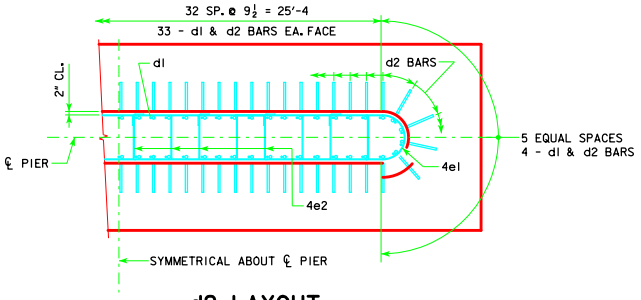
| H IN FT. | ℄ - ℄ ABUT. BRG. | PILING (HP10x57) NO. & LAYOUT | PILING (HP10x57) ① LRFD Pu, STRENGTH I, DES. LOAD (KIPS) | FOOTING SIZE |
|---|---|---|---|---|
| 16 TO 18 | 160'-0 | 12A | 197 | 4' x 7' x 32' |
| | 180'-0 | 12A | 210 | |
| | 200'-0 | 12B | 212 | 4' x 8' x 32' |
| | 220'-0 | 13A | 217 | |
| | 240'-0 | 14A | 214 | |
| | 260'-0 | 15A | 218 | |
| | 280'-0 | 16A | 219 | 4' x 9' x 32' |
| | 300'-0 | 16C | 218 | 4' x 11' x 32' |
| | 320'-0 | 18A | 210 | |
| | 340'-0 | 18A | 219 | |
| 19 TO 21 | 160'-0 | 12A | 204 | 4' x 7' x 32' |
| | 180'-0 | 12A | 218 | |
| | 200'-0 | 12B | 218 | 4' x 8' x 32' |
| | 220'-0 | 14A | 205 | |
| | 240'-0 | 15A | 211 | |
| | 260'-0 | 16A | 210 | 4' x 9' x 32' |
| | 280'-0 | 17A | 215 | 4' x 10' x 32' |
| | 300'-0 | 17B | 214 | 4' x 11' x 32' |
| | 320'-0 | 18A | 215 | |
| | 340'-0 | 19A | 217 | |
| 22 TO 24 | 160'-0 | 12A | 211 | 4' x 7' x 32' |
| | 180'-0 | 12B | 213 | 4' x 8' x 32' |
| | 200'-0 | 13A | 214 | |
| | 220'-0 | 14A | 212 | |
| | 240'-0 | 15B | 214 | 4' x 9' x 32' |
| | 260'-0 | 16A | 215 | |
| | 280'-0 | 17B | 208 | 4' x 11' x 32' |
| | 300'-0 | 17B | 219 | |
| | 320'-0 | 18A | 220 | |
| | 340'-0 | 20A | 214 | |
| 25 TO 27 | 160'-0 | 12B | 206 | 4' x 8' x 32' |
| | 180'-0 | 12B | 219 | |
| | 200'-0 | 14A | 203 | |
| | 220'-0 | 14B | 214 | 4' x 9' x 32' |
| | 240'-0 | 15C | 218 | 4' x 10' x 32' |
| | 260'-0 | 16B | 218 | |
| | 280'-0 | 17B | 212 | 4' x 11' x 32' |
| | 300'-0 | 18A | 213 | |
| | 320'-0 | 19A | 217 | |
| | 340'-0 | 20B | 217 | 4' x 12' x 32' |
| 28 TO 30 | 160'-0 | 12B | 212 | 4' x 8' x 32' |
| | 180'-0 | 13A | 214 | |
| | 200'-0 | 14B | 205 | 4' x 9' x 32' |
| | 220'-0 | 14B | 219 | |
| | 240'-0 | 16B | 210 | 4' x 10' x 32' |
| | 260'-0 | 16C | 211 | 4' x 11' x 32' |
| | 280'-0 | 17B | 216 | |
| | 300'-0 | 18A | 217 | |
| | 320'-0 | 19B | 219 | 4' x 12' x 32' |
| | 340'-0 | 20C | 219 | 4' x 14' x 32' |
| 31 TO 33 | 160'-0 | 12C | 215 | 4' x 9' x 32' |
| | 180'-0 | 13B | 217 | |
| | 200'-0 | 14B | 212 | |
| | 220'-0 | 15C | 213 | 4' x 10' x 32' |
| | 240'-0 | 16B | 215 | |
| | 260'-0 | 16C | 215 | 4' x 11' x 32' |
| | 280'-0 | 17C | 219 | 4' x 12' x 32' |
| | 300'-0 | 18B | 220 | |
| | 320'-0 | 20C | 213 | 4' x 14' x 32' |
| | 340'-0 | 21A | 215 | |
| 34 TO 36 | 160'-0 | 13B | 211 | 4' x 9' x 32' |
| | 180'-0 | 14B | 208 | |
| | 200'-0 | 14C | 214 | 4' x 10' x 32' |
| | 220'-0 | 15C | 219 | |
| | 240'-0 | 16C | 208 | 4' x 11' x 32' |
| | 260'-0 | 17B | 212 | |
| | 280'-0 | 18B | 212 | 4' x 12' x 32' |
| | 300'-0 | 19B | 216 | |
| | 320'-0 | 20C | 217 | 4' x 14' x 32' |
| | 340'-0 | 21A | 219 | |

| H IN FT. | ℄ - ℄ ABUT. BRG. | PILING (HP10x57) NO. & LAYOUT | PILING (HP10x57) ① LRFD Pu, STRENGTH I, DES. LOAD (KIPS) | FOOTING SIZE |
|---|---|---|---|---|
| 37 TO 40 | 160'-0 | 13C | 215 | 4' x 10' x 32' |
| | 180'-0 | 14C | 211 | |
| | 200'-0 | 15C | 214 | |
| | 220'-0 | 15D | 217 | 4' x 11' x 32' |
| | 240'-0 | 16C | 216 | |
| | 260'-0 | 17C | 216 | 4' x 12' x 32' |
| | 280'-0 | 18B | 219 | |
| | 300'-0 | 19C | 219 | 4' x 14' x 32' |
| | 320'-0 | 20D | 210 | 4' x 14' x 34' |
| | 340'-0 | 21B | 211 | |

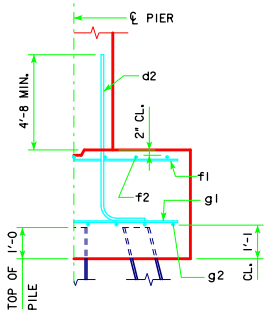
| FOOTING SIZE | REINFORCING STEEL (ONE FOOTING) BAR | NO., SIZE & SPACING | LENGTH | WEIGHT (LB.) | TOTAL WEIGHT (LB.) | STRUCTURAL CONCRETE (CY) |
|---|---|---|---|---|---|---|
| 4' x 7' x 32' | d2 | 74 - #9 AS SHOWN | 9'-1 | 2285 | 3487 | 33.2 |
| | f1 | 32 - #5 @ 1'-0 | 6'-8 | 223 | | |
| | f2 | 7 - #5 @ 1'-0 | 31'-8 | 231 | | |
| | g1 | 32 - #6 @ 1'-0 | 6'-8 | 320 | | |
| | g2 | 9 - #6 @ 0'-9½ | 31'-8 | 428 | | |
| 4' x 8' x 32' | d2 | 74 - #9 AS SHOWN | 9'-1 | 2285 | 3791 | 37.9 |
| | f1 | 32 - #5 @ 1'-0 | 7'-8 | 256 | | |
| | f2 | 8 - #5 @ 1'-0 | 31'-8 | 264 | | |
| | g1 | 32 - #6 @ 1'-0 | 7'-8 | 368 | | |
| | g2 | 13 - #6 @ 0'-7½ | 31'-8 | 618 | | |
| 4' x 9' x 32' | d2 | 74 - #9 AS SHOWN | 9'-1 | 2285 | 3984 | 42.7 |
| | f1 | 32 - #5 @ 1'-0 | 8'-8 | 289 | | |
| | f2 | 9 - #5 @ 1'-0 | 31'-8 | 297 | | |
| | g1 | 38 - #6 @ 0'-10 | 8'-8 | 495 | | |
| | g2 | 13 - #6 @ 0'-8½ | 31'-8 | 618 | | |
| 4' x 10' x 32' | d2 | 74 - #9 AS SHOWN | 9'-1 | 2285 | 4267 | 47.4 |
| | f1 | 32 - #5 @ 1'-0 | 9'-8 | 323 | | |
| | f2 | 10 - #5 @ 1'-0 | 31'-8 | 330 | | |
| | g1 | 36 - #7 @ 0'-10½ | 9'-8 | 711 | | |
| | g2 | 13 - #6 @ 0'-9½ | 31'-8 | 618 | | |
| 4' x 11' x 32' | d2 | 74 - #9 AS SHOWN | 9'-1 | 2285 | 4813 | 52.1 |
| | f1 | 32 - #5 @ 1'-0 | 10'-8 | 356 | | |
| | f2 | 11 - #5 @ 1'-0 | 31'-8 | 363 | | |
| | g1 | 34 - #8 @ 0'-11 | 10'-8 | 968 | | |
| | g2 | 13 - #7 @ 0'-10½ | 31'-8 | 841 | | |
| 4' x 12' x 32' | d2 | 74 - #9 AS SHOWN | 9'-1 | 2285 | 5180 | 56.9 |
| | f1 | 32 - #5 @ 1'-0 | 11'-8 | 389 | | |
| | f2 | 12 - #5 @ 1'-0 | 31'-8 | 396 | | |
| | g1 | 32 - #9 @ 1'-0 | 11'-8 | 1269 | | |
| | g2 | 13 - #7 @ 0'-11½ | 31'-8 | 841 | | |
| 4' x 14' x 32' | d2 | 74 - #9 AS SHOWN | 9'-1 | 2285 | 5871 | 66.4 |
| | f1 | 32 - #5 @ 1'-0 | 13'-8 | 456 | | |
| | f2 | 14 - #5 @ 1'-0 | 31'-8 | 462 | | |
| | g1 | 39 - #9 @ 0'-9½ | 13'-8 | 1812 | | |
| | g2 | 18 - #6 @ 0'-9½ | 31'-8 | 856 | | |
| 4' x 14' x 34' | d2 | 74 - #9 AS SHOWN | 9'-1 | 2285 | 6875 | 70.5 |
| | f1 | 34 - #5 @ 1'-0 | 13'-8 | 485 | | |
| | f2 | 14 - #5 @ 1'-0 | 33'-8 | 492 | | |
| | g1 | 41 - #9 @ 0'-10 | 13'-8 | 1905 | | |
| | g2 | 19 - #8 @ 0'-9 | 33'-8 | 1708 | | |

① NOTE: PU, STRENGTH I DESIGN LOAD (KIPS) IS NOT THE VALUE USED IN THE FIELD FOR DRIVING PILES.

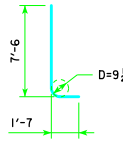



## d2 LAYOUT

(SEE SECTION A-A ON SHEET RS40-156-14.)




## TYPICAL SECTION




## d2

NOTE: D = PIN DIAMETER.
DIMENSIONS ARE OUT TO OUT.

NOTE: THE REINFORCING STEEL QUANTITY IS TO BE INCLUDED ON THE SUMMARY QUANTITIES SHEET IN THE PLAN.

NOTE: THE CONCRETE QUANTITY IS TO BE INCLUDED ON THE SUMMARY QUANTITIES SHEET IN THE PLAN.

NOTE: THE PILE TYPE IS TO BE INCLUDED ON THE SUMMARY QUANTITIES SHEET IN THE PLAN.

## FOOTING NOTES:

THESE FOOTINGS ARE DESIGNED AND DETAILED TO BE USED WITH THE CAP AND COLUMN DETAILS OF THE TEE PIERS AS SHOWN ON SHEET RS40-156-14.

BATTER PILES IN EXTERIOR ROWS 1:4 IN THE DIRECTION SHOWN.

STEEL PILING USED AS POINT BEARING SHALL HAVE A MINIMUM DISTANCE OF APPROXIMATELY 10 FEET FROM BOTTOM OF FOOTING TO TOP OF BEARING ROCK. THE PILE LAYOUTS ARE SUCH THAT THE DISTANCE CENTER TO CENTER OF ADJACENT PILING SHALL NOT EXCEED 8'-0.

PIER PILES SHALL BE DRIVEN TO VALUES SHOWN IN DESIGN PLANS.

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

IOWADOT Highway Division

STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES

# ROLLED STEEL BEAM BRIDGES

OCTOBER, 2014

## TEE PIER-HP10x57 SRL-2 STEEL PILE FOOTINGS

45° SKEW - SHEET 1

RS40-161-14