109	M	2.78	S	3.62	S	2.78	S
G05	SU7	15	M	67	M	66	M	110	M	2.52	S	3.27	S	2.52	S

Member Descr: 01-IG006

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		LRFD		LRFD		LRFD		LRFD		LRFD	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G06	HL93	14	M	63	M	62	M	104	M	1.72	S	2.24	S		
G06	HS20	14	M	63	M	62	M	104	M	2.74	S	3.57	S		
G06	3	15	M	66	M	65	M	109	M	3.87	S	5.02	S	3.87	S
G06	3S2	16	M	73	M	72	M	120	M	2.67	S	3.48	S	2.67	S
G06	3-3	17	M	77	M	76	M	126	M	2.81	S	3.65	S	2.81	S
G06	SU4	14	M	65	M	64	M	107	M	3.52	S	4.58	S	3.52	S
G06	SU5	15	M	66	M	65	M	109	M	3.12	S	4.05	S	3.12	S
G06	SU6	15	M	66	M	65	M	109	M	2.78	S	3.62	S	2.78	S
G06	SU7	15	M	67	M	66	M	110	M	2.52	S	3.27	S	2.52	S

Member Descr: 01-EG007

Mem ID	Truck	Rating (Tons)				Rating (Tons)				Rating Factor					
		ASD		LFD		LRFD		LRFD		LRFD		LRFD		LRFD	
		INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	INV	Contr Type	OPR	Contr Type	LGL	Contr Type
G07	HL93	150	M	362	M	318	M	530	M	6.02	M	7.80	M		



Structure No.:	<u>7777-777</u>	Route:	<u>US ###</u>	Cycle No.:	<u>1</u>
Name:	<u>US ### over Road</u>			Insp. Date:	<u>06/12/2012</u>

G07	HS20	150	M	362	M	318	M	530	M	9.59 M	12.43 M	
G07	3	156	M	377	M	331	M	552	M	13.50 M	17.50 M	13.56 S
G07	3S2	173	M	418	M	367	M	611	M	9.34 M	12.11 M	9.38 S
G07	3-3	182	M	439	M	385	M	642	M	9.81 M	12.72 M	9.85 S
G07	SU4	154	M	371	M	326	M	543	M	12.30 M	15.95 M	12.35 S
G07	SU5	156	M	377	M	331	M	552	M	10.89 M	14.11 M	10.93 S
G07	SU6	156	M	378	M	332	M	553	M	9.73 M	12.61 M	9.77 S
G07	SU7	158	M	381	M	334	M	557	M	8.79 M	11.40 M	8.83 S

Structure No.: 7777-777 Route: US ### Cycle No.: 1  
Name: US ### over Road Insp. Date: 06/12/2012

### **CALCULATIONS - LARS DATA ECHO REPORT:**

LOAD ANALYSIS AND RATING INPUT v5.00.06.09

\*\*\*\*\*  
\* Form Type 01 - Batch Specifications \*  
\*\*\*\*\*

Date: 09/05/12

Rating Analyst: J. Smith

	Inv.	Oper	Post
Rating Type Exceptions:	A	A	A

Inventory Load Name: HL93

Operating Load Name: HL93 Allowable Stress Ratio / Inv.:

Posting Load Name: 3 Allowable Stress Ratio / Inv.:

Posting Load Name: 3S2

Posting Load Name: 3-3

Special Allowable Stress Ratio / Inv.:

"POST" always: POST

\*\*\*\*\*  
\* Form Type 02 - Structure Header and Description \*  
\*\*\*\*\*

Structure I.D.: 777777

Rating Analyst: J. Smith

Engineer's Attention:

	Inv.	Oper	Post
Rating Type Exceptions:			

Floor beam single lane:

Curb distance: inches

Structure Type: CSC

Year of Construction: 2012

Structure Length: 160.500 feet

Roadway Width: 0.00 feet

Number of Spans: 1

Negate Special Load Analysis:

Inventory Load Name:

Operating Load Name:

\*\*\*\*\*

Structure No.: 7777-777 Route: US ### Cycle No.: 1  
 Name: US ### over Road Insp. Date: 06/12/2012

\* Form Type 03 - Non-Standard Live Load Truck Description \*  
 \*\*\*\*\*

Load Name: 3

Number of Axle Loads: 3

Seq.	Axle 1		Axle 2		Axle 3		Axle 4	
	Load	Spacing	Load	Spacing	Load	Spacing	Load	Spacing
1	16.0	15.000	17.0	4.000	17.0	0.000		0.000

Load Name: 3-3

Number of Axle Loads: 6

Seq.	Axle 1		Axle 2		Axle 3		Axle 4	
	Load	Spacing	Load	Spacing	Load	Spacing	Load	Spacing
1	12.0	15.000	12.0	4.000	12.0	15.000	16.0	16.000

Seq.	Axle 5		Axle 6		Axle 7		Axle 8	
	Load	Spacing	Load	Spacing	Load	Spacing	Load	Spacing
2	14.0	4.000	14.0	0.000		0.000		0.000

Load Name: 3S2

Number of Axle Loads: 5

Seq.	Axle 1		Axle 2		Axle 3		Axle 4	
	Load	Spacing	Load	Spacing	Load	Spacing	Load	Spacing
1	12.0	11.000	17.0	4.000	17.0	22.000	17.0	4.000

Seq.	Axle 5		Axle 6		Axle 7		Axle 8	
	Load	Spacing	Load	Spacing	Load	Spacing	Load	Spacing
2	17.0	0.000		0.000		0.000		0.000

Load Name: HL93

Number of Axle Loads: 3

Seq.	Axle 1		Axle 2		Axle 3		Axle 4	
	Load	Spacing	Load	Spacing	Load	Spacing	Load	Spacing
1	8.00	14.000	32.0	14.000	32.0	0.000		0.000

\*\*\*\*\*  
 \* Form Type 04 - LRFD System Factors \*  
 \*\*\*\*\*

Structure I.D.: 777777

System Factor: 0.000

ADTT: 300

\*\*\*\*\*  
 \* Form Type 05 - Structure Location and Permanent Identification Factors \*  
 \*\*\*\*\*



Structure No.: 7777-777 Route: US ### Cycle No.: 1  
Name: US ### over Road Insp. Date: 06/12/2012

Structure I.D.: 777777

Bridge Number: 7777-777

District:

County:

Construction Route: US ###  
Section: ##A  
Station: + .

Microfilm Reel Number Design Plans:  
Computations:  
Correspondence:

Key Route I.D.:

Marked Route:

\*\*\*\*\*  
\* Form Type 06 - Comments \*  
\*\*\*\*\*

Structure I.D.: 777777

NBI ID 7777-777

Feature Intersected Road

\*\*\*\*\*  
\* Form Type 07 - Material Strength Input \*  
\*\*\*\*\*

Structure I.D.: 777777

Fy: f'c:

	Inv.	Oper	Post	Spec
Maximum Impact Factor:	30%	30%	30%	30%

	Inv.	Oper	Post	Spec
Minimum Impact Factor:	10%	10%	10%	10%

\*\*\*\*\*  
\* Form Type 44 - LRFD Member Factors \*  
\*\*\*\*\*

System Factor: 0.000

Condition Factor: 0.000

\*\*\*\*\*  
\* Form Type 08 - Member Description Specifications \*  
\*\*\*\*\*

Structure No.: 7777-777 Route: US ### Cycle No.: 1  
 Name: US ### over Road Insp. Date: 06/12/2012

\*\*\*\*\*

Structure I.D.: 777777

Member I.D.: G02

Number of Spans: 1 Symmetry:

	Span 1	Span 2	Span 3	Span 4	Span 5	Span 6
Span Lengths:	160.10	0.00	0.00	0.00	0.00	0.00

Material Type: CSC

Fy: 50000 f'c (slab): 4000

Live Load Distribution Factor: 1.67

Shear Live Load Dist. Factor: 1.911

	Inv.	Oper	Post	Spec
Maximum Impact Factor:	30%	30%	30%	30%

Stiffener Code: X

\*\*\*\*\*  
 \* Form Type 48 - LRFD Live Load Distribution Factor \*  
 \*\*\*\*\*

Structure I.D.: 777777

Member I.D.: G02

		Span 1				Span 2				Span 3		
		R1	R2	R3		R1	R2	R3		R1	R2	R3
1-lane DF		0.444	0.000	0.000		0.000	0.000	0.000		0.000	0.000	0.000
1-lane ft		160.100	0.000	0.000		0.000	0.000	0.000		0.000	0.000	0.000

		Span 1				Span 2				Span 3		
		R1	R2	R3		R1	R2	R3		R1	R2	R3
2-lane DF		0.669	0.000	0.000		0.000	0.000	0.000		0.000	0.000	0.000
2-lane ft		160.100	0.000	0.000		0.000	0.000	0.000		0.000	0.000	0.000

LRFD LLDF Shear

		Span 1				Span 2				Span 3		
		R1	R2	R3		R1	R2	R3		R1	R2	R3
1-lane DF		0.786	0.000	0.000		0.000	0.000	0.000		0.000	0.000	0.000
1-lane ft		160.100	0.000	0.000		0.000	0.000	0.000		0.000	0.000	0.000

		Span 1				Span 2				Span 3		
		R1	R2	R3		R1	R2	R3		R1	R2	R3
2-lane DF		0.969	0.000	0.000		0.000	0.000	0.000		0.000	0.000	0.000
2-lane ft		160.100	0.000	0.000		0.000	0.000	0.000		0.000	0.000	0.000

\*\*\*\*\*  
 \* Form Type 40 - Factors \*  
 \*\*\*\*\*

Structure I.D.: 777777

Member I.D.: G02

LRFD Impact Factor: 0.330

AASHTO Multiplier - ASD/LFD Impact: 1.000

Structure No.: 7777-777 Route: US ### Cycle No.: 1  
 Name: US ### over Road Insp. Date: 06/12/2012

\*\*\*\*\*  
 \* Form Type 09 - Rating Position Specifications \*  
 \*\*\*\*\*

Structure I.D.: 777777

Member I.D.: G02

Rating Position Location	Section Capacity	Capacity Red. Due to DL	Rating Position Location	Section Capacity	Capacity Red. Due to DL
1	M				

\*\*\*\*\*  
 \* Form Type 10 - Superimposed Dead Loads \*  
 \*\*\*\*\*

Structure I.D.: 777777

Member I.D.: G02

Symmetry:

Span No.	Load Type	Dist. from Left Supp.	Distributed Load (lbs/ft)			Concentrated Load (kips)
			Left	Right	Length	
1	W	0.000	295.0	295.0	160.100	
1	Z	0.000	127.0	127.0	160.100	

\*\*\*\*\*  
 \* Form Type 11 - Section Range Specifications \*  
 \*\*\*\*\*

Structure I.D.: 777777

Member I.D.: G02

Symmetry:

Range Length -- Non-Composite:

Span No.	Range No.	Range Length	Sect. Left	Sect. Right	Sect. Var.	Hinge Location No. 1	Hinge Location No. 2	Hybrid Yield Base Fy	Yield Exception Fy
1	1	30.000	1			0.0	0.0		
1	2	100.100	2			0.0	0.0		
1	3	30.000	1			0.0	0.0		

\*\*\*\*\*  
 \* Form Type 12 - Steel Section Properties \*  
 \*\*\*\*\*

Structure I.D.: 777777

Member I.D.: G02

Detailed Description:

Std.	Comp.	Sec.	Same/	Code	Height	Element	Area	Elem.	Moment of	dy	dx
------	-------	------	-------	------	--------	---------	------	-------	-----------	----	----

Structure No.: 7777-777 Route: US ### Cycle No.: 1  
 Name: US ### over Road Insp. Date: 06/12/2012

Sect. Code	No.	Except	(Depth)	Code	Inertia (Weight)
	01	68.585	1	20.07	P 1.0100 68.080
	01		2	0.630	P 66.000 34.575
	01		3	20.07	P 1.5750 .78750
	02	69.740	1	20.07	P 1.5750 68.952
	02		2	0.630	P 66.000 35.165
	02		3	20.07	P 2.1650 1.0825

\*\*\*\*\*  
 \* Form Type 14 - Composite Concrete Properties \*  
 \*\*\*\*\*

Structure I.D.: 777777

Member I.D.: G02

Composite Slab Properties:

Sym.	Span No.	Range Number	Range Length	Comp. Code	n value	Negative Moment As	Reinf. ds	Fy
	1	1	160.1	C	9			

Composite Section Description:

Sect. No.	Same/ Except	Code	Slab Width	Slab Thk.	Fillet Width	Fillet Thk.	Eff. Width	Eff. Thk.	Dy to top of Sect.
1			110.3	9.50	20.0	4.00	110.3	9.00	8.500

\*\*\*\*\*  
 \* Form Type 16 - Lateral Bracing and Stiffener Specifications \*  
 \*\*\*\*\*

Structure I.D.: 777777

Member I.D.: G02

Symmetry:

Span No.	Range No.	T B	Range Length	Support Left	Code Right	No. Spa.	Equally Spaced Spaces in Range	Maximum Stiff. Spa.
1	1	T	160.100	C			0.000	0.000
1	1	B	10.960	SP	SP	2	5.480	5.480
1	2	B	10.790	SP	SP	1	10.790	10.790
1	3	B	116.600	SP	SP	5	23.320	23.320
1	4	B	10.790	SP	SP	1	10.790	10.790
1	5	B	10.960	SP	SP	2	5.480	5.480