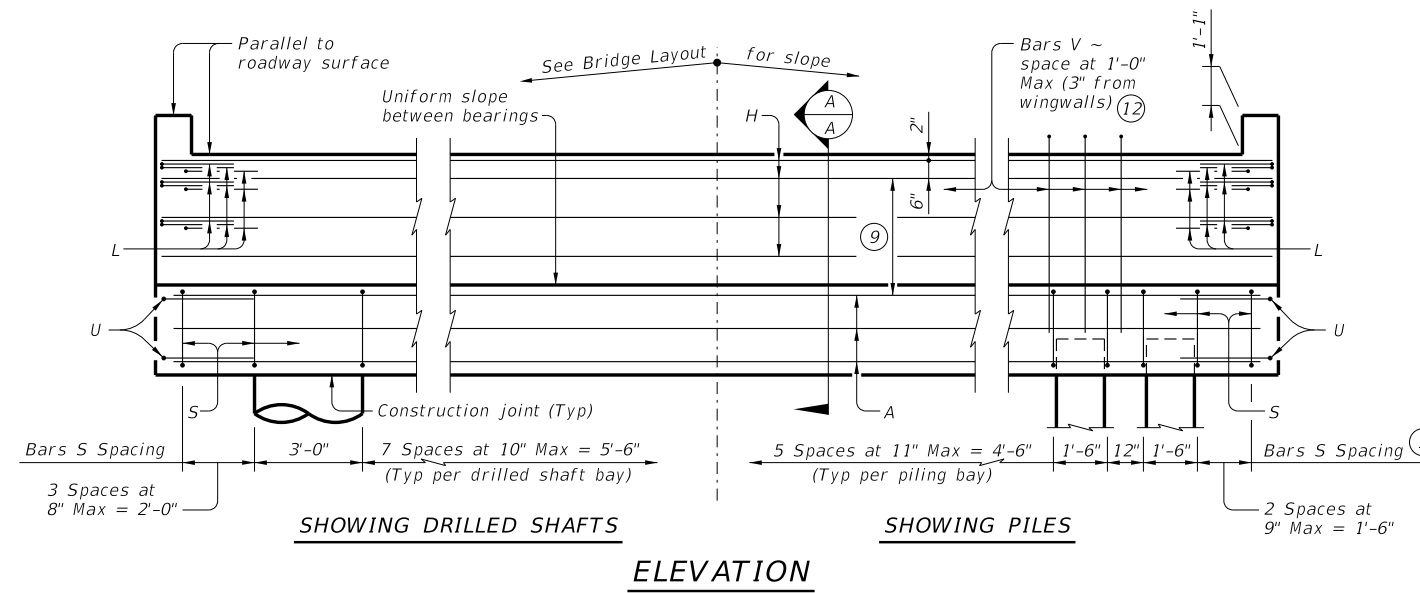
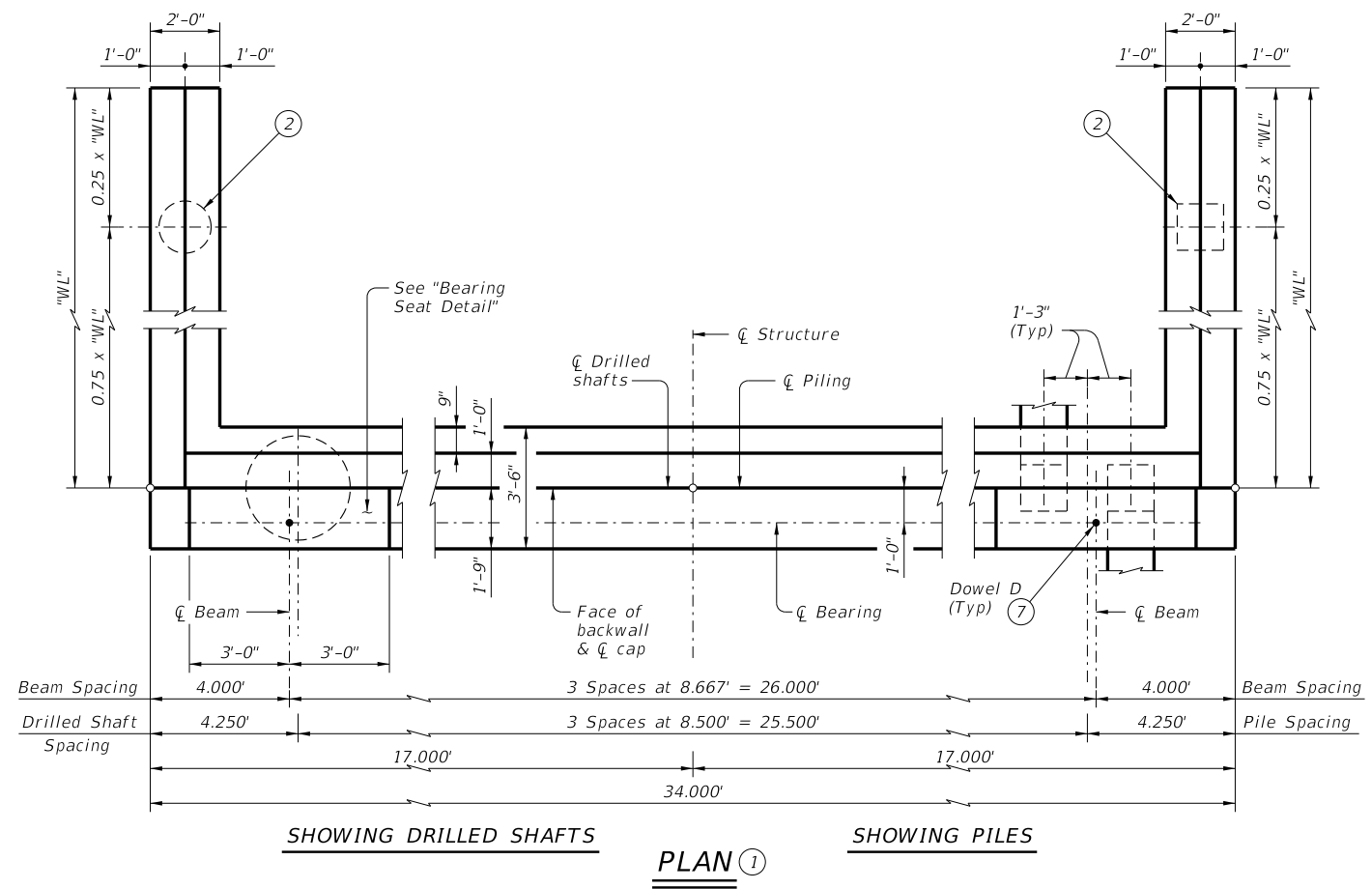
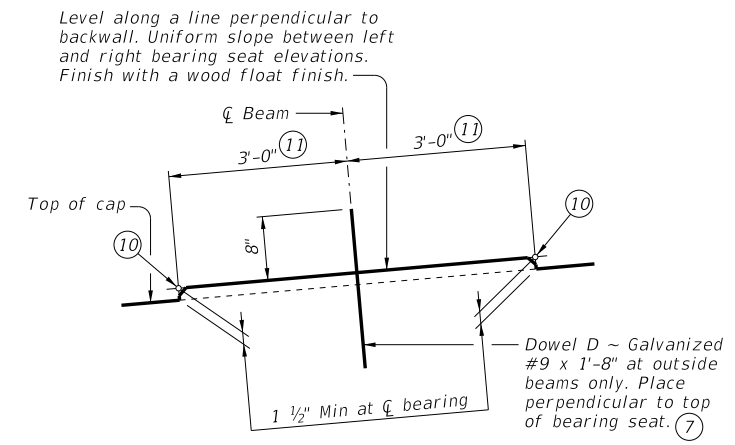
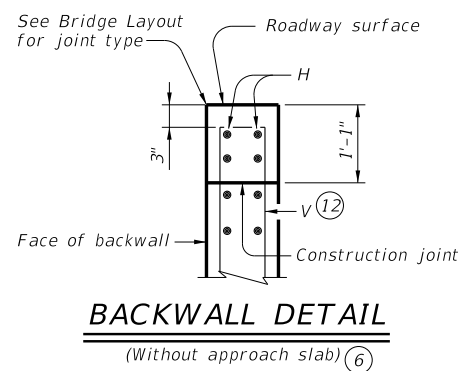


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DATE: FILE:



Header Slope	Beam Type	Wingwall Type	Wingwall Length "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'



BEARING SEAT DETAIL

(Remove all loose material and clean bearing surface before placing the 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" 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 multi-span unit. Adjust reinforcing steel total accordingly.
- ⑧ With pile foundations, move Bars A shown to clear piles.
- ⑨ Spacing based on beam type:
XB20 ~ 2 spaces at 1'-0" Max
XB28 ~ 3 spaces at 1'-0" Max
XB34 ~ 3 spaces at 1'-0" Max
XB40 ~ 3 spaces at 1'-0" Max
- ⑩ Right and left elevations and locations are provided elsewhere.
- ⑪ Measured along centerline of bearing.
- ⑫ Field bend as needed to clear piles.

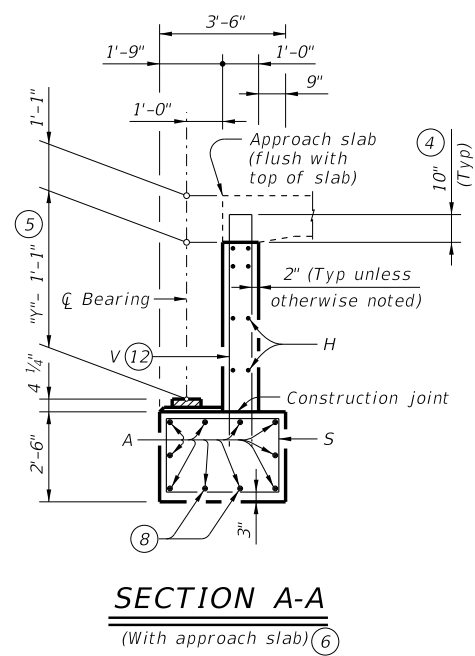


TABLE OF FOUNDATION LOADS

Span Length	Drilled Shaft Load	Battered Pile Load
40	56	45
45	61	47
50	64	49
55	68	51
60	72	53
65	76	55
70	80	57
75	84	59
80	87	61
85	91	63
90	95	65
95	98	67
100	102	68
105	106	70

MATERIAL NOTES:
 Provide Class C concrete (f'c = 3,600 psi.)
 Provide Class C (HPC) concrete if shown elsewhere in the plans.
 Provide Grade 60 reinforcing steel.
 Galvanize dowel bars D.

GENERAL NOTES:
 Designed according to AASHTO LRFD Bridge Design Specifications.
 See Bridge Layout for header slope and foundation type, size and length.
 See Common Foundation Details (FD) standard for all foundation details and notes.
 See Concrete Riprap (CRR) standard sheet or Stone Riprap (SRR) standard sheet for riprap attachment details, if applicable.
 See Shear Key Details (XBSK) standard sheet for all shear key details and notes if applicable.
 See applicable rail details for rail anchorage details in wingwalls.
 These abutment details may be used with standard SXB-32 only.

Cover dimensions are clear dimensions, unless noted otherwise.
 Reinforcing bar dimensions shown are out-to-out of bar.

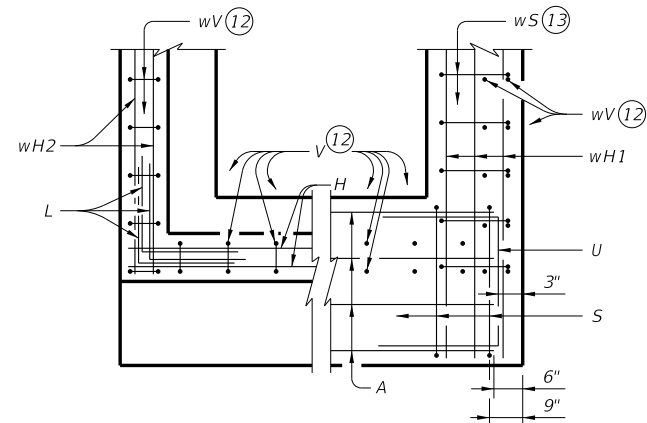
HL93 LOADING SHEET 1 OF 2

Texas Department of Transportation Bridge Division Standard

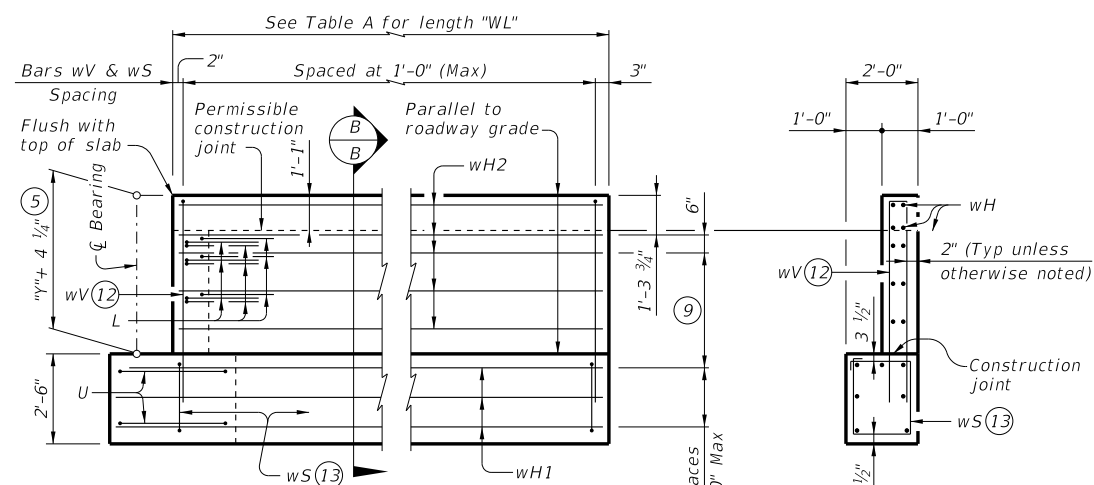
ABUTMENTS
PRESTR CONC X-BEAMS
 (TYPE 5XB20 THROUGH 5XB40)
32' ROADWAY
AXB-32

FILE: XB-AXB3200-22.dgn	DN: BMP	CK: EFC	DW: JER	CK: BMP
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REVISIONS	DIST	COUNTY	SHEET NO.	

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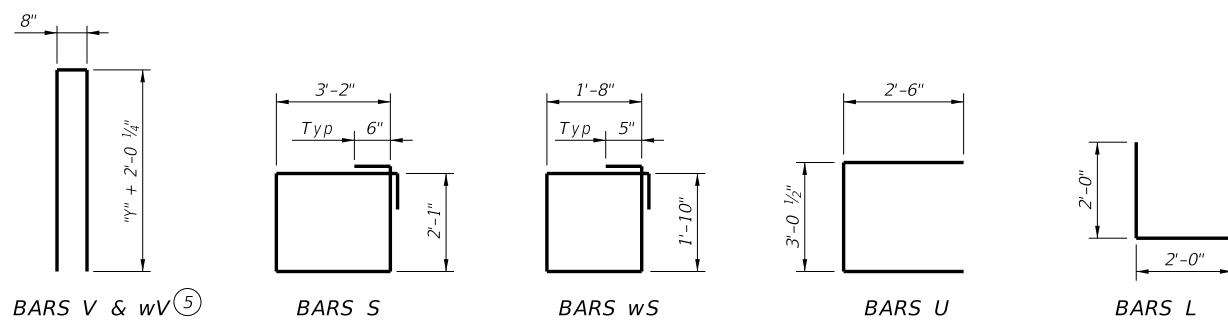


BACKWALL CAP
CORNER DETAILS



WINGWALL ELEVATION

SECTION B-B



- ⑤ See Span Details for "Y" value.
- ⑦ Omit Dowels D at end of multi-span unit. Adjust reinforcing steel total accordingly.
- ⑨ Spacing based on beam type:
XB20 ~ 2 spaces at 1'-0" Max
XB28 ~ 3 spaces at 1'-0" Max
XB34 ~ 3 spaces at 1'-0" Max
XB40 ~ 3 spaces at 1'-0" Max
- ⑫ Field bend as needed to clear piles.
- ⑬ Adjust as required to avoid piling.
- ⑭ Quantities shown are for one abutment only (with approach slab.) With no approach slab, add 1.3 CY Class C concrete and 202 lbs of reinforcing steel for 4 additional H bars.

TABLES OF ESTIMATED QUANTITIES WITH 2:1 HEADER SLOPE ⑭

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	#9	1'-8"	11	D(7)	2	#9	1'-8"	11	D(7)	2	#9	1'-8"	11	D(7)	2	#9	1'-8"	11				
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	32	#5	11'-6"	384	S	32	#5	11'-6"	384	S	32	#5	11'-6"	384	S	32	#5	11'-6"	384				
U	4	#6	8'-1"	49	U	4	#6	8'-1"	49	U	4	#6	8'-1"	49	U	4	#6	8'-1"	49				
V	33	#5	10'-0"	344	V	33	#5	11'-4"	390	V	33	#5	12'-4"	424	V	33	#5	13'-4"	459				
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'-10"	84	wS	18	#4	7'-10"	94	wS	20	#4	7'-10"	105	wS	22	#4	7'-10"	115				
wV	16	#5	10'-0"	167	wV	18	#5	11'-4"	213	wV	20	#5	12'-4"	257	wV	22	#5	13'-4"	306				
Reinforcing Steel				Lb	3,540	Reinforcing Steel				Lb	3,835	Reinforcing Steel				Lb	3,975	Reinforcing Steel				Lb	4,120
Class "C" Concrete				CY	17.0	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 ⑭

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	#9	1'-8"	11	D(7)	2	#9	1'-8"	11	D(7)	2	#9	1'-8"	11	D(7)	2	#9	1'-8"	11				
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	32	#5	11'-6"	384	S	32	#5	11'-6"	384	S	32	#5	11'-6"	384	S	32	#5	11'-6"	384				
U	4	#6	8'-1"	49	U	4	#6	8'-1"	49	U	4	#6	8'-1"	49	U	4	#6	8'-1"	49				
V	33	#5	10'-0"	344	V	33	#5	11'-4"	390	V	33	#5	12'-4"	424	V	33	#5	13'-4"	459				
wH1	14	#6	11'-5"	240	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'-10"	115	wS	26	#4	7'-10"	136	wS	28	#4	7'-10"	147	wS	32	#4	7'-10"	167				
wV	22	#5	10'-0"	229	wV	26	#5	11'-4"	307	wV	28	#5	12'-4"	360	wV	32	#5	13'-4"	445				
Reinforcing Steel				Lb	3,768	Reinforcing Steel				Lb	4,175	Reinforcing Steel				Lb	4,325	Reinforcing Steel				Lb	4,567
Class "C" Concrete				CY	18.7	Class "C" Concrete				CY	21.3	Class "C" Concrete				CY	23.0	Class "C" Concrete				CY	25.5

HL93 LOADING

SHEET 2 OF 2



ABUTMENTS
PRESTR CONC X-BEAMS
(TYPE 5XB20 THROUGH 5XB40)
32' ROADWAY
AXB-32

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