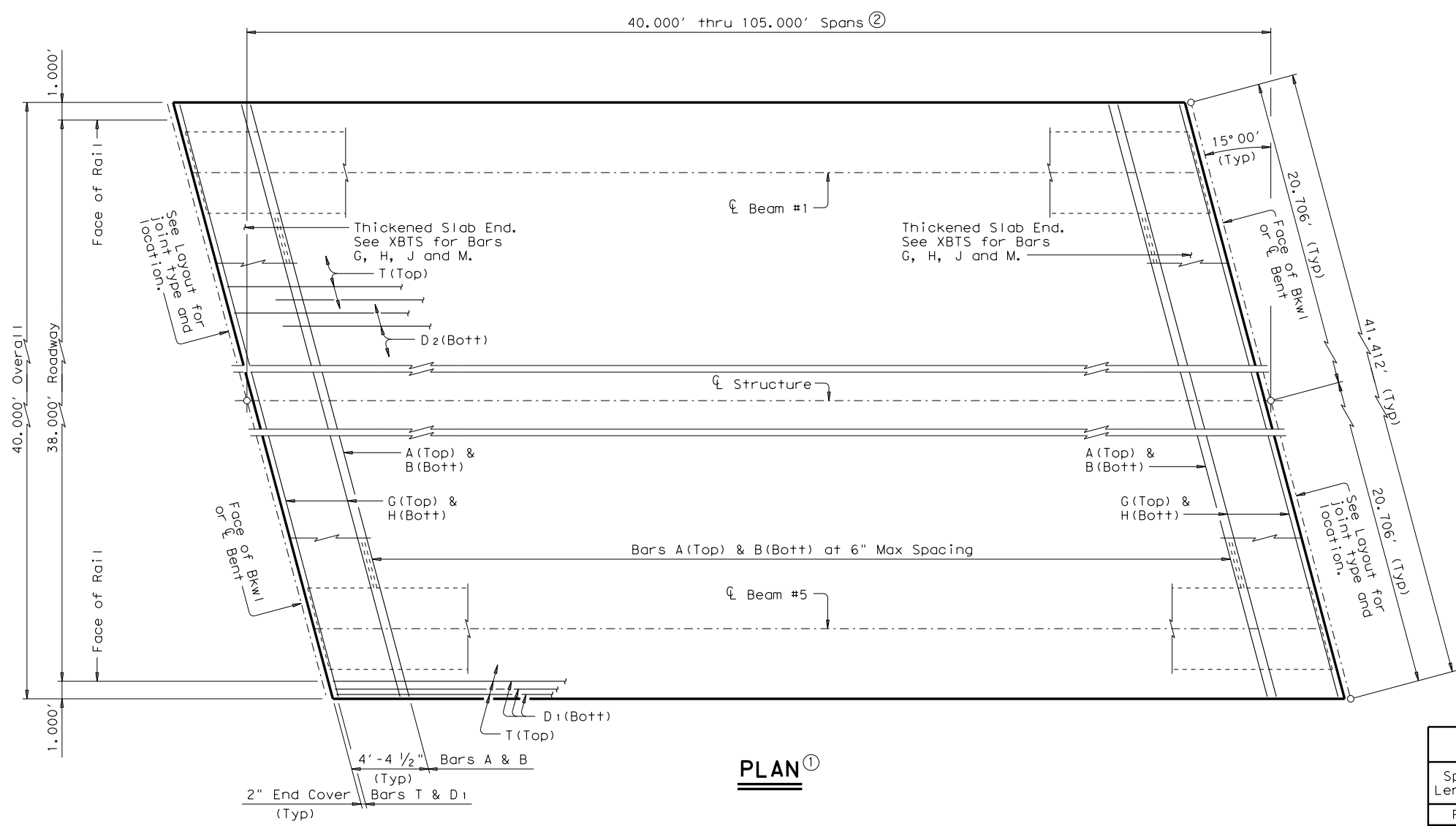


DISCLAIMER: This standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: FILE:

BAR TABLE	
BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

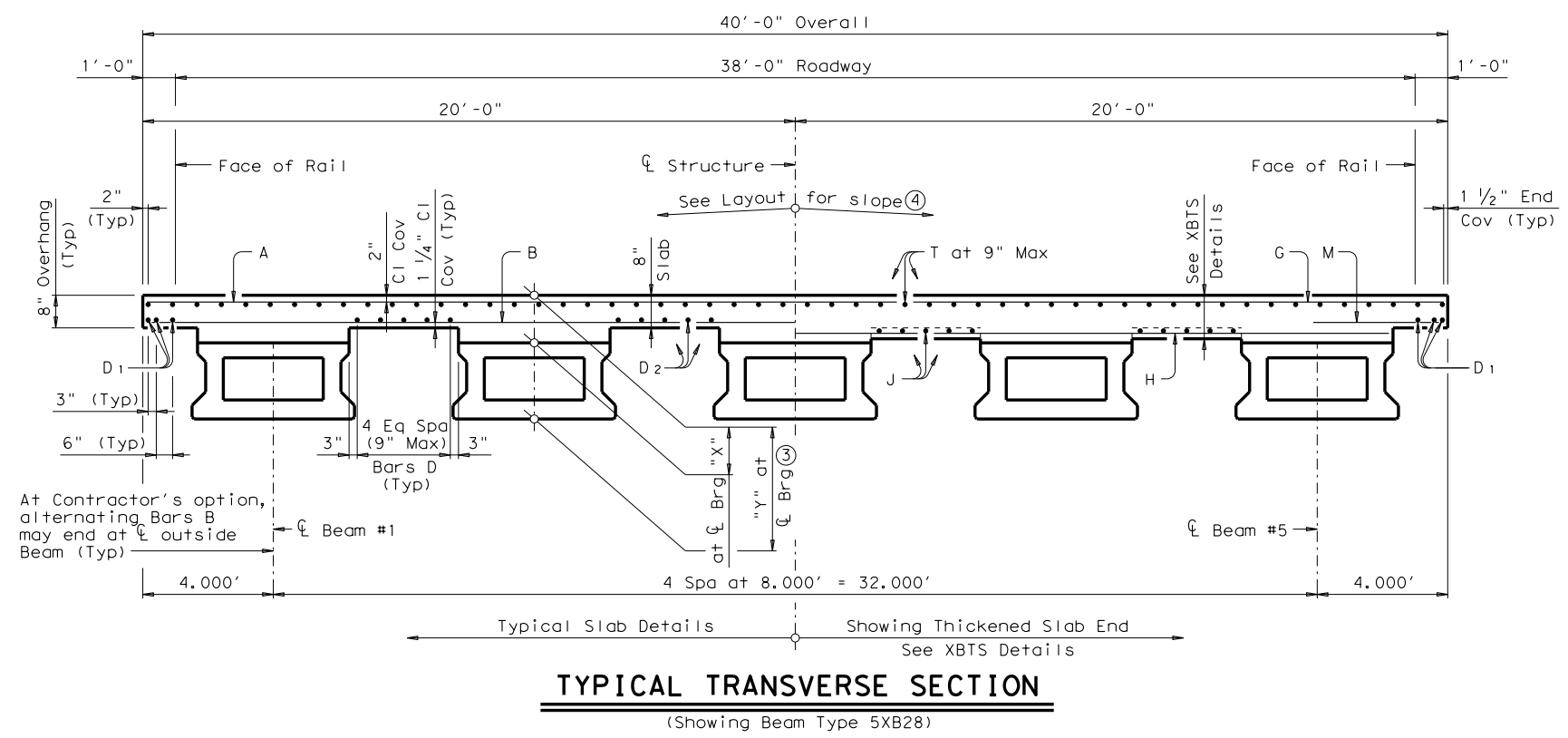


- ① If multi-span units (with slab continuous over interior bents) are indicated on the Bridge Layout, see Standard XBCS for adjustment to slab reinforcement and quantities.
- ② Span Lengths for Prestressed Concrete X-Beam Type:  
 Type 5XB20 for Spans Lengths 40.000' thru 65.000'.  
 Type 5XB28 for Spans Lengths 40.000' thru 85.000'.  
 Type 5XB34 for Spans Lengths 40.000' thru 100.000'.  
 Type 5XB40 for Spans Lengths 40.000' thru 105.000'.
- ③ "Y" value shown is based on theoretical beam camber, dead load deflection from an 8" cast-in-place concrete slab and a constant roadway grade.
- ④ This standard does not provide for changes in roadway cross-slopes within the structure.

**PLAN ①**

**TABLE OF SECTION DEPTHS**

Span Length	Beam Type 5XB20		Beam Type 5XB28		Beam Type 5XB34		Beam Type 5XB40	
	"X"	"Y" ③	"X"	"Y" ③	"X"	"Y" ③	"X"	"Y" ③
Ft	In	Ft/In	In	Ft/In	In	Ft/In	In	Ft/In
40	10"	2'-6"	10"	3'-2"	10"	3'-8"	10"	4'-2"
45	10"	2'-6"	10"	3'-2"	10"	3'-8"	10"	4'-2"
50	10"	2'-6"	10"	3'-2"	10"	3'-8"	10"	4'-2"
55	10"	2'-6"	10"	3'-2"	10"	3'-8"	10"	4'-2"
60	10 1/2"	2'-6 1/2"	10"	3'-2"	10"	3'-8"	10"	4'-2"
65	11"	2'-7"	10"	3'-2"	10"	3'-8"	10"	4'-2"
70	---	---	10"	3'-2"	10"	3'-8"	10"	4'-2"
75	---	---	10 1/2"	3'-2 1/2"	10"	3'-8"	10"	4'-2"
80	---	---	11"	3'-3"	10"	3'-8"	10"	4'-2"
85	---	---	11"	3'-3"	10"	3'-8"	10"	4'-2"
90	---	---	---	---	10 1/2"	3'-8 1/2"	10"	4'-2"
95	---	---	---	---	11"	3'-9"	10"	4'-2"
100	---	---	---	---	11"	3'-9"	10 1/2"	4'-2 1/2"
105	---	---	---	---	---	---	10 1/2"	4'-2 1/2"



**TYPICAL TRANSVERSE SECTION**  
(Showing Beam Type 5XB28)

HL93 LOADING SHEET 1 OF 2



**PRESTRESSED CONCRETE X-BEAM SPANS**  
(TYPE 5XB20 THRU 5XB40)  
38' ROADWAY 15° SKEW

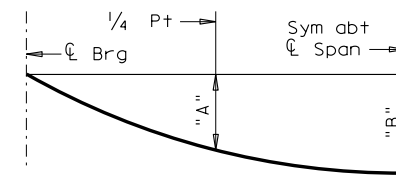
**SXB-38-15**

FILE: xbstde58.dgn	DN: JMH	CK: AM	DW: JTR	CK: JMH
©TxDOT June 2011	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST		COUNTY	SHEET NO.

DISCLAIMER:  
 The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE:  
 FILE:

TABLE OF DEAD LOAD DEFLECTIONS											
TYPE 5XB20 BEAMS			TYPE 5XB28 BEAMS			TYPE 5XB34 BEAMS			TYPE 5XB40 BEAMS		
SPAN LENGTH	"A"	"B"	SPAN LENGTH	"A"	"B"	SPAN LENGTH	"A"	"B"	SPAN LENGTH	"A"	"B"
Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft
40	0.012	0.017	40	0.005	0.007	40	0.003	0.004	40	0.002	0.003
45	0.020	0.028	45	0.008	0.011	45	0.005	0.007	45	0.003	0.004
50	0.031	0.043	50	0.013	0.018	50	0.007	0.010	50	0.005	0.007
55	0.046	0.065	55	0.019	0.026	55	0.011	0.015	55	0.007	0.010
60	0.066	0.093	60	0.026	0.037	60	0.016	0.022	60	0.011	0.015
65	0.092	0.129	65	0.037	0.052	65	0.022	0.031	65	0.014	0.020
			70	0.051	0.071	70	0.030	0.042	70	0.019	0.027
			75	0.067	0.094	75	0.040	0.056	75	0.026	0.036
			80	0.087	0.122	80	0.052	0.073	80	0.034	0.048
			85	0.112	0.157	85	0.066	0.093	85	0.043	0.061
						90	0.084	0.118	90	0.055	0.077
						95	0.105	0.147	95	0.068	0.096
						100	0.129	0.181	100	0.085	0.119
									105	0.103	0.145



**DEAD LOAD DEFLECTION DIAGRAM**

Calculated deflections shown are due to the concrete slab on interior beams only ( $E_c = 5,000$  ksi). Adjust values as required for exterior beams and if optional slab forming is used. These values may require field verification.

TABLE OF ESTIMATED QUANTITIES				
SPAN LENGTH	REINF CONCRETE SLAB	PRESTR CONCRETE X-BEAMS	CLASS "S" CONCRETE	TOTAL REINF STEEL
				Lb
Ft	SF	LF	CY	Lb
40	1,600	197.41	45.7	10,400
45	1,800	222.41	51.1	11,700
50	2,000	247.41	56.7	13,000
55	2,200	272.41	62.4	14,300
60	2,400	297.41	68.0	15,600
65	2,600	322.41	73.5	16,900
70	2,800	347.41	78.8	18,200
75	3,000	372.41	84.0	19,500
80	3,200	397.41	89.3	20,800
85	3,400	422.41	94.0	22,100
90	3,600	447.41	98.5	23,400
95	3,800	472.41	102.9	24,700
100	4,000	497.41	110.0	26,000
105	4,200	522.41	114.3	27,300

- ⑤ Fabricator will adjust lengths for beam slopes as required.
- ⑥ Reinforcing steel weight is calculated using an approximate factor of 6.5 Lbs/SF.

**GENERAL NOTES:**

Designed according to AASHTO LRFD Specifications. This standard does not provide for vertical curves in roadway grade within the structure. Multi-span units, with slab continuous over interior bents, may be formed with the details shown on this sheet and Standard XBCS. This standard is drawn showing right forward skew. See Bridge Layout for actual skew direction. See XBTS Standard for Thickened Slab End Details and quantity adjustments. See PCP or PMDF Standards for details and quantity adjustments if either of these options are used. See XBMS Standard for miscellaneous details. All reinforcing must be Grade 60. Concrete strength  $f'_c = 4,000$  psi. Bar laps, where required, will be as follows:  
 Uncoated ~ #4 = 1'-5"  
           ~ #5 = 1'-9"  
 Epoxy Coated ~ #4 = 2'-1"  
                ~ #5 = 2'-7"  
 See railing details for rail anchorage in slab. This standard does not support the use of Transition Bents.

HL93 LOADING      SHEET 2 OF 2

		<b>Bridge Division Standard</b>	
<b>PRESTRESSED CONCRETE X-BEAM SPANS</b> <b>(TYPE 5XB20 THRU 5XB40)</b> <b>38' ROADWAY      15° SKEW</b> <b>SXB-38-15</b>			
FILE: xbstde58.dgn	DN: JMH	CK: AM	DW: JTR
©TxDOT June 2011	CONT	SECT	HIGHWAY
REVISIONS		DIST	SHEET NO.