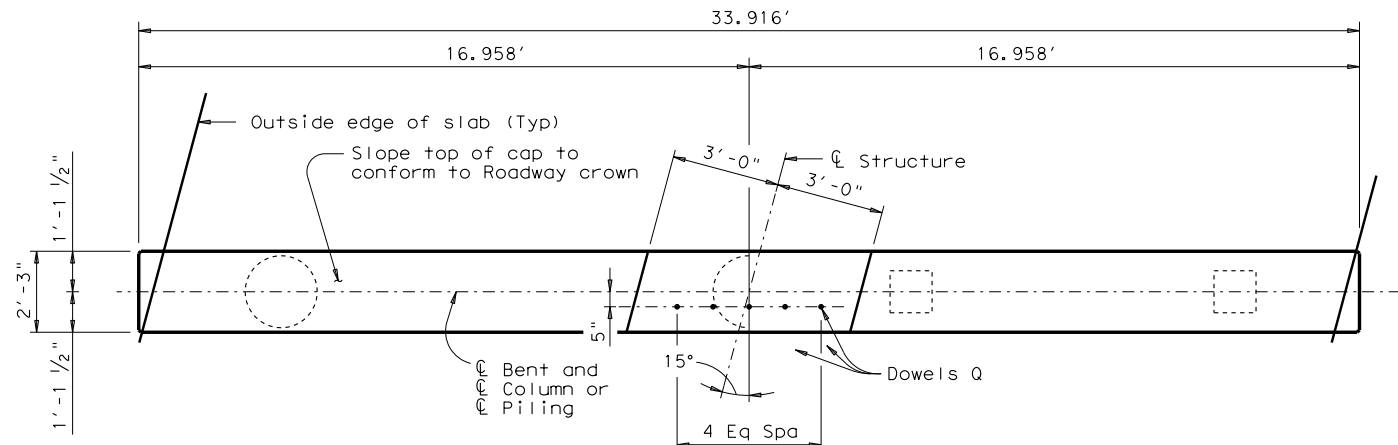


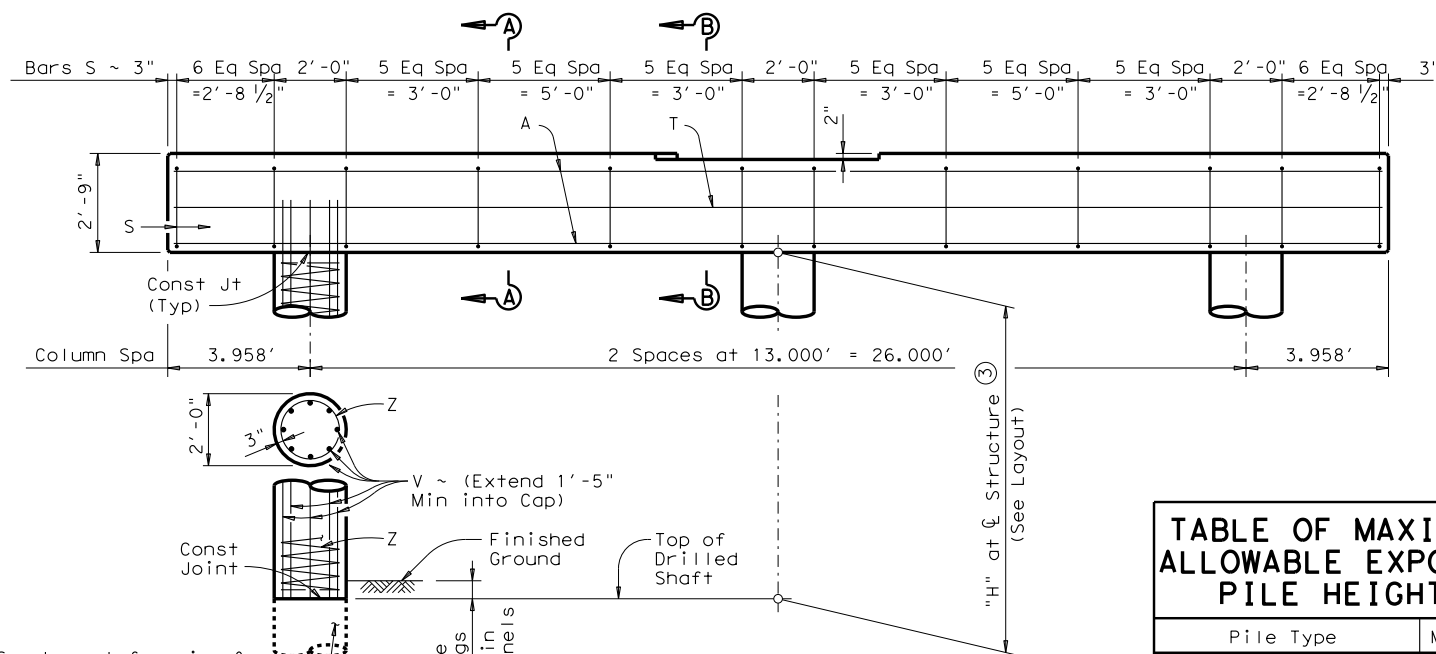
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



SHOWING COLUMNS

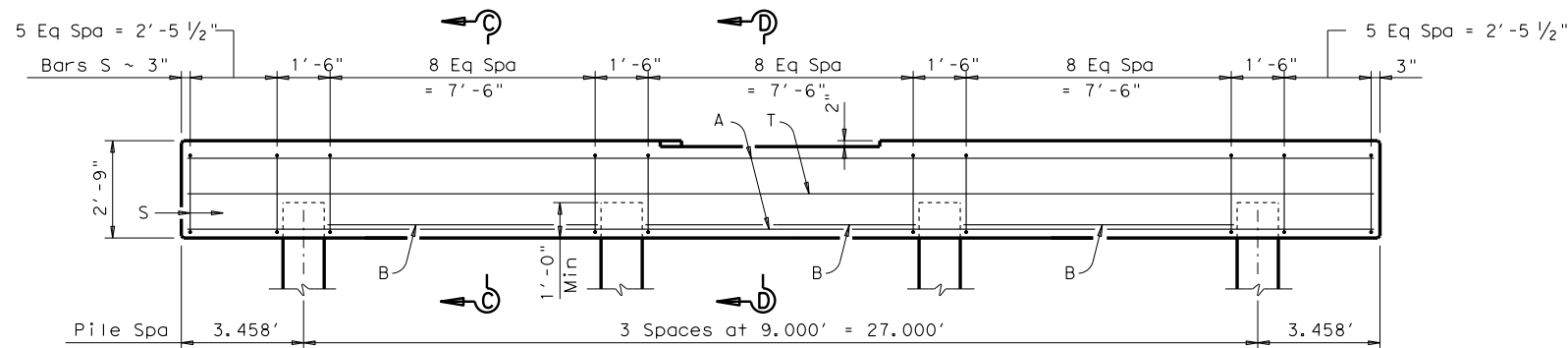
SHOWING PILES

PLAN



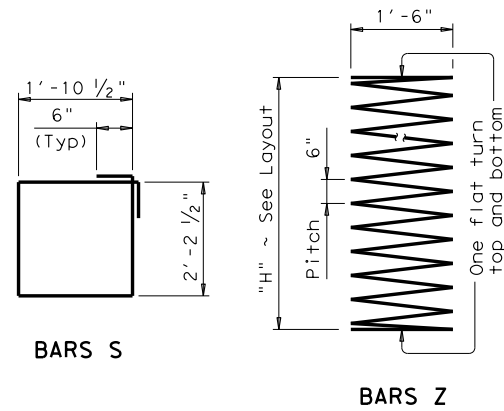
ELEVATION ~ 3 COLUMN BENT

TABLE OF MAXIMUM ALLOWABLE EXPOSED PILE HEIGHTS ③		
Pile Type		Max Ht
Concrete	Steel	Ft
16" Sq	HP14x73	16
18" Sq	HP14x117 ⑥	20



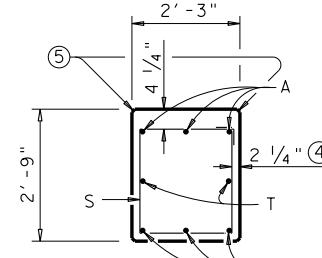
ELEVATION ~ 4 PILE BENT ③

Note: For piling larger than 16", adjust Bars S as required to avoid piling.

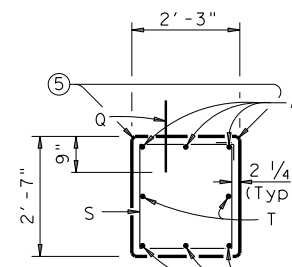


BARS S

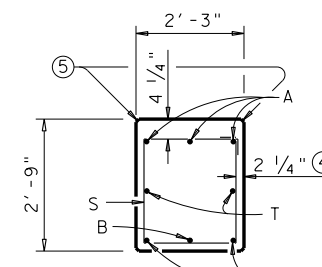
BARS Z



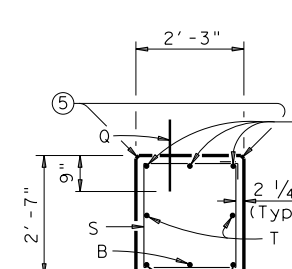
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

TABLE OF CONSTANT QUANTITIES				
3 COLUMN BENT				
Bar	No.	Size	Length	Weight
A	6	#11	33'-7"	1,071
Q	5	#6	1'-6"	11
S	46	#5	9'-2"	440
T	2	#5	33'-7"	70
Reinforcing Steel			Lb	1,592
Class "C" Concrete			CY	7.7

TABLE OF ESTIMATED QUANTITIES				
4 PILE BENT				
Bar	No.	Size	Length	Weight
A	5	#11	33'-7"	892
B	3	#11	7'-6"	120
Q	5	#6	1'-6"	11
S	39	#5	9'-2"	373
T	2	#5	33'-7"	70
Reinforcing Steel			Lb	1,466
Class "C" Concrete			CY	7.7

TABLE OF VARIABLE QUANTITIES ~ 3 COLUMN BENT ①					
"H" ③	Class "C" Conc (Cols)	Bars V 24 ~ #7		Bars Z 3 ~ #3 Spiral	
Ft	CY	Length	Weight	Length	Weight
24	8.4	25'-5"	1,247	237'	267

TOTAL EST QUANT ~ 3 COL BENT ②	
Reinf Steel	Class "C" Conc
Lb	CY
3,106	16.1

- Adjust Bars V length by 1 Ft and Bars Z length by 9.4777 Ft for each linear foot of variation in "H" value.
- Adjust Reinforcing Steel Total by 60 Lbs and Class "C" Conc by 0.3492 CY for each linear foot of variation in "H" value.
- This standard may not be used for "H" heights or exposed pile heights exceeding the values shown in the tables. In areas of very soft soil or where scour is anticipated, allowable "H" heights or exposed pile heights shall be evaluated by the Engineer prior to the use of this standard.
- Typ unless otherwise noted.
- See standard CS-MD for Preformed Bituminous Fiber Material.
- When HP14x117 steel piling is specified in the plans, the Contractor has the option of furnishing either HP14x117 or HP16x101 steel piling.

**GENERAL NOTES:**  
 Designed according to AASHTO LRFD Specifications. Details shown are for right forward skew. See Layout for actual skew direction.  
 All cap reinforcing shall be Grade 60. Concrete strength  $f'_c = 3,600$  psi. Column and Drilled Shaft reinforcing may be Grade 40. See Layout for foundation type, size and length. See standard FD for foundation details and notes. These bent details do not support the use of multi-pile footings as shown on the FD standard. See standard CS-MD for details not shown. For usual soil and construction conditions, slab formwork may be supported from the sides of bent caps if one of the following is satisfied:  
 1) For column bents, a maximum "H" height of 24'.  
 2) For pile bents, a maximum exposed pile height of 20'.  
 Calculated Foundation Loads: 75 Tons/Drilled Shaft  
 55 Tons/Pile  
 These bent details may be used with standards CS-25-30, CS-50-30-15, CS-75-30-15 and CS-80-30-15 only.

HL93 LOADING

		Bridge Division Standard
<b>INTERIOR BENTS FOR C-I-P CONC SLAB SPANS</b>		
30 FT ROADWAY		15° SKEW
<b>BCS-30-15</b>		
FILE: bcs08ste.dgn	DN: TxDOT	CK: TxDOT
©TxDOT March 2009	CON: TxDOT	SECT: TxDOT
REVISIONS	JOB	HIGHWAY
02-2012: Piles	DIST	COUNTY
		SHEET NO.

DATE: FILE: