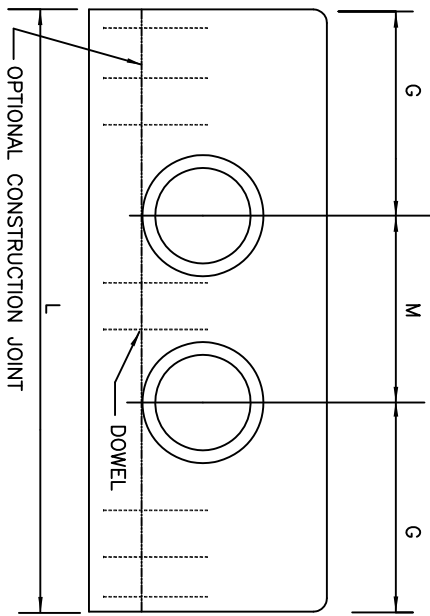
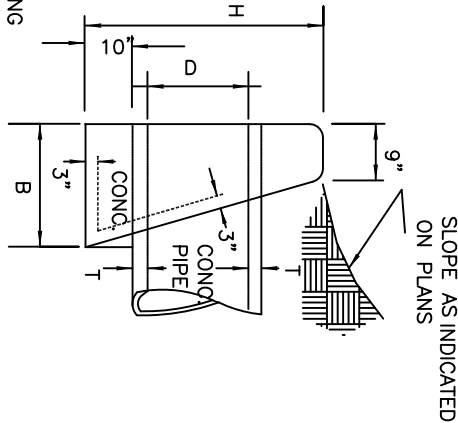


PLAN



ELEVATION



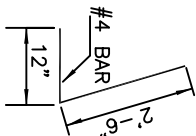
(IF CONST. JOINT USED)

END ELEVATION

| DOWELS IN ENDWALL WITH REINFORCED CONCRETE PIPE |      |             |     |     |     |     |     |             |     |     |     |     |     |
|-------------------------------------------------|------|-------------|-----|-----|-----|-----|-----|-------------|-----|-----|-----|-----|-----|
| PIPE                                            |      | SINGLE PIPE |     |     |     |     |     | DOUBLE PIPE |     |     |     |     |     |
| L                                               | PIPE | 15"         | 18" | 24" | 30" | 36" | 42" | 15"         | 18" | 24" | 30" | 36" | 42" |
| O                                               | DIA. | "X"         | "X" | "X" | "X" | "X" | "X" | "X"         | "X" | "X" | "X" | "X" | "X" |
| C.                                              | BAR  | 2           | 2   | 3   | 3   | 4   | 4   | 5           | 2   | 2   | 3   | 3   | 4   |
| G                                               | QTY. | 2           | 2   | 3   | 3   | 4   | 4   | 5           | 1   | 1   | 2   | 2   | 2   |
| M                                               | QTY. | —           | —   | —   | —   | —   | —   | 2           | 2   | 2   | 2   | 2   | 2   |
| G                                               | QTY. | 2           | 2   | 3   | 3   | 4   | 4   | 5           | 2   | 2   | 3   | 3   | 4   |
| TOT.                                            | LBS  | 9           | 9   | 14  | 14  | 19  | 55  | 65          | 12  | 12  | 19  | 23  | 77  |
|                                                 |      |             |     |     |     |     |     |             |     |     |     |     | 92  |

| DOWELS IN ENDWALL WITH CORRUGATED METAL PIPE |      |             |     |     |     |     |     |             |     |     |     |     |     |     |     |
|----------------------------------------------|------|-------------|-----|-----|-----|-----|-----|-------------|-----|-----|-----|-----|-----|-----|-----|
| PIPE                                         |      | SINGLE PIPE |     |     |     |     |     | DOUBLE PIPE |     |     |     |     |     |     |     |
| L                                            | PIPE | 15"         | 18" | 24" | 30" | 36" | 42" | 48"         | 15" | 18" | 24" | 30" | 36" | 42" | 48" |
| O                                            | DIA. | "X"         | "X" | "X" | "X" | "X" | "X" | "X"         | "X" | "X" | "X" | "X" | "X" | "X" | "X" |
| C.                                           | BAR  | 2           | 2   | 3   | 3   | 4   | 4   | 5           | 2   | 2   | 3   | 3   | 4   | 4   | 5   |
| G                                            | QTY. | 2           | 2   | 3   | 3   | 4   | 4   | 5           | 1   | 1   | 1   | 2   | 2   | 2   | 2   |
| M                                            | QTY. | —           | —   | —   | —   | —   | —   | 2           | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| G                                            | QTY. | 2           | 2   | 3   | 3   | 4   | 4   | 5           | 2   | 2   | 3   | 3   | 4   | 4   | 5   |
| TOT.                                         | LBS  | 9           | 9   | 14  | 14  | 19  | 53  | 62          | 12  | 12  | 16  | 19  | 23  | 73  | 85  |

DOWEL BAR "X"



| DIMENSIONS AND QUANTITIES |        |        |       |    |        |             |        |        |         |  |  |
|---------------------------|--------|--------|-------|----|--------|-------------|--------|--------|---------|--|--|
| USING CONCRETE PIPE       |        |        |       |    |        | DOUBLE PIPE |        |        |         |  |  |
| COMMON DIMENSIONS         |        |        |       |    |        | SINGLE PIPE |        |        |         |  |  |
| D                         | H      | B      | G     | T  | L      | CU. YD.     | M      | L      | CU. YD. |  |  |
| 15"                       | 3'-4"  | 1'-8"  | 2'-9" | 1  | 7/8"   | 0.734       | 2'-2"  | 7'-8"  | 0.970   |  |  |
| 18"                       | 3'-7"  | 1'-10" | 3'-2" | 2" | 6'-4"  | 0.958       | 2'-7"  | 8'-11" | 1.274   |  |  |
| 24"                       | 4'-2"  | 2'-1"  | 4'-0" | 2  | 1/2"   | 1.506       | 3'-5"  | 11'-5" | 2.010   |  |  |
| 30"                       | 4'-9"  | 2'-5"  | 4'-7" | 2  | 3/4"   | 2.145       | 4'-3"  | 13'-5" | 2.920   |  |  |
| 36"                       | 5'-3"  | 2'-8"  | 5'-6" | 3" | 11'-0" | 3.040       | 5'-0"  | 16'-0" | 4.086   |  |  |
| 42"                       | 5'-10" | 2'-11" | 6'-4" | 3  | 1/2"   | 4.120       | 5'-10" | 18'-6" | 5.534   |  |  |
| 48"                       | 6'-5"  | 3'-3"  | 7'-2" | 4" | 14'-4" | 5.535       | 6'-8"  | 21'-0" | 7.427   |  |  |

APPROVED DATE \_\_\_\_\_

REVISIONS

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
|     |      |             |
|     |      |             |
|     |      |             |
|     |      |             |



CONCRETE ENDWALL FOR

SINGLE & DOUBLE PIPE CULVERTS

15" THRU 48" PIPE

(1 of 2)

CITY OF MONROE

UNION COUNTY

ENGINEERING DEPARTMENT

FILE: I:\Maps-Details\Detail Manual\Details

DRAWN BY: JAM

CHECKED BY: JNL

DATE: 08-07-01

SCALE: N.T.S.