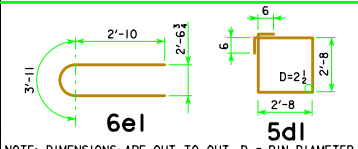


BILL OF EPOXY REINFORCING STEEL - ONE PIER

BRIDGE LENGTH	70'-0" BRIDGE		80'-0" BRIDGE		90'-0" BRIDGE		100'-0" BRIDGE		110'-0" BRIDGE		120'-0" BRIDGE		130'-0" BRIDGE		140'-0" BRIDGE		150'-0" BRIDGE		
MARK/SKEW SHAPE	NO.	LENGTH/WEIGHT	NO.	LENGTH/WEIGHT	NO.	LENGTH/WEIGHT	NO.	LENGTH/WEIGHT	NO.	LENGTH/WEIGHT	NO.	LENGTH/WEIGHT	NO.	LENGTH/WEIGHT	NO.	LENGTH/WEIGHT	NO.	LENGTH/WEIGHT	
6c1	0°	10	23'-0 346	10	23'-0 346	10	23'-0 346	10	23'-0 346	10	23'-0 346	10	23'-0 346	10	23'-0 346	10	23'-0 346	10	23'-0 346
	15°	10	23'-8 356	10	23'-8 356	10	23'-8 356	10	23'-8 356	10	23'-8 356	10	23'-8 356	10	23'-8 356	10	23'-8 356	10	23'-8 356
	30°	10	26'-0 391	10	26'-0 391	10	26'-0 391	10	26'-0 391	10	26'-0 391	10	26'-0 391	10	26'-0 391	10	26'-0 391	10	26'-0 391
	45°	10	31'-2 469	10	31'-2 469	10	31'-2 469	10	31'-2 469	10	31'-2 469	10	31'-2 469	10	31'-2 469	10	31'-2 469	10	31'-2 469
	0°	10	19'-11 300	10	19'-11 300	10	19'-11 300	10	19'-11 300	10	19'-11 300	10	19'-11 300	10	19'-11 300	10	19'-11 300	10	19'-11 300
6c2	15°	10	20'-7 310	10	20'-7 310	10	20'-7 310	10	20'-7 310	10	20'-7 310	10	20'-7 310	10	20'-7 310	10	20'-7 310	10	20'-7 310
	30°	10	23'-0 346	10	23'-0 346	10	23'-0 346	10	23'-0 346	10	23'-0 346	10	23'-0 346	10	23'-0 346	10	23'-0 346	10	23'-0 346
	45°	10	28'-2 424	10	28'-2 424	10	28'-2 424	10	28'-2 424	10	28'-2 424	10	28'-2 424	10	28'-2 424	10	28'-2 424	10	28'-2 424
	0°	38	11'-8 463	38	11'-8 463	32	11'-8 390	35	11'-8 426	38	11'-8 463	28	11'-8 341	32	11'-8 390	32	11'-8 390	32	11'-8 390
5d1	15°	38	11'-8 463	38	11'-8 463	32	11'-8 390	35	11'-8 426	38	11'-8 463	28	11'-8 341	32	11'-8 390	32	11'-8 390	32	11'-8 390
	30°	38	11'-8 463	38	11'-8 463	42	11'-8 512	46	11'-8 560	38	11'-8 463	41	11'-8 499	32	11'-8 390	32	11'-8 390	32	11'-8 390
	45°	56	11'-8 682	56	11'-8 682	52	11'-8 633	46	11'-8 560	50	11'-8 609	54	11'-8 658	47	11'-8 572	47	11'-8 572	47	11'-8 572
6e1	ALL	6	9'-7 86	6	9'-7 86	6	9'-7 86	6	9'-7 86	6	9'-7 86	6	9'-7 86	6	9'-7 86	6	9'-7 86	6	9'-7 86

BENT BAR DETAILS



ESTIMATED QUANTITIES - ONE PIER

BRIDGE LENGTH	SKEW	70'-0"	80'-0"	90'-0"	100'-0"	110'-0"	120'-0"	130'-0"	140'-0"	150'-0"
STRUCTURAL CONCRETE (CU. YDS.)	0°	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1
	15°	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6
	30°	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
REINFORCING STEEL EPOXY COATED (LBS.)	0°	1195	1195	1122	1158	1195	1073	1122	1122	1122
	15°	1215	1215	1142	1178	1215	1093	1142	1142	1142
	30°	1286	1286	1335	1383	1286	1322	1213	1213	1213
PILING (NO.)	45°	1661	1661	1612	1539	1588	1637	1551	1551	1551
	ALL	10	10	11	12	13	14	16	16	16

TYPICAL NUMBERS OF PILES AND SPACINGS AND FACTORED PIER LOADS

BRIDGE LENGTH	70'-0"	80'-0"	90'-0"	100'-0"	110'-0"	120'-0"	130'-0"	140'-0"	150'-0"
TYP. NO. OF PILES	10	10	11	12	13	14	16	16	16
TYP. PILE SPACES @ 0°	9 SPA. @ ABOUT 4'-3	9 SPA. @ ABOUT 4'-3	10 SPA. @ ABOUT 3'-10	11 SPA. @ ABOUT 3'-6	12 SPA. @ ABOUT 3'-2	13 SPA. @ ABOUT 3'-0	15 SPA. @ ABOUT 2'-7	15 SPA. @ ABOUT 2'-7	15 SPA. @ ABOUT 2'-7
TYP. PILE SPACES @ 15°	9 SPA. @ ABOUT 4'-5	9 SPA. @ ABOUT 4'-5	10 SPA. @ ABOUT 4'-0	11 SPA. @ ABOUT 3'-7	12 SPA. @ ABOUT 3'-4	13 SPA. @ ABOUT 3'-1	15 SPA. @ ABOUT 2'-8	15 SPA. @ ABOUT 2'-8	15 SPA. @ ABOUT 2'-8
TYP. PILE SPACES @ 30°	9 SPA. @ ABOUT 4'-11	9 SPA. @ ABOUT 4'-11	10 SPA. @ ABOUT 4'-5	11 SPA. @ ABOUT 4'-1	12 SPA. @ ABOUT 3'-8	13 SPA. @ ABOUT 3'-5	15 SPA. @ ABOUT 3'-0	15 SPA. @ ABOUT 3'-0	15 SPA. @ ABOUT 3'-0
TYP. PILE SPACES @ 45°	9 SPA. @ ABOUT 6'-1	9 SPA. @ ABOUT 6'-1	10 SPA. @ ABOUT 5'-5	11 SPA. @ ABOUT 4'-11	12 SPA. @ ABOUT 4'-6	13 SPA. @ ABOUT 4'-2	15 SPA. @ ABOUT 3'-8	15 SPA. @ ABOUT 3'-8	15 SPA. @ ABOUT 3'-8
PI, STRENGTH I DESIGN LOAD FOR PIER (KIPS)	890 KIPS	978 KIPS	1079 KIPS	1187 KIPS	1293 KIPS	1419 KIPS	1543 KIPS	1672 KIPS	1817 KIPS

- ① THIS TYPICAL NUMBER OF PILES MAY NEED TO BE MODIFIED DEPENDING ON SELECTED PIOL PILE TYPE AND SIZE, HEIGHT, AND RESISTANCE. IF THE NUMBER OF PILES IS DIFFERENT THAN IN THE TABLE FOR THE BRIDGE LENGTH, THE NUMBER OF 5d1 BARS AND OTHER QUANTITIES NEED TO BE CHECKED AND ADJUSTED AS NEEDED. PILES 10 INCHES AND 12 INCHES IN SIZE MUST BE SPACED 2'-6 OR MORE, PILES 14 INCHES IN SIZE MUST BE SPACED 2'-11 OR MORE, AND PILES 16 INCHES IN SIZE MUST BE SPACED 3'-4 OR MORE.
- ② MAXIMUM PIOL PILE SIZE AT THIS SPACING IS 14 INCHES.
- ③ MAXIMUM PIOL PILE SIZE AT THIS SPACING IS 12 INCHES.
- ④ STRENGTH I PIER DESIGN LOAD INCLUDES DYNAMIC LOAD ALLOWANCE (IM), AND PIER CAP WEIGHT IS BASED ON 45° SKEW. USE THIS PU FOR DETERMINING NUMBER OF PILES AND PILE LENGTH.

PIER NOTES:

FOR SKEWED BRIDGES BOTTOM OF PIER CAP IS TO BE SLOPED TO COMPENSATE FOR GRADE. THEREFORE, BOTTOM OF CAP ELEVATIONS WILL BE REQUIRED AT THE 1/4 OF ROADWAY AND AT EACH EXTERIOR PILE.

THE MINIMUM CLEAR DISTANCE FROM THE FACE OF THE CONCRETE TO NEAR REINFORCING BAR IS TO BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.

THE PIER PILES ARE TO BE DRIVEN TO FULL PENETRATION, IF PRACTICABLE, BUT IN NO CASE TO A BEARING VALUE LESS THAN THE PILE BEARING REQUIRED FOR EACH BRIDGE LENGTH AS SHOWN ON THIS SHEET.

THE CONCRETE QUANTITIES ARE BASED ON THE USE OF TYPE 3 PILING. IF TYPE 1 OR TYPE 2 IS USED, THE CONCRETE QUANTITIES MAY BE ADJUSTED TO ACCOUNT FOR THE CONCRETE DISPLACED BY THE PILING.

ALL REINFORCING STEEL IS TO BE GRADE 60.

PIER PILING WAS DESIGNED FOR HL-93 LOADING WITH AN ALLOWANCE FOR 20 LBS. PER SQ. FT. FUTURE WEARING SURFACE.

REVISED 06-13 - REVISION FOR LRFD PILE DESIGN.

06-13 LATEST REVISION DATE	 APPROVED BY BRIDGE ENGINEER	 STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES CONTINUOUS CONCRETE SLAB BRIDGES NOVEMBER, 2006
		NON-MONOLITHIC PIER CAP DETAILS ALL BRIDGES
		J40-29-06