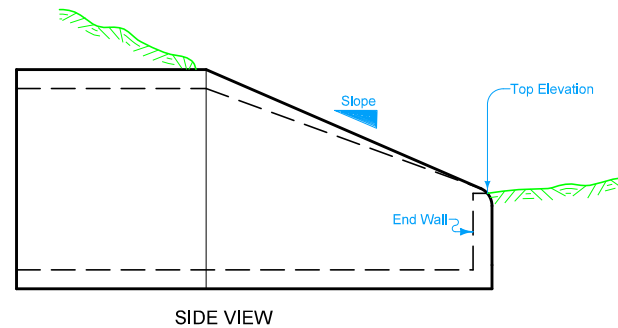
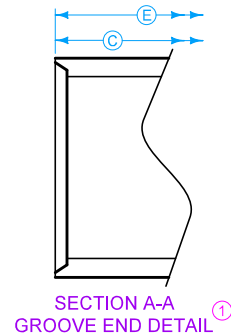
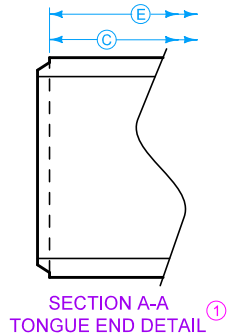
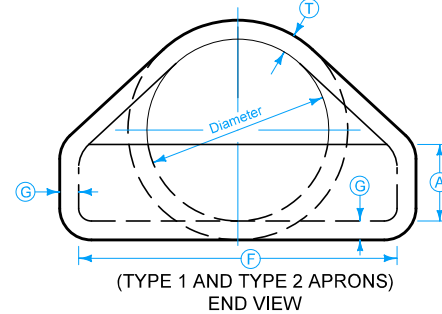
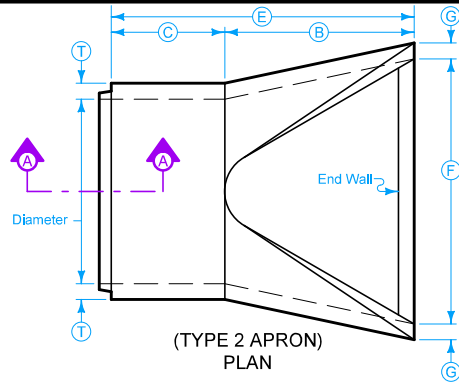
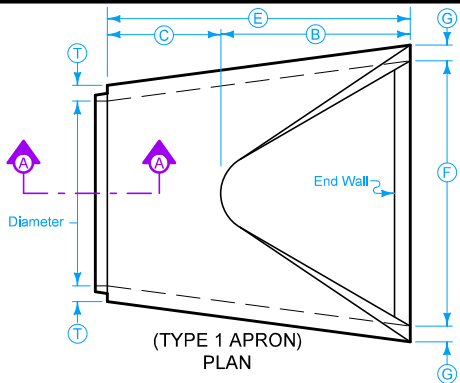


DESIGNER INFO



For the End Wall, match the thickness **T** and reinforcing used for the pipe apron.

Dimension **E** shown is the minimum and is considered the design length. Adjust for any difference between the actual length of concrete apron installed and the length indicated hereon within the length of concrete culvert pipe furnished.

Install connected pipe joints as shown on [DR-121](#).

When specified in the contract documents, install pipe apron guards as shown on [DR-213](#). Adjust connection locations to avoid conflict with end wall. Pipe apron guards are incidental to "Concrete Aprons".

① Tongue end used on inlet end section. Groove end used on outlet end section.

| TYPE 1 APRONS | | | | | | | | |
|---------------|-------|--------------------|----------------------|----------------------|----------------------|--------|-------------------|-------------------|
| DIAM. | SLOPE | A | B | MINIMUM | | F | G | T |
| | | | | C | E | | | |
| 12" | 2.4:1 | 4" | 2'-0" | 4'- $\frac{7}{8}$ " | 6'- $\frac{7}{8}$ " | 2'-0" | 2" | 2" |
| 15" | 2.4:1 | 6" | 2'-3" | 3'-10" | 6'-1" | 2'-6" | 2 $\frac{1}{4}$ " | 2 $\frac{1}{4}$ " |
| 18" | 2.3:1 | 9" | 2'-3" | 3'-10" | 6'-1" | 3'-0" | 2 $\frac{1}{2}$ " | 2 $\frac{1}{2}$ " |
| 21" | 2.4:1 | 9" | 3'-0" | 3'-1 $\frac{1}{2}$ " | 6'-1 $\frac{1}{2}$ " | 3'-5" | 3" | 3" |
| 24" | 2.5:1 | 9 $\frac{1}{2}$ " | 3'-7 $\frac{1}{2}$ " | 2'-6" | 6'-1 $\frac{1}{2}$ " | 4'-0" | 3" | 3" |
| 27" | 2.5:1 | 10 $\frac{1}{2}$ " | 4'-1" | 2'-0" | 6'-1 $\frac{1}{2}$ " | 4'-4" | 3 $\frac{1}{2}$ " | 3 $\frac{1}{2}$ " |
| 30" | 2.5:1 | 12" | 4'-6" | 1'-7 $\frac{3}{4}$ " | 6'-1 $\frac{3}{4}$ " | 5'-0" | 3 $\frac{1}{2}$ " | 3 $\frac{1}{2}$ " |
| 36" | 2.5:1 | 15" | 5'-3" | 2'-9" | 8'-0" | 6'-0" | 4" | 4" |
| 42" | 2.5:1 | 21" | 5'-3" | 2'-9" | 8'-0" | 6'-6" | 4 $\frac{1}{2}$ " | 4 $\frac{1}{2}$ " |
| 48" | 2.5:1 | 24" | 6'-0" | 2'-0" | 8'-0" | 7'-0" | 5" | 5" |
| 54" | 1.8:1 | 27" | 5'-0" | 3'-0" | 8'-0" | 7'-6" | 5 $\frac{1}{2}$ " | 5 $\frac{1}{2}$ " |
| 60" | 1.6:1 | 29 $\frac{1}{2}$ " | 5'-0" | 3'-0" | 8'-0" | 8'-0" | 5 $\frac{1}{2}$ " | 6" |
| 66" | 1.7:1 | 30" | 6'-0" | 2'-3" | 8'-3" | 8'-0" | 5 $\frac{1}{2}$ " | 6" |
| 72" | 1.6:1 | 30" | 6'-6" | 1'-9" | 8'-3" | 9'-0" | 6" | 7" |
| 78" | 1.8:1 | 36" | 7'-6" | 1'-9" | 9'-3" | 9'-6" | 6 $\frac{1}{2}$ " | 7 $\frac{1}{2}$ " |
| 84" | 1.3:1 | 29 $\frac{1}{2}$ " | 6'-9" | 2'-6 $\frac{1}{2}$ " | 9'-3 $\frac{1}{2}$ " | 10'-0" | 6 $\frac{1}{2}$ " | 8" |

| TYPE 2 APRONS | | | | | | | | |
|---------------|-------|--------------------|----------------------|----------------------|----------------------|--------|-------------------|-------------------|
| DIAM. | SLOPE | A | B | MINIMUM | | F | G | T |
| | | | | C | E | | | |
| 12" | 2.4:1 | 4" | 2'-0" | 4'- $\frac{7}{8}$ " | 6'- $\frac{7}{8}$ " | 2'-0" | 2" | 2" |
| 15" | 2.4:1 | 6" | 2'-3" | 3'-10" | 6'-1" | 2'-6" | 2 $\frac{1}{4}$ " | 2 $\frac{1}{4}$ " |
| 18" | 2.3:1 | 9" | 2'-3" | 3'-10" | 6'-1" | 3'-0" | 2 $\frac{1}{2}$ " | 2 $\frac{1}{2}$ " |
| 21" | 2.4:1 | 9" | 3'-0" | 3'-1 $\frac{1}{2}$ " | 6'-1 $\frac{1}{2}$ " | 3'-5" | 3" | 3" |
| 24" | 2.5:1 | 9 $\frac{1}{2}$ " | 3'-7 $\frac{1}{2}$ " | 2'-6" | 6'-1 $\frac{1}{2}$ " | 4'-0" | 3" | 3" |
| 27" | 2.5:1 | 10 $\frac{1}{2}$ " | 4'-1" | 2'-0" | 6'-1 $\frac{1}{2}$ " | 4'-4" | 3 $\frac{1}{2}$ " | 3 $\frac{1}{2}$ " |
| 30" | 2.5:1 | 12" | 4'-6" | 1'-7 $\frac{3}{4}$ " | 6'-1 $\frac{3}{4}$ " | 5'-0" | 3 $\frac{1}{2}$ " | 3 $\frac{1}{2}$ " |
| 36" | 2.5:1 | 15" | 5'-3" | 2'-9" | 8'-0" | 6'-0" | 4" | 4" |
| 42" | 2.5:1 | 21" | 5'-3" | 2'-9" | 8'-0" | 6'-6" | 4 $\frac{1}{2}$ " | 4 $\frac{1}{2}$ " |
| 48" | 2.5:1 | 24" | 6'-0" | 2'-0" | 8'-0" | 7'-0" | 5" | 5" |
| 54" | 1.9:1 | 24 $\frac{1}{2}$ " | 5'-5" | 2'-7" | 8'-0" | 7'-6" | 5 $\frac{1}{2}$ " | 5 $\frac{1}{2}$ " |
| 60" | 1.4:1 | 24 $\frac{1}{2}$ " | 5'-0" | 3'-0" | 8'-0" | 8'-0" | 5 $\frac{1}{2}$ " | 6" |
| 66" | 1.7:1 | 30" | 6'-0" | 2'-3" | 8'-3" | 8'-0" | 5 $\frac{1}{2}$ " | 6" |
| 72" | 1.4:1 | 24" | 6'-6" | 1'-9" | 8'-3" | 9'-0" | 6" | 7" |
| 78" | 1.8:1 | 36" | 7'-6" | 1'-9" | 9'-3" | 9'-6" | 6 $\frac{1}{2}$ " | 7 $\frac{1}{2}$ " |
| 84" | 1.5:1 | 23 $\frac{1}{2}$ " | 7'-6 $\frac{1}{2}$ " | 1'-9" | 9'-3 $\frac{1}{2}$ " | 10'-0" | 6 $\frac{1}{2}$ " | 8" |

Contract Item:
Apron, Concrete

Possible Tabulation:
104-3

| | | |
|---|---------------|---------|
| | REVISION | |
| | 2 | 4-21-20 |
| STANDARD ROAD PLAN | DR-205 | |
| | SHEET 1 of 1 | |
| <small>REVISIONS: Added Designer Info button.</small> | | |
| | | |
| <small>APPROVED BY DESIGN METHODS ENGINEER</small> | | |
| CONCRETE APRON WITH END WALL | | |