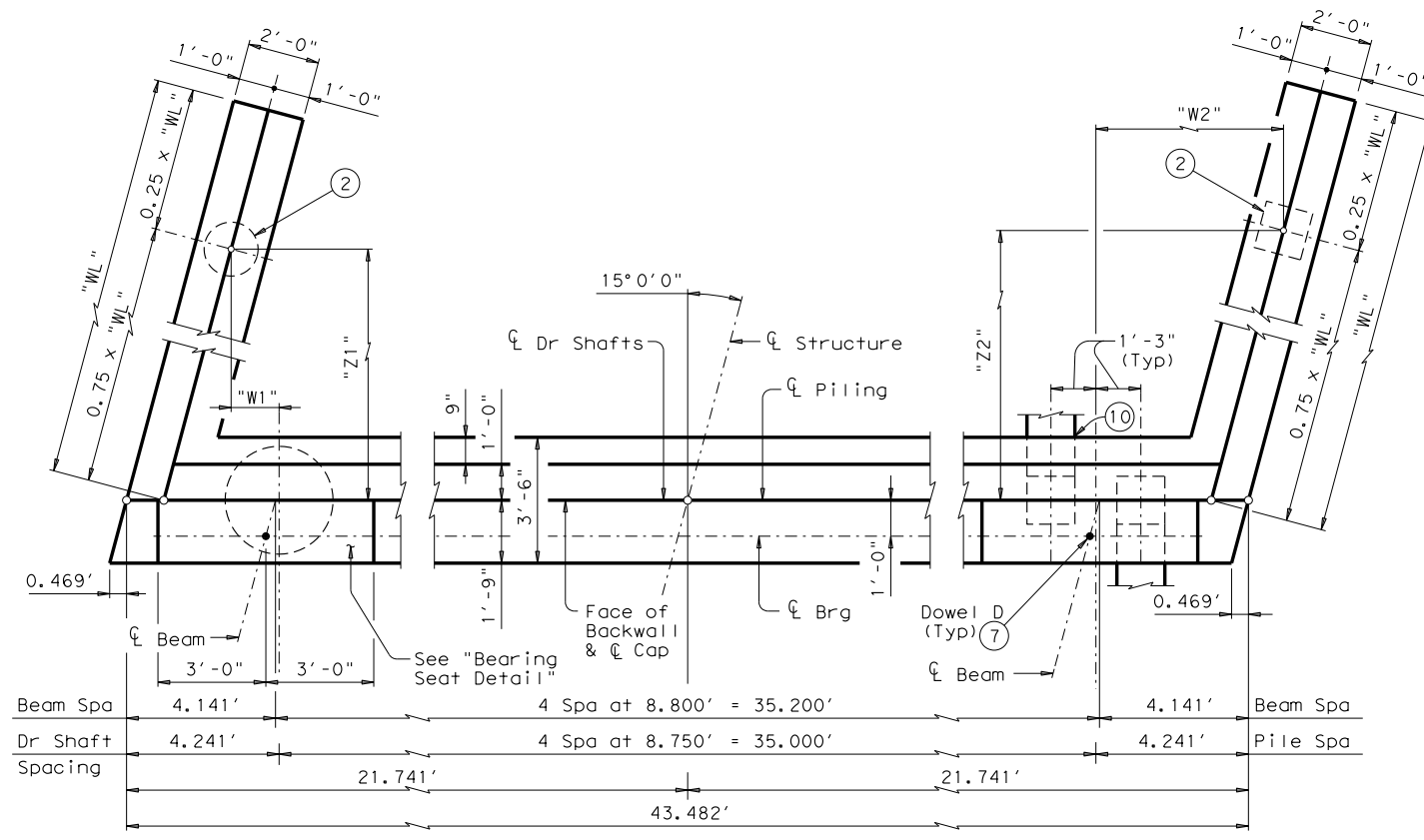
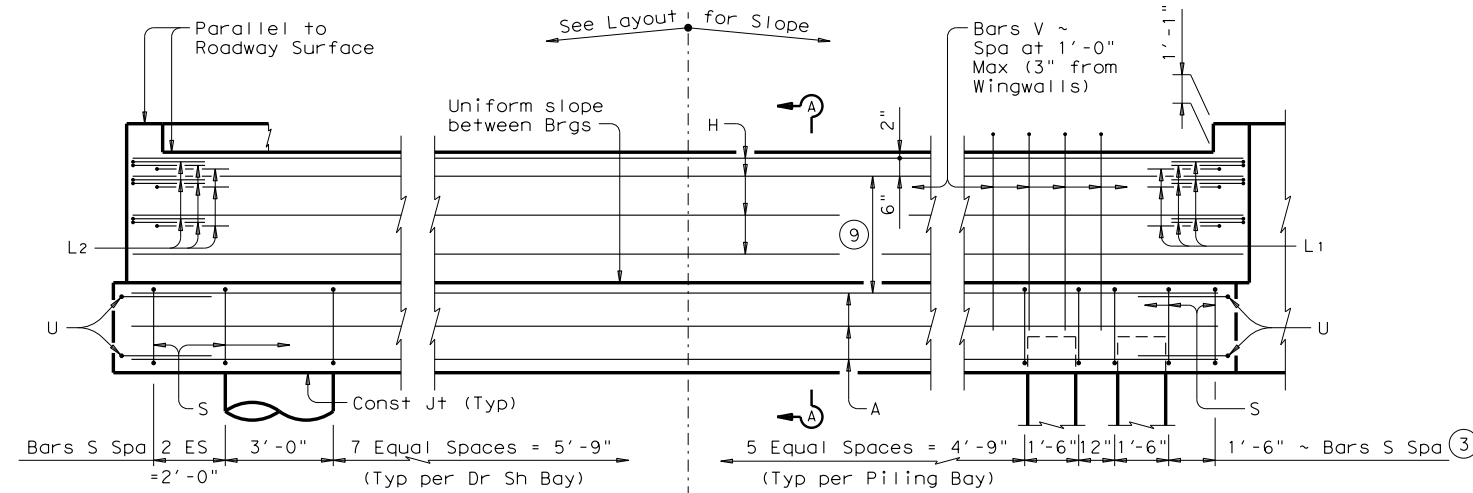


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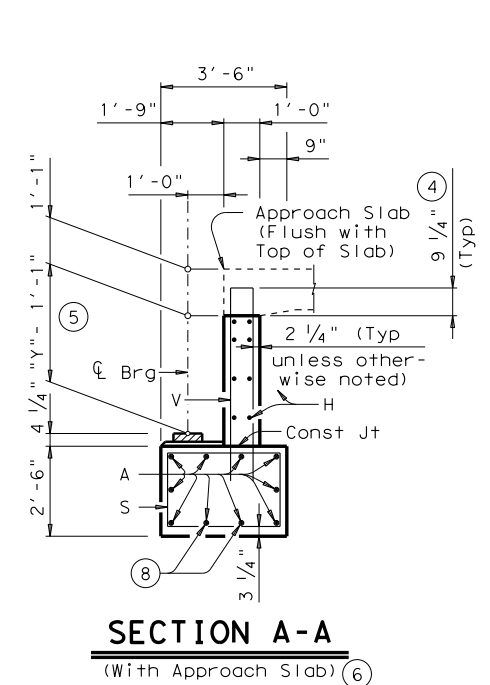


SHOWING DRILLED SHAFTS **PLAN 1** SHOWING PILES



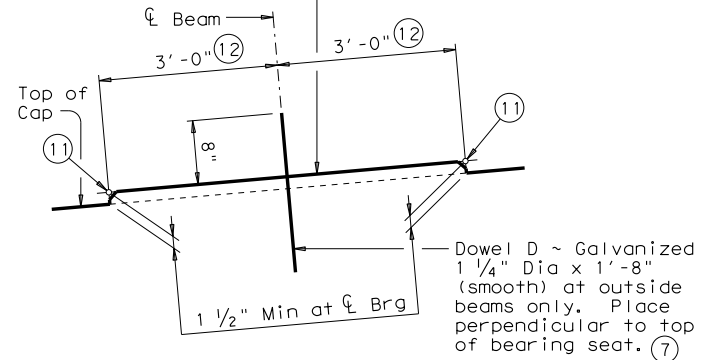
SHOWING DRILLED SHAFTS **ELEVATION** SHOWING PILES

Header Slope	Beam Type	Wingwall Type	Wingwall Lgth "WL"	"W1"	"Z1"	"W2"	"Z2"				
2:1	XB20	Cantilevered	7.000'	Not Applicable							
	XB28	Cantilevered	8.000'								
	XB34	Cantilevered	9.000'								
	XB40	Cantilevered	10.000'								
3:1	XB20	Cantilevered	10.000'	Not Applicable							
	XB28	Cantilevered	12.000'								
	XB34	Founded	14.000'					0.488'	10.142'	5.923'	10.142'
	XB40	Founded	15.000'					0.294'	10.867'	6.117'	10.867'



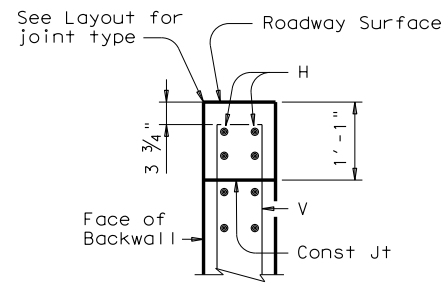
SECTION A-A
(With Approach Slab) 6

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.)



BACKWALL DETAIL
(Without Approach Slab) 6

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

Span Length	Beam Types 5XB20 Thru 5XB40	
	Tons/Shaft	Tons/Pile
40	54	42
45	58	44
50	62	46
55	66	47
60	69	49
65	73	51
70	76	53
75	80	55
80	83	57
85	87	58
90	90	60
95	94	62
100	97	64
105	101	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.
 Details are drawn showing right forward skew. See Bridge Layout for actual skew direction.
 These abutment details may be used with Standard SXB-40-15 only.

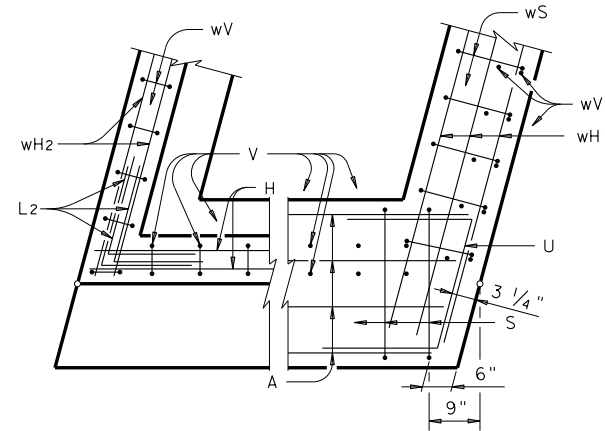
HL93 LOADING SHEET 1 OF 2

Texas Department of Transportation
 Bridge Division Standard

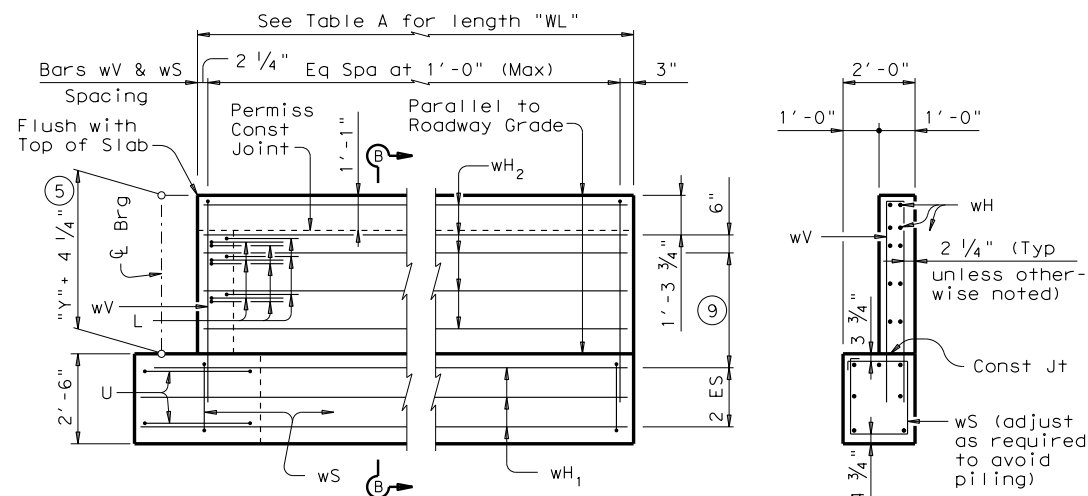
ABUTMENTS
 TYPE 5XB20 THRU 5XB40
 PRESTR CONC X-BEAMS
 40' ROADWAY 15° SKEW
 AXB-40-15

FILE: xbstde2.dgn	DN: JMH	CK: AM	DW: JTR	CK: JMH
COTxDOT June 2011	CONT	SECT	JOB	HIGHWAY
REVISIONS				
DIST	COUNTY			SHEET NO.

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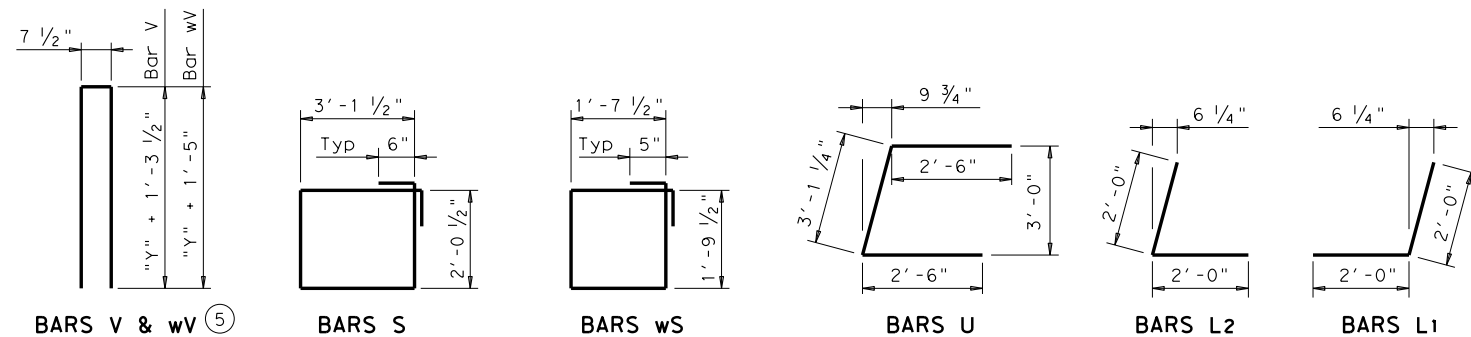


BACKWALL CAP
CORNER DETAILS



WINGWALL ELEVATION

SECTION B-B



BARS V & wV

BARS S

BARS wS

BARS U

BARS L2

BARS L1

- 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
- ⑬ Quantities shown are for one Abutment only (with Approach Slab). With no Approach Slab, add 1.7 CY Class "C" Concrete and 259 Lbs Reinforcing Steel for 4 additional H bars.

TABLES OF ESTIMATED QUANTITIES WITH 2:1 HEADER SLOPE ⑬

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	42'-6"	2,258	A	10	#11	42'-6"	2,258	A	10	#11	42'-6"	2,258	A	10	#11	42'-6"	2,258				
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	43'-2"	389	H	8	#6	43'-2"	519	H	8	#6	43'-2"	519	H	8	#6	43'-2"	519				
L1	9	#6	4'-0"	54	L1	9	#6	4'-0"	54	L1	9	#6	4'-0"	54	L1	9	#6	4'-0"	54				
L2	9	#6	4'-0"	54	L2	9	#6	4'-0"	54	L2	9	#6	4'-0"	54	L2	9	#6	4'-0"	54				
S	38	#5	11'-4"	449	S	38	#5	11'-4"	449	S	38	#5	11'-4"	449	S	38	#5	11'-4"	449				
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	42	#5	8'-5"	369	V	42	#5	9'-9"	427	V	42	#5	10'-9"	471	V	42	#5	11'-9"	514				
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	4,200	Reinforcing Steel				Lb	4,532	Reinforcing Steel				Lb	4,678	Reinforcing Steel				Lb	4,829
Class "C" Concrete				CY	20.7	Class "C" Concrete				CY	22.7	Class "C" Concrete				CY	24.4	Class "C" Concrete				CY	26.1

TABLES OF ESTIMATED QUANTITIES WITH 3:1 HEADER SLOPE ⑬

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	42'-6"	2,258	A	10	#11	42'-6"	2,258	A	10	#11	42'-6"	2,258	A	10	#11	42'-6"	2,258				
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	43'-2"	389	H	8	#6	43'-2"	519	H	8	#6	43'-2"	519	H	8	#6	43'-2"	519				
L1	9	#6	4'-0"	54	L1	9	#6	4'-0"	54	L1	9	#6	4'-0"	54	L1	9	#6	4'-0"	54				
L2	9	#6	4'-0"	54	L2	9	#6	4'-0"	54	L2	9	#6	4'-0"	54	L2	9	#6	4'-0"	54				
S	38	#5	11'-4"	449	S	38	#5	11'-4"	449	S	38	#5	11'-4"	449	S	38	#5	11'-4"	449				
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	42	#5	8'-5"	369	V	42	#5	9'-9"	427	V	42	#5	10'-9"	471	V	42	#5	11'-9"	514				
wH1	14	#6	11'-5"	240	wH1	14	#6	13'-5"	282	wH1	14	#6	15'-5"	324	wH1	14	#6	16'-5"	345				
wH2	16	#6	9'-8"	232	wH2	20	#6	11'-8"	350	wH2	20	#6	13'-8"	411	wH2	20	#6	14'-8"	441				
wS	22	#4	7'-8"	113	wS	26	#4	7'-8"	133	wS	30	#4	7'-8"	154	wS	32	#4	7'-8"	164				
wV	22	#5	8'-8"	199	wV	26	#5	10'-0"	271	wV	30	#5	11'-0"	344	wV	32	#5	12'-0"	401				
Reinforcing Steel				Lb	4,420	Reinforcing Steel				Lb	4,860	Reinforcing Steel				Lb	5,101	Reinforcing Steel				Lb	5,262
Class "C" Concrete				CY	22.4	Class "C" Concrete				CY	25.2	Class "C" Concrete				CY	27.8	Class "C" Concrete				CY	29.7



ABUTMENTS
TYPE 5XB20 THRU 5XB40
PRESTR CONC X-BEAMS
40' ROADWAY 15° SKEW

AXB-40-15

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REVISIONS	DIST	COUNTY	SHEET NO.	