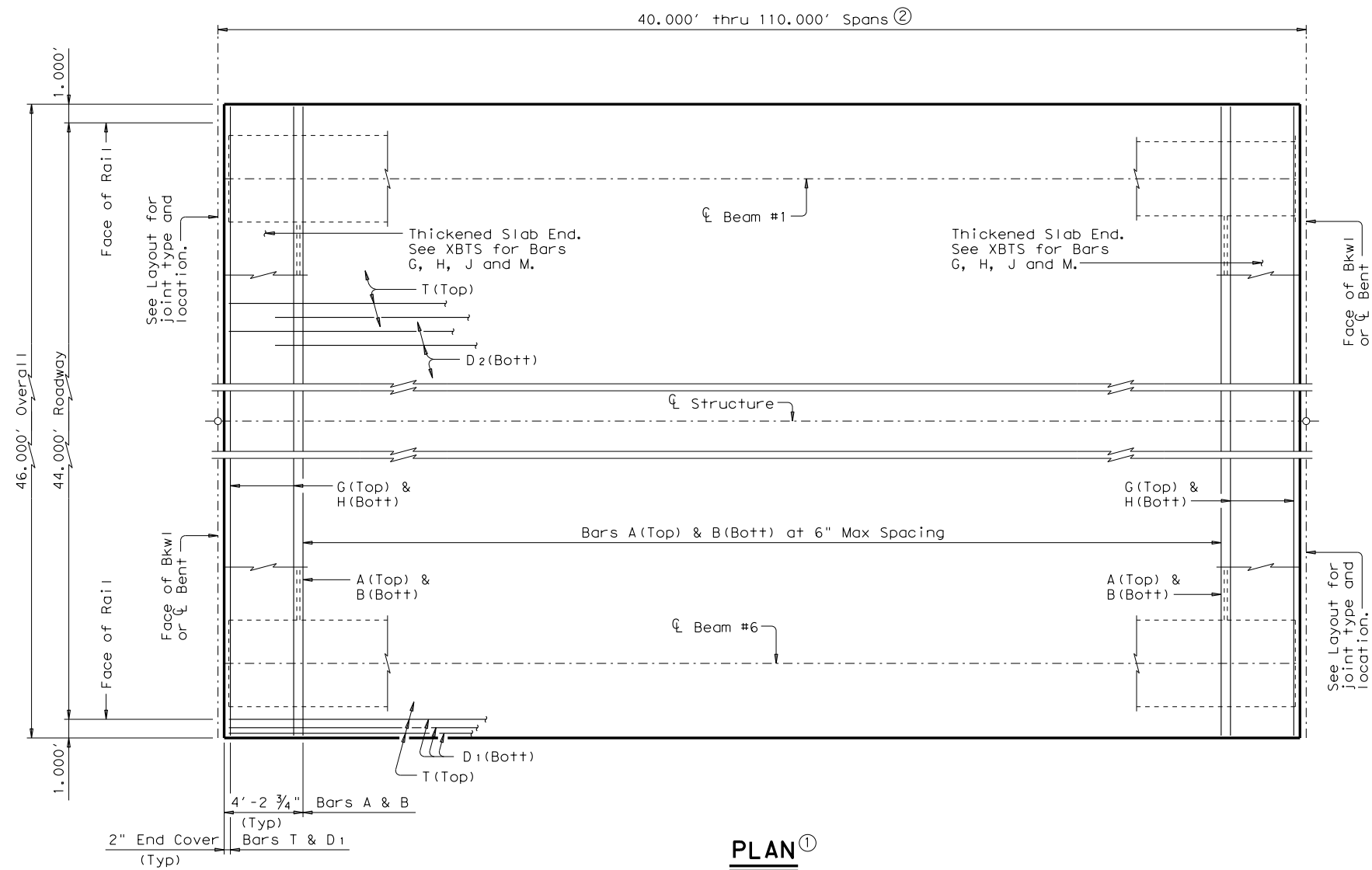
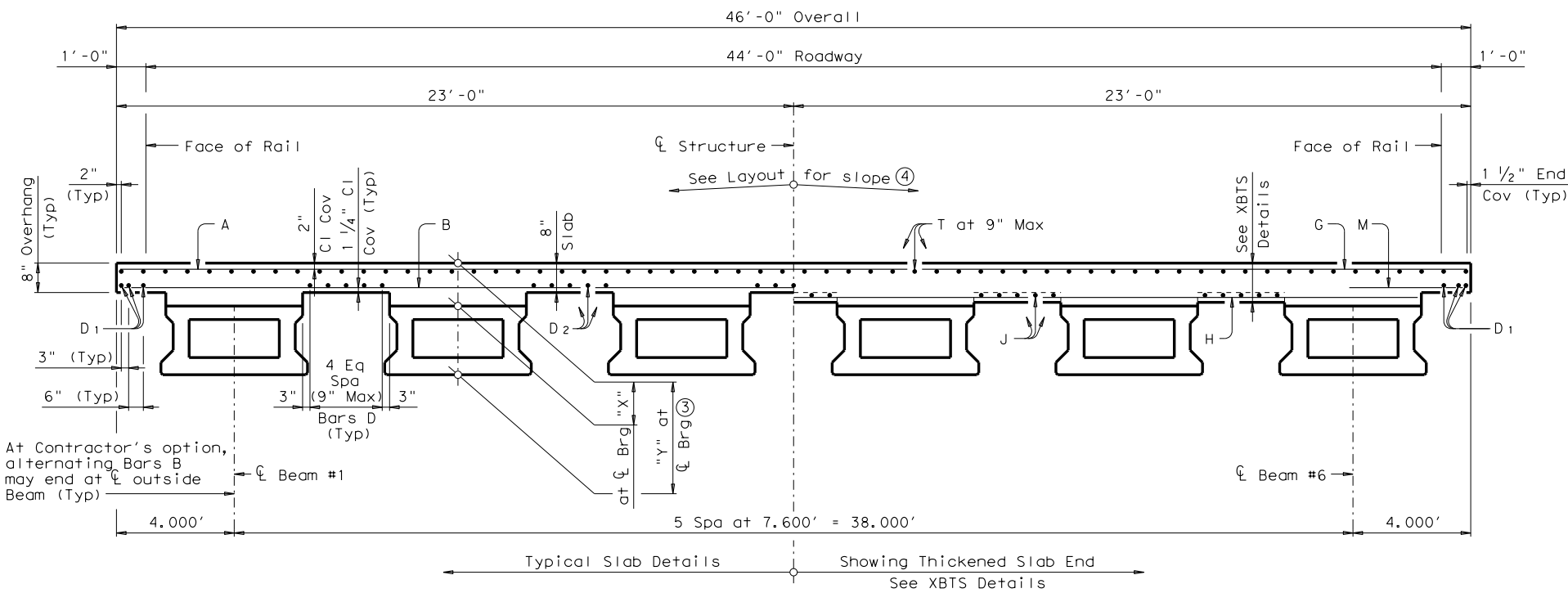


DISCLAIMER: This standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: FILE:



PLAN 1



TYPICAL TRANSVERSE SECTION

(Showing Beam Type 5XB28)

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 110.000'.
- 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. The contractor will adjust this value as necessary for any roadway vertical curve.
- ④ This standard does not provide for changes in roadway cross-slopes within the structure.

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
	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"	3'-2"	10"	3'-8"	10"	4'-2"
80	---	---	10 1/2"	3'-2 1/2"	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	---	---	---	---	10 1/2"	3'-8 1/2"	10"	4'-2"
100	---	---	---	---	11"	3'-9"	10"	4'-2"
105	---	---	---	---	---	---	10 1/2"	4'-2 1/2"
110	---	---	---	---	---	---	10 1/2"	4'-2 1/2"

HL93 LOADING

SHEET 1 OF 2



PRESTRESSED CONCRETE X-BEAM SPANS (TYPE 5XB20 THRU 5XB40) 44' ROADWAY

SXB-44

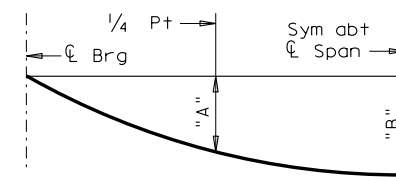
FILE: xbstde77.dgn	DN: JMH	CK: AM	DW: JTR	CK: JMH
©TxDOT June 2011	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

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	0.011	0.016	40	0.005	0.007	40	0.003	0.004	40	0.002	0.003
45	0.019	0.027	45	0.008	0.011	45	0.004	0.006	45	0.003	0.004
50	0.029	0.041	50	0.012	0.017	50	0.007	0.010	50	0.004	0.006
55	0.043	0.061	55	0.018	0.025	55	0.011	0.015	55	0.007	0.010
60	0.063	0.088	60	0.026	0.036	60	0.015	0.021	60	0.010	0.014
65	0.088	0.123	65	0.035	0.049	65	0.021	0.029	65	0.014	0.019
			70	0.048	0.067	70	0.029	0.040	70	0.019	0.026
			75	0.063	0.089	75	0.038	0.053	75	0.025	0.035
			80	0.083	0.116	80	0.049	0.069	80	0.032	0.045
			85	0.106	0.149	85	0.063	0.089	85	0.041	0.058
						90	0.080	0.112	90	0.052	0.073
						95	0.100	0.140	95	0.065	0.091
						100	0.123	0.172	100	0.081	0.113
									105	0.098	0.137
									110	0.118	0.166



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	1,840	237.00	52.8	11,960
45	2,070	267.00	59.1	13,455
50	2,300	297.00	65.5	14,950
55	2,530	327.00	72.1	16,445
60	2,760	357.00	78.5	17,940
65	2,990	387.00	84.9	19,435
70	3,220	417.00	91.5	20,930
75	3,450	447.00	97.6	22,425
80	3,680	477.00	103.6	23,920
85	3,910	507.00	109.1	25,415
90	4,140	537.00	114.3	26,910
95	4,370	567.00	119.4	28,405
100	4,600	597.00	124.5	29,900
105	4,830	627.00	133.1	31,395
110	5,060	657.00	138.1	32,890

- 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. Multi-span units, with slab continuous over interior bents, may be formed with the details shown on this sheet and Standard XBCS. 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

 Texas Department of Transportation	 Bridge Division Standard			
PRESTRESSED CONCRETE X-BEAM SPANS (TYPE 5XB20 THRU 5XB40) 44' ROADWAY SXB-44				
FILE: xbstde77.dgn	DN: JMH	CK: AM	DW: JTR	CK: JMH
©TxDOT June 2011	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.