



CONCRETE TECHNOLOGY CORPORATION

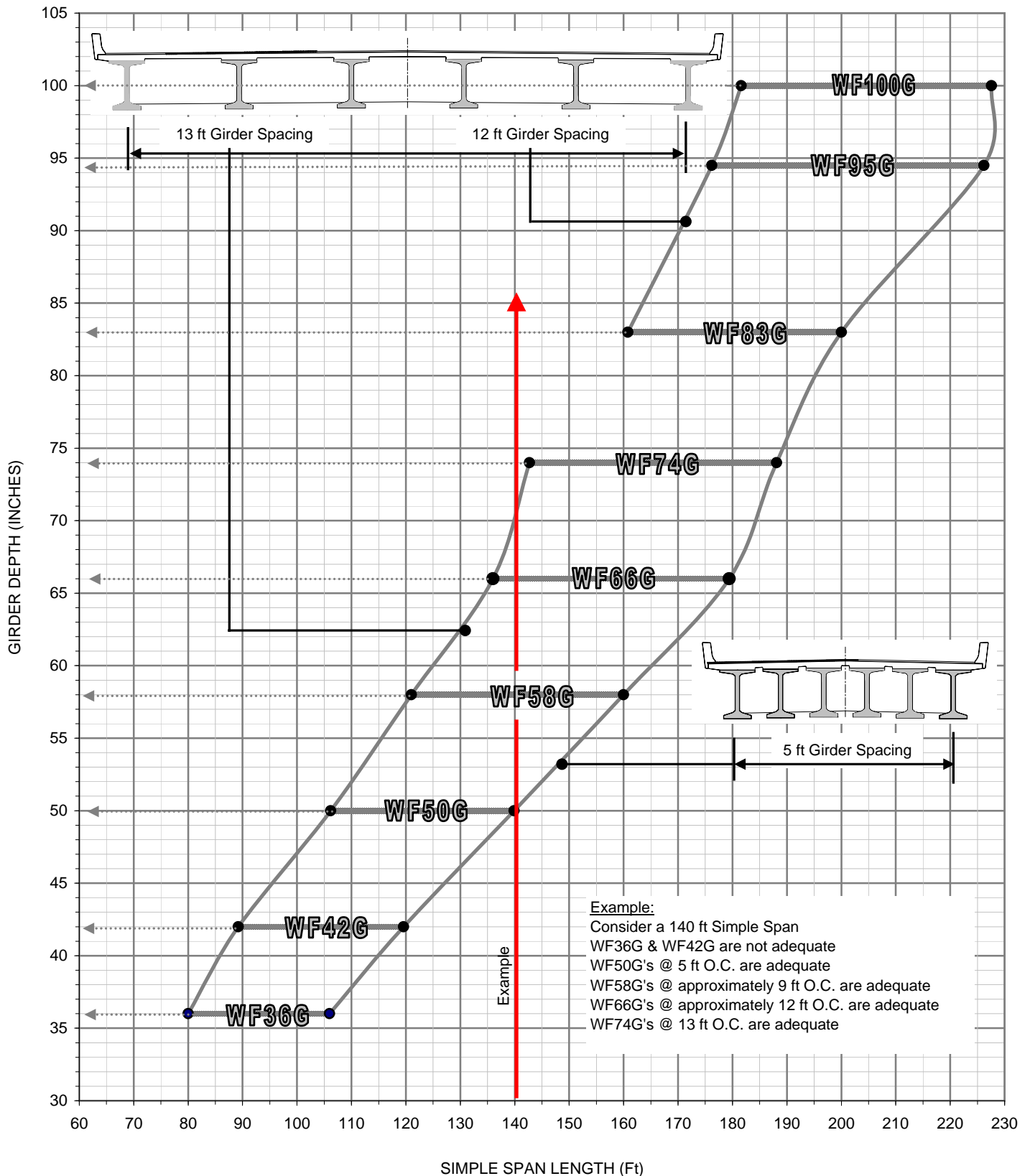
WSDOT WIDE FLANGE GIRDER SPAN CAPABILITIES



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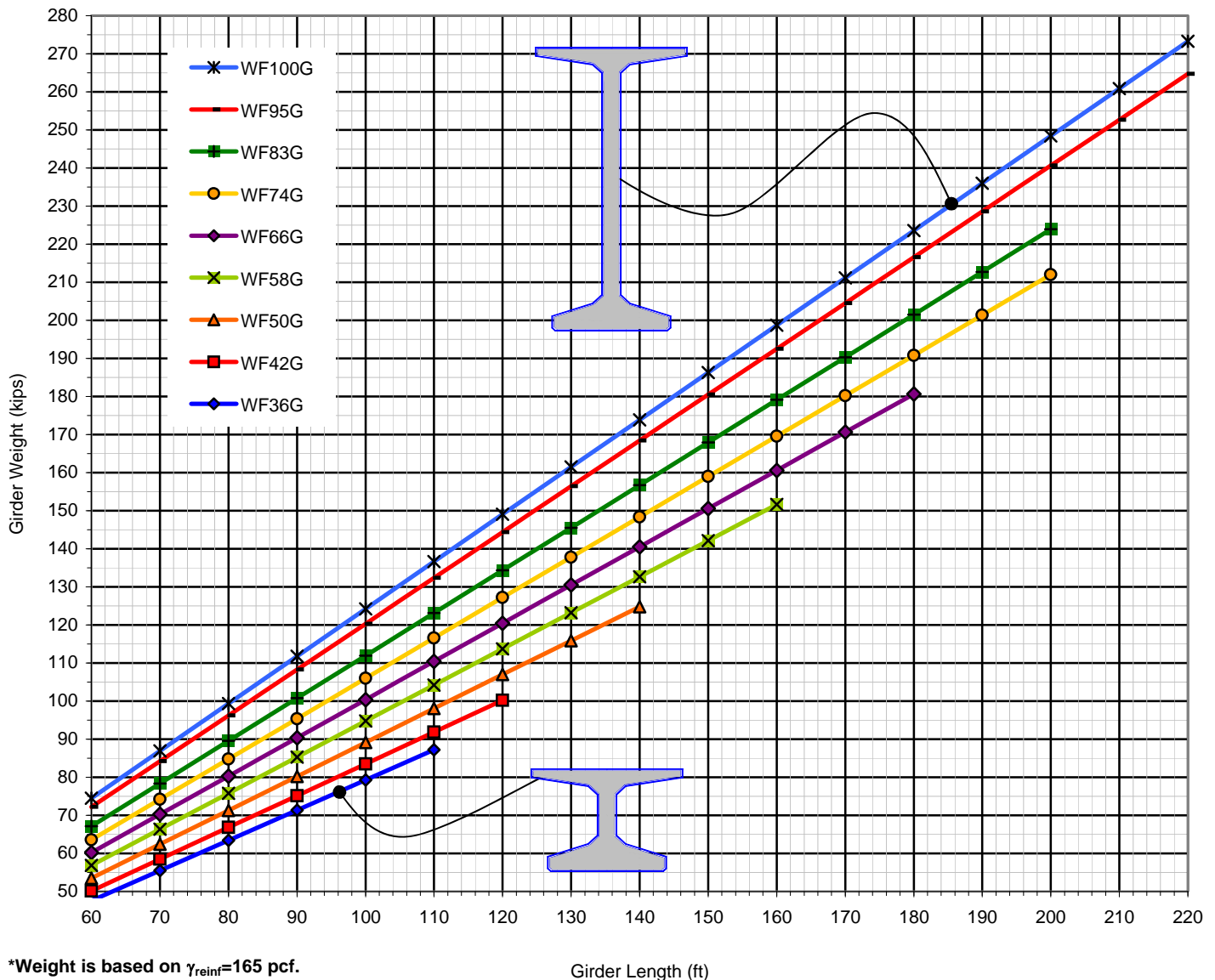
WF GIRDER SUMMARY OF SPAN CAPABILITIES





WF GIRDER WEIGHTS

Girder Type	* ω (klf)	Girder Length (ft)																				
		60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220				
WF36G	0.793	48	56	63	71	79	87															
WF42G	0.835	50	58	67	75	84	92	100														
WF50G	0.891	53	62	71	80	89	98	107	116	125												
WF58G	0.948	57	66	76	85	95	104	114	123	133	142	152										
WF66G	1.004	60	70	80	90	100	110	120	130	141	151	161	171	181								
WF74G	1.060	64	74	85	95	106	117	127	138	148	159	170	180	191	201	212						
WF83G	1.119	67	78	90	101	112	123	134	146	157	168	179	190	202	213	224						
WF95G	1.203	72	84	96	108	120	132	144	156	168	180	193	205	217	229	241	253	265				
WF100G	1.242	75	87	99	112	124	137	149	161	174	186	199	211	224	236	248	261	273				



*Weight is based on $\gamma_{reinf}=165$ pcf.



WSDOT WIDE FLANGE (WF) GIRDER SERIES SPAN CAPABILITY CHARTS

DESIGN CRITERIA

1.) Charts are based on the following:

AASHTO LRFD Bridge Design Specifications, 4th Edition
WSDOT Bridge Design Manual, M 23-50, February, 2007
PGSuper V2.0.7 - Built April 21, 2008

2.) Dead Load (DC):

- ⇒ Girder + Haunch + Main Slab
- + 32" F-Shape Traffic Barrier
- + Intermediate Diaphragms per B.D.M.

Superimposed Dead Load (DW):

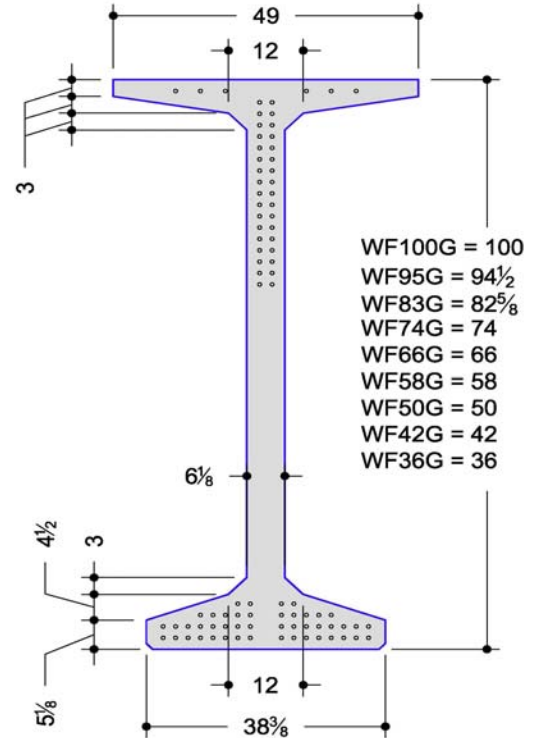
- ⇒ 2" Thick Future Asphalt Overlay

Live Load (LL):

- ⇒ HL-93 with 33% impact on the truck portion only

3.) Loading Combinations

Flexure =	Strength I	Bridge Site Stage 3
Shear =	Strength I	Bridge Site Stage 3
Stresses =	Service I	Casting Yard Stage (Release)
	Service I	Temporary Strand Removal
	Service I	Bridge Site Stage 1
	Service I	Bridge Site Stage 2
	Service I	Bridge Site Stage 3
	Service IA	Bridge Site Stage 3
	Service III	Bridge Site Stage 3



4.) Live Load Distribution

Moment = LRFD 4.6.2.2.2b-1 (Interior Girder, type "k" cross section)

Shear = LRFD 4.6.2.2.3a-1 (Interior Girder, type "k" cross section)

5.) Main Slab Thickness for Girder Spacing < 12 ft

7 1/2" thick total deck with 1/2" sacrificial depth

($t_{deck} = 7"$ for strength and section properties)

($t_{deck} = 7 1/2"$ for dead load)

Main Slab Thickness for Girder Spacing ≥ 12 ft

8" thick total deck with 1/2" sacrificial depth

($t_{deck} = 7 1/2"$ for strength and section properties)

($t_{deck} = 8"$ for dead load)

6.) Concrete

Girder f'_c = Variable ksi, $w_c = 155$ pcf for section properties, 160 pcf for weight calculations

Girder f'_{ci} = Variable ksi

Deck $f'_c = 4.0$ ksi, $w_c = 155$ pcf for section properties, 160 pcf for weight calculations

7.) Reinforcement

Strand = 0.6" diameter, 270 ksi, 7-wire, low-relaxation

$f_{pj} = 202.5$ ksi

$E_{ps} = 28,500$ ksi

Rebar = Grade 60

$E_s = 28,900$ ksi

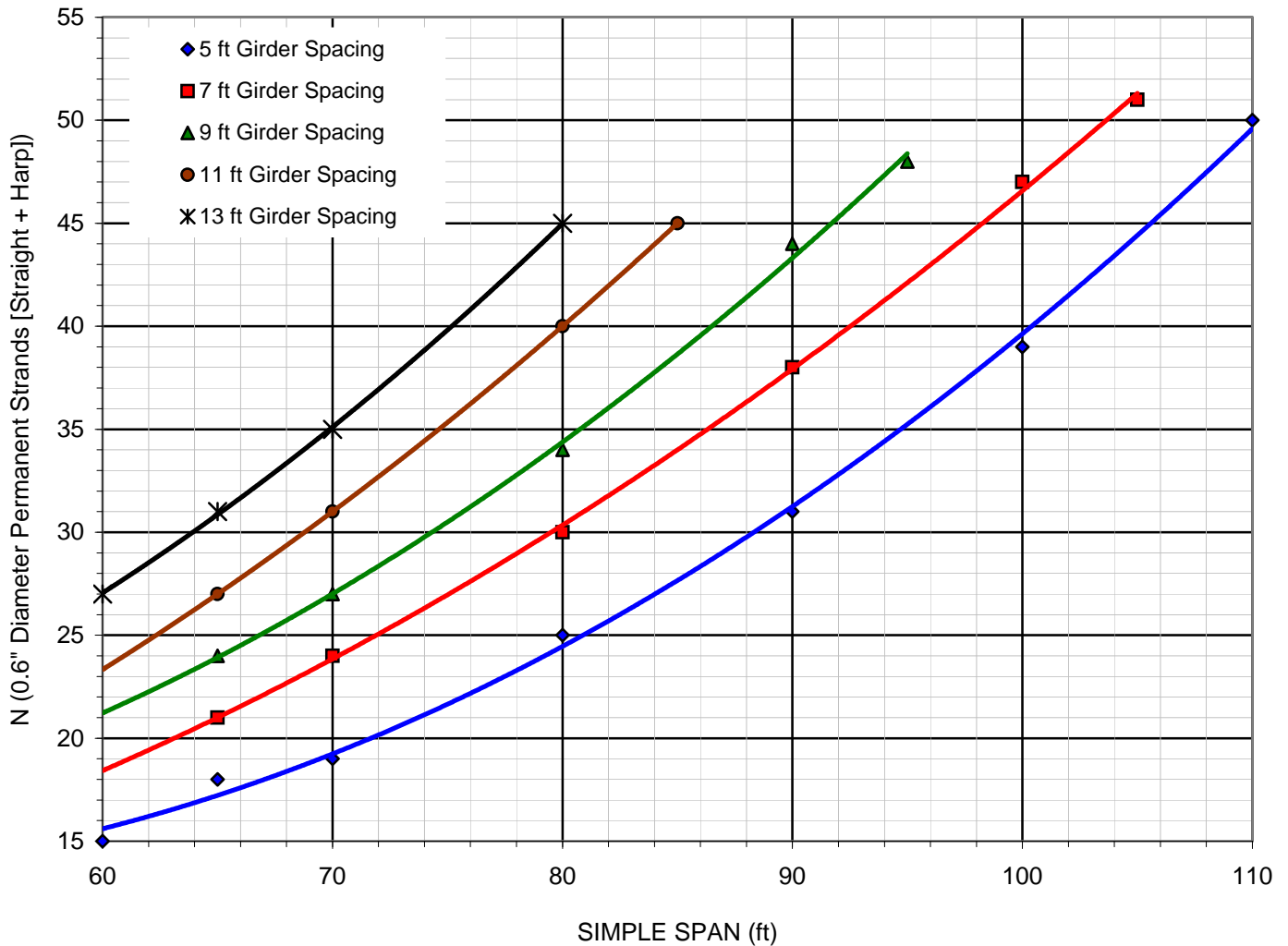
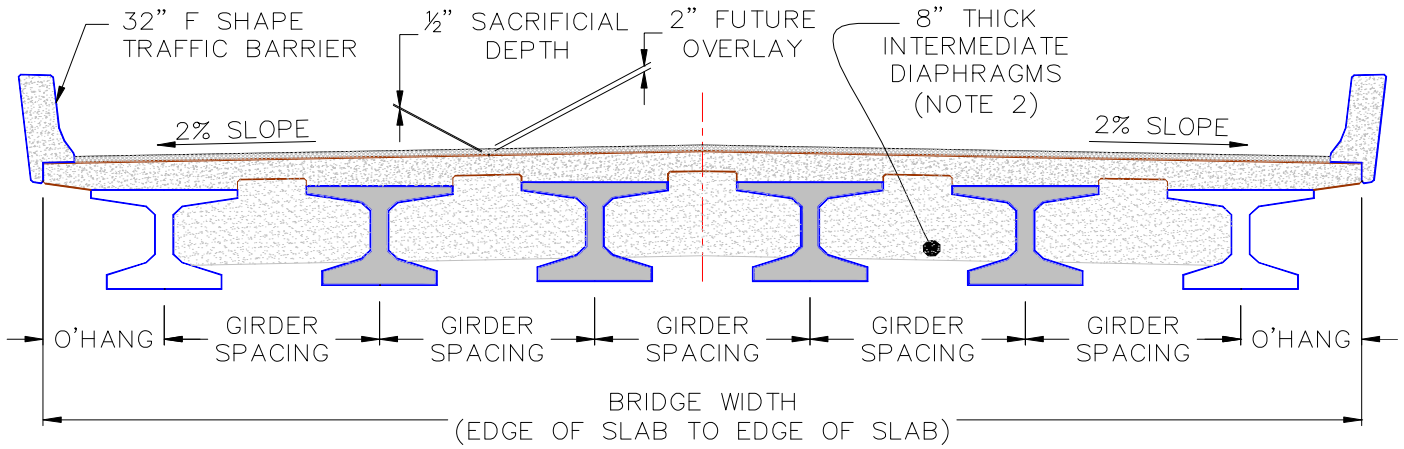
8.) Prestress Losses

Refined Estimate per WSDOT Bridge Design Manual



WSDOT WF36G GIRDER

AASHTO LRFD SPECIFICATIONS - ZERO TENSION - INTERIOR GIRDERS





WSDOT WF36G GIRDER SERIES
SPAN CAPABILITY DATA - INTERIOR GIRDER - 5ft SPACING

Interior Girder w/barrier load (6 girder bridge)
 Simple Span lengths are CL bearing to CL bearing
 Normal Exposure & 75% humidity
 No Horizontal or Vertical Curve
 2% roadway crown slope
 End Type "A" Connections

Table 1																		
Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f_{ci} For Design (psi)	Girder f_c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f_{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f_c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, $K\theta$	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
60.00	63.42	48.7	10	5	0	7,500	8,500	5.00	26.75	3.375	9.50	9.15	2,740	1.75	3,010	5.00	28,000	53.4
65.00	68.42	52.6	12	6	0	7,500	8,500	5.00	26.75	3.375	9.50	9.35	3,291	1.75	3,584	5.00	28,000	58.4
70.00	73.42	56.4	12	7	0	7,500	8,500	5.00	26.75	3.375	9.50	9.31	3,354	1.75	3,689	5.00	28,000	63.4
80.00	83.42	64.1	16	9	0	7,500	8,500	5.00	26.75	3.375	10.00	9.74	4,357	1.75	4,750	5.00	28,000	73.4
90.00	93.42	71.8	20	11	0	7,500	8,500	5.00	26.75	3.375	10.25	10.18	5,274	1.75	5,732	5.00	28,000	83.4
100.00	103.42	79.5	28	11	0	8,000	10,000	5.00	26.75	3.375	11.00	10.86	6,716	1.75	6,966	5.00	28,000	93.4

Table 2																			
Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios												Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear	F _{Scr}		F _{SF}	F _{Scr}	F _{Sroll}	
60.00	63.42	48.7	1.40	1.26	1.33	3.11	3.99	3.91	1.01	1.05	0.95	3.60	1.13	2	15.78	11.38	7.59	3.69	
65.00	68.42	52.6	1.42	1.28	1.37	2.57	3.45	3.47	1.10	1.10	1.12	3.41	1.23	2	12.42	9.10	6.84	3.55	
70.00	73.42	56.4	1.59	1.43	1.48	2.56	3.08	3.13	1.00	1.03	1.25	3.26	1.23	2	10.52	7.41	6.29	3.42	
80.00	83.42	64.1	1.72	1.52	1.53	1.91	2.38	2.43	1.02	1.19	1.09	2.94	1.20	1	7.04	5.00	5.25	3.18	
90.00	93.42	71.8	1.47	1.26	1.42	1.52	1.91	1.99	1.02	1.24	1.03	2.69	1.20	1	4.92	3.47	4.47	2.95	
100.00	103.42	79.5	1.24	1.16	1.26	1.34	1.76	1.85	1.03	1.24	0.99	2.55	1.24	1	3.63	2.50	3.96	2.75	



WSDOT WF36G GIRDER SERIES
SPAN CAPABILITY DATA - INTERIOR GIRDER - 13ft SPACING

Interior Girder w/barrier load (6 girder bridge)
 Simple Span lengths are CL bearing to CL bearing
 Normal Exposure & 75% humidity
 No Horizontal or Vertical Curve
 2% roadway crown slope
 End Type "A" Connections

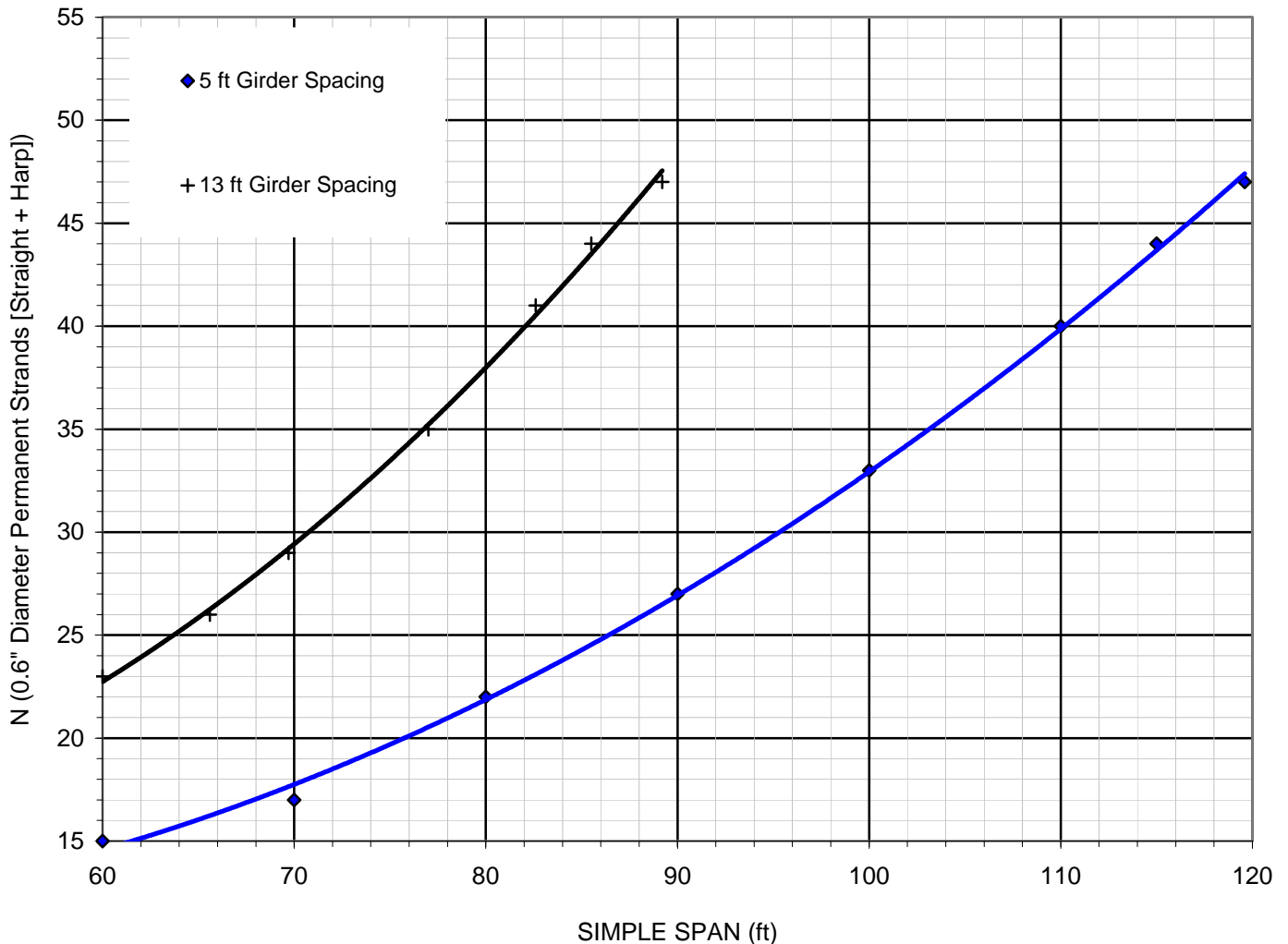
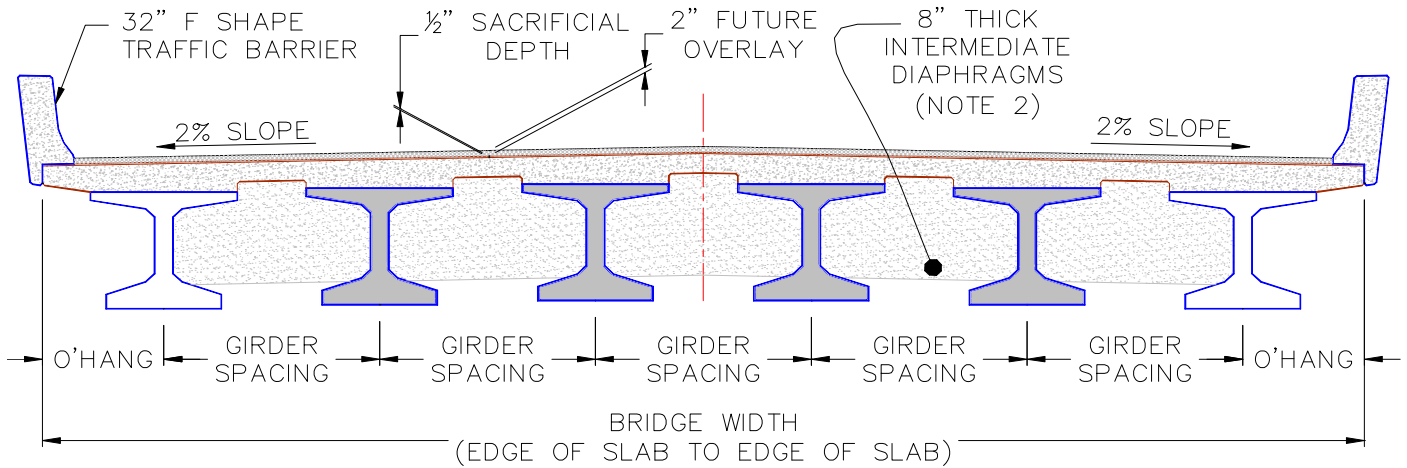
Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f_{ci} For Design (psi)	Girder f_c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f_{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f_c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, $K\theta$	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
60.00	63.42	48.7	18	9	0	7,500	8,500	13.00	58.75	3.375	10.00	9.77	5,464	1.75	5,629	5.00	28,000	53.4
65.00	68.42	52.6	20	11	0	7,500	8,500	13.00	58.75	3.375	10.25	10.05	6,174	1.75	6,348	5.00	28,000	58.4
70.00	73.42	56.4	22	13	0	7,500	8,500	13.00	58.75	3.375	10.50	10.29	6,801	1.75	6,989	5.00	28,000	63.4
80.00	83.42	64.1	30	15	0	8,500	10,000	13.00	58.75	3.375	11.00	10.89	8,405	1.75	8,613	5.00	28,000	73.4

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios												Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear	F _{Scr}		F _{SF}	F _{Scr}	F _{Scrl}	
60.00	63.42	48.7	1.18	1.02	1.44	1.70	2.28	2.88	1.09	1.23	0.68	1.64	1.13	2	9.66	11.15	6.71	3.69	
65.00	68.42	52.6	1.24	1.07	1.41	1.51	2.03	2.50	1.09	1.23	0.74	1.56	1.17	2	7.43	8.88	5.80	3.55	
70.00	73.42	56.4	1.13	0.98	1.28	1.37	1.83	2.17	1.03	1.22	0.71	1.48	1.16	2	6.34	7.15	5.23	3.42	
80.00	83.42	64.1	1.01	0.93	1.14	1.20	1.61	1.94	1.07	1.20	0.69	1.39	1.18	1	4.94	4.95	4.53	3.18	



WSDOT WF42G GIRDER

AASHTO LRFD SPECIFICATIONS - ZERO TENSION - INTERIOR GIRDERS





WSDOT WF42G GIRDER SERIES
SPAN CAPABILITY DATA - INTERIOR GIRDER - 5ft SPACING

Interior Girder w/barrier load (6 girder bridge)
 Simple Span lengths are CL bearing to CL bearing
 Normal Exposure & 75% humidity
 No Horizontal or Vertical Curve
 2% roadway crown slope
 End Type "A" Connections

Table 1																		
Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f_{ci} For Design (psi)	Girder f_c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f_{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f_c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, $K\theta$	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
60.00	63.42	51.3	10	5	0	7,500	8,500	5.00	26.75	3.375	9.50	9.17	2,693	1.75	2,907	5.00	28,000	53.4
70.00	73.42	59.4	12	5	0	7,500	8,500	5.00	26.75	3.375	9.50	9.24	2,878	1.75	3,158	5.00	28,000	63.4
80.00	83.42	67.5	14	8	0	7,500	8,500	5.00	26.75	3.375	9.50	9.46	3,658	1.75	3,989	5.00	28,000	73.4
90.00	93.42	75.6	18	9	0	7,500	8,500	5.00	26.75	3.375	10.00	9.77	4,386	1.75	4,776	5.00	28,000	83.4
100.00	103.42	83.7	22	11	0	7,500	8,500	5.00	26.75	3.375	10.25	10.14	5,225	1.75	5,673	5.00	28,000	93.4
110.00	113.42	91.8	26	14	0	7,500	8,500	5.00	26.75	3.375	10.50	10.49	6,126	1.75	6,653	5.00	28,000	103.4
115.00	118.42	95.9	28	16	0	7,500	8,500	5.00	26.75	3.375	10.75	10.66	6,626	1.75	7,194	5.00	28,000	108.4
119.60	123.02	99.6	32	15	0	7,500	8,600	5.00	26.75	3.375	11.00	10.90	7,240	1.75	7,595	5.00	28,000	113.0

Table 2																		
Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios											Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear		FScr	FSF	FScr	Fscroll
60.00	63.42	51.3	1.24	1.13	1.33	3.27	4.38	4.75	1.17	1.06	1.16	4.45	1.19	1	16.46	12.98	6.80	3.48
70.00	73.42	59.4	1.47	1.28	1.27	2.76	3.64	3.59	1.03	1.06	1.13	3.97	1.20	1	11.39	8.48	5.65	3.22
80.00	83.42	67.5	1.61	1.46	1.53	2.34	2.83	2.86	1.06	1.14	1.16	3.57	1.22	3	7.78	5.76	4.71	2.98
90.00	93.42	75.6	1.77	1.52	1.50	1.83	2.26	2.33	1.03	1.19	1.14	3.26	1.21	3	5.48	4.04	3.99	2.77
100.00	103.42	83.7	1.48	1.28	1.41	1.51	1.85	1.94	1.04	1.23	1.07	3.01	1.21	3	3.97	2.89	3.42	2.57
110.00	113.42	91.8	1.26	1.09	1.19	1.28	1.52	1.63	1.06	1.25	1.03	2.80	1.23	3	2.95	2.11	3.01	2.39
115.00	118.42	95.9	1.16	1.01	1.10	1.18	1.39	1.49	1.06	1.25	1.02	2.70	1.24	3	2.56	1.81	2.83	2.29
119.60	123.02	99.6	1.07	0.93	1.01	1.08	1.29	1.40	1.00	1.23	0.99	2.61	1.23	3	2.23	1.58	2.68	2.21



WSDOT WF42G GIRDER SERIES

SPAN CAPABILITY DATA - INTERIOR GIRDER - 13ft SPACING

Interior Girder w/barrier load (6 girder bridge)
 Simple Span lengths are CL bearing to CL bearing
 Normal Exposure & 75% humidity
 No Horizontal or Vertical Curve
 2% roadway crown slope
 End Type "A" Connections

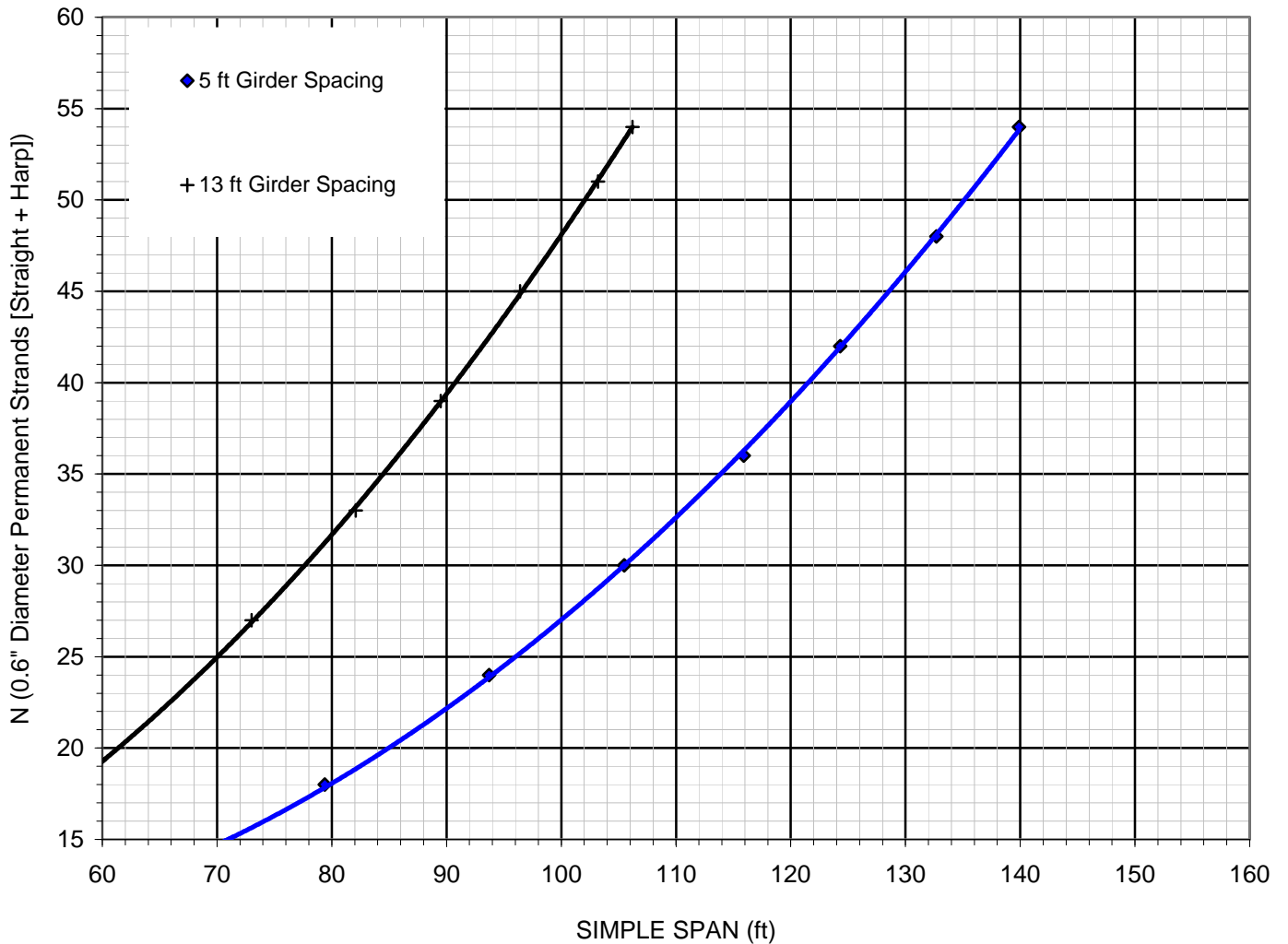
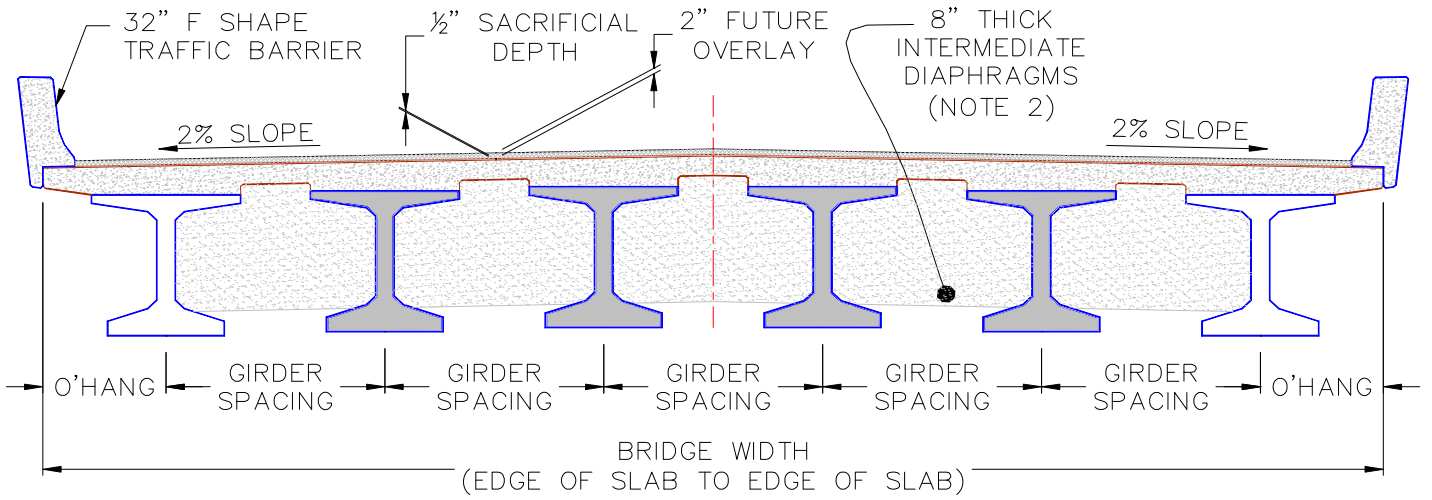
Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f_{ci} For Design (psi)	Girder f_c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f_{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f_c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, $K\theta$	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
60.00	63.42	51.3	16	7	0	7,500	8,500	13.00	58.75	3.375	9.50	9.48	4,436	1.75	4,586	5.00	28,000	53.4
65.60	69.02	55.9	18	8	0	7,500	8,500	13.00	58.75	3.375	9.75	9.66	4,927	1.75	5,096	5.00	28,000	59.0
69.70	73.12	59.2	20	9	0	7,500	8,500	13.00	58.75	3.375	10.00	9.86	5,437	1.75	5,614	5.00	28,000	63.1
77.00	80.42	65.1	24	11	0	7,500	8,500	13.00	58.75	3.375	10.50	10.25	6,387	1.75	6,577	5.00	28,000	70.4
82.60	86.02	69.6	28	13	0	7,500	8,500	13.00	58.75	3.375	11.25	11.04	7,321	1.75	7,510	5.00	28,000	76.0
85.50	88.92	72.0	30	14	0	8,000	10,000	13.00	58.75	3.375	11.25	11.23	7,791	1.75	7,985	5.00	28,000	78.9
89.20	92.62	75.0	32	15	2	8,500	10,000	13.00	58.75	3.375	11.50	11.25	8,172	1.75	8,385	5.00	28,000	82.6

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios											Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear		F _{Scr}	F _{SF}	F _{Scr}	F _{Scroll}
60.00	63.42	51.3	1.17	1.03	1.34	2.05	2.75	3.40	1.08	1.14	0.62	2.02	1.03	1	12.16	12.86	6.31	3.48
65.60	69.02	55.9	1.16	1.09	1.38	1.83	2.46	2.90	1.00	1.18	0.59	1.89	1.03	1	9.50	10.03	5.51	3.33
69.70	73.12	59.2	1.16	1.11	1.41	1.65	2.21	2.61	1.01	1.19	0.65	1.81	1.10	1	7.80	8.42	4.94	3.23
77.00	80.42	65.1	1.08	1.04	1.30	1.39	1.87	2.18	1.01	1.21	0.77	1.69	1.16	1	5.87	6.27	4.15	3.05
82.60	86.02	69.6	1.03	0.91	1.13	1.21	1.62	1.93	1.00	1.24	0.73	1.52	1.19	3	4.75	5.05	3.63	2.93
85.50	88.92	72.0	1.01	1.01	1.24	1.32	1.77	2.07	1.00	1.24	0.74	1.51	1.20	3	4.49	4.63	3.62	2.87
89.20	92.62	75.0	1.06	0.95	1.16	1.22	1.64	1.91	1.01	1.23	0.72	1.47	1.19	3	5.33	4.17	3.97	2.79



WSDOT WF50G GIRDER

AASHTO LRFD SPECIFICATIONS - ZERO TENSION - INTERIOR GIRDERS





WSDOT WF50G GIRDER SERIES SPAN CAPABILITY DATA - INTERIOR GIRDER - 5ft SPACING

Interior Girder w/barrier load (6 girder bridge)
Simple Span lengths are CL bearing to CL bearing
Normal Exposure & 75% humidity
No Horizontal or Vertical Curve
2% roadway crown slope
End Type "A" Connections

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f_{ci} For Design (psi)	Girder f_c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f_{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f_c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, $K\theta$	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
60.00	63.42	54.8	8	4	0	4,000	6,000	5.00	26.75	3.375	9.50	9.20	1,956	1.75	2,142	5.00	28,000	53.4
79.40	82.82	71.5	12	6	0	7,500	8,500	5.00	26.75	3.375	9.25	9.19	2,787	1.75	3,110	5.00	28,000	72.8
93.70	97.12	83.9	16	8	0	7,500	8,500	5.00	26.75	3.375	9.50	9.46	3,600	1.75	4,037	5.00	28,000	87.1
105.50	108.92	94.1	20	10	0	7,500	8,500	5.00	26.75	3.375	10.00	9.76	4,403	1.75	4,952	5.00	28,000	98.9
115.90	119.32	103.1	24	12	0	7,500	8,500	5.00	26.75	3.375	10.25	10.03	5,145	1.75	5,813	5.00	28,000	109.3
124.30	127.72	110.3	28	14	0	7,500	8,500	5.00	26.75	3.375	10.50	10.26	5,897	1.75	6,654	5.00	28,000	117.7
132.70	136.12	117.6	32	16	0	7,500	8,500	5.00	26.75	3.375	10.75	10.49	6,723	1.75	7,473	5.00	28,000	126.1
139.90	143.32	123.8	36	18	0	7,600	9,000	5.00	26.75	3.375	11.00	10.76	7,531	2.00	8,269	5.00	28,000	133.3

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios											Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear		F _{Scr}	F _{SF}	F _{Scr}	F _{Scroll}
60.00	63.42	54.8	1.35	1.20	1.31	3.40	4.22	4.12	1.01	1.00	0.97	5.14	1.03	2	14.24	12.34	5.87	3.22
79.40	82.82	71.5	1.54	1.40	1.38	2.97	3.51	3.49	1.01	1.04	1.10	4.52	1.17	2	8.86	6.83	4.17	2.76
93.70	97.12	83.9	1.78	1.49	1.47	2.22	2.61	2.67	1.00	1.13	1.23	4.00	1.20	1	5.47	4.16	3.26	2.48
105.50	108.92	94.1	1.76	1.51	1.54	1.78	2.09	2.17	1.00	1.19	1.19	3.63	1.20	1	3.78	2.87	2.70	2.26
115.90	119.32	103.1	1.50	1.30	1.40	1.50	1.73	1.83	1.00	1.23	1.13	3.37	1.21	1	2.81	2.11	2.33	2.09
124.30	127.72	110.3	1.31	1.12	1.21	1.30	1.48	1.59	1.00	1.24	1.07	3.16	1.21	3	2.23	1.66	2.09	1.95
132.70	136.12	117.6	1.15	0.99	1.07	1.14	1.30	1.41	1.01	1.24	1.04	2.99	1.22	3	1.78	1.32	1.88	1.81
139.90	143.32	123.8	1.04	0.94	1.02	1.09	1.22	1.33	1.01	1.24	1.04	2.90	1.24	3	1.51	1.12	1.75	1.70



WSDOT WF50G GIRDER SERIES SPAN CAPABILITY DATA - INTERIOR GIRDER - 13ft SPACING

Interior Girder w/barrier load (6 girder bridge)
Simple Span lengths are CL bearing to CL bearing
Normal Exposure & 75% humidity
No Horizontal or Vertical Curve
2% roadway crown slope
End Type "A" Connections

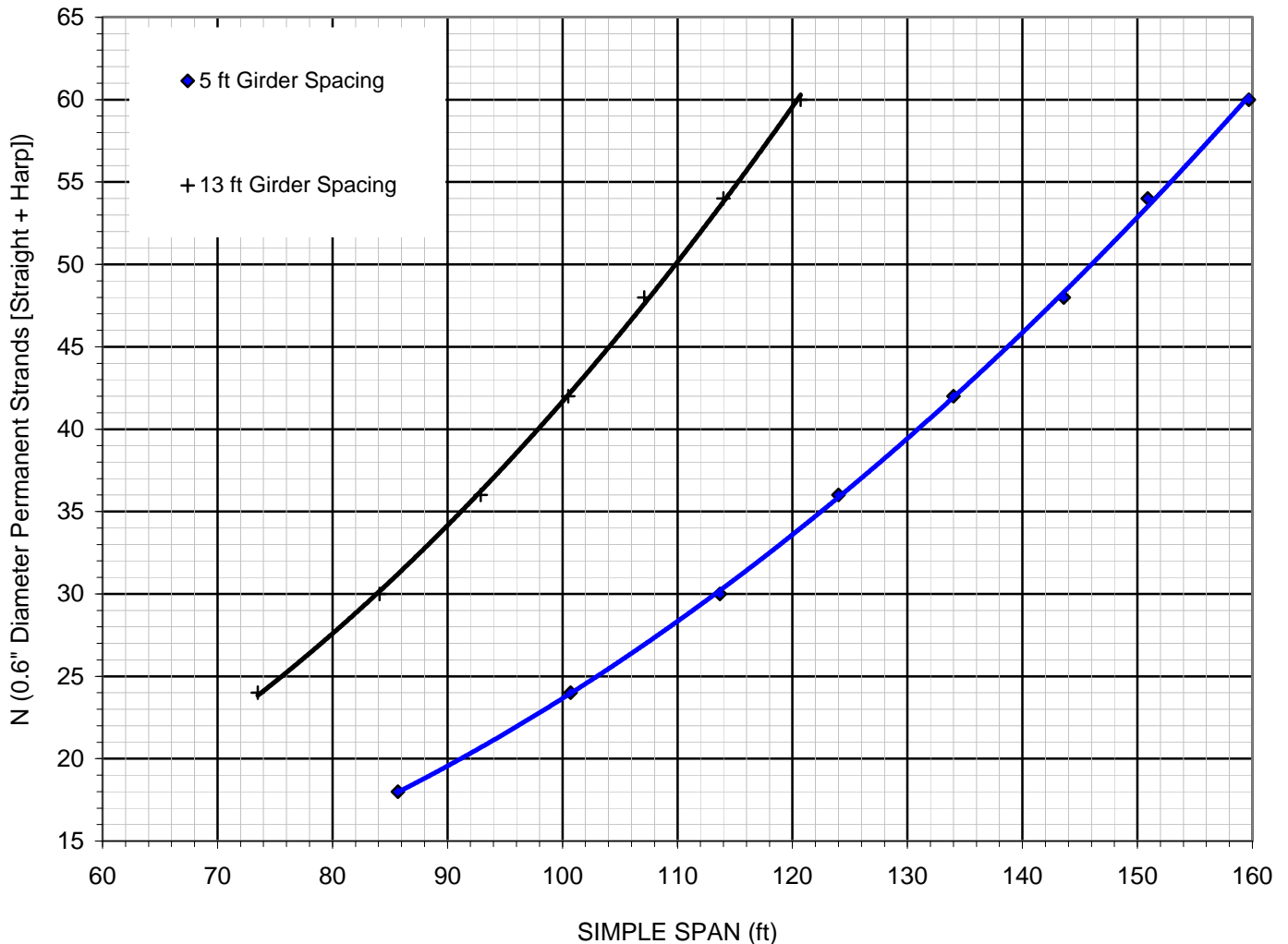
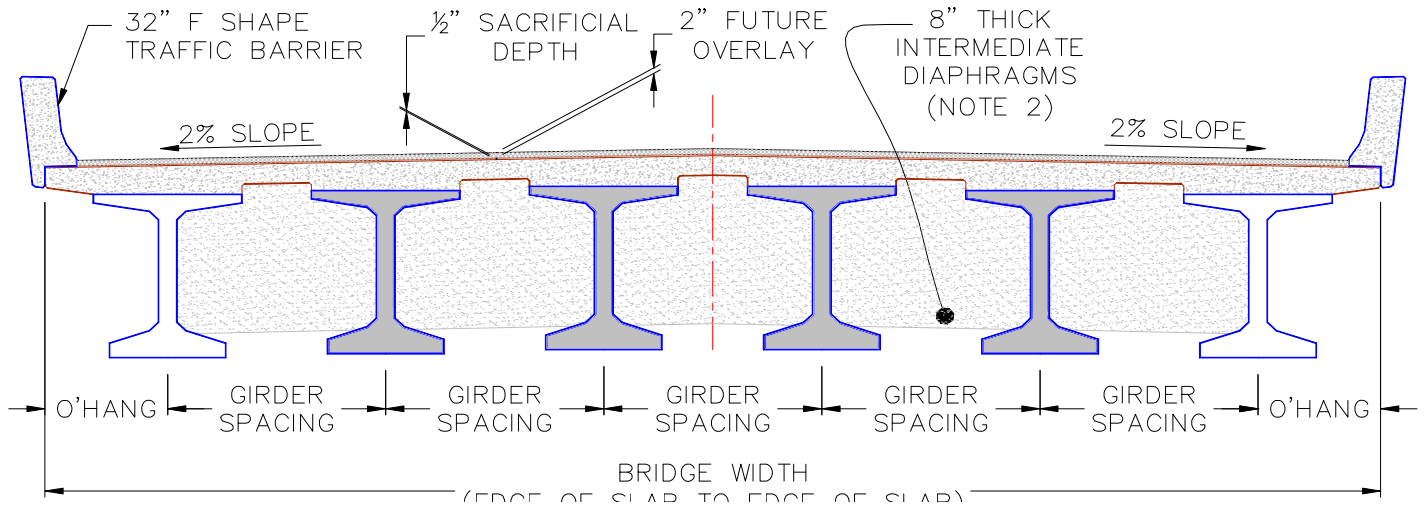
Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f_{ci} For Design (psi)	Girder f_c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f_{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f_c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, $K\theta$	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
59.50	62.92	54.4	14	5	0	7,500	8,500	13.00	58.75	3.375	10.00	9.70	3,459	1.75	3,606	5.00	28,000	52.9
73.00	76.42	66.0	18	9	0	7,500	8,500	13.00	58.75	3.375	10.25	10.07	4,755	1.75	4,949	5.00	28,000	66.4
82.10	85.52	73.9	22	11	0	7,500	8,500	13.00	58.75	3.375	10.50	10.43	5,660	1.75	5,893	5.00	28,000	75.5
89.50	92.92	80.3	26	13	0	7,500	8,500	13.00	58.75	3.375	11.00	10.79	6,525	1.75	6,789	5.00	28,000	82.9
96.40	99.82	86.2	30	15	0	7,500	8,500	13.00	58.75	3.375	11.25	11.16	7,346	1.75	7,643	5.00	28,000	89.8
103.20	106.62	92.1	34	17	0	8,500	10,000	13.00	58.75	3.375	11.50	11.29	8,182	1.75	8,525	5.00	28,000	96.6
106.20	109.62	94.7	36	18	0	8,600	10,000	13.00	58.75	3.375	11.75	11.39	8,569	1.75	8,931	5.00	28,000	99.6

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios												Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear	F _{Scr}		F _{SF}	F _{Scr}	F _{Scroll}	
59.50	62.92	54.4	1.11	1.01	1.20	2.53	3.39	4.19	1.00	1.04	0.63	2.38	0.97	2	15.01	15.26	5.76	3.24	
73.00	76.42	66.0	1.11	1.17	1.49	1.97	2.64	2.97	1.00	1.18	1.07	2.58	1.14	2	8.10	8.59	4.09	2.90	
82.10	85.52	73.9	1.04	1.12	1.52	1.62	2.17	2.45	1.00	1.22	1.10	2.42	1.16	1	5.73	6.07	3.27	2.71	
89.50	92.92	80.3	1.04	1.02	1.30	1.39	1.86	2.09	1.00	1.24	1.12	2.27	1.19	1	4.49	4.66	2.77	2.56	
96.40	99.82	86.2	1.04	0.91	1.14	1.21	1.62	1.82	1.00	1.24	1.07	2.16	1.20	1	3.66	3.68	2.42	2.43	
103.20	106.62	92.1	1.06	0.96	1.17	1.25	1.67	1.82	1.00	1.23	1.06	2.10	1.19	1	3.26	3.09	2.31	2.31	
106.20	109.62	94.7	1.02	0.92	1.11	1.18	1.58	1.72	1.00	1.23	1.04	2.06	1.19	1	3.04	2.82	2.21	2.26	



WSDOT WF58G GIRDER

AASHTO LRFD SPECIFICATIONS - ZERO TENSION - INTERIOR GIRDERS





WSDOT WF58G GIRDER SERIES SPAN CAPABILITY DATA - INTERIOR GIRDER - 5ft SPACING

Interior Girder w/barrier load (6 girder bridge)
Simple Span lengths are CL bearing to CL bearing
Normal Exposure & 75% humidity
No Horizontal or Vertical Curve
2% roadway crown slope
End Type "A" Connections

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f_{ci} For Design (psi)	Girder f_c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f_{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f_c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, $K\theta$	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
0.00	89.12	81.8	12	6	0	7,500	8,500	5.00	31.75	3.375	9.25	9.14	2,588	1.75	2,977	5.00	28,000	79.1
100.70	104.12	95.6	16	8	0	7,500	8,500	5.00	31.75	3.375	9.50	9.37	3,352	1.75	3,895	5.00	28,000	94.1
113.70	117.12	107.6	20	10	0	7,500	8,500	5.00	31.75	3.375	9.75	9.62	4,090	1.75	4,804	5.00	28,000	107.1
124.00	127.42	117.0	24	12	0	7,500	8,500	5.00	31.75	3.375	10.00	9.83	4,817	1.75	5,695	5.00	28,000	117.4
134.00	137.42	126.2	28	14	0	7,500	8,500	5.00	31.75	3.375	10.25	10.03	5,504	1.75	6,469	5.00	32,000	127.4
143.60	147.02	135.0	32	16	0	7,500	8,500	5.00	31.75	3.375	10.25	10.21	6,272	1.75	7,304	5.00	32,000	137.0
150.90	154.32	141.7	36	18	0	7,500	9,000	5.00	31.75	3.375	10.75	10.51	7,203	5.00	8,350	10.00	32,000	134.3
159.70	163.12	149.8	40	20	6	8,000	10,000	5.00	31.75	3.375	10.50	10.34	7,772	6.25	9,005	12.50	36,000	138.1

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios											Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear		FScr	FSF	FScr	Fscroll
0.00	89.12	81.8	1.55	1.38	1.37	3.16	3.63	3.61	1.00	1.03	2.06	6.48	1.18	1	7.67	6.13	3.26	2.43
100.70	104.12	95.6	1.78	1.48	1.46	2.37	2.71	2.77	1.00	1.12	2.00	5.76	1.21	1	4.75	3.75	2.51	2.16
113.70	117.12	107.6	1.89	1.56	1.54	1.90	2.16	2.25	1.00	1.18	1.85	5.25	1.21	1	3.24	2.55	2.03	1.95
124.00	127.42	117.0	1.60	1.38	1.50	1.60	1.80	1.91	1.00	1.22	1.72	4.86	1.22	3	2.45	1.91	1.73	1.79
134.00	137.42	126.2	1.41	1.20	1.29	1.38	1.54	1.65	1.00	1.25	1.62	4.58	1.22	3	1.90	1.47	1.73	1.79
143.60	147.02	135.0	1.24	1.06	1.14	1.22	1.35	1.46	1.00	1.25	1.56	4.34	1.22	3	1.50	1.15	1.53	1.64
150.90	154.32	141.7	1.10	1.00	1.09	1.16	1.27	1.39	1.00	1.25	1.53	4.21	1.23	3	1.51	1.18	1.44	1.65
159.70	163.12	149.8	1.10	1.00	1.08	1.15	1.26	1.38	1.00	1.24	1.51	4.15	1.23	3	1.52	1.08	1.94	1.72



WSDOT WF58G GIRDER SERIES SPAN CAPABILITY DATA - INTERIOR GIRDER - 13ft SPACING

Interior Girder w/barrier load (6 girder bridge)
Simple Span lengths are CL bearing to CL bearing
Normal Exposure & 75% humidity
No Horizontal or Vertical Curve
2% roadway crown slope
End Type "A" Connections

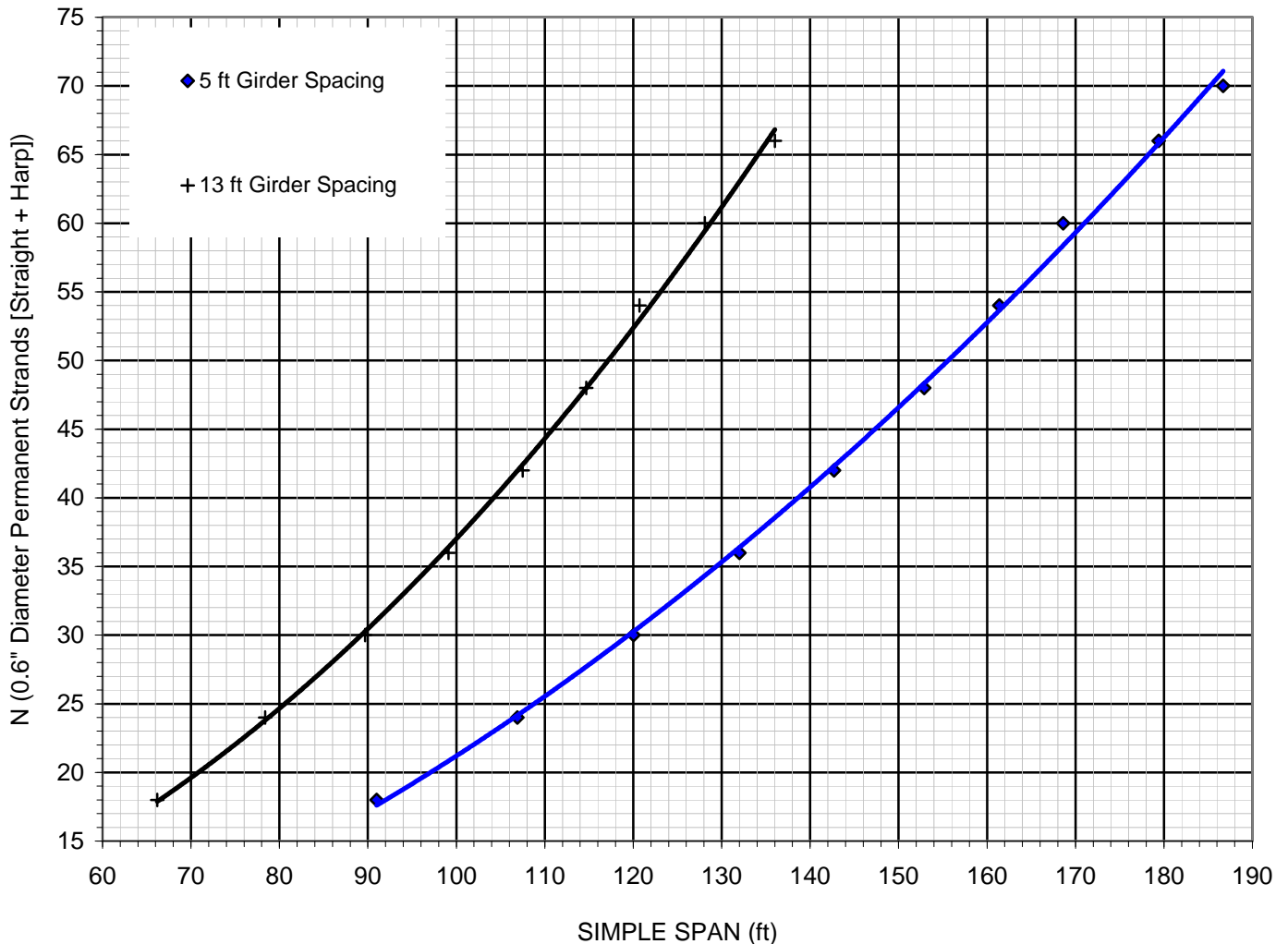
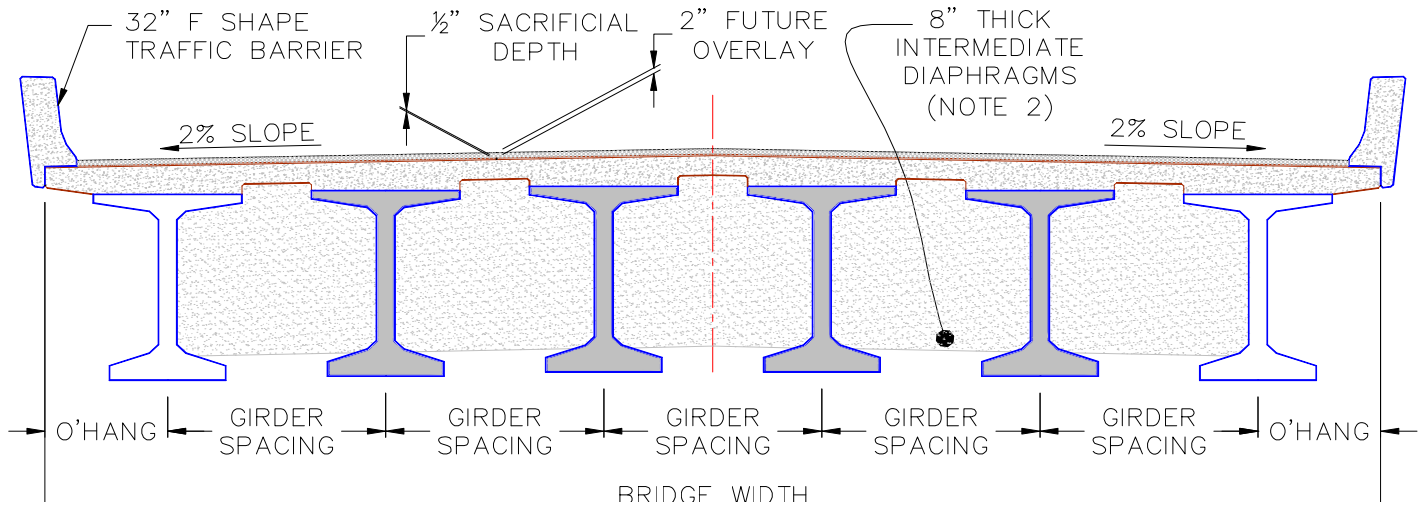
Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f_{ci} For Design (psi)	Girder f_c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f_{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f_c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, $K\theta$	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
73.50	76.92	70.6	16	8	0	7,500	8,500	13.00	71.75	3.375	10.00	9.86	4,017	1.75	4,239	5.00	28,000	66.9
84.10	87.52	80.4	20	10	0	7,500	8,500	13.00	71.75	3.375	10.25	10.18	4,898	1.75	5,183	5.00	28,000	77.5
92.90	96.32	88.5	24	12	0	7,500	8,500	13.00	71.75	3.375	10.50	10.50	5,734	1.75	6,078	5.00	28,000	86.3
100.50	103.92	95.4	28	14	0	7,500	8,500	13.00	71.75	3.375	11.00	10.83	6,533	1.75	6,935	5.00	28,000	93.9
107.10	110.52	101.5	32	16	2	7,500	9,500	13.00	71.75	3.375	11.50	11.36	7,268	1.75	7,731	5.00	28,000	100.5
114.00	117.42	107.8	36	18	2	8,100	10,000	13.00	71.75	3.375	11.75	11.55	8,029	1.75	8,567	5.00	28,000	107.4
120.70	124.12	114.0	40	20	6	8,700	10,000	13.00	71.75	3.375	11.50	11.29	8,658	1.75	9,291	5.00	28,000	114.1

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios											Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear		F _{Scr}	F _{SF}	F _{Scr}	F _{Scroll}
73.50	76.92	70.6	1.09	1.16	1.44	2.36	3.16	3.42	1.00	1.10	1.12	3.01	1.12	2	8.99	9.51	3.62	2.68
84.10	87.52	80.4	1.05	1.12	1.52	1.89	2.54	2.76	1.00	1.19	1.16	2.81	1.14	1	5.97	6.40	2.75	2.46
92.90	96.32	88.5	1.02	1.05	1.49	1.60	2.14	2.31	1.00	1.22	1.18	2.63	1.17	1	4.45	4.72	2.21	2.30
100.50	103.92	95.4	1.03	1.02	1.29	1.38	1.85	1.99	1.01	1.24	1.18	2.48	1.19	1	3.56	3.68	1.86	2.17
107.10	110.52	101.5	1.05	1.01	1.27	1.36	1.80	1.94	1.00	1.26	1.16	2.40	1.21	1	3.52	3.00	2.12	2.06
114.00	117.42	107.8	1.03	0.97	1.19	1.27	1.66	1.79	1.02	1.25	1.13	2.31	1.21	1	3.00	2.51	1.92	1.95
120.70	124.12	114.0	1.02	0.88	1.07	1.13	1.44	1.58	1.00	1.23	1.06	2.19	1.19	3	3.00	2.15	2.10	1.85



WSDOT WF66G GIRDER

AASHTO LRFD SPECIFICATIONS - ZERO TENSION - INTERIOR GIRDERS





WSDOT WF66G GIRDER SERIES SPAN CAPABILITY DATA - INTERIOR GIRDER - 5ft SPACING

Interior Girder w/barrier load (6 girder bridge)
Simple Span lengths are CL bearing to CL bearing
Normal Exposure & 75% humidity
No Horizontal or Vertical Curve
2% roadway crown slope
End Type "A" Connections

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f_{ci} For Design (psi)	Girder f_c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f_{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f_c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, $K\theta$	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
0.00	94.42	91.8	12	6	0	7,500	8,500	5.00	31.75	3.375	9.25	9.09	2,426	1.75	2,895	5.00	28,000	84.4
106.90	110.32	107.3	16	8	0	7,500	8,500	5.00	31.75	3.375	9.50	9.29	3,141	1.75	3,820	5.00	28,000	100.3
120.05	123.47	120.1	20	10	0	7,500	8,500	5.00	31.75	3.375	9.50	9.49	3,852	1.75	4,762	5.00	28,000	113.5
132.00	135.42	131.7	24	12	0	7,500	8,500	5.00	31.75	3.375	9.75	9.68	4,509	1.75	5,587	5.00	32,000	125.4
142.70	146.12	142.1	28	14	0	7,500	8,500	5.00	31.75	3.375	10.00	9.84	5,181	1.75	6,485	5.00	32,000	136.1
152.90	156.32	152.1	32	16	0	7,500	8,500	5.00	31.75	3.375	10.00	10.00	6,050	4.50	7,269	5.50	36,000	145.3
161.40	164.82	160.3	36	18	0	7,500	8,500	5.00	31.75	3.375	10.25	10.08	6,955	8.00	8,271	10.75	36,000	143.3
168.60	172.02	167.3	40	20	6	7,500	9,500	5.00	31.75	3.375	10.50	10.25	7,455	9.00	8,767	10.00	40,000	152.0
179.40	182.82	177.8	44	22	6	8,400	10,000	5.00	31.75	3.375	10.00	9.85	8,399	12.25	9,830	16.00	40,000	150.8
186.70	190.12	184.9	46	24	8	8,900	10,000	5.00	31.75	3.375	9.50	9.27	8,845	14.00	10,208	16.00	44,000	158.1

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios											Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear		FScr	FSF	FScr	Fscroll
0.00	94.42	91.8	1.55	1.36	1.35	3.34	3.77	3.75	1.00	1.01	2.19	7.24	1.18	1	6.81	5.63	2.59	2.16
106.90	110.32	107.3	1.78	1.46	1.44	2.51	2.81	2.88	1.00	1.10	2.14	6.41	1.21	1	4.19	3.43	1.95	1.90
120.05	123.47	120.1	1.98	1.55	1.52	2.01	2.24	2.34	1.00	1.17	1.96	5.82	1.22	3	2.89	2.36	1.55	1.70
132.00	135.42	131.7	1.71	1.48	1.59	1.70	1.87	1.98	1.00	1.21	1.84	5.40	1.23	3	2.13	1.72	1.47	1.68
142.70	146.12	142.1	1.50	1.28	1.37	1.47	1.60	1.72	1.00	1.24	1.74	5.08	1.23	3	1.64	1.32	1.26	1.52
152.90	156.32	152.1	1.31	1.12	1.21	1.29	1.40	1.52	1.00	1.26	1.66	4.81	1.23	3	1.51	1.22	1.23	1.50
161.40	164.82	160.3	1.17	1.01	1.09	1.16	1.25	1.36	1.00	1.26	1.58	4.58	1.24	4	1.51	1.25	1.11	1.50
168.60	172.02	167.3	1.10	1.01	1.10	1.17	1.26	1.38	1.00	1.27	1.58	4.53	1.24	4	1.52	1.14	1.56	1.50
179.40	182.82	177.8	1.12	0.97	1.05	1.10	1.18	1.30	1.00	1.24	1.54	4.41	1.22	4	1.52	1.14	1.49	1.50
186.70	190.12	184.9	1.14	0.93	0.99	1.04	1.11	1.23	1.00	1.22	1.51	4.31	1.21	4	1.51	1.11	1.59	1.50



WSDOT WF66G GIRDER SERIES

SPAN CAPABILITY DATA - INTERIOR GIRDER - 13ft SPACING

Interior Girder w/barrier load (6 girder bridge)
 Simple Span lengths are CL bearing to CL bearing
 Normal Exposure & 75% humidity
 No Horizontal or Vertical Curve
 2% roadway crown slope
 End Type "A" Connections

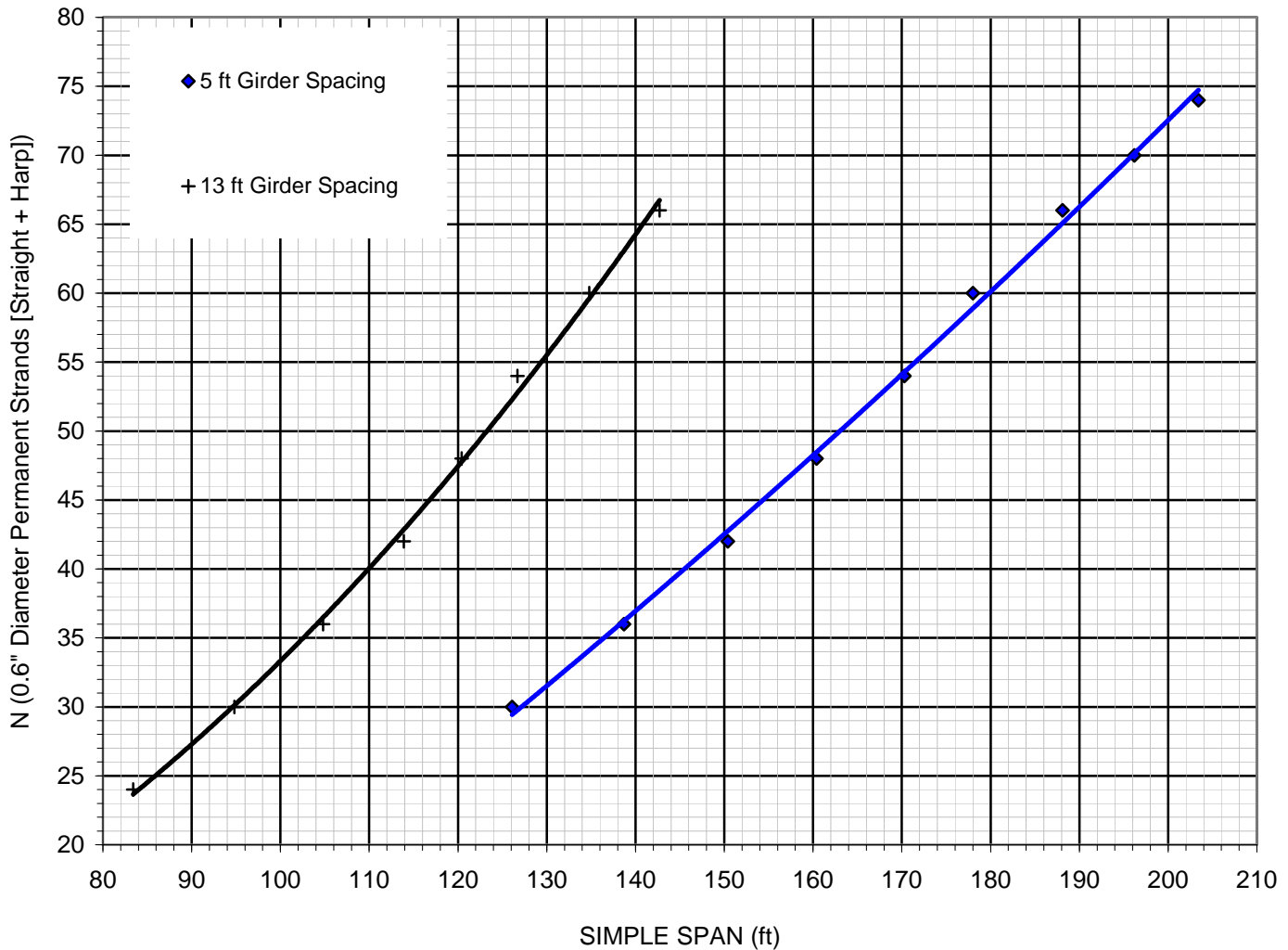
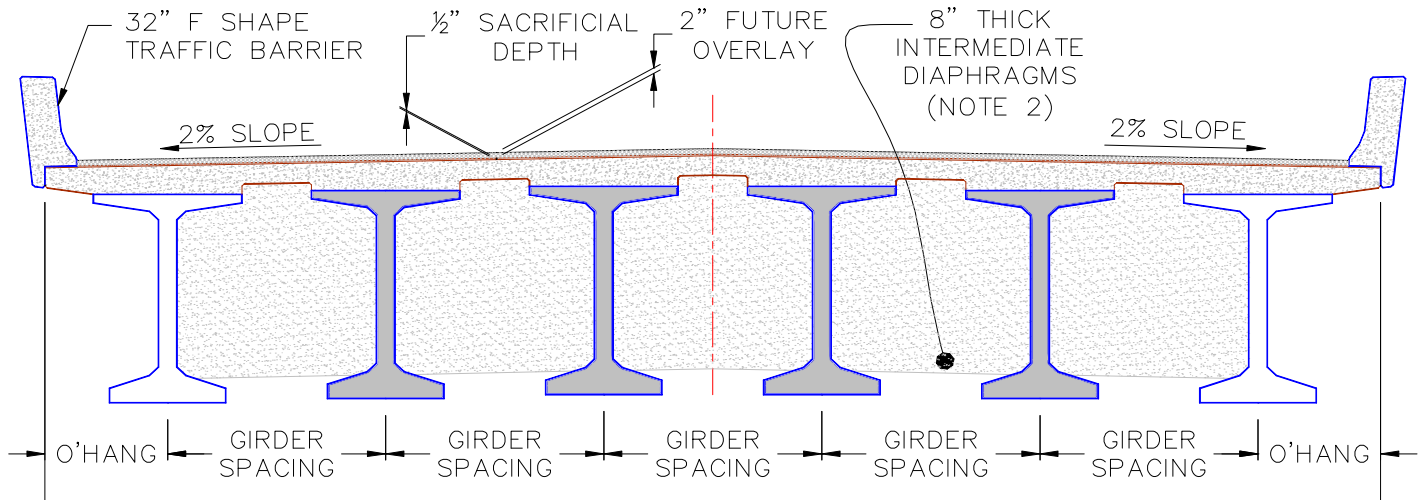
Table 1																		
Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f_{ci} For Design (psi)	Girder f_c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f_{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f_c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, $K\theta$	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
66.20	69.62	67.7	12	6	0	7,500	8,500	13.00	71.75	3.375	9.75	9.58	2,917	1.75	3,118	5.00	28,000	59.6
78.40	81.82	79.6	16	8	0	7,500	8,500	13.00	71.75	3.375	10.00	9.81	3,795	1.75	4,073	5.00	28,000	71.8
89.70	93.12	90.6	20	10	0	7,500	8,500	13.00	71.75	3.375	10.25	10.11	4,628	1.75	4,998	5.00	28,000	83.1
99.10	102.52	99.7	24	12	0	7,500	8,500	13.00	71.75	3.375	10.50	10.41	5,422	1.75	5,884	5.00	28,000	92.5
107.50	110.92	107.9	28	14	0	7,500	8,500	13.00	71.75	3.375	10.75	10.72	6,177	1.75	6,738	5.00	28,000	100.9
114.70	118.12	114.9	32	16	0	7,500	9,000	13.00	71.75	3.375	11.25	11.11	6,927	1.75	7,583	5.00	28,000	108.1
120.70	124.12	120.7	36	18	6	7,500	9,000	13.00	71.75	3.375	11.25	11.21	7,487	1.75	8,249	5.00	28,000	114.1
128.10	131.52	127.9	40	20	6	8,300	10,000	13.00	71.75	3.375	11.50	11.31	8,210	1.75	9,024	5.00	32,000	121.5
136.00	139.42	135.6	44	22	8	8,900	10,000	13.00	71.75	3.375	11.25	11.20	8,808	1.75	9,786	5.00	32,000	129.4

Table 2																		
Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios											Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear		FScr	FSF	FScr	Fscroll
66.20	69.62	67.7	1.09	1.10	1.34	3.32	4.45	4.61	1.00	0.96	1.16	3.65	1.02	2	13.49	14.12	3.90	2.64
78.40	81.82	79.6	1.08	1.14	1.43	2.50	3.35	3.50	1.00	1.08	1.19	3.33	1.11	2	8.09	8.70	2.84	2.39
89.70	93.12	90.6	1.03	1.09	1.51	2.01	2.69	2.83	1.00	1.16	1.23	3.12	1.14	1	5.37	5.82	2.10	2.18
99.10	102.52	99.7	1.03	1.02	1.58	1.69	2.26	2.38	1.00	1.22	1.25	2.90	1.17	1	3.98	4.27	1.63	2.02
107.50	110.92	107.9	1.05	1.01	1.37	1.46	1.93	2.05	1.00	1.24	1.27	2.74	1.19	1	3.15	3.29	1.32	1.89
114.70	118.12	114.9	1.10	1.02	1.28	1.37	1.77	1.90	1.00	1.26	1.23	2.63	1.22	1	2.58	2.66	1.14	1.79
120.70	124.12	120.7	1.02	0.91	1.14	1.22	1.55	1.69	1.01	1.27	1.17	2.49	1.22	3	3.02	2.27	1.77	1.70
128.10	131.52	127.9	1.03	0.93	1.14	1.21	1.51	1.65	1.00	1.25	1.15	2.42	1.21	3	2.56	1.93	1.83	1.75
136.00	139.42	135.6	1.03	0.86	1.04	1.09	1.35	1.49	1.00	1.23	1.10	2.32	1.20	3	2.23	1.62	1.75	1.63



WSDOT WF74G GIRDER

AASHTO LRFD SPECIFICATIONS - ZERO TENSION - INTERIOR GIRDERS





WSDOT WF74G GIRDER SERIES SPAN CAPABILITY DATA - INTERIOR GIRDER - 5ft SPACING

Interior Girder w/barrier load (6 girder bridge)
Simple Span lengths are CL bearing to CL bearing
Normal Exposure & 75% humidity
No Horizontal or Vertical Curve
2% roadway crown slope
End Type "A" Connections

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f_{ci} For Design (psi)	Girder f_c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f_{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f_c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, $K\theta$	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
0.00	129.52	133.0	20	10	0	7,500	8,500	5.00	31.75	3.375	9.50	9.41	3,633	1.75	4,700	5.00	32,000	119.5
138.70	142.12	146.0	24	12	0	7,500	8,500	5.00	31.75	3.375	9.75	9.57	4,255	1.75	5,546	5.00	36,000	132.1
150.40	153.82	158.0	28	14	0	7,500	8,500	5.00	31.75	3.375	9.75	9.70	4,944	2.50	6,551	9.50	36,000	134.8
160.40	163.82	168.3	32	16	2	7,500	8,500	5.00	31.75	3.375	10.00	9.88	5,706	5.75	7,306	10.75	40,000	142.3
170.30	173.72	178.5	36	18	2	7,500	8,500	5.00	31.75	3.375	10.00	9.99	6,583	9.50	8,297	17.00	40,000	139.7
178.00	181.42	186.4	40	20	2	7,500	9,000	5.00	31.75	3.375	10.50	10.27	7,483	12.75	9,032	16.75	44,000	147.9
188.10	191.52	196.7	44	22	6	8,100	10,000	5.00	26.75	3.375	10.00	9.84	8,095	14.75	9,883	22.00	44,000	147.5
196.20	199.62	205.1	46	24	6	8,700	10,000	5.00	26.75	3.375	9.50	9.35	8,642	17.00	9,870	20.00	80,000	159.6
203.40	206.82	212.5	46	28	8	9,100	10,000	5.00	26.75	3.375	9.00	8.74	9,075	19.00	10,499	25.00	80,000	156.8

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios											Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear		FScr	FSF	FScr	Fscroll
0.00	129.52	133.0	1.96	1.52	1.50	2.12	2.33	2.44	1.00	1.16	2.09	6.39	1.24	3	2.60	2.18	1.34	1.63
138.70	142.12	146.0	1.82	1.57	1.59	1.79	1.94	2.06	1.00	1.20	1.95	5.92	1.24	3	1.90	1.58	1.22	1.58
150.40	153.82	158.0	1.58	1.35	1.44	1.54	1.67	1.79	1.00	1.24	1.86	5.57	1.24	3	1.51	1.25	1.03	1.50
160.40	163.82	168.3	1.41	1.18	1.27	1.35	1.46	1.58	1.00	1.26	1.76	5.25	1.24	4	1.51	1.22	1.18	1.50
170.30	173.72	178.5	1.26	1.06	1.14	1.22	1.30	1.42	1.00	1.27	1.68	5.01	1.24	4	1.50	1.22	1.05	1.51
178.00	181.42	186.4	1.13	1.02	1.10	1.17	1.24	1.36	1.00	1.27	1.65	4.87	1.25	4	1.52	1.26	1.05	1.50
188.10	191.52	196.7	1.14	1.03	1.10	1.17	1.24	1.37	1.00	1.26	1.65	4.82	1.24	4	1.52	1.18	1.31	1.50
196.20	199.62	205.1	1.17	0.98	1.05	1.11	1.16	1.28	1.00	1.23	1.61	4.70	1.21	4	1.50	1.17	2.11	2.24
203.40	206.82	212.5	1.21	0.96	1.02	1.08	1.09	1.21	1.00	1.21	1.55	4.61	1.20	4	1.52	1.17	2.26	2.29



WSDOT WF74G GIRDER SERIES

SPAN CAPABILITY DATA - INTERIOR GIRDER - 13ft SPACING

Interior Girder w/barrier load (6 girder bridge)
 Simple Span lengths are CL bearing to CL bearing
 Normal Exposure & 75% humidity
 No Horizontal or Vertical Curve
 2% roadway crown slope
 End Type "A" Connections

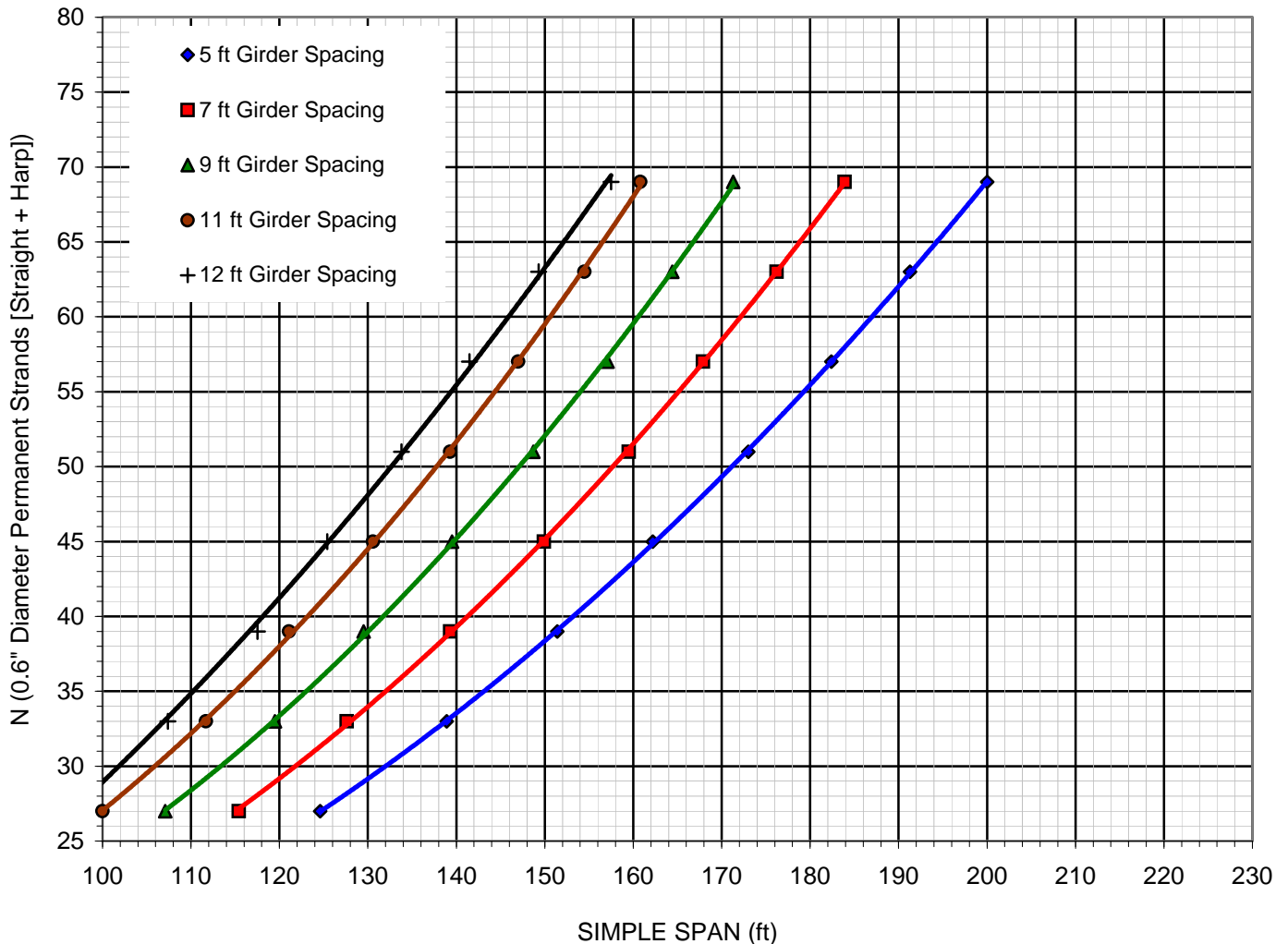
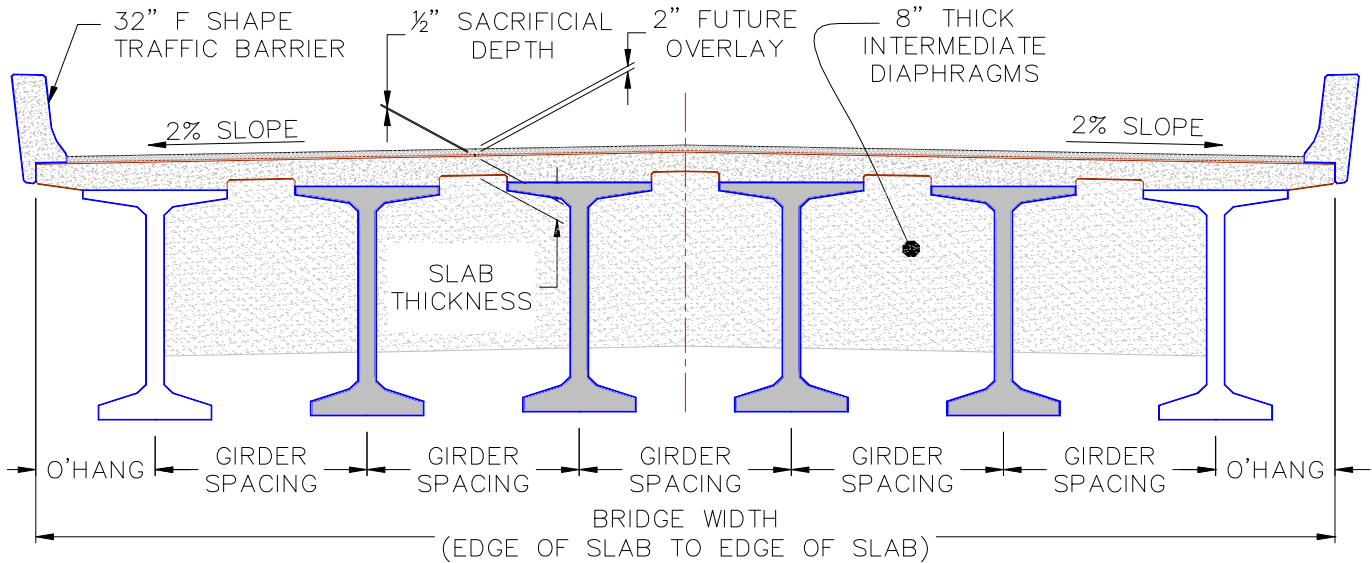
Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f_{ci} For Design (psi)	Girder f_c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f_{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f_c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, $K\theta$	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
83.40	86.82	89.2	16	8	0	7,500	8,500	13.00	71.75	3.375	10.00	9.78	3,592	1.75	3,945	5.00	28,000	76.8
94.80	98.22	100.9	20	10	0	7,500	8,500	13.00	71.75	3.375	10.25	10.05	4,391	1.75	4,867	5.00	28,000	88.2
104.80	108.22	111.2	24	12	0	7,500	8,500	13.00	71.75	3.375	10.50	10.32	5,147	1.75	5,759	5.00	28,000	98.2
113.90	117.32	120.5	28	14	2	7,500	8,500	13.00	71.75	3.375	10.75	10.64	5,808	1.75	6,579	5.00	28,000	107.3
120.40	123.82	127.2	32	16	2	7,500	8,500	13.00	71.75	3.375	11.00	10.86	6,559	1.75	7,362	5.00	32,000	113.8
126.70	130.12	133.7	36	18	2	7,500	9,500	13.00	71.75	3.375	11.50	11.33	7,265	1.75	8,181	5.00	32,000	120.1
134.80	138.22	142.0	40	20	4	8,000	10,000	13.00	71.75	3.375	11.50	11.40	7,875	1.75	8,991	5.00	32,000	128.2
142.70	146.12	150.1	44	22	8	8,400	10,000	13.00	58.75	3.375	11.50	11.28	8,389	1.75	9,606	5.00	36,000	136.1

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios											Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear		FScr	FSF	FScr	Fscroll
83.40	86.82	89.2	1.05	1.11	1.41	2.63	3.52	3.60	1.00	1.06	1.28	3.68	1.11	1	7.26	7.88	2.23	2.13
94.80	98.22	100.9	1.02	1.07	1.49	2.11	2.83	2.91	1.00	1.14	1.30	3.41	1.14	1	4.87	5.34	1.60	1.94
104.80	108.22	111.2	1.02	1.01	1.57	1.78	2.33	2.44	1.00	1.21	1.31	3.17	1.17	1	3.59	3.90	1.19	1.79
113.90	117.32	120.5	1.31	1.00	1.44	1.53	1.98	2.11	1.00	1.24	1.32	2.98	1.19	1	3.31	2.99	1.32	1.66
120.40	123.82	127.2	1.16	1.00	1.27	1.35	1.71	1.85	1.00	1.26	1.27	2.80	1.21	3	2.72	2.48	1.26	1.71
126.70	130.12	133.7	1.05	1.01	1.27	1.36	1.69	1.84	1.00	1.29	1.26	2.74	1.24	3	2.28	2.09	1.14	1.63
134.80	138.22	142.0	1.03	0.98	1.21	1.28	1.58	1.72	1.00	1.27	1.22	2.64	1.23	3	2.09	1.74	1.22	1.52
142.70	146.12	150.1	1.02	0.90	1.10	1.16	1.41	1.55	1.00	1.26	1.18	2.54	1.22	3	1.93	1.47	1.51	1.54



WSDOT WF83G GIRDER

AASHTO LRFD SPECIFICATIONS - ZERO TENSION - INTERIOR GIRDERS





WSDOT WF83G GIRDER SERIES SPAN CAPABILITY DATA - INTERIOR GIRDER - 5ft SPACING

Interior Girder w/barrier load (6 girder bridge)
Simple Span lengths are CL bearing to CL bearing
Normal Exposure & 75% humidity
No Horizontal or Vertical Curve
2% roadway crown slope
End Type "A" Connections

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f_{ci} For Design (psi)	Girder f_c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f_{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f_c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, $K\theta$	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
124.60	128.02	139.0	18	9	6	7,500	10,000	5.00	31.75	3.375	9.25	9.09	2,879	1.75	4,074	8.00	32,000	112.0
138.90	142.32	154.5	22	11	6	7,500	10,000	5.00	31.75	3.375	9.25	9.25	3,557	3.00	4,970	8.00	36,000	126.3
151.40	154.82	168.1	26	13	6	7,500	10,000	5.00	31.75	3.375	9.50	9.41	4,149	3.00	5,874	12.50	40,000	129.8
162.20	165.62	179.9	30	15	6	7,500	10,000	5.00	31.75	3.375	9.75	9.57	4,852	4.50	6,862	18.00	40,000	129.6
173.00	176.42	191.6	34	17	6	7,500	10,000	5.00	31.75	3.375	9.75	9.73	5,719	8.50	7,733	23.25	44,000	129.9
182.40	185.82	201.8	38	19	6	7,500	10,000	5.00	31.75	3.375	10.00	9.88	6,599	12.25	8,592	28.00	48,000	129.8
191.30	194.72	211.5	42	21	6	7,500	10,000	5.00	31.75	3.375	10.25	10.02	7,451	15.50	9,504	32.50	48,000	129.7
200.00	203.42	220.9	46	23	6	7,500	10,000	5.00	31.75	3.375	10.25	10.11	8,287	18.75	10,334	36.75	52,000	129.9

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios											Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear		FScr	FSF	FScr	Fscroll
124.60	128.02	139.0	2.70	1.41	1.40	2.89	3.17	3.26	1.00	1.09	1.60	6.39	1.24	3	3.36	2.46	1.72	1.58
138.90	142.32	154.5	2.23	1.50	1.48	2.38	2.60	2.71	1.00	1.15	1.61	5.93	1.26	3	2.48	1.86	1.55	1.52
151.40	154.82	168.1	1.90	1.58	1.55	2.03	2.20	2.33	1.00	1.20	1.54	5.56	1.27	3	1.80	1.38	1.51	1.54
162.20	165.62	179.9	1.65	1.56	1.62	1.77	1.91	2.05	1.00	1.23	1.45	5.21	1.28	4	1.52	1.18	1.39	1.51
173.00	176.42	191.6	1.45	1.38	1.48	1.58	1.69	1.82	1.00	1.26	1.39	4.93	1.27	4	1.50	1.18	1.39	1.58
182.40	185.82	201.8	1.30	1.25	1.34	1.43	1.51	1.65	1.00	1.28	1.35	4.69	1.27	4	1.52	1.20	1.38	1.65
191.30	194.72	211.5	1.17	1.13	1.22	1.30	1.37	1.51	1.00	1.29	1.31	4.49	1.27	4	1.51	1.21	1.23	1.62
200.00	203.42	220.9	1.07	1.04	1.13	1.20	1.26	1.39	1.00	1.29	1.29	4.32	1.28	4	1.51	1.23	1.16	1.69



WSDOT WF83G GIRDER SERIES

SPAN CAPABILITY DATA - INTERIOR GIRDER - 12ft SPACING

Interior Girder w/barrier load (6 girder bridge)
 Simple Span lengths are CL bearing to CL bearing
 Normal Exposure & 75% humidity
 No Horizontal or Vertical Curve
 2% roadway crown slope
 End Type "A" Connections

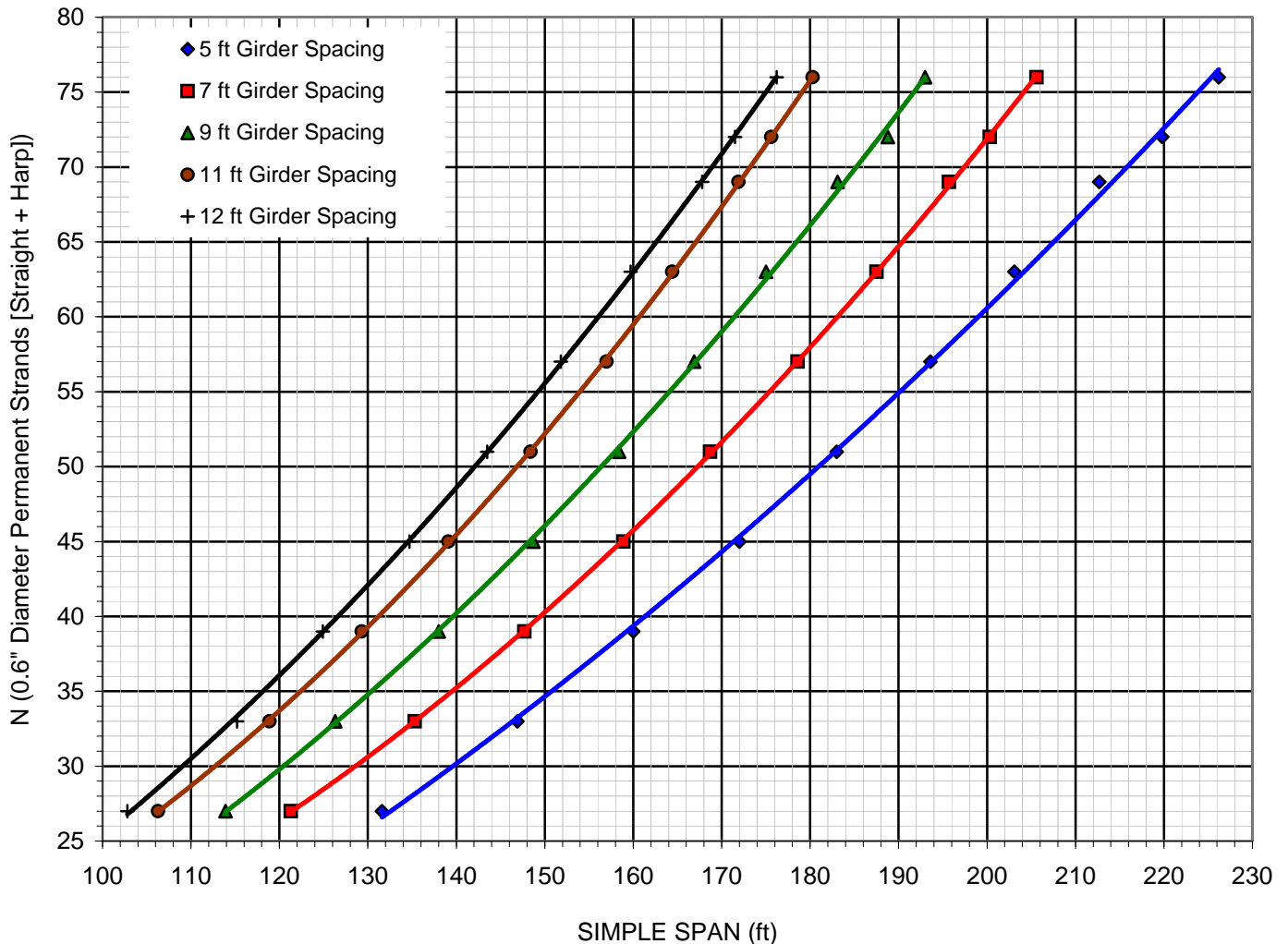
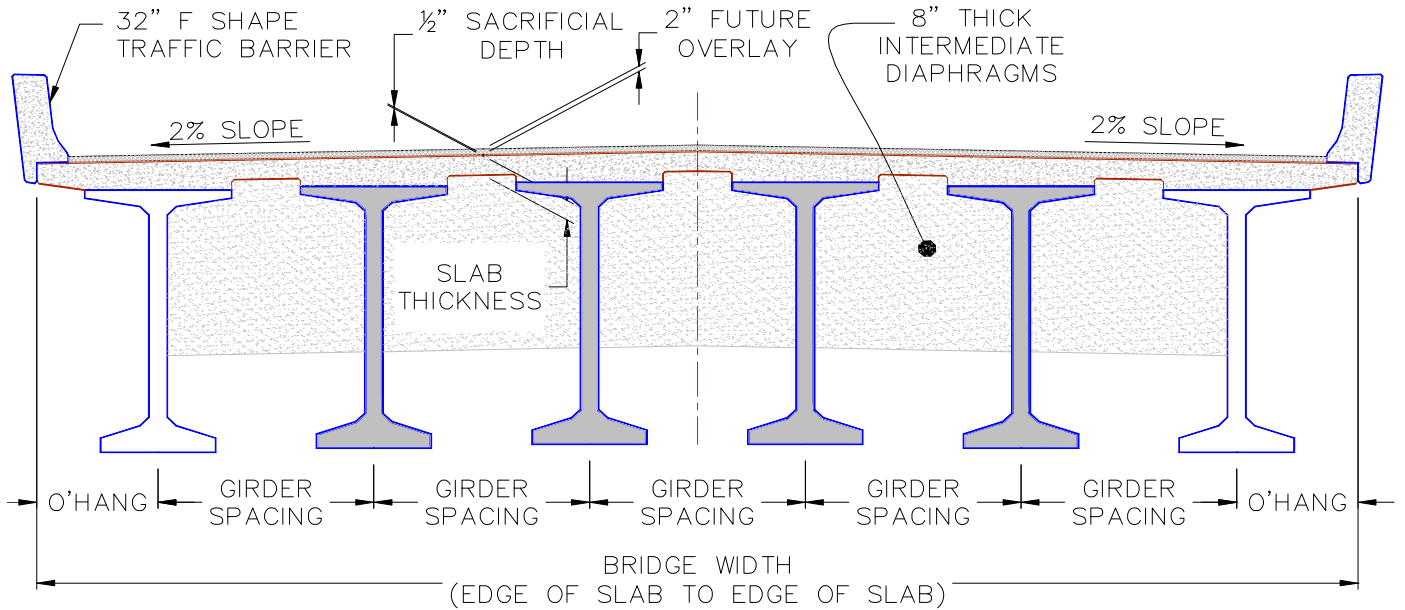
Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f_{ci} For Design (psi)	Girder f_c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f_{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f_c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, $K\theta$	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
95.90	99.32	107.9	18	9	6	7,500	10,000	12.00	66.75	3.375	10.00	9.77	3,522	1.75	4,137	8.00	28,000	83.3
107.40	110.82	120.3	22	11	6	7,500	10,000	12.00	66.75	3.375	10.25	10.03	4,267	1.75	5,075	8.00	28,000	94.8
117.50	120.92	131.3	26	13	6	7,500	10,000	12.00	66.75	3.375	10.50	10.31	4,978	1.75	5,916	8.00	32,000	104.9
125.40	128.82	139.9	30	15	6	7,500	10,000	12.00	66.75	3.375	10.75	10.57	5,697	1.75	6,804	8.00	32,000	112.8
133.80	137.22	149.0	34	17	6	7,500	10,000	12.00	66.75	3.375	11.00	10.89	6,361	1.75	7,578	8.00	36,000	121.2
141.50	144.92	157.4	38	19	6	7,500	10,000	12.00	66.75	3.375	11.25	11.22	7,003	1.75	8,436	9.25	36,000	126.4
149.30	152.72	165.8	42	21	6	7,700	10,000	12.00	66.75	3.375	11.50	11.45	7,628	1.75	9,178	9.25	40,000	134.2
157.50	160.92	174.7	46	23	6	8,400	10,000	12.00	66.75	3.375	12.00	11.30	8,343	3.25	10,081	14.25	40,000	132.4

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios											Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear		FScr	FSF	FScr	Fscroll
95.90	99.32	107.9	2.18	1.04	1.39	2.88	3.75	3.81	1.00	1.06	1.45	4.06	1.14	2	7.69	5.60	2.24	1.81
107.40	110.82	120.3	1.79	1.02	1.47	2.38	3.04	3.15	1.00	1.14	1.47	3.78	1.17	2	5.19	3.93	1.83	1.65
117.50	120.92	131.3	1.54	1.02	1.54	2.03	2.56	2.69	1.00	1.20	1.50	3.53	1.20	2	3.79	2.94	1.74	1.67
125.40	128.82	139.9	1.34	1.05	1.60	1.77	2.20	2.35	1.00	1.25	1.47	3.32	1.22	3	2.99	2.37	1.49	1.57
133.80	137.22	149.0	1.20	1.12	1.48	1.58	1.94	2.09	1.00	1.29	1.41	3.16	1.24	3	2.37	1.90	1.43	1.58
141.50	144.92	157.4	1.09	1.08	1.34	1.42	1.74	1.89	1.00	1.30	1.37	3.03	1.26	3	1.94	1.57	1.25	1.50
149.30	152.72	165.8	1.03	1.00	1.22	1.29	1.56	1.71	1.00	1.30	1.32	2.90	1.26	3	1.61	1.31	1.19	1.51
157.50	160.92	174.7	1.04	0.93	1.11	1.17	1.39	1.54	1.00	1.28	1.27	2.78	1.24	3	1.51	1.23	1.08	1.50



WSDOT WF95G GIRDER

AASHTO LRFD SPECIFICATIONS - ZERO TENSION - INTERIOR GIRDERS





WSDOT WF95G GIRDER SERIES
SPAN CAPABILITY DATA - INTERIOR GIRDER - 5ft SPACING

Interior Girder w/barrier load (6 girder bridge)
 Simple Span lengths are CL bearing to CL bearing
 Normal Exposure & 75% humidity
 No Horizontal or Vertical Curve
 2% roadway crown slope
 End Type "A" Connections

Table 1																		
Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f _{ci} For Design (psi)	Girder f _c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f _{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f _c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, Kθ	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
131.60	135.02	157.5	18	9	6	7,500	10,000	5.00	31.75	3.375	9.25	9.02	2,706	3.00	4,087	12.00	36,000	111.0
146.90	150.32	175.4	22	11	6	7,500	10,000	5.00	31.75	3.375	9.25	9.15	3,272	3.00	5,018	17.00	40,000	116.3
160.00	163.42	190.7	26	13	6	7,500	10,000	5.00	31.75	3.375	9.50	9.29	3,831	3.00	5,904	20.25	44,000	122.9
172.00	175.42	204.7	30	15	6	7,500	10,000	5.00	31.75	3.375	9.50	9.42	4,661	7.25	6,308	15.00	80,000	145.4
183.00	186.42	217.5	34	17	6	7,500	10,000	5.00	31.75	3.375	9.75	9.54	5,516	11.50	7,143	15.00	80,000	156.4
193.60	197.02	229.9	38	19	6	7,500	10,000	5.00	31.75	3.375	9.75	9.66	6,358	15.50	7,994	15.00	80,000	167.0
203.10	206.52	241.0	42	21	6	7,500	10,000	5.00	31.75	3.375	10.00	9.76	7,190	19.00	8,876	15.00	80,000	176.5
212.70	216.12	252.2	46	23	8	7,500	10,000	5.00	31.75	3.375	9.75	9.63	7,865	21.75	9,671	17.75	80,000	180.6
219.80	223.22	260.4	46	26	8	8,000	10,000	5.00	31.75	3.375	9.25	9.10	8,254	23.75	10,139	21.25	80,000	180.7
226.20	229.62	267.9	46	30	8	8,000	10,000	5.00	31.75	3.375	9.00	8.82	8,778	26.00	10,645	27.50	80,000	174.6

Table 2																		
Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios											Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear		FScr	FSF	FScr	Fscroll
131.60	135.02	157.5	2.95	1.39	1.37	3.09	3.35	3.45	1.00	1.08	1.67	6.98	1.25	3	3.19	2.43	1.54	1.50
146.90	150.32	175.4	2.43	1.46	1.44	2.54	2.74	2.87	1.00	1.14	1.68	6.34	1.27	3	2.13	1.67	1.45	1.50
160.00	163.42	190.7	2.06	1.54	1.51	2.17	2.33	2.46	1.00	1.19	1.56	5.87	1.29	3	1.55	1.24	1.35	1.50
172.00	175.42	204.7	1.77	1.61	1.58	1.89	2.02	2.16	1.00	1.23	1.48	5.48	1.29	4	1.51	1.22	1.80	2.12
183.00	186.42	217.5	1.56	1.48	1.58	1.68	1.79	1.93	1.00	1.26	1.42	5.18	1.29	4	1.52	1.24	1.48	1.92
193.60	197.02	229.9	1.39	1.33	1.43	1.52	1.60	1.75	1.00	1.28	1.37	4.93	1.29	4	1.52	1.26	1.23	1.74
203.10	206.52	241.0	1.25	1.21	1.30	1.38	1.45	1.59	1.00	1.29	1.32	4.71	1.29	4	1.52	1.28	1.03	1.58
212.70	216.12	252.2	1.16	1.11	1.20	1.27	1.33	1.47	1.00	1.30	1.29	4.53	1.29	4	1.50	1.24	1.05	1.51
219.80	223.22	260.4	1.23	1.10	1.18	1.25	1.27	1.40	1.00	1.29	1.27	4.44	1.28	4	1.50	1.24	1.00	1.51
226.20	229.62	267.9	1.22	1.09	1.17	1.19	1.20	1.33	1.00	1.28	1.24	4.35	1.24	4	1.51	1.26	1.00	1.61



WSDOT WF95G GIRDER SERIES

SPAN CAPABILITY DATA - INTERIOR GIRDER - 12ft SPACING

Interior Girder w/barrier load (6 girder bridge)
 Simple Span lengths are CL bearing to CL bearing
 Normal Exposure & 75% humidity
 No Horizontal or Vertical Curve
 2% roadway crown slope
 End Type "A" Connections

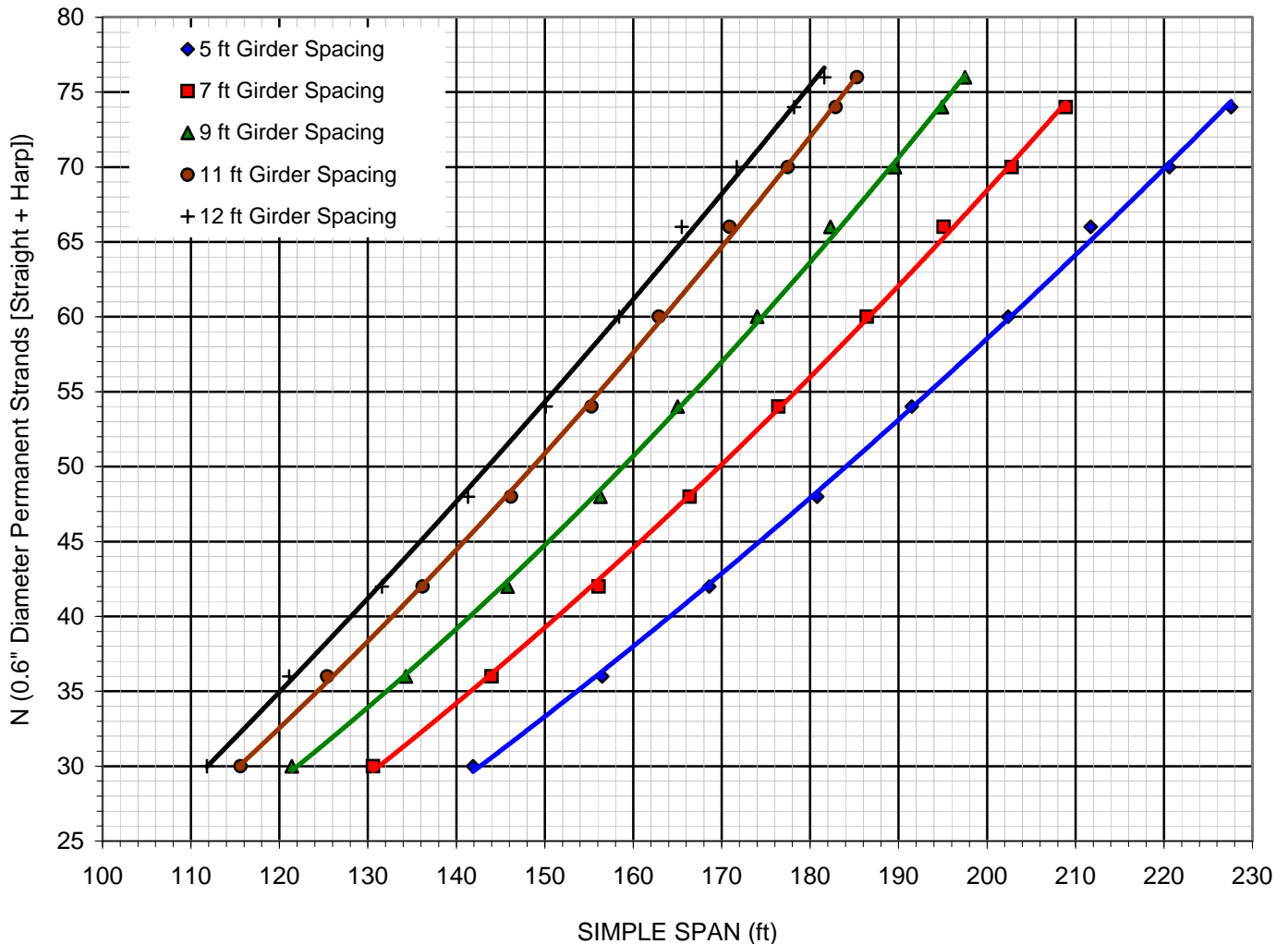
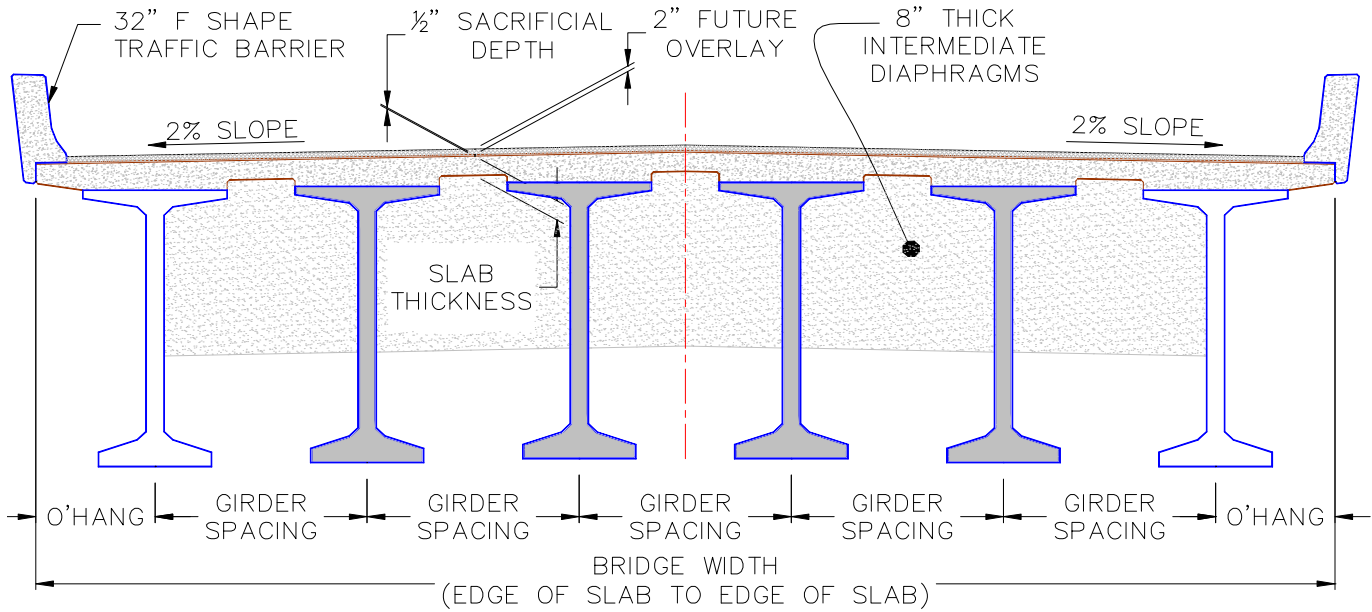
Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f_{ci} For Design (psi)	Girder f_c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f_{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f_c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, $K\theta$	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
102.80	106.22	123.9	18	9	6	7,500	10,000	12.00	66.75	3.375	10.00	9.73	3,259	1.75	4,124	20.25	28,000	65.7
115.20	118.62	138.4	22	11	6	7,500	10,000	12.00	66.75	3.375	10.00	9.97	3,950	1.75	4,981	12.00	32,000	94.6
124.90	128.32	149.7	26	13	6	7,500	10,000	12.00	66.75	3.375	10.25	10.21	4,705	3.00	5,823	12.00	36,000	104.3
134.70	138.12	161.2	30	15	6	7,500	10,000	12.00	66.75	3.375	10.50	10.49	5,356	3.00	6,728	15.00	36,000	108.1
143.50	146.92	171.4	34	17	6	7,500	10,000	12.00	66.75	3.375	11.00	10.79	5,990	3.00	7,517	14.25	40,000	118.4
151.80	155.22	181.1	38	19	6	7,500	10,000	12.00	66.75	3.375	11.25	11.09	6,599	3.00	8,280	14.25	44,000	126.7
159.70	163.12	190.3	42	21	8	7,500	10,000	12.00	66.75	3.375	11.50	11.29	7,145	3.25	9,050	20.00	44,000	123.1
167.80	171.22	199.8	46	23	8	8,000	10,000	12.00	66.75	3.375	11.50	11.28	7,916	6.00	9,809	20.00	48,000	131.2
171.50	174.92	204.1	46	26	8	8,000	10,000	12.00	66.75	3.375	11.50	11.29	8,300	7.50	9,706	12.00	80,000	150.9
176.20	179.62	209.6	46	30	8	8,000	10,000	12.00	66.75	3.375	11.50	11.30	8,809	9.50	10,186	12.00	80,000	155.6

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios											Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear		F _{Scr}	F _{SF}	F _{Scr}	F _{Scrl}
102.80	106.22	123.9	2.27	0.95	1.36	3.08	3.93	3.97	1.00	1.04	0.94	3.68	1.08	2	6.41	4.92	2.07	1.61
115.20	118.62	138.4	1.94	0.99	1.43	2.53	3.20	3.29	1.00	1.12	0.99	3.42	1.15	2	4.31	3.42	1.64	1.57
124.90	128.32	149.7	1.65	1.02	1.50	2.16	2.69	2.82	1.00	1.18	1.01	3.18	1.20	3	3.53	2.87	1.51	1.58
134.70	138.12	161.2	1.44	1.09	1.56	1.89	2.33	2.47	1.00	1.23	1.03	2.98	1.22	3	2.68	2.22	1.29	1.50
143.50	146.92	171.4	1.29	1.15	1.58	1.68	2.05	2.19	1.00	1.28	1.05	2.82	1.24	3	2.12	1.78	1.16	1.50
151.80	155.22	181.1	1.17	1.16	1.43	1.52	1.83	1.98	1.00	1.30	1.05	2.68	1.26	3	1.72	1.46	1.04	1.50
159.70	163.12	190.3	1.08	1.07	1.30	1.38	1.65	1.80	1.00	1.31	1.01	2.57	1.27	3	1.50	1.24	1.13	1.50
167.80	171.22	199.8	1.07	0.99	1.19	1.26	1.49	1.64	1.00	1.30	0.97	2.45	1.26	4	1.50	1.25	1.03	1.50
171.50	174.92	204.1	1.03	0.96	1.18	1.25	1.42	1.57	1.00	1.30	0.95	2.40	1.26	4	1.50	1.26	1.43	2.03
176.20	179.62	209.6	0.98	0.92	1.17	1.24	1.35	1.49	1.00	1.30	0.94	2.35	1.26	4	1.52	1.28	1.30	1.95



WSDOT WF100G GIRDER

AASHTO LRFD SPECIFICATIONS - ZERO TENSION - INTERIOR GIRDERS





WSDOT WF100G GIRDER SERIES SPAN CAPABILITY DATA - INTERIOR GIRDER - 5ft SPACING

Interior Girder w/barrier load (6 girder bridge)
Simple Span lengths are CL bearing to CL bearing
Normal Exposure & 75% humidity
No Horizontal or Vertical Curve
2% roadway crown slope
End Type "A" Connections

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f_{ci} For Design (psi)	Girder f_c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f_{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f_c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, $K\theta$	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
141.90	145.32	175.0	20	10	6	7,500	10,000	5.00	31.75	3.375	9.25	9.04	2,905	3.00	4,539	18.75	40,000	107.8
156.50	159.92	192.6	24	12	6	7,500	10,000	5.00	31.75	3.375	9.25	9.16	3,444	3.00	4,985	10.00	80,000	139.9
168.60	172.02	207.1	28	14	6	7,500	10,000	5.00	31.75	3.375	9.50	9.28	4,155	5.50	5,854	10.00	80,000	152.0
180.80	184.22	221.8	32	16	6	7,500	10,000	5.00	31.75	3.375	9.50	9.40	5,004	10.25	6,760	10.00	80,000	164.2
191.50	194.92	234.7	36	18	6	7,500	10,000	5.00	31.75	3.375	9.75	9.51	5,829	14.25	7,696	10.00	80,000	174.9
202.40	205.82	247.8	40	20	8	7,500	10,000	5.00	31.75	3.375	9.50	9.41	6,535	17.75	8,507	14.75	80,000	176.3
211.70	215.12	259.0	44	22	8	7,500	10,000	5.00	31.75	3.375	9.75	9.49	7,353	21.25	9,278	22.75	80,000	169.6
220.60	224.02	269.8	46	24	8	8,000	10,000	5.00	31.75	3.375	9.25	9.13	7,863	23.75	9,844	32.75	80,000	158.5
227.60	231.02	278.2	46	28	8	8,400	10,800	5.00	31.75	3.375	9.00	8.82	8,386	26.00	10,434	41.50	80,000	148.0

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios											Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear		FScr	FSF	FScr	Fscroll
141.90	145.32	175.0	2.74	1.41	1.39	2.86	3.08	3.21	1.00	1.10	2.53	8.60	1.27	3	2.47	1.94	1.49	1.50
156.50	159.92	192.6	2.30	1.48	1.46	2.40	2.58	2.72	1.00	1.16	2.37	7.95	1.28	3	1.72	1.38	1.96	2.15
168.60	172.02	207.1	1.96	1.55	1.53	2.08	2.21	2.36	1.00	1.21	2.23	7.41	1.30	4	1.51	1.22	1.56	1.93
180.80	184.22	221.8	1.71	1.61	1.59	1.83	1.94	2.09	1.00	1.24	2.12	7.00	1.30	4	1.51	1.25	1.24	1.72
191.50	194.92	234.7	1.51	1.44	1.54	1.64	1.73	1.88	1.00	1.27	2.04	6.65	1.30	4	1.51	1.26	1.01	1.53
202.40	205.82	247.8	1.38	1.30	1.40	1.48	1.56	1.71	1.00	1.29	1.97	6.38	1.31	4	1.51	1.24	1.03	1.50
211.70	215.12	259.0	1.25	1.19	1.28	1.36	1.43	1.57	1.00	1.30	1.87	6.12	1.30	4	1.52	1.27	1.00	1.61
220.60	224.02	269.8	1.27	1.14	1.22	1.29	1.33	1.47	1.00	1.29	1.83	5.96	1.28	4	1.51	1.27	1.00	1.77
227.60	231.02	278.2	1.32	1.22	1.30	1.35	1.36	1.50	1.00	1.29	1.86	5.96	1.29	4	1.52	1.29	1.00	1.89



WSDOT WF100G GIRDER SERIES

SPAN CAPABILITY DATA - INTERIOR GIRDER - 12ft SPACING

Interior Girder w/barrier load (6 girder bridge)
 Simple Span lengths are CL bearing to CL bearing
 Normal Exposure & 75% humidity
 No Horizontal or Vertical Curve
 2% roadway crown slope
 End Type "A" Connections

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Strand Qty.			Girder f_{ci} For Design (psi)	Girder f_c For Design (psi)	Girder Spacing (ft)	Bridge Width (ft)	Overhang (ft)	A' Dim used for Design (in)	A' Dim Required (in)	Required f_{ci} @ Release (psi)	Lift Point from Ends (ft)	Required f_c @ Hauling (psi)	Bunk Point from Ends (ft)	Truck Rotational Stiffness, $K\theta$	Clear Span Between Bunks (ft)
			Straight	Harped	Temp Top													
111.80	115.22	138.7	20	10	6	7,500	10,000	12.00	66.75	3.375	10.00	9.81	3,643	5.00	4,227	10.00	80,000	95.2
121.10	124.52	149.9	24	12	6	7,500	10,000	12.00	66.75	3.375	10.25	10.00	4,366	5.00	5,058	10.00	80,000	104.5
131.60	135.02	162.6	28	14	6	7,500	10,000	12.00	66.75	3.375	10.50	10.25	5,019	5.00	5,857	10.00	80,000	115.0
141.30	144.72	174.3	32	16	6	7,500	10,000	12.00	66.75	3.375	10.75	10.53	5,654	5.00	6,648	10.00	80,000	124.7
150.10	153.52	184.9	36	18	6	7,500	10,000	12.00	66.75	3.375	11.00	10.81	6,264	5.00	7,417	10.00	80,000	133.5
158.40	161.82	194.9	40	20	6	7,500	10,000	12.00	66.75	3.375	11.25	11.11	6,858	5.00	8,183	10.00	80,000	141.8
165.50	168.92	203.4	44	22	8	7,500	10,000	12.00	66.75	3.375	11.25	11.24	7,437	5.75	8,881	10.00	80,000	148.9
171.70	175.12	210.9	46	24	8	8,000	10,000	12.00	66.75	3.375	11.50	11.10	7,915	7.25	9,429	10.00	80,000	155.1
178.20	181.62	218.7	46	28	8	8,400	10,000	12.00	66.75	3.375	11.00	10.88	8,398	9.25	9,973	10.00	80,000	161.6
181.60	185.02	222.8	46	30	8	8,700	10,000	12.00	66.75	3.375	10.75	10.71	8,660	10.50	10,251	12.50	80,000	160.0

Simple Span Length (ft)	Girder Length (ft)	Girder Weight (kips)	Capacity / Demand Ratios											Qty. of Intermediate Diaphragms	Lifting		Hauling	
			Service I Release	Service I Erect	Service I Stage I	Service I Stage 2	Service I Stage 3	Service IA Stage 3	Service III Stage 3	Flexure	Shear	Horizontal Shear	Longitudinal Shear		F _{Scr}	F _{SF}	F _{Scr}	F _{Scroll}
111.80	115.22	138.7	2.19	1.02	1.38	2.85	3.60	3.67	1.00	1.07	1.64	4.60	1.16	1	6.35	5.10	3.92	2.96
121.10	124.52	149.9	1.82	1.02	1.45	2.40	2.96	3.09	1.00	1.14	1.61	4.22	1.20	3	4.65	3.86	3.21	2.78
131.60	135.02	162.6	1.57	1.02	1.52	2.07	2.53	2.68	1.00	1.20	1.64	3.96	1.22	3	3.40	2.88	2.55	2.59
141.30	144.72	174.3	1.39	1.08	1.57	1.83	2.21	2.37	1.00	1.25	1.59	3.74	1.24	3	2.60	2.23	2.03	2.42
150.10	153.52	184.9	1.26	1.15	1.54	1.64	1.97	2.12	1.00	1.29	1.53	3.57	1.26	3	2.07	1.79	1.64	2.26
158.40	161.82	194.9	1.14	1.14	1.40	1.49	1.77	1.93	1.00	1.32	1.48	3.42	1.27	3	1.68	1.47	1.32	2.11
165.50	168.92	203.4	1.06	1.05	1.28	1.36	1.61	1.76	1.00	1.33	1.43	3.27	1.29	4	1.54	1.31	1.35	1.99
171.70	175.12	210.9	1.08	1.00	1.22	1.29	1.49	1.65	1.00	1.31	1.39	3.17	1.27	4	1.50	1.28	1.18	1.88
178.20	181.62	218.7	1.08	0.96	1.21	1.27	1.40	1.55	1.00	1.30	1.35	3.10	1.26	4	1.49	1.28	1.04	1.76
181.60	185.02	222.8	1.10	0.94	1.20	1.26	1.35	1.50	1.00	1.29	1.34	3.06	1.25	4	1.51	1.30	1.00	1.78