

----- Beam Summary -----

May 1, 2011 Texas Department of Transportation (TxDOT) Page 1  
 PSTRS14 Win32 Prestressed Concrete Beam Design/Analysis Ver 4.2

PSF Highway Control- Coded  
 No County No Section-Job by Date  
 NUM1 BPS 02/16/2009  
 90' & 120' SPANS, TX. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD

Span No.	Beam No.	Beam Type	Non-Std Pat	Tot No.	Size	Strands f's (ksi)	e,CL (in)	e,End (in)	Tot No. Draped or Debnd	To (in)
1&3	EXT	Tx40		44	1/2	270	13.33	8.24	8	36.5
1&3	INT	Tx40		44	1/2	270	13.33	8.24	8	36.5
2	EXT	Tx54		58	1/2	270	17.77	10.87	10	50.5
2	INT	Tx54		56	1/2	270	17.94	10.80	10	50.5

Span No.	Beam No.	f'ci (psi)	f'c (psi)	Design Stresses		Ult Mom Req'd (k-ft)	Camber (ft)	L-R or S-R
				Top (psi)	Bot (psi)			
1&3	EXT	5347	5347	3265	-3631	4486	0.260	L-R
1&3	INT	5386	5587	3270	-3720	4517	0.261	L-R
2	EXT	5647	5919	4070	-3936	7676	0.292	L-R
2	INT	5483	7131	4035	-3953	7494	0.277	L-R

Span No.	Beam No.	Loc	Compos Regn 1 (or Key)	Dead Load Deflections (ft)			O'Lay	Other	Total
				Slab	Compos Regn 2	Compos Regn 3			
1&3	EXT	1/4	-0.0831			-0.0084	-0.0050	-0.0965	
		CL	-0.1166			-0.0118	-0.0070	-0.1355	
1&3	INT	1/4	-0.0950			-0.0092	-0.0048	-0.1090	
		CL	-0.1333			-0.0129	-0.0067	-0.1529	
2	EXT	1/4	-0.1210			-0.0134	-0.0080	-0.1423	
		CL	-0.1698			-0.0188	-0.0112	-0.1997	
2	INT	1/4	-0.1383			-0.0146	-0.0076	-0.1605	
		CL	-0.1940			-0.0205	-0.0107	-0.2252	

PSF		Highway	Control-	Coded	
No	County	No	Section-Job	by	Date
NUM1				BPS	02/16/2009
90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD					
PROB 1					

SPAN ID = 1&3            BEAM ID = EXT            BEAM TYPE = Tx40

|----- Beam, Spec, and Strand Data (\* denotes default) -----|

C/C Brng Length (ft)	= 88.00	Strand Size (in)	= 1/2
Beam Spacing (ft)	= 7.00	Strand Type	= 7-Wire *
Slab Thickness (in)	= 8.00		Lo-Rlx *
Composite Slab Width (in)	= 84.00	Strand Area (in2)	= 0.153 *
Haunch Width (in)	= 0.00 *	Strand Ult Strength (ksi)	= 270. *
Haunch Depth at CL (in)	= 0.00 *	E Prestress Steel (ksi)	= 28500. *
Relative Humidity (%)	= 65.	Live Loading	= HL93 *
Init Allow Tens Coeff	= 7.50 *	LL Dist Factor for Moment	= 0.585
Final Allow Tens Coeff	= 6.00 *	LL Dist Factor for shear	= 0.743
		LL Impact Factor	= 1.330 *
Dist CL to Hold-Down (ft)	= 5.00 *	Harped Strands/Row	= 2 *
t, Stress to Transfer (hr)=	24 *		

|----- Cross Section and Material Properties (\* denotes default) -----|

	Beam	Composite Slab	Composite Section
Area (in2)	669.0	515.3	1184.3
Depth (in)	40.00	8.00	48.00
Yb (in)	18.10	44.00	29.37
I (in4)	134990.0	2748.4	333008.3
Unit Wt (pcf)	150.0 *	150.0 *	
E (ksi)	5000.0	3834.3 *	
f'c (psi)		4000.0 *	

|----- Shear Data (\* denotes default) -----|

Total Eff Web Width (in)	= 7.00 *	Total Stirrup Area (in2)	= 0.392 *
Number of Stirrup Legs	= 2 *	Stirrup Yield Str (ksi)	= 60.00 *
Stirrup Bar Size	= 4 *	Shear Specs = AASHTO LRFD & AASHTO 89	*

|----- Applied Loads -----|

Unif DL on Comp Sec, due to Overlay (klf) = 0.175  
Unif DL on Comp Sec, except Overlay (klf) = 0.104

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90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD					
PROB 1					

SPAN ID = 1&3            BEAM ID = EXT            BEAM TYPE = Tx40

|----- Beam Design -----|

--- General Notes ---

1- End final compression extreme, but not allowed to control.  
Design based on the AASHTO LRFD specs. (80%LL for final BOTTOM stress ONLY.)

--- Concrete ---		_____	Release	_____	_____	Final	_____
Prestress Loss (percent)	=		9.46			26.26	
		End	Hold-Down	CL	End		CL
Beam Top Stress (psi)	=	196.	473.	490.	159.		2594.
Beam Bot Stress (psi)	=	3208.	2979.	2965.	2613.		-332.
Conc Strength, Req'd. (psi)	=	5347.@	4965.	4942.			5347.@
Calculated Beam Stress at CL, due to Tot External Load (psi)	--Top	=	3265.				
	--(w/80%LL)Bot	=	-3631.				
Calculated Slab Stress at CL, due to Unfactored LL (psi)	--Top	=	927.				

"@" Denotes controlling stress cases  
Initial concrete strength controls final concrete strength.

|----- Prestress Steel -----|

No. of Strands, Total	=	44	No. of Draped Strands	=	8
Eccentricity at CL (in)	=	13.33	Yb of Top 2 Draped Strands	=	36.50
Eccentricity at End (in)	=	8.24			

--- Strand Pattern ---

Dist from Bott (in)	=	2.50	4.50	6.50	8.50	30.50	32.50	34.50
Strands/Row at End	=	12	12	10	2	2	2	2
Strands/Row at CL	=	14	14	12	4	0	0	0
Dist from Bott (in)	=	36.50						

Strands/Row at End = 2  
Strands/Row at CL = 0

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 PROB 1

SPAN ID = 1&3 BEAM ID = EXT BEAM TYPE = Tx40

|----- Shear -----|

Span Location		Stirrup Spacing		Ultimate Horiz Shear Stress	
(ft)	(10th Pt)	(No. 4, Gr 60)	(in)	(Between Slab and Top of Girder)	(psi)
		AASHTO LRFD	AASHTO 89	AASHTO LRFD	
0.00	.000	9.4	****	145.2	
2.00	.023 (H/2)	9.4	6.2	139.5	
3.23	.037 (CPT)	9.4	6.5	136.0	
4.40	.050	9.8	7.4	132.8	
8.80	.100	11.4	11.4	120.8	
17.60	.200	17.9	13.8	98.0	
22.00	.250	23.6	12.2	87.1	
26.40	.300	24.0	12.5	76.5	
35.20	.400	24.0	15.6	56.2	
39.00	.443 (HD)	24.0	18.8	47.8	
42.33	.481 (REF)	24.0	21.4	41.1	
44.00	.500	24.0	21.4	37.7	

"H/2" denotes location at half of composite beam depth.  
 "CPT" denotes critical shear location from beam end per LRFD 5.8.3.2  
 "REF" denotes location at the larger distance of  
 0.5(dv)(cot(theta)) or dv from mid-span.  
 "HD" denotes location at hold-down point.

|----- General -----|

Ultimate Moment Required (k-ft) = 4486. @ due to loading  
 Resistant Moment Required (k-ft) = 3518. due to 1.2 Mcr  
 Ultimate Moment Provided (k-ft) = 5807. Under Reinforced Rect. Sect.

"@" Denotes controlling case

Concrete Strength Factor: Beta1 = 0.850  
 Depth of Compressive Stress Block (in): a = 6.07  
 Stress in Strands at Ultimate (ksi) = 257.5

Maximum Camber (ft) = 0.260 upward is positive

Dead Load Deflection (ft)

	Slab	O'lay	Other	Total Defl
at 1/4 Point	-.0831	-.0084	-.0050	-.0965
at Midspan	-.1166	-.0118	-.0070	-.1355

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SPAN ID = 1&3 BEAM ID = EXT BEAM TYPE = Tx40

|----- Summary of Maximum Unfactored Bending Moments (k-ft) -----|

Span Location (ft) (10th Pt)	Beam DL	Slab DL	Non-Comp DL	Total Non-Comp DL	Total Comp DL	LL+I	Total Load
0.00 .000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.00 .023 (H/2)	59.9	60.2	0.0	120.1	24.0	129.8	274.0
3.23 .037 (CPT)	95.5	95.9	0.0	191.4	38.3	206.5	436.1
4.40 .050	128.2	128.7	0.0	256.9	51.4	276.9	585.2
8.80 .100	242.8	243.9	0.0	486.8	97.3	521.9	1106.0
17.60 .200	431.7	433.7	0.0	865.4	173.0	916.1	1954.6
22.00 .250	505.9	508.2	0.0	1014.1	202.8	1065.4	2282.3
26.40 .300	566.6	569.2	0.0	1135.8	227.1	1182.8	2545.8
35.20 .400	647.6	650.5	0.0	1298.1	259.5	1339.3	2897.0
39.00 .443 (HD)	665.9	668.8	0.0	1334.7	266.9	1371.3	2972.8
42.33 .481 (REF)	673.6	676.6	0.0	1350.2	270.0	1379.7	2999.8
44.00 .500	674.6	677.6	0.0	1352.2	270.4	1380.5	3003.0

|----- Summary of Maximum Unfactored Shears (kip) -----|

Span Location (ft) (10th Pt)	Beam DL	Slab DL	Non-Comp DL	Total Non-Comp DL	Total Comp DL	LL+I	Total Load
0.00 .000	30.7	30.8	0.0	61.5	12.3	84.5	158.3
2.00 .023 (H/2)	29.3	29.4	0.0	58.7	11.7	82.0	152.4
3.23 .037 (CPT)	28.4	28.5	0.0	56.9	11.4	80.4	148.7
4.40 .050	27.6	27.7	0.0	55.3	11.1	78.9	145.3
8.80 .100	24.5	24.6	0.0	49.2	9.8	73.2	132.2
17.60 .200	18.4	18.5	0.0	36.9	7.4	61.9	106.2
22.00 .250	15.3	15.4	0.0	30.7	6.1	56.3	93.2
26.40 .300	12.3	12.3	0.0	24.6	4.9	50.6	80.1
35.20 .400	6.1	6.2	0.0	12.3	2.5	39.3	54.1
39.00 .443 (HD)	3.5	3.5	0.0	7.0	1.4	34.5	42.8
42.33 .481 (REF)	1.2	1.2	0.0	2.3	0.5	30.2	33.0
44.00 .500	0.0	0.0	0.0	0.0	0.0	28.0	28.0





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 PROB 1

SPAN ID = 1&3 BEAM ID = EXT BEAM TYPE = Tx40

|-- Stresses in Extreme Fibers of BM due to Unfactored External Loads (psi) --|

Span Loc	Beam DL		Total Non-Comp DL		Total Comp DL		LL+I		Total Load	
	Top	Bot	Top	Bot	Top	Bot	Top	Bot	Top	Bot
	.000	0.	0.	0.	0.	0.	0.	0.	0.	0.
.023	117.	-96.	234.	-193.	9.	-25.	50.	-137.	293.	-356.
.037	186.	-154.	373.	-308.	15.	-40.	79.	-219.	466.	-567.
.050	250.	-206.	500.	-413.	20.	-54.	106.	-293.	626.	-761.
.100	473.	-391.	948.	-783.	37.	-103.	200.	-552.	1185.	-1439.
.200	840.	-695.	1685.	-1392.	66.	-183.	351.	-970.	2102.	-2545.
.250	985.	-814.	1974.	-1632.	78.	-215.	408.	-1128.	2460.	-2974.
.300	1103.	-912.	2211.	-1828.	87.	-240.	453.	-1252.	2751.	-3320.
.400	1261.	-1042.	2527.	-2089.	99.	-275.	513.	-1417.	3140.	-3781.
.443	1296.	-1071.	2598.	-2148.	102.	-282.	525.	-1451.	3226.	-3881.
.481	1311.	-1084.	2629.	-2173.	103.	-286.	529.	-1460.	3261.	-3918.
.500	1313.	-1085.	2632.	-2176.	104.	-286.	529.	-1461.	3265.	-3923.

|--- Stresses in Extreme Fibers of BM due to Unfactored Loads + PSTR (psi) ---|

Span Loc	Beam + Initial Prestress		Final Prestress		Beam + Final Prestress		Total DL + Final Prestress		Total Load + Final Prestress	
	Top	Bot	Top	Bot	Top	Bot	Top	Bot	Top	Bot
	.000	196.	3208.	159.	2613.	159.	2613.	159.	2613.	159.
.023	260.	3155.	117.	2648.	233.	2551.	360.	2429.	410.	2292.
.037	297.	3124.	91.	2669.	276.	2516.	478.	2321.	557.	2103.
.050	330.	3097.	66.	2690.	315.	2484.	586.	2222.	692.	1929.
.100	438.	3007.	-28.	2767.	445.	2377.	957.	1881.	1157.	1329.
.200	576.	2894.	-215.	2922.	625.	2228.	1536.	1347.	1887.	377.
.250	606.	2869.	-309.	3000.	676.	2186.	1743.	1153.	2151.	26.
.300	609.	2867.	-403.	3077.	701.	2165.	1896.	1009.	2349.	-243.
.400	536.	2927.	-590.	3232.	671.	2190.	2037.	869.	2550.	-549.
.443	473.	2979.	-671.	3299.	625.	2227.	2030.	869.	2555.	-582.

.481	488.	2967.	-671.	3299.	641.	2215.	2061.	841.	2590.	-620.
.500	490.	2965.	-671.	3299.	642.	2213.	2065.	837.	2594.	-624.

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NUM1				BPS	02/16/2009
90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD					
PROB 1					

SPAN ID = 1&3            BEAM ID = EXT            BEAM TYPE = Tx40

|----- Total Stresses in Composite Regions (psi) -----|

Span Loc	Slab	
	Top	Bot
.000	0.	0.
.023	103.	59.
.037	164.	94.
.050	220.	126.
.100	416.	237.
.200	731.	417.
.250	851.	486.
.300	947.	540.
.400	1073.	612.
.443	1100.	628.
.481	1107.	632.
.500	1108.	632.

|----- Prestress Losses (ksi) -----|

	SH	ELSH	CRC	CRS	Total
Initial		17.176		1.980	19.155
Final	7.250	17.176	24.762	3.998	53.185

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 90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD  
 PROB 1

SPAN ID = 1&3 BEAM ID = INT BEAM TYPE = Tx40

|----- Beam, Spec, and Strand Data (\* denotes default) -----|

C/C Brng Length (ft)	= 88.00	Strand Size (in)	= 1/2
Beam Spacing (ft)	= 8.00	Strand Type	= 7-Wire *
Slab Thickness (in)	= 8.00		Lo-Rlx *
Composite Slab Width (in)	= 96.00	Strand Area (in2)	= 0.153 *
Haunch Width (in)	= 0.00 *	Strand Ult Strength (ksi)	= 270. *
Haunch Depth at CL (in)	= 0.00 *	E Prestress Steel (ksi)	= 28000. *
Relative Humidity (%)	= 65.	Live Loading	= HS20 *
Init Allow Tens Coeff	= 7.50 *	LL Dist Factor	= 0.643
Final Allow Tens Coeff	= 6.00 *	LL Impact Factor	= 1.235 *
		Harped Strands/Row	= 2 *
		Dist CL to Hold-Down (ft)	= 5.00 *

|----- Cross Section and Material Properties (\* denotes default) -----|

	Beam	Composite Slab	Composite Section
Area (in2)	669.0	588.9	1257.9
Depth (in)	40.00	8.00	48.00
Yb (in)	18.10	44.00	30.23
I (in4)	134990.0	3141.0	348236.5
Unit Wt (pcf)	150.0 *	150.0 *	
E (ksi)	5000.0	3834.3 *	
f'c (psi)		4000.0 *	

|----- Shear Data (\* denotes default) -----|

Total Eff Web Width (in)	= 7.00 *	Total Stirrup Area (in2)	= 0.392 *
Number of Stirrup Legs	= 2 *	Stirrup Yield Str (ksi)	= 60.00 *
Stirrup Bar Size	= 4 *	Shear Specs = AASHTO 89 & AASHTO 89	* *

|----- Applied Loads -----|

Unif DL on Comp Sec, due to Overlay (klf) = 0.200  
Unif DL on Comp Sec, except Overlay (klf) = 0.104

PSF		Highway	Control-	Coded	
No	County	No	Section-Job	by	Date
NUM1				BPS	02/16/2009

90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD  
PROB 1

SPAN ID = 1&3            BEAM ID = INT            BEAM TYPE = Tx40

|----- Beam Design -----|

--- General Notes ---

1- End final compression extreme, but not allowed to control.  
The final concrete strengths based on the AASHTO 95 specs.

--- Concrete ---

		_____	Release	_____	_____	Final	_____
Prestress Loss (percent)	=		8.79			24.69	
		End	Hold-Down	CL	End		CL
Beam Top Stress (psi)	=	197.	467.	484.	163.		2585.
Beam Bot Stress (psi)	=	3232.	3009.	2995.	2668.		-351.
Conc Strength, Req'd. (psi)	=	5386.@	5015.	4992.			5587.@
Calculated Beam Stress at CL, due to Tot External Load (psi)						--Top =	3270.
						--Bot =	-3720.
Calculated Slab Stress at CL, due to Unfactored LL (psi)						--Top =	636.

"@" Denotes controlling stress cases  
Load case PS + total DL controls final concrete strength

|----- Prestress Steel -----|

No. of Strands, Total	=	44	No. of Draped Strands	=	8
Eccentricity at CL (in)	=	13.33	Yb of Top 2 Draped Strands	=	36.50
Eccentricity at End (in)	=	8.24			

--- Strand Pattern ---

Dist from Bott (in)	=	2.50	4.50	6.50	8.50	30.50	32.50	34.50
Strands/Row at End	=	12	12	10	2	2	2	2
Strands/Row at CL	=	14	14	12	4	0	0	0
Dist from Bott (in)	=	36.50						

Strands/Row at End = 2  
Strands/Row at CL = 0



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 90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD  
 PROB 1

SPAN ID = 1&3 BEAM ID = INT BEAM TYPE = Tx40

|----- Shear -----|

Span Location (ft) (10th Pt)	Stirrup Spacing (No. 4, Gr 60) (in)		Ultimate Horiz Shear Stress (Between Slab and Top of Girder) (psi)	
	AASHTO 89	AASHTO 89	AASHTO 89	
0.00 .000	11.9	11.9	138.3	
2.00 .023 (H/2)	11.9	11.9	133.5	
4.40 .050	16.8	16.8	127.6	
8.80 .100	21.4	21.4	117.0	
17.60 .200	21.4	21.4	95.6	
22.00 .250	21.4	21.4	84.9	
26.40 .300	21.4	21.4	74.3	
35.20 .400	21.4	21.4	52.9	
39.00 .443 (HD)	21.4	21.4	43.7	
44.00 .500	21.4	21.4	31.6	

"H/2" denotes location at half of composite beam depth.  
 "HD" denotes location at hold-down point.

|----- General -----|

Ultimate Moment Required (k-ft) = 4517. @ due to loading  
 Resistant Moment Required (k-ft) = 3580. due to 1.2 Mcr  
 Ultimate Moment Provided (k-ft) = 5912. Under Reinforced Rect. Sect.

"@" Denotes controlling case

Concrete Strength Factor: Beta1 = 0.850  
 Depth of Compressive Stress Block (in): a = 5.37  
 Stress in Strands at Ultimate (ksi) = 260.3

Maximum Camber (ft) = 0.261 upward is positive

Dead Load Deflection (ft)

Total

	Slab	O'lay	Other	Defl
at 1/4 Point	-.0950	-.0092	-.0048	-.1090
at Midspan	-.1333	-.0129	-.0067	-.1529

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 No County No Section-Job by Date  
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 90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD  
 PROB 1

SPAN ID = 1&3 BEAM ID = INT BEAM TYPE = Tx40

|----- Summary of Maximum Unfactored Bending Moments (k-ft) -----|

Span Location (ft) (10th Pt)	Beam DL	Slab DL	Non-Comp DL	Total Non-Comp DL	Total Comp DL	LL+I	Total Load
0.00 .000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.00 .023 (H/2)	59.9	68.8	0.0	128.7	26.2	99.6	254.5
4.40 .050	128.2	147.1	0.0	275.3	56.0	212.3	543.5
8.80 .100	242.8	278.8	0.0	521.6	106.0	399.4	1027.1
17.60 .200	431.7	495.6	0.0	927.3	188.5	698.2	1814.0
22.00 .250	505.9	580.8	0.0	1086.7	220.9	809.8	2117.5
26.40 .300	566.6	650.5	0.0	1217.1	247.4	896.3	2360.9
35.20 .400	647.6	743.4	0.0	1391.0	282.8	1011.7	2685.5
39.00 .443 (HD)	665.9	764.4	0.0	1430.3	290.8	1034.2	2755.2
44.00 .500	674.6	774.4	0.0	1449.0	294.6	1038.8	2782.4

|----- Summary of Maximum Unfactored Shears (kip) -----|

Span Location (ft) (10th Pt)	Beam DL	Slab DL	Non-Comp DL	Total Non-Comp DL	Total Comp DL	LL+I	Total Load
0.00 .000	30.7	35.2	0.0	65.9	13.4	51.1	130.4
2.00 .023 (H/2)	29.3	33.6	0.0	62.9	12.8	49.8	125.5
4.40 .050	27.6	31.7	0.0	59.3	12.1	48.2	119.6
8.80 .100	24.5	28.2	0.0	52.7	10.7	45.4	108.8
17.60 .200	18.4	21.1	0.0	39.5	8.0	39.7	87.2
22.00 .250	15.3	17.6	0.0	32.9	6.7	36.8	76.4
26.40 .300	12.3	14.1	0.0	26.3	5.4	34.0	65.7
35.20 .400	6.1	7.0	0.0	13.2	2.7	28.2	44.1
39.00 .443 (HD)	3.5	4.0	0.0	7.5	1.5	25.8	34.8
44.00 .500	0.0	0.0	0.0	0.0	0.0	22.5	22.5

PSF Highway Control- Coded  
 No County No Section-Job by Date  
 NUM1 BPS 02/16/2009  
 90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD  
 PROB 1

SPAN ID = 1&3 BEAM ID = INT BEAM TYPE = Tx40

|-- Stresses in Extreme Fibers of BM due to Unfactored External Loads (psi) --|

Span Loc	Beam DL		Total Non-Comp DL		Total Comp DL		LL+I		Total Load	
	Top	Bot	Top	Bot	Top	Bot	Top	Bot	Top	Bot
	.000	0.	0.	0.	0.	0.	0.	0.	0.	0.
.023	117.	-96.	251.	-207.	9.	-27.	34.	-104.	293.	-338.
.050	250.	-206.	536.	-443.	19.	-58.	71.	-221.	626.	-722.
.100	473.	-391.	1016.	-839.	36.	-110.	135.	-416.	1186.	-1366.
.200	840.	-695.	1805.	-1492.	63.	-196.	235.	-727.	2104.	-2416.
.250	985.	-814.	2116.	-1749.	74.	-230.	273.	-843.	2463.	-2822.
.300	1103.	-912.	2370.	-1958.	83.	-258.	302.	-934.	2755.	-3150.
.400	1261.	-1042.	2708.	-2238.	95.	-295.	341.	-1054.	3144.	-3586.
.443	1296.	-1071.	2784.	-2301.	98.	-303.	348.	-1077.	3231.	-3681.
.500	1313.	-1085.	2821.	-2331.	99.	-307.	350.	-1082.	3270.	-3720.

|--- Stresses in Extreme Fibers of BM due to Unfactored Loads + PSTR (psi) ---|

Span Loc	Beam + Initial Prestress		Final Prestress		Beam + Final Prestress		Total DL + Final Prestress		Total Load + Final Prestress	
	Top	Bot	Top	Bot	Top	Bot	Top	Bot	Top	Bot
	.000	197.	3232.	163.	2668.	163.	2668.	163.	2668.	163.
.023	261.	3179.	119.	2704.	236.	2608.	379.	2470.	412.	2366.
.050	331.	3121.	67.	2747.	317.	2541.	622.	2246.	693.	2025.
.100	438.	3032.	-29.	2827.	444.	2436.	1023.	1877.	1157.	1461.
.200	574.	2920.	-220.	2985.	621.	2290.	1649.	1296.	1884.	569.
.250	603.	2896.	-316.	3064.	669.	2250.	1875.	1085.	2147.	242.
.300	605.	2894.	-411.	3143.	692.	2231.	2042.	927.	2344.	-7.
.400	531.	2956.	-603.	3301.	658.	2259.	2201.	768.	2541.	-285.
.443	467.	3009.	-685.	3369.	611.	2298.	2197.	765.	2546.	-312.
.500	484.	2995.	-685.	3369.	628.	2284.	2235.	731.	2585.	-351.

PSF Highway Control- Coded  
 No County No Section-Job by Date  
 NUM1 BPS 02/16/2009  
 90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD  
 PROB 1

SPAN ID = 1&3 BEAM ID = INT BEAM TYPE = Tx40

|----- Total Stresses in Composite Regions (psi) -----|

Span Loc	Slab	
	Top	Bot
.000	0.	0.
.023	77.	42.
.050	164.	90.
.100	310.	170.
.200	543.	299.
.250	631.	347.
.300	701.	385.
.400	793.	436.
.443	812.	446.
.500	817.	449.

|----- Prestress Losses (ksi) -----|

	SH	ELSH	CRC	CRS	Total
Initial		16.939		0.870	17.809
Final	7.250	16.939	24.068	1.740	49.998

PSF Highway Control- Coded  
 No County No Section-Job by Date  
 NUM1 BPS 02/16/2009  
 90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD  
 PROB 2

SPAN ID = 2 BEAM ID = EXT BEAM TYPE = Tx54

|----- Beam, Spec, and Strand Data (\* denotes default) -----|

C/C Brng Length (ft)	= 118.00	Strand Size (in)	= 1/2
Beam Spacing (ft)	= 7.00	Strand Type	= 7-Wire *
Slab Thickness (in)	= 8.00		Lo-Rlx *
Composite Slab Width (in)	= 84.00	Strand Area (in2)	= 0.153 *
Haunch Width (in)	= 0.00 *	Strand Ult Strength (ksi)	= 270. *
Haunch Depth at CL (in)	= 0.00 *	E Prestress Steel (ksi)	= 28500. *
Relative Humidity (%)	= 65.	Live Loading	= HL93 *
Init Allow Tens Coeff	= 7.50 *	LL Dist Factor for Moment	= 0.579
Final Allow Tens Coeff	= 6.00 *	LL Dist Factor for shear	= 0.743
		LL Impact Factor	= 1.330 *
Dist CL to Hold-Down (ft)	= 5.90 *	Harped Strands/Row	= 2 *
t, Stress to Transfer (hr)=	24 *		

|----- Cross Section and Material Properties (\* denotes default) -----|

	Beam	Composite Slab	Composite Section
Area (in2)	817.0	515.3	1332.3
Depth (in)	54.00	8.00	62.00
Yb (in)	23.51	58.00	36.85
I (in4)	299740.0	2748.4	678394.0
Unit Wt (pcf)	150.0 *	150.0 *	
E (ksi)	5000.0	3834.3 *	
f'c (psi)		4000.0 *	

|----- Shear Data (\* denotes default) -----|

Total Eff Web Width (in)	= 7.00 *	Total Stirrup Area (in2)	= 0.392 *
Number of Stirrup Legs	= 2 *	Stirrup Yield Str (ksi)	= 60.00 *
Stirrup Bar Size	= 4 *	Shear Specs = AASHTO LRFD & AASHTO 89	*

|----- Applied Loads -----|

Unif DL on Comp Sec, due to Overlay (klf) = 0.175  
Unif DL on Comp Sec, except Overlay (klf) = 0.104

PSF		Highway	Control-	Coded	
No	County	No	Section-Job	by	Date
NUM1				BPS	02/16/2009
90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD					
PROB 2					

SPAN ID = 2                      BEAM ID = EXT                      BEAM TYPE = Tx54

|----- Beam Design -----|

--- General Notes ---

1- End final compression extreme, but not allowed to control.  
Design based on the AASHTO LRFD specs. (80%LL for final BOTTOM stress ONLY.)

--- Concrete ---		_____	Release	_____	_____	Final	_____
Prestress Loss (percent)	=		9.21			25.70	
		End	Hold-Down	CL	End		CL
Beam Top Stress (psi)	=	193.	838.	856.	158.		3291.
Beam Bot Stress (psi)	=	3388.	2891.	2877.	2773.		-441.
Conc Strength, Req'd. (psi)	=	5647.@	4818.	4794.			5919.@
Calculated Beam Stress at CL, due to Tot External Load (psi)	--Top	=	4070.				
	--(w/80%LL)Bot	=	-3936.				
Calculated Slab Stress at CL, due to Unfactored LL (psi)	--Top	=	920.				

"@" Denotes controlling stress cases  
Load case PS + total DL controls final concrete strength

|----- Prestress Steel -----|

No. of Strands, Total	=	58	No. of Draped Strands	=	10
Eccentricity at CL (in)	=	17.77	Yb of Top 2 Draped Strands	=	50.50
Eccentricity at End (in)	=	10.87			

--- Strand Pattern ---

Dist from Bott (in)	=	2.50	4.50	6.50	8.50	10.50	42.50	44.50
Strands/Row at End	=	12	12	12	10	2	2	2
Strands/Row at CL	=	14	14	14	12	4	0	0
Dist from Bott (in)	=	46.50	48.50	50.50				



Strands/Row at End	=	2	2	2
Strands/Row at CL	=	0	0	0

PSF Highway Control- Coded  
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 90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD  
 PROB 2

SPAN ID = 2 BEAM ID = EXT BEAM TYPE = Tx54

|----- Shear -----|

Span Location		Stirrup Spacing		Ultimate Horiz Shear Stress	
(ft)	(10th Pt)	(No. 4, Gr 60)	(in)	(Between Slab and Top of Girder)	(psi)
		AASHTO LRFD	AASHTO 89	AASHTO LRFD	
0.00	.000	11.0	****	127.2	
2.58	.022 (H/2)	11.0	8.0	122.3	
4.49	.038 (CPT)	11.0	8.7	118.7	
5.90	.050	11.4	10.4	116.1	
11.80	.100	12.0	20.7	105.3	
23.60	.200	21.9	16.3	84.8	
29.50	.250	24.0	14.1	75.1	
35.40	.300	24.0	14.3	65.6	
47.20	.400	24.0	18.3	47.5	
53.10	.450 (HD)	24.0	21.4	38.9	
56.82	.482 (REF)	24.0	21.4	33.9	
59.00	.500	24.0	21.4	31.0	

"H/2" denotes location at half of composite beam depth.  
 "CPT" denotes critical shear location from beam end per LRFD 5.8.3.2  
 "REF" denotes location at the larger distance of  
 0.5(dv)(cot(theta)) or dv from mid-span.  
 "HD" denotes location at hold-down point.

|----- General -----|

Ultimate Moment Required (k-ft) = 7676. @ due to loading  
 Resistant Moment Required (k-ft) = 6058. due to 1.2 Mcr  
 Ultimate Moment Provided (k-ft) = 9947. Under Reinforced Rect. Sect.

"@" Denotes controlling case

Concrete Strength Factor: Beta1 = 0.850  
 Depth of Compressive Stress Block (in): a = 8.00  
 Stress in Strands at Ultimate (ksi) = 257.4

Maximum Camber (ft) = 0.292 upward is positive

Dead Load Deflection (ft)

	Slab	O'lay	Other	Total Defl
at 1/4 Point	-.1210	-.0134	-.0080	-.1423
at Midspan	-.1698	-.0188	-.0112	-.1997

PSF Highway Control- Coded  
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 90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD  
 PROB 2

SPAN ID = 2 BEAM ID = EXT BEAM TYPE = Tx54

|----- Summary of Maximum Unfactored Bending Moments (k-ft) -----|

Span Location (ft) (10th Pt)	Beam DL	Slab DL	Non-Comp DL	Total Non-Comp DL	Total Comp DL	LL+I	Total Load
0.00 .000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.58 .022 (H/2)	126.9	104.4	0.0	231.2	41.6	184.0	456.9
4.49 .038 (CPT)	216.7	178.2	0.0	394.9	71.1	313.9	779.9
5.90 .050	281.4	231.5	0.0	512.9	92.4	407.4	1012.7
11.80 .100	533.2	438.6	0.0	971.9	175.0	769.3	1916.1
23.60 .200	948.0	779.7	0.0	1727.7	311.1	1356.1	3394.9
29.50 .250	1110.9	913.8	0.0	2024.7	364.6	1581.1	3970.4
35.40 .300	1244.2	1023.4	0.0	2267.7	408.3	1760.4	4436.4
47.20 .400	1422.0	1169.6	0.0	2591.6	466.7	1999.6	5057.9
53.10 .450 (HD)	1466.4	1206.2	0.0	2672.6	481.3	2055.1	5209.0
56.82 .482 (REF)	1479.2	1216.7	0.0	2695.9	485.5	2066.6	5248.0
59.00 .500	1481.2	1218.3	0.0	2699.6	486.1	2067.5	5253.2

|----- Summary of Maximum Unfactored Shears (kip) -----|

Span Location (ft) (10th Pt)	Beam DL	Slab DL	Non-Comp DL	Total Non-Comp DL	Total Comp DL	LL+I	Total Load
0.00 .000	50.2	41.3	0.0	91.5	16.5	93.6	201.6
2.58 .022 (H/2)	48.0	39.5	0.0	87.5	15.8	90.8	194.1
4.49 .038 (CPT)	46.4	38.2	0.0	84.6	15.2	88.7	188.5
5.90 .050	45.2	37.2	0.0	82.4	14.8	87.2	184.4
11.80 .100	40.2	33.0	0.0	73.2	13.2	80.9	167.2
23.60 .200	30.1	24.8	0.0	54.9	9.9	68.1	132.9
29.50 .250	25.1	20.6	0.0	45.8	8.2	61.8	115.8
35.40 .300	20.1	16.5	0.0	36.6	6.6	55.4	98.6
47.20 .400	10.0	8.3	0.0	18.3	3.3	42.7	64.3
53.10 .450 (HD)	5.0	4.1	0.0	9.2	1.6	36.3	47.1
56.82 .482 (REF)	1.9	1.5	0.0	3.4	0.6	32.3	36.3
59.00 .500	0.0	0.0	0.0	0.0	0.0	29.9	29.9



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 90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD  
 PROB 2

SPAN ID = 2 BEAM ID = EXT BEAM TYPE = Tx54

|-- Stresses in Extreme Fibers of BM due to Unfactored External Loads (psi) --|

Span Loc	Beam DL		Total Non-Comp DL		Total Comp DL		LL+I		Total Load	
	Top	Bot	Top	Bot	Top	Bot	Top	Bot	Top	Bot
	.000	0.	0.	0.	0.	0.	0.	0.	0.	0.
.022	155.	-119.	282.	-218.	13.	-27.	56.	-120.	351.	-365.
.038	264.	-204.	482.	-372.	22.	-46.	95.	-205.	599.	-623.
.050	344.	-265.	626.	-483.	28.	-60.	124.	-266.	778.	-809.
.100	651.	-502.	1186.	-915.	53.	-114.	233.	-501.	1473.	-1530.
.200	1157.	-892.	2109.	-1626.	94.	-203.	411.	-884.	2615.	-2713.
.250	1356.	-1046.	2471.	-1906.	111.	-238.	480.	-1031.	3062.	-3174.
.300	1519.	-1171.	2768.	-2134.	124.	-266.	534.	-1148.	3426.	-3548.
.400	1736.	-1338.	3163.	-2439.	142.	-304.	607.	-1303.	3912.	-4047.
.450	1790.	-1380.	3262.	-2515.	146.	-314.	623.	-1340.	4032.	-4169.
.482	1806.	-1392.	3291.	-2537.	147.	-316.	627.	-1347.	4065.	-4201.
.500	1808.	-1394.	3295.	-2541.	147.	-317.	627.	-1348.	4070.	-4205.

|--- Stresses in Extreme Fibers of BM due to Unfactored Loads + PSTR (psi) ---|

Span Loc	Beam + Initial Prestress		Final Prestress		Beam + Final Prestress		Total DL + Final Prestress		Total Load + Final Prestress	
	Top	Bot	Top	Bot	Top	Bot	Top	Bot	Top	Bot
	.000	193.	3388.	158.	2773.	158.	2773.	158.	2773.	158.
.022	292.	3312.	112.	2808.	267.	2689.	407.	2563.	463.	2443.
.038	360.	3259.	79.	2834.	343.	2630.	582.	2416.	677.	2211.
.050	409.	3221.	54.	2853.	397.	2588.	708.	2310.	831.	2044.
.100	589.	3083.	-51.	2933.	600.	2431.	1189.	1904.	1422.	1403.
.200	841.	2888.	-259.	3094.	899.	2202.	1945.	1265.	2356.	381.
.250	913.	2833.	-363.	3174.	993.	2128.	2219.	1031.	2699.	0.
.300	948.	2806.	-467.	3254.	1052.	2083.	2425.	854.	2959.	-294.
.400	911.	2834.	-675.	3415.	1061.	2076.	2630.	671.	3237.	-632.
.450	838.	2891.	-779.	3495.	1011.	2115.	2629.	666.	3253.	-674.

.482	854.	2879.	-779.	3495.	1027.	2103.	2659.	641.	3286.	-706.
.500	856.	2877.	-779.	3495.	1029.	2101.	2664.	637.	3291.	-710.

PSF		Highway	Control-	Coded	
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NUM1				BPS	02/16/2009
90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD					
PROB 2					

SPAN ID = 2                      BEAM ID = EXT                      BEAM TYPE = Tx54

|----- Total Stresses in Composite Regions (psi) -----|

Span Loc	Slab	
	Top	Bot
.000	0.	0.
.022	100.	68.
.038	171.	117.
.050	222.	152.
.100	420.	286.
.200	742.	506.
.250	866.	590.
.300	965.	658.
.400	1097.	748.
.450	1128.	769.
.482	1135.	774.
.500	1136.	775.

|----- Prestress Losses (ksi) -----|

	SH	ELSH	CRC	CRS	Total
Initial		16.664		1.980	18.643
Final	7.250	16.664	24.025	4.104	52.042



PSF Highway Control- Coded  
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 NUM1 BPS 02/16/2009  
 90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD  
 PROB 2

SPAN ID = 2 BEAM ID = INT BEAM TYPE = Tx54

|----- Beam, Spec, and Strand Data (\* denotes default) -----|

C/C Brng Length (ft)	= 118.00	Strand Size (in)	= 1/2
Beam Spacing (ft)	= 8.00	Strand Type	= 7-Wire *
Slab Thickness (in)	= 8.00		Lo-Rlx *
Composite Slab Width (in)	= 96.00	Strand Area (in2)	= 0.153 *
Haunch Width (in)	= 0.00 *	Strand Ult Strength (ksi)	= 270. *
Haunch Depth at CL (in)	= 0.00 *	E Prestress Steel (ksi)	= 28000. *
Relative Humidity (%)	= 65.	Live Loading	= HS20 *
Init Allow Tens Coeff	= 7.50 *	LL Dist Factor	= 0.636
Final Allow Tens Coeff	= 6.00 *	LL Impact Factor	= 1.206 *
		Harped Strands/Row	= 2 *
		Dist CL to Hold-Down (ft)	= 5.90 *

|----- Cross Section and Material Properties (\* denotes default) -----|

	Beam	Composite Slab	Composite Section
Area (in2)	817.0	588.9	1405.9
Depth (in)	54.00	8.00	62.00
Yb (in)	23.51	58.00	37.96
I (in4)	299740.0	3141.0	709992.4
Unit Wt (pcf)	150.0 *	150.0 *	
E (ksi)	5000.0	3834.3 *	
f'c (psi)		4000.0 *	

|----- Shear Data (\* denotes default) -----|

Total Eff Web Width (in)	= 7.00 *	Total Stirrup Area (in2)	= 0.392 *
Number of Stirrup Legs	= 2 *	Stirrup Yield Str (ksi)	= 60.00 *
Stirrup Bar Size	= 4 *	Shear Specs = AASHTO 89 & AASHTO 89	* *

|----- Applied Loads -----|

Unif DL on Comp Sec, due to Overlay (klf) = 0.200  
Unif DL on Comp Sec, except Overlay (klf) = 0.104

PSF Highway Control- Coded  
 No County No Section-Job by Date  
 NUM1 BPS 02/16/2009  
 90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD  
 PROB 2

SPAN ID = 2 BEAM ID = INT BEAM TYPE = Tx54

|----- Beam Design -----|

The final concrete strengths based on the AASHTO 95 specs.

--- Concrete ---

		_____	Release	_____	_____	Final	_____
Prestress Loss (percent)	=		8.44			23.35	
		End	Hold-Down	CL	End		CL
Beam Top Stress (psi)	=	200.	836.	854.	167.		3236.
Beam Bot Stress (psi)	=	3290.	2800.	2786.	2754.		-454.
Conc Strength, Req'd. (psi)	=	5483.@	4666.	4643.			7131.@
Calculated Beam Stress at CL, due to Tot External Load (psi)						--Top =	4035.
						--Bot =	-3953.
Calculated Slab Stress at CL, due to Unfactored LL (psi)						--Top =	576.

"@" Denotes controlling stress cases  
 Load case PS + total DL controls final concrete strength

|----- Prestress Steel -----|

No. of Strands, Total = 56 No. of Draped Strands = 10  
 Eccentricity at CL (in) = 17.94 Yb of Top 2 Draped Strands = 50.50  
 Eccentricity at End (in) = 10.80

--- Strand Pattern ---

Dist from Bott (in)	=	2.50	4.50	6.50	8.50	10.50	42.50	44.50
Strands/Row at End	=	12	12	12	10	0	2	2
Strands/Row at CL	=	14	14	14	12	2	0	0
Dist from Bott (in)	=	46.50	48.50	50.50				
Strands/Row at End	=	2	2	2				
Strands/Row at CL	=	0	0	0				

PSF Highway Control- Coded  
 No County No Section-Job by Date  
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 90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD  
 PROB 2

SPAN ID = 2 BEAM ID = INT BEAM TYPE = Tx54

|----- Shear -----|

Span Location		Stirrup Spacing		Ultimate Horiz Shear Stress
(ft)	(10th Pt)	(No. 4, Gr 60)	(in)	(Between Slab and Top of Girder)
		AASHTO 89	AASHTO 89	(psi)
				AASHTO 89
0.00	.000	21.4	21.4	120.1
2.58	.022 (H/2)	21.4	21.4	115.9
5.90	.050	21.4	21.4	110.5
11.80	.100	21.4	21.4	100.8
23.60	.200	21.4	21.4	81.4
29.50	.250	21.4	21.4	71.7
35.40	.300	21.4	21.4	62.0
47.20	.400	21.4	21.4	42.6
53.10	.450 (HD)	21.4	21.4	32.9
59.00	.500	21.4	21.4	23.3

"H/2" denotes location at half of composite beam depth.  
 "HD" denotes location at hold-down point.

|----- General -----|

Ultimate Moment Required (k-ft) = 7494. @ due to loading  
 Resistant Moment Required (k-ft) = 6119. due to 1.2 Mcr  
 Ultimate Moment Provided (k-ft) = 9847. Under Reinforced Rect. Sect.

"@" Denotes controlling case

Concrete Strength Factor: Beta1 = 0.850  
 Depth of Compressive Stress Block (in): a = 6.84  
 Stress in Strands at Ultimate (ksi) = 260.5

Maximum Camber (ft) = 0.277 upward is positive

Dead Load Deflection (ft)

Total

	Slab	O'lay	Other	Defl
at 1/4 Point	-.1383	-.0146	-.0076	-.1605
at Midspan	-.1940	-.0205	-.0107	-.2252

PSF Highway Control- Coded  
 No County No Section-Job by Date  
 NUM1 BPS 02/16/2009  
 90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD  
 PROB 2

SPAN ID = 2 BEAM ID = INT BEAM TYPE = Tx54

|----- Summary of Maximum Unfactored Bending Moments (k-ft) -----|

Span Location (ft) (10th Pt)	Beam DL	Slab DL	Non-Comp DL	Total Non-Comp DL	Total Comp DL	LL+I	Total Load
0.00 .000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.58 .022 (H/2)	126.9	119.3	0.0	246.1	45.4	128.2	419.7
5.90 .050	281.4	264.6	0.0	546.0	100.6	283.7	930.3
11.80 .100	533.2	501.3	0.0	1034.5	190.7	534.8	1760.0
23.60 .200	948.0	891.1	0.0	1839.1	339.0	939.4	3117.5
29.50 .250	1110.9	1044.3	0.0	2155.2	397.2	1092.8	3645.2
35.40 .300	1244.2	1169.6	0.0	2413.9	444.9	1213.6	4072.4
47.20 .400	1422.0	1336.7	0.0	2758.7	508.4	1374.7	4641.9
53.10 .450 (HD)	1466.4	1378.5	0.0	2844.9	524.3	1410.7	4779.9
59.00 .500	1481.2	1392.4	0.0	2873.6	529.6	1416.6	4819.9

|----- Summary of Maximum Unfactored Shears (kip) -----|

Span Location (ft) (10th Pt)	Beam DL	Slab DL	Non-Comp DL	Total Non-Comp DL	Total Comp DL	LL+I	Total Load
0.00 .000	50.2	47.2	0.0	97.4	18.0	50.8	166.2
2.58 .022 (H/2)	48.0	45.1	0.0	93.1	17.2	49.6	160.0
5.90 .050	45.2	42.5	0.0	87.7	16.2	48.1	151.9
11.80 .100	40.2	37.8	0.0	77.9	14.4	45.3	137.6
23.60 .200	30.1	28.3	0.0	58.4	10.8	39.8	109.0
29.50 .250	25.1	23.6	0.0	48.7	9.0	37.0	94.7
35.40 .300	20.1	18.9	0.0	39.0	7.2	34.3	80.4
47.20 .400	10.0	9.4	0.0	19.5	3.6	28.8	51.8
53.10 .450 (HD)	5.0	4.7	0.0	9.7	1.8	26.0	37.5
59.00 .500	0.0	0.0	0.0	0.0	0.0	23.2	23.2

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 90' & 120' SPANS, TY. TX40 & TX. 54 BMS , DESIGN BY AASHTO LRFD  
 PROB 2

SPAN ID = 2 BEAM ID = INT BEAM TYPE = Tx54

|-- Stresses in Extreme Fibers of BM due to Unfactored External Loads (psi) --|

Span Loc	Beam DL		Total Non-Comp DL		Total Comp DL		LL+I		Total Load	
	Top	Bot	Top	Bot	Top	Bot	Top	Bot	Top	Bot
	.000	0.	0.	0.	0.	0.	0.	0.	0.	0.
.022	155.	-119.	300.	-232.	12.	-29.	35.	-82.	348.	-343.
.050	344.	-265.	666.	-514.	27.	-65.	77.	-182.	771.	-760.
.100	651.	-502.	1263.	-974.	52.	-122.	145.	-343.	1459.	-1439.
.200	1157.	-892.	2245.	-1731.	92.	-217.	255.	-603.	2592.	-2551.
.250	1356.	-1046.	2631.	-2029.	108.	-255.	296.	-701.	3035.	-2984.
.300	1519.	-1171.	2946.	-2272.	121.	-285.	329.	-779.	3396.	-3336.
.400	1736.	-1338.	3367.	-2597.	138.	-326.	373.	-882.	3878.	-3805.
.450	1790.	-1380.	3473.	-2678.	142.	-336.	382.	-905.	3997.	-3919.
.500	1808.	-1394.	3508.	-2705.	144.	-340.	384.	-909.	4035.	-3953.

|--- Stresses in Extreme Fibers of BM due to Unfactored Loads + PSTR (psi) ---|

Span Loc	Beam + Initial Prestress		Final Prestress		Beam + Final Prestress		Total DL + Final Prestress		Total Load + Final Prestress	
	Top	Bot	Top	Bot	Top	Bot	Top	Bot	Top	Bot
	.000	200.	3290.	167.	2754.	167.	2754.	167.	2754.	167.
.022	299.	3214.	120.	2790.	275.	2671.	433.	2530.	468.	2447.
.050	415.	3124.	60.	2837.	404.	2572.	754.	2258.	831.	2076.
.100	594.	2986.	-47.	2920.	604.	2418.	1267.	1824.	1412.	1480.
.200	844.	2793.	-262.	3085.	895.	2193.	2075.	1137.	2329.	534.
.250	915.	2739.	-369.	3168.	987.	2122.	2369.	885.	2665.	184.
.300	949.	2712.	-477.	3251.	1042.	2080.	2590.	693.	2919.	-85.
.400	910.	2742.	-692.	3416.	1044.	2078.	2814.	494.	3186.	-388.
.450	836.	2800.	-799.	3499.	991.	2119.	2816.	485.	3198.	-420.
.500	854.	2786.	-799.	3499.	1009.	2105.	2852.	455.	3236.	-454.

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 PROB 2

SPAN ID = 2 BEAM ID = INT BEAM TYPE = Tx54

|----- Total Stresses in Composite Regions (psi) -----|

Span Loc	Slab	
	Top	Bot
.000	0.	0.
.022	71.	47.
.050	156.	104.
.100	295.	197.
.200	519.	347.
.250	605.	404.
.300	674.	450.
.400	765.	511.
.450	786.	525.
.500	791.	528.

|----- Prestress Losses (ksi) -----|

	SH	ELSH	CRC	CRS	Total
Initial		16.118		0.963	17.082
Final	7.250	16.118	21.980	1.927	47.275