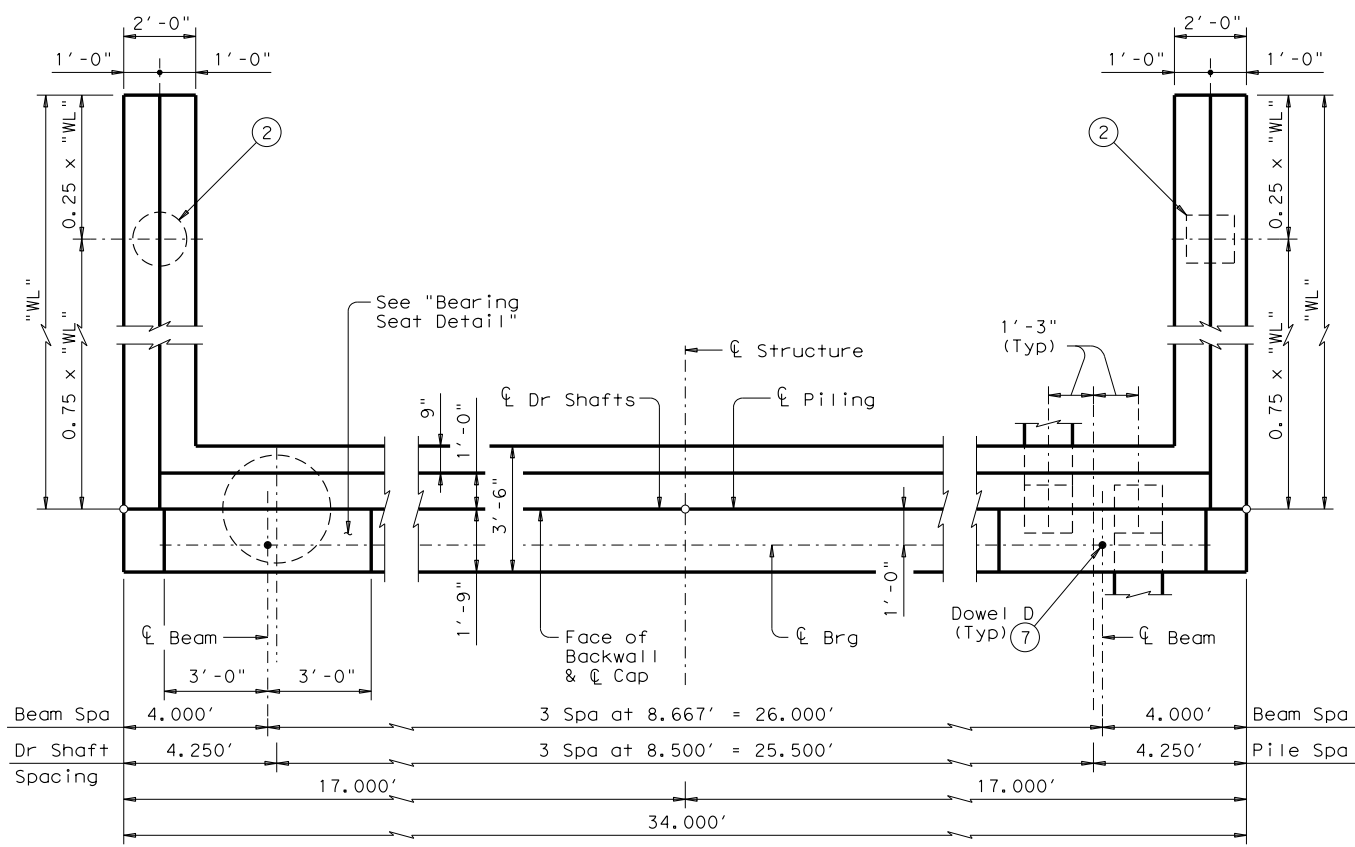
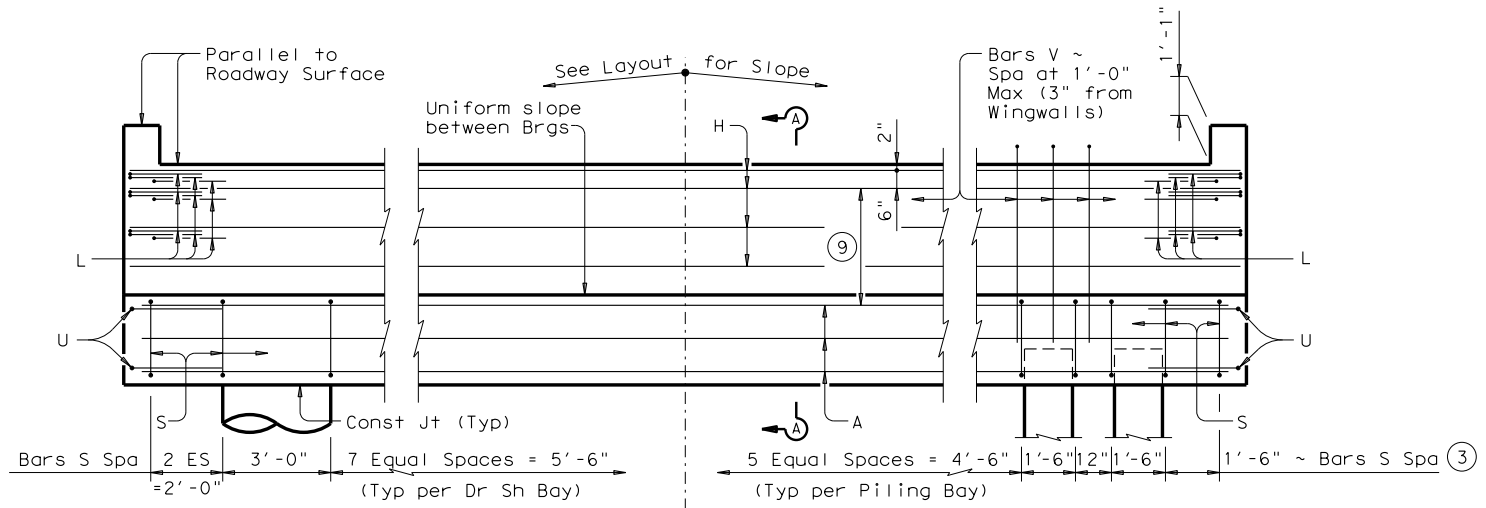


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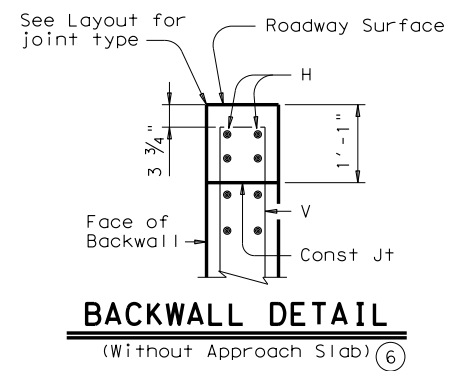


SHOWING DRILLED SHAFTS **PLAN** SHOWING PILES



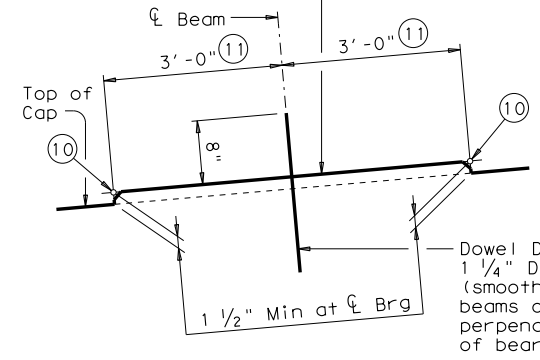
SHOWING DRILLED SHAFTS **ELEVATION** SHOWING PILES

Header Slope	Beam Type	Wingwall Type	Wingwall Lgth "WL"
2:1	XB20	Cantilevered	7.000'
	XB28	Cantilevered	8.000'
	XB34	Cantilevered	9.000'
	XB40	Cantilevered	10.000'
3:1	XB20	Cantilevered	10.000'
	XB28	Cantilevered	12.000'
	XB34	Founded	13.000'
	XB40	Founded	15.000'



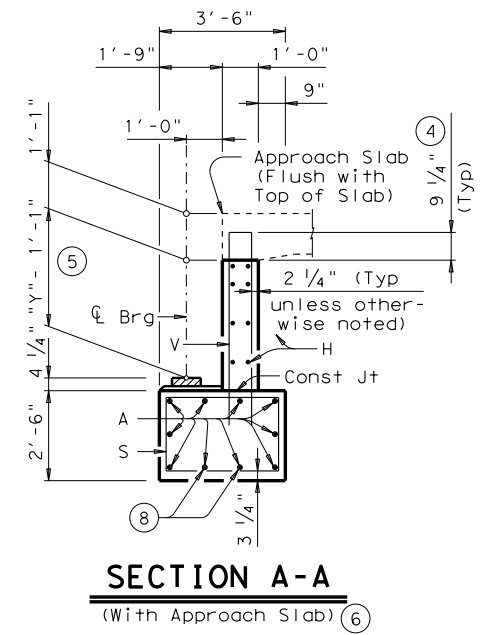
BACKWALL DETAIL
(Without Approach Slab) 6

Level along a line perpendicular to backwall. Uniform slope between Left and Right Bearing Seat Elevations with wood float finish.



BEARING SEAT DETAIL
(Bearing surface must be clean and free of all loose material before placing bearing pad.)

- 1 See Table A for variable dimensions based on header slope and beam type.
- 2 See Table A to determine if wingwall foundations are required.
- 3 For Piling larger than 16" adjust Bars S spacing as required to avoid Piling.
- 4 Increase as required to maintain 3 3/4" from Finished Grade.
- 5 See Span details for "Y" value.
- 6 See Bridge Layout to determine if Approach Slab is present.
- 7 Omit Dowels D at end of unit. Deduct 14 lbs from reinforcing steel total.
- 8 With pile foundations, move Bars A shown to clear piles.
- 9 Spacing based on beam type:
XB20 ~ 2 Equal Spaces
XB28 ~ 3 Equal Spaces
XB34 ~ 3 Equal Spaces
XB40 ~ 3 Equal Spaces
- 10 Right and left elevations and locations are provided elsewhere.
- 11 Measured along ϕ of Bearing.



SECTION A-A
(With Approach Slab) 6

Span Length	Beam Types 5XB20 Thru 5XB40	
	Ft	Tons/Shaft
40	55	42
45	59	44
50	63	46
55	67	48
60	70	49
65	74	51
70	78	53
75	81	55
80	85	57
85	88	59
90	92	61
95	95	62
100	99	64
105	102	66

GENERAL NOTES:
Designed according to AASHTO LRFD Specifications.
Concrete strength f'c = 3,600 psi.
All cap and wall reinforcing must be Grade 60.
Galvanize dowel bars D.
See Bridge Layout for header slope and foundation type, size and length.
See Foundation Detail Standard Sheet, FD, for all foundation details and notes.
See Concrete Riprap Standard Sheet, CRR, for riprap attachment details, if applicable.
See applicable rail details for rail anchorage in wingwalls.
These abutment details may be used with Standard SXB-32 only.

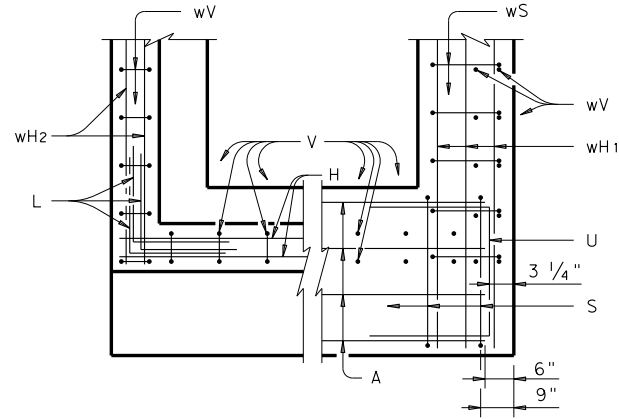
HL93 LOADING SHEET 1 OF 2

Texas Department of Transportation Bridge Division Standard

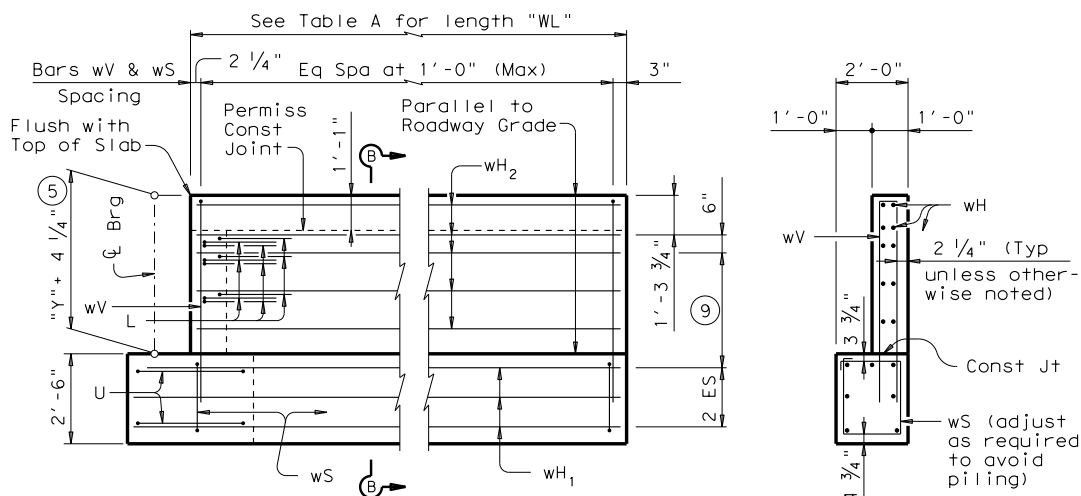
ABUTMENTS
TYPE 5XB20 THRU 5XB40
PRESTR CONC X-BEAMS
32' ROADWAY
AXB-32

FILE: xbstde41.dgn	DN: JMH	CK: AM	DW: JTR	CK: JMH
©TxDOT June 2011	CONT	SECT	JOB	HIGHWAY
REVISIONS				
DIST	COUNTY			SHEET NO.

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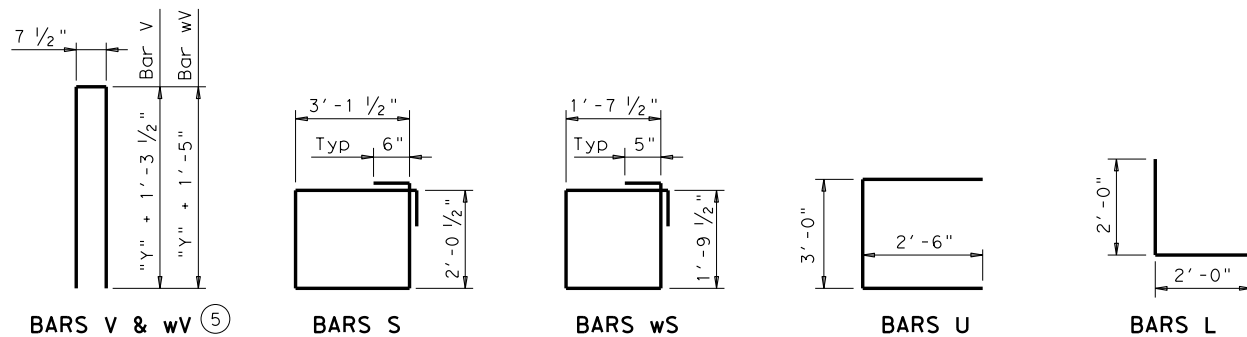


BACKWALL CAP CORNER DETAILS



WINGWALL ELEVATION

SECTION B-B



BARS V & wV

BARS S

BARS wS

BARS U

BARS L

DATE: FILE:

TABLES OF ESTIMATED QUANTITIES WITH 2:1 HEADER SLOPE ¹²

TYPE 5XB20 BEAMS					TYPE 5XB28 BEAMS					TYPE 5XB34 BEAMS					TYPE 5XB40 BEAMS								
Bar	No.	Size	Length	Weight	Bar	No.	Size	Length	Weight	Bar	No.	Size	Length	Weight	Bar	No.	Size	Length	Weight				
A	10	#11	33'-0"	1,753	A	10	#11	33'-0"	1,753	A	10	#11	33'-0"	1,753	A	10	#11	33'-0"	1,753				
D (7)	2	1 1/4"D	1'-8"	14	D (7)	2	1 1/4"D	1'-8"	14	D (7)	2	1 1/4"D	1'-8"	14	D (7)	2	1 1/4"D	1'-8"	14				
H	6	#6	33'-8"	303	H	8	#6	33'-8"	405	H	8	#6	33'-8"	405	H	8	#6	33'-8"	405				
L	18	#6	4'-0"	108	L	18	#6	4'-0"	108	L	18	#6	4'-0"	108	L	18	#6	4'-0"	108				
S	30	#5	11'-4"	355	S	30	#5	11'-4"	355	S	30	#5	11'-4"	355	S	30	#5	11'-4"	355				
U	4	#6	8'-0"	48	U	4	#6	8'-0"	48	U	4	#6	8'-0"	48	U	4	#6	8'-0"	48				
V	33	#5	8'-5"	290	V	33	#5	9'-9"	336	V	33	#5	10'-9"	370	V	33	#5	11'-9"	404				
wH1	14	#6	8'-5"	177	wH1	14	#6	9'-5"	198	wH1	14	#6	10'-5"	219	wH1	14	#6	11'-5"	240				
wH2	16	#6	6'-8"	160	wH2	20	#6	7'-8"	230	wH2	20	#6	8'-8"	260	wH2	20	#6	9'-8"	290				
wS	16	#4	7'-8"	82	wS	18	#4	7'-8"	92	wS	20	#4	7'-8"	102	wS	22	#4	7'-8"	113				
wV	16	#5	8'-8"	145	wV	18	#5	10'-0"	188	wV	20	#5	11'-0"	229	wV	22	#5	12'-0"	275				
Reinforcing Steel				Lb	3,435	Reinforcing Steel				Lb	3,727	Reinforcing Steel				Lb	3,863	Reinforcing Steel				Lb	4,005
Class "C" Concrete				CY	16.9	Class "C" Concrete				CY	18.7	Class "C" Concrete				CY	20.3	Class "C" Concrete				CY	21.9

TABLES OF ESTIMATED QUANTITIES WITH 3:1 HEADER SLOPE ¹²

TYPE 5XB20 BEAMS					TYPE 5XB28 BEAMS					TYPE 5XB34 BEAMS					TYPE 5XB40 BEAMS								
Bar	No.	Size	Length	Weight	Bar	No.	Size	Length	Weight	Bar	No.	Size	Length	Weight	Bar	No.	Size	Length	Weight				
A	10	#11	33'-0"	1,753	A	10	#11	33'-0"	1,753	A	10	#11	33'-0"	1,753	A	10	#11	33'-0"	1,753				
D (7)	2	1 1/4"D	1'-8"	14	D (7)	2	1 1/4"D	1'-8"	14	D (7)	2	1 1/4"D	1'-8"	14	D (7)	2	1 1/4"D	1'-8"	14				
H	6	#6	33'-8"	303	H	8	#6	33'-8"	405	H	8	#6	33'-8"	405	H	8	#6	33'-8"	405				
L	18	#6	4'-0"	108	L	18	#6	4'-0"	108	L	18	#6	4'-0"	108	L	18	#6	4'-0"	108				
S	30	#5	11'-4"	355	S	30	#5	11'-4"	355	S	30	#5	11'-4"	355	S	30	#5	11'-4"	355				
U	4	#6	8'-0"	48	U	4	#6	8'-0"	48	U	4	#6	8'-0"	48	U	4	#6	8'-0"	48				
V	33	#5	8'-5"	290	V	33	#5	9'-9"	336	V	33	#5	10'-9"	370	V	33	#5	11'-9"	404				
wH1	14	#6	11'-5"	241	wH1	14	#6	13'-5"	282	wH1	14	#6	14'-5"	303	wH1	14	#6	16'-5"	345				
wH2	16	#6	9'-8"	232	wH2	20	#6	11'-8"	350	wH2	20	#6	12'-8"	381	wH2	20	#6	14'-8"	441				
wS	22	#4	7'-8"	113	wS	26	#4	7'-8"	133	wS	28	#4	7'-8"	143	wS	32	#4	7'-8"	164				
wV	22	#5	8'-8"	199	wV	26	#5	10'-0"	271	wV	28	#5	11'-0"	321	wV	32	#5	12'-0"	401				
Reinforcing Steel				Lb	3,656	Reinforcing Steel				Lb	4,055	Reinforcing Steel				Lb	4,201	Reinforcing Steel				Lb	4,438
Class "C" Concrete				CY	18.7	Class "C" Concrete				CY	21.3	Class "C" Concrete				CY	23.0	Class "C" Concrete				CY	25.5

- (5) See Span details for "Y" value.
- (7) Omit Dowels D at end of unit. Deduct 14 lbs from reinforcing steel total.
- (9) Spacing based on beam type:
 XB20 ~ 2 Equal Spaces
 XB28 ~ 3 Equal Spaces
 XB34 ~ 3 Equal Spaces
 XB40 ~ 3 Equal Spaces
- (12) Quantities shown are for one Abutment only (with Approach Slab). With no Approach Slab, add 1.3 CY Class "C" Concrete and 202 Lbs Reinforcing Steel for 4 additional H bars.

HL93 LOADING

SHEET 2 OF 2



ABUTMENTS
 TYPE 5XB20 THRU 5XB40
 PRESTR CONC X-BEAMS
 32' ROADWAY

AXB-32

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