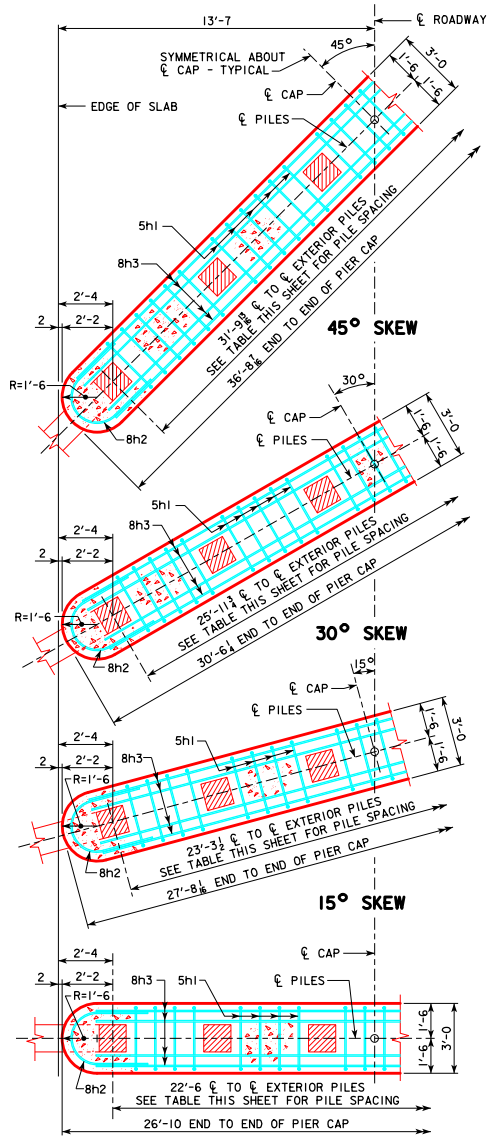


CORRECTION 05-14 - CHANGED THE BAR LABEL FROM 541 TO 5H1 IN ENCIRCLED NOTE 1.
REVISED 08-2022; UPDATED BRIDGE ENGINEER SIGNATURE.



**0° SKEW
HALF SECTION BELOW SLAB**

NOTE: NUMBER OF PILES AND STIRRUPS SHOWN ARE FOR A 70' BRIDGE.
CAP DIMENSIONS ARE TYPICAL FOR ALL SPANS.

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
① TYP. NO. OF PILES	6	6	7	8	9	9	10	10	10
TYP. PILE SPACES @ 0°	5 SPA. @ 4'-6	5 SPA. @ 4'-6	6 SPA. @ 3'-9	② 7 SPA. @ ABOUT 3'-3	③ 8 SPA. @ ABOUT 2'-10	③ 8 SPA. @ ABOUT 2'-10	③ 9 SPA. @ ABOUT 2'-6	③ 9 SPA. @ ABOUT 2'-6	③ 9 SPA. @ 2'-6
TYP. PILE SPACES @ 15°	5 SPA. @ ABOUT 4'-8	5 SPA. @ ABOUT 4'-8	6 SPA. @ ABOUT 3'-11	7 SPA. @ ABOUT 3'-4	② 8 SPA. @ ABOUT 2'-11	② 8 SPA. @ ABOUT 2'-11	③ 9 SPA. @ ABOUT 2'-7	③ 9 SPA. @ ABOUT 2'-7	③ 9 SPA. @ ABOUT 2'-7
TYP. PILE SPACES @ 30°	5 SPA. @ ABOUT 5'-2	5 SPA. @ ABOUT 5'-2	6 SPA. @ ABOUT 4'-4	7 SPA. @ ABOUT 3'-9	② 8 SPA. @ ABOUT 3'-3	② 8 SPA. @ 3'-3	② 9 SPA. @ ABOUT 2'-11	② 9 SPA. @ ABOUT 2'-11	② 9 SPA. @ ABOUT 2'-11
TYP. PILE SPACES @ 45°	5 SPA. @ 4'-4	5 SPA. @ 4'-4	6 SPA. @ ABOUT 5'-4	7 SPA. @ ABOUT 4'-7	8 SPA. @ ABOUT 4'-0	8 SPA. @ ABOUT 4'-0	9 SPA. @ ABOUT 3'-6	9 SPA. @ ABOUT 3'-6	9 SPA. @ ABOUT 3'-6
④ PU, STRENGTH I DESIGN LOAD FOR PIER (KIPS)	577 KIPS	637 KIPS	704 KIPS	776 KIPS	845 KIPS	927 KIPS	1008 KIPS	1092 KIPS	1185 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 5H1 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 (1M), AND PIER CAP WEIGHT IS BASED ON 45° SKEW. USE THIS PU FOR DETERMINING NUMBER OF PILES AND PILE LENGTH.

PIER NOTES:

ALL MONOLITHIC PIER CAP REINFORCING AND CONCRETE IS INCLUDED IN SUPERSTRUCTURE ESTIMATE OF QUANTITIES.

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

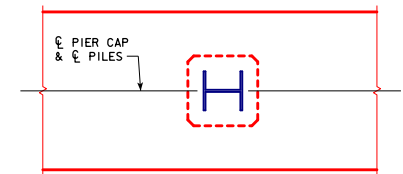
THE PIER PILES ARE TO BE DRIVEN TO FULL PENETRATION, IF PRACTICABLE, BUT IN NO CASE TO A BEARING VALUE LESS THAN THE PILE BEARING REQUIRED FOR EACH BRIDGE LENGTH AS SHOWN ON THIS SHEET. ADDITIONAL DRIVING CAPACITY MAY BE REQUIRED THROUGH SCOURABLE LAYERS. REFER TO GENERAL PLAN NOTES FOR ADDITIONAL INFORMATION.

CAP STEEL AS DETAILED ON PIOL STANDARD PILE DRAWING IS REQUIRED FOR MONOLITHIC PIER CAPS.

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.



PILE ORIENTATION DETAIL FOR TYPE 3 TRESTLE BENT PILES

08-2022 LATEST REVISION DATE	APPROVED BY BRIDGE ENGINEER	IOWA DOT	
		STANDARD DESIGN - 24'-0 ROADWAY, 3 SPAN BRIDGES	
		CONTINUOUS CONCRETE SLAB BRIDGES NOVEMBER, 2006	
MONOLITHIC PIER CAP DETAILS ALL BRIDGES		J24-23-06	
SHEET 1 OF 2			