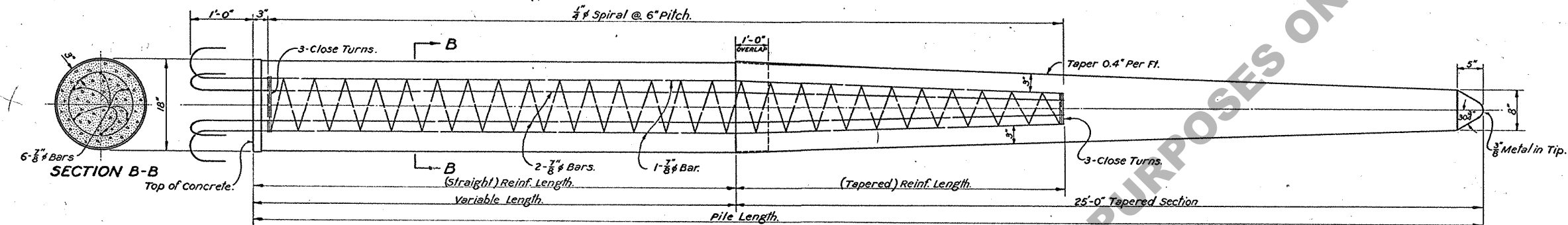


16" CAST IN PLACE METAL SHELL PILE.  
UNION METAL MFG. CO. FLUTED MONOTUBE PILE  
NO. 7 GAGE TYPE YN 16 OR EQUAL.

NOTE: Field Pile Splice (Monotube)  
to be Heavy-Duty Type Field Joint  
with 1'-0" Overlap.

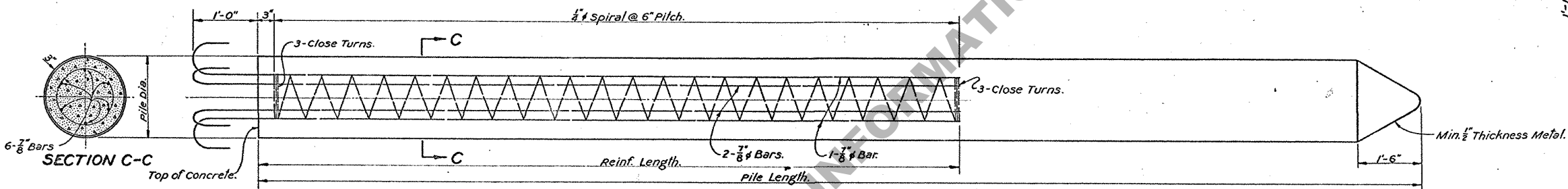
| FLUTED STEEL MONOTUBE TAPERED PILES |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|-------------------------------------|----------------------------------------------------------------|-------|------|------|------|------|------|------|------|------|------|-----|---------------|
| PILE DIAMETER                       | CONCRETE QUANTITY (CU. YDS.) FOR VARYING LENGTH (FT.) OF PILES |       |      |      |      |      |      |      |      |      |      |     | PILE DIAMETER |
|                                     | 25                                                             | 30    | 35   | 40   | 45   | 50   | 55   | 60   | 65   | 70   | 75   |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
| 16"                                 | 0.722                                                          | 0.938 | 1.15 | 1.37 | 1.59 | 1.80 | 2.02 | 2.23 | 2.45 | 2.67 | 2.88 | 16" |               |
| 18"                                 | 0.740                                                          | 1.00  | 1.26 | 1.53 | 1.80 | 2.06 | 2.33 | 2.59 | 2.86 | 3.12 | 3.39 | 18" |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
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|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
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|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
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|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
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|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
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|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |
|                                     |                                                                |       |      |      |      |      |      |      |      |      |      |     |               |



18" CAST IN PLACE METAL SHELL PILE.  
UNION METAL MFG. CO. FLUTED MONOTUBE PILE  
NO. 7 GAGE TYPE YN 18 OR EQUAL.

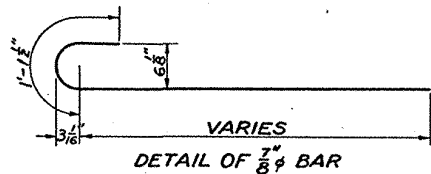
| FLUTED STEEL MONOTUBE TAPERED PILES |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|-------------------------------------|-----------------------------------------|-----|-----|-----|-----|-----|-----|-----|--------------------|--------------------------------------------|----|----|-----|-----|-----|
| PILE<br>DIAMETER                    | REINFORCING STEEL                       |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     | STRAIGHT SECTION                        |     |     |     |     |     |     |     | TAPERED SECTION    |                                            |    |    |     |     |     |
|                                     | *WEIGHT (LBS) FOR VARYING LENGTHS (FT.) |     |     |     |     |     |     |     | LBS.<br>PER<br>FT. | WEIGHT (LBS.) FOR<br>VARYING LENGTHS (FT.) |    |    |     |     |     |
|                                     | 5                                       | 10  | 15  | 20  | 25  | 30  | 35  | 40  |                    | 2                                          | 4  | 6  | 8   | 10  | 12  |
| 16"                                 | 92                                      | 158 | 224 | 291 | 357 | 423 | 489 | 556 | 13.25/10           | 26                                         | 52 | 78 | 104 | 129 | —   |
| 18"                                 | 93                                      | 160 | 227 | 295 | 362 | 429 | 496 | 563 | 13.4237            | 27                                         | 53 | 79 | 105 | 131 | 157 |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
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|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |
|                                     |                                         |     |     |     |     |     |     |     |                    |                                            |    |    |     |     |     |

\*INCLUDES ANCHOR REINF. AND THREE CLOSE TURNS AT EACH END OF SPIRAL.



NOTE: Field Pile Splice (Armco Smooth Metal)  
to be Butt-Welded.  
Square cut Top End and bevel Lower End or  
(Splice End).

16" AND 18" CAST IN PLACE METAL SHELL PILE.  
ARMCO DRAINAGE AND METAL PRODUCTS, INC. SMOOTH SHELL  
FOUNDATION PIPE PILES NO. 7 GAGE OR EQUAL.  
PIPE SHALL CONFORM TO THE REQUIREMENTS OF THE  
LATEST ISSUE OF THE AMERICAN SOCIETY FOR TESTING  
MATERIALS SPEC. A. NO. 252, GRADE 2 WELDED AND  
SEAMLESS STEEL PIPE PILES.



GENERAL NOTES:  
Construction Specifications: Latest Approved Louisiana  
Dept. of Highways Std. Specs.  
Reinforcement Bars shall be Intermediate or Hard Grade,  
A.S.T.M. A-15, or Rail Steel, A.S.T.M. A-16.  
Dimensions relating to Reinf. Steel are to Bar Centers.  
Reinforcing to be carried to 10 Feet below Ground unless noted otherwise.  
No Reinforcing required in Piles under Column Bents or Piers.  
Max. Height Ground to Grade with 16" Piles equals 20'-0"; 18" Piles equals 25'-0".  
Cost of Reinforcing Steel and Class 'A' Concrete to be Included in Price  
Bid Per Lin. Ft. of Metal Pile.

MAX. PILE LOADS UNLESS OTHERWISE INSTRUCTED  
BY BRIDGE DESIGN SECTION:  
16" PILES = 28 TONS.  
18" PILES = 32 TONS.

| ARMCO FOUNDATION PIPE PILE (SMOOTH METAL) |                                                                |        |        |        |        |        |        |        |        |        |        |     |               |
|-------------------------------------------|----------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----|---------------|
| PILE DIAMETER                             | CONCRETE QUANTITY (CU. YDS.) FOR VARYING LENGTH (FT.) OF PILES |        |        |        |        |        |        |        |        |        |        |     | PILE DIAMETER |
|                                           | 25                                                             | 30     | 35     | 40     | 45     | 50     | 55     | 60     | 65     | 70     | 75     | 10  |               |
| 16"                                       | 1.2375                                                         | 1.4850 | 1.7325 | 1.9800 | 2.2275 | 2.4750 | 2.7225 | 2.9700 | 3.2175 | 3.4650 | 3.7125 | 158 | 16"           |
| 18"                                       | 1.5750                                                         | 1.8900 | 2.2050 | 2.5200 | 2.8350 | 3.1500 | 3.4650 | 3.7800 | 4.0950 | 4.4100 | 4.7250 | 160 | 18"           |

\*INCLUDES ANCHOR REINF. AND THREE CLOSE TURNS AT EACH END OF SPIRAL.

STANDARD PLAN  
METAL PILE DETAILS  
16" AND 18" FLUTED AND SMOOTH SHELL  
CAST IN PLACE CONC. PILES

DATED: May, 1950.

STATE OF LOUISIANA  
DEPARTMENT OF HIGHWAYS

| 10-28-53 | Revised Steel Spec. in General Notes | TAB. 101 | DESIGNED | CHECKED | TRACED  |
|----------|--------------------------------------|----------|----------|---------|---------|
| DATE     | DESCRIPTION                          | BY       | CHECKED  | CHECKED | CHECKED |
|          | REVISIONS                            |          |          |         |         |

BRIDGE DESIGN SECTION