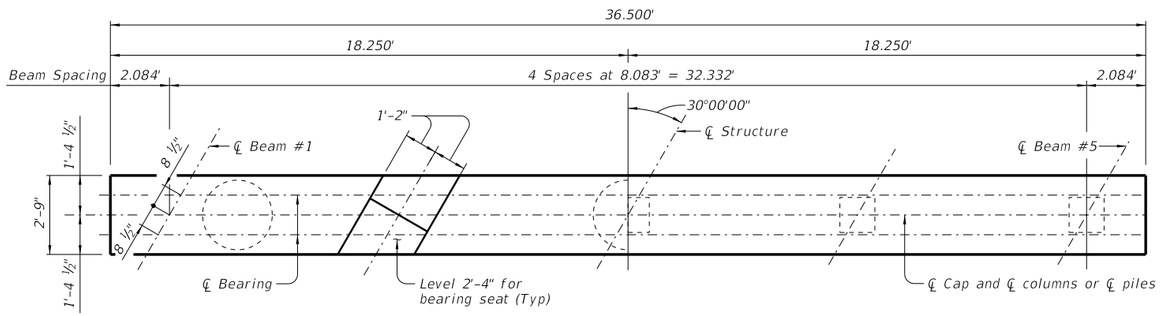
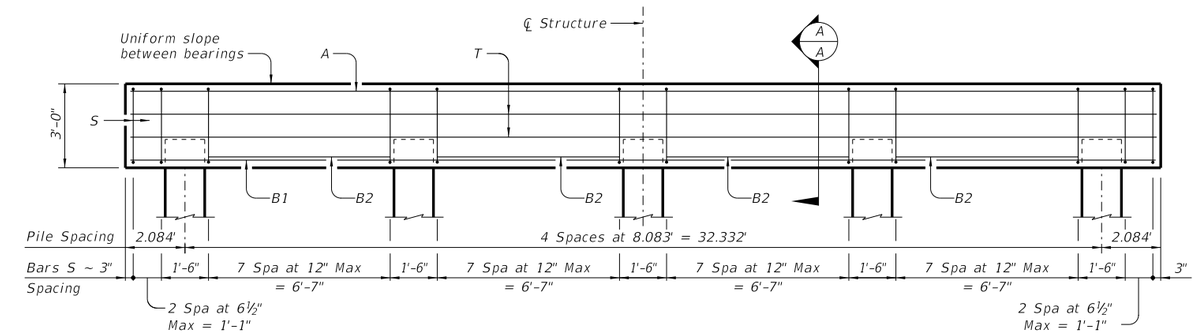
DATE:
FILE:



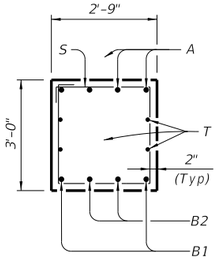
HALF PLAN
(3 Column/Dr shaft bent)

HALF PLAN
(5 Pile bent)



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

ELEVATION ③⑤
(5 Pile bent)



SECTION A-A

TABLE OF MAXIMUM ③ ALLOWABLE EXPOSED PILE HEIGHTS AND PILE LOADS

Pile Type		Max Ht	Max Load
Concrete	Steel	Ft	Tons/Pile
16" Sq	HP14x73	16	75
18" Sq	HP14x117 ④	20	90
20" Sq	HP18x135	24	110

TABLE OF ESTIMATED QUANTITIES 5 PILE BENT

Bar	No.	Size	Length	Weight
A	4	#9	36'- 2"	492
B1	2	#9	36'- 2"	246
B2	8	#9	6'- 7"	179
S	38	#5	11'- 2"	443
T	4	#5	36'- 2"	151
Reinforcing Steel		Lb		1,511
Class "C" Concrete (Cap)		CY		11.3

TABLE OF ESTIMATED QUANTITIES FOR 3 COLUMN BENT ①

Bar	No.	Size	Length	Weight
A	4	#11	36'- 2"	769
B	5	#11	36'- 2"	961
S	62	#5	11'- 2"	722
T	4	#5	36'- 2"	151
V	24	#9	32'- 9"	2,672
Z	3	#3	397'- 0"	448
Reinforcing Steel		Lb		5,723
Class "C" Concrete (Cap)		CY		11.3
Class "C" Concrete (Cols)		CY		16.4

TABLE OF ② FOUNDATION LOADS

Span Length	Shaft Load	Pile Load
Ft	Tons/Shaft	Tons/Pile
30	72	37
35	79	40
40	85	44
45	91	48
50	97	52
55	104	55
60	109	59
65	115	62
70	121	66
75	127	70
80	134	74
85	141	78
90	149	83
95	156	87
100	165	92
105	172	96
110	180	101
115	189	106
120	198	⑤

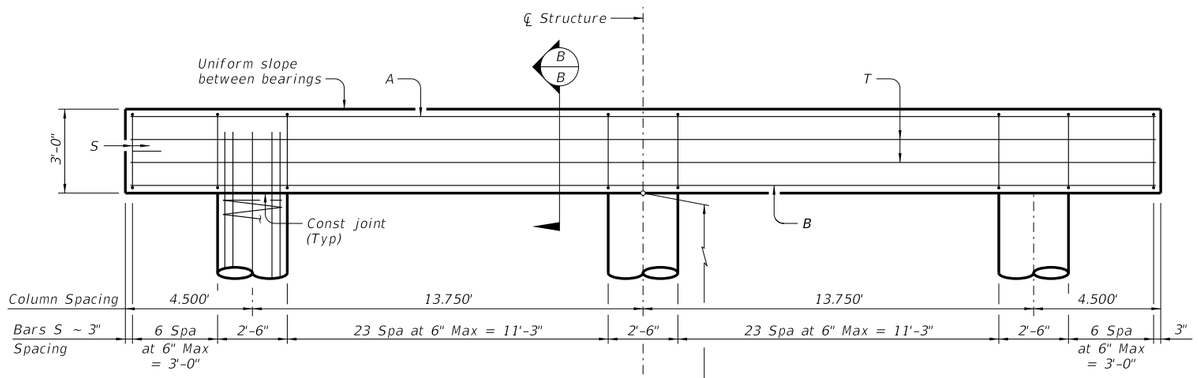
① Quantities shown are based on an "H" value of 30'-0". For each linear foot variation in "H" value, make the following adjustments:
Bars V length ~ 1'-0"
Bars Z length ~ 12'-7"
Reinforcing Steel ~ 96 Lbs
Class "C" Concrete (Columns) ~ 0.55 CY

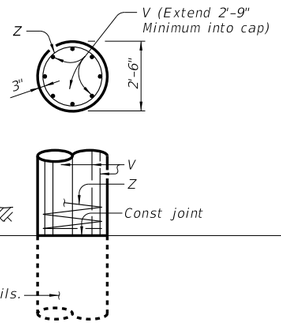
② Foundation Loads based on "H"=30'.

③ This standard may not be used for "H" heights exceeding 30' or exposed pile heights exceeding the values shown in the table. In areas of very soft soil or where scour is anticipated, maximum allowable "H" heights or exposed pile heights must be evaluated by the Engineer prior to the use of this standard.

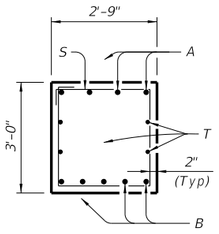
④ When HP14x117 steel piling is specified in the plans, the Contractor has the option of furnishing either HP14x117 or HP16x101 steel piling.

⑤ Maximum average span length allowed for 5 pile bent is 115'.

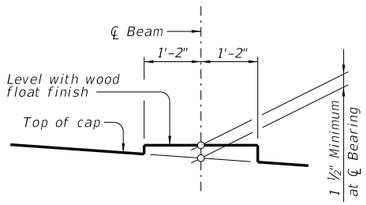




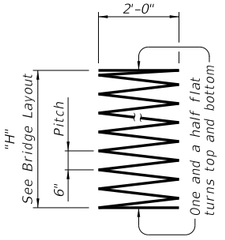
ELEVATION
(3 Column/Dr shaft bent)



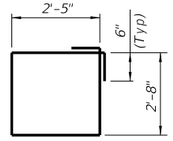
SECTION B-B



BEARING SEAT DETAIL
(Remove all loose material and clean bearing surface before placing bearing pad.)



BARS Z



BARS S

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.

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
Bent selected must be based on the average span length rounded up to the next 5 ft increment.
For pile bents supporting unequal spans, the shorter span cannot be less than 80 percent of the longer span.
See Bridge Layout for foundation type, size, and length.
See Common Foundation Details (FD) standard sheet for all foundation details and notes.
These bent details do not support the use of multi-pile footings as shown on the FD Standard.
See Standard Erection and Bracing Requirements (SBBR) standard sheet for location and size of anchor bolt required for erection bracing.
Details are drawn showing right forward skew. See Bridge Layout for actual skew direction.
These bent details may be used for the beam types and span lengths shown on the standard SSB-30-30 only.

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

HL93 LOADING

Texas Department of Transportation

Bridge Division Standard

INTERIOR BENTS
STEEL BEAM SPANS
30' ROADWAY 30° SKEW

BSB-30-30

FILE: sbstde31-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2021	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.