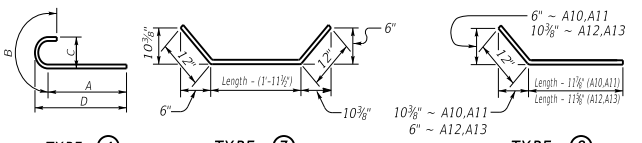
# 30° SKEW 24'-0" – 25'-6" BRIDGE WIDTH 2:1 FILL SLOPES

## Bill of Reinforcement

| MARK | A1 | | | A2 | | | A3 | A4 | A5 | A6 | | | | | | | | | | A7 | | | A8 | | | A9 | | | A10 | A11 | A12 | A13 | A14 | A15 | A16 | A17 | A18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TYPE | Str. | | | Str. | | | Str. | Str. | Str. | 4 | | | | | | | | | | Str. | | | Str. | | | Str. | | | 8 | 8 | 8 | 8 | 7 | 7 | Str. | Str. | Str. |
| SIZE | | | | | | | #5 | #5 | #5 | | | | | | | | | | | | | | | | | #5 | | | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 |
| H | No. | Size | Length ft. | in. | Spacing | No. | Size | Length ft. | in. | Spacing | No. | Size | Length ft. | in. | A in. | B ft. | in. | C in. | D in. | No. | Size | Length ft. | in. | Spacing | No. | Size | Length ft. | in. | Spacing | No. | Length ft. | in. | No. | Length ft. | in. | No. | Length ft. | in. | No. | Length ft. | in. | No. | Length ft. | in. | No. | Length ft. | in. | No. | Length ft. | in. | No. | Length ft. | in. |
| 15–16 | 86 | 10 | 11 | 8 | 12 | 86 | 7 | 11 | 8 | 12 | 83 | 9 | 9 | 11 | 12 | 8 | 1/8 | 1 | 10 | 0 | 11 3/8 | 8 | 6 | 86 | 5 | 4 | 11 | 12 | 83 | 6 | 12 | 10 | 12 | 86 | 12 | 10 | 12 | 14 | 32 | 10 | 14 | 30 | 4 | 14 | 19 | 8 | 14 | 18 | 11 | 14 | 43 | 3 | 14 | 39 | 11 | 2 | 35 | 6 | 2 | 22 | 5 | 121 | 5 | 9 |
| 13–14 | 79 | 9 | 10 | 8 | 12 | 79 | 7 | 10 | 8 | 12 | 76 | 8 | 8 | 8 | 3 | 12 | 6 | 11 | 1 | 3 | 0 | 8 | 7 | 3 | 79 | 5 | 4 | 11 | 12 | 76 | 6 | 10 | 10 | 12 | 79 | 10 | 10 | 12 | 12 | 28 | 10 | 12 | 26 | 4 | 12 | 16 | 8 | 12 | 15 | 11 | 12 | 43 | 4 | 12 | 39 | 11 | 2 | 31 | 6 | 2 | 19 | 5 | 107 | 5 | 9 |
| 11–12 | 74 | 8 | 9 | 8 | 12 | 74 | 6 | 9 | 8 | 12 | 70 | 7 | 7 | 7 | 1 | 12 | 5 | 10 1/4 | 1 | 2 | 0 | 7 | 6 | 2 | 73 | 5 | 4 | 11 | 12 | 70 | 5 | 8 | 10 | 12 | 73 | 8 | 10 | 12 | 10 | 24 | 10 | 10 | 22 | 4 | 10 | 14 | 8 | 10 | 13 | 11 | 10 | 43 | 4 | 10 | 39 | 11 | 2 | 27 | 6 | 2 | 17 | 5 | 95 | 5 | 9 |
| 9–10 | 70 | 7 | 8 | 8 | 12 | 70 | 5 | 8 | 8 | 12 | 65 | 6 | 6 | 6 | 1 | 12 | 5 | 1 | 1 | 0 | 0 | 6 | 5 | 4 | 68 | 5 | 4 | 11 | 12 | 65 | 5 | 6 | 10 | 12 | 68 | 6 | 10 | 12 | 8 | 21 | 10 | 8 | 19 | 4 | 8 | 12 | 8 | 8 | 11 | 11 | 8 | 43 | 4 | 8 | 39 | 11 | 2 | 24 | 6 | 2 | 15 | 5 | 85 | 5 | 9 |
| 7–8 | 65 | 6 | 7 | 2 | 12 | 65 | 5 | 7 | 2 | 12 | 61 | 6 | 6 | 6 | 1 | 12 | 4 | 8 1/2 | 0 | 10 | 0 | 5 | 4 | 11 | 61 | 5 | 4 | 11 | 12 | 58 | 5 | 4 | 10 | 12 | 61 | 4 | 10 | 12 | 6 | 16 | 11 | 6 | 14 | 4 | 6 | 10 | 8 | 6 | 9 | 11 | 6 | 43 | 5 | 6 | 39 | 11 | 2 | 19 | 6 | 2 | 13 | 5 | 71 | 5 | 9 |
| 5–6 | 60 | 5 | 6 | 2 | 12 | 60 | 5 | 6 | 2 | 12 | 56 | 5 | 5 | 7 | 12 | 4 | 8 1/2 | 0 | 10 | 0 | 5 | 4 | 11 | 56 | 5 | 4 | 11 | 12 | 53 | 5 | 2 | 10 | 12 | 56 | 2 | 10 | 12 | 4 | 13 | 11 | 4 | 11 | 4 | 4 | 8 | 8 | 4 | 7 | 11 | 4 | 43 | 5 | 4 | 39 | 11 | 2 | 16 | 6 | 2 | 11 | 5 | 61 | 5 | 9 |

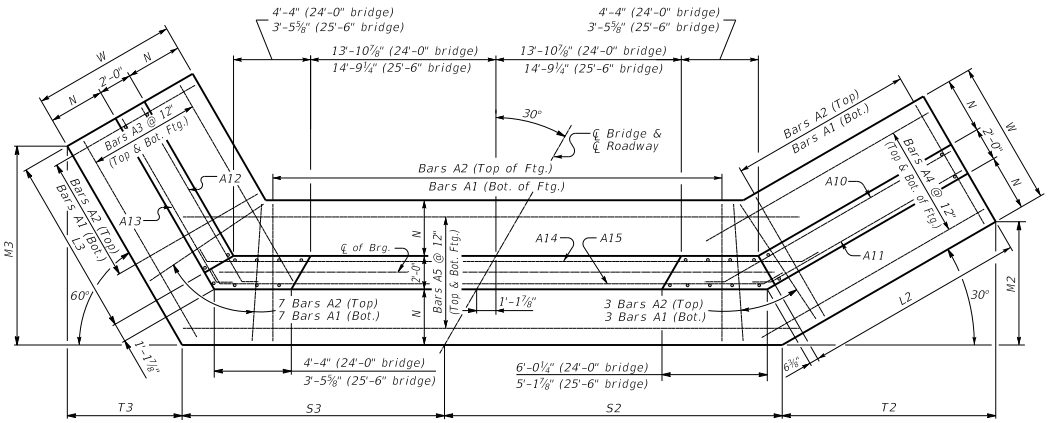
## Reinforcement Details




## Table of Dimensions

| H | W Length ft. | in. | N Length ft. | in. | M2 Length ft. | in. | M3 Length ft. | in. | S2 Length ft. | in. | S3 Length ft. | in. | T2 Length ft. | in. | T3 Length ft. | in. | L2 Length ft. | L3 Length ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15–16 | 12 | 0 | 5 | 0 | 15 | 5 1/4 | 18 | 2 3/8 | 24 | 1 7/8 | 18 | 2 1/4 | 26 | 8 1/8 | 10 | 6 1/4 | 29 | 17 |
| 13–14 | 11 | 0 | 4 | 6 | 13 | 4 1/2 | 15 | 4 1/2 | 23 | 8 1/8 | 18 | 2 1/4 | 23 | 1 7/8 | 8 | 10 1/2 | 25 | 14 |
| 11–12 | 10 | 0 | 4 | 0 | 11 | 3 3/8 | 13 | 4 1/2 | 23 | 3 3/8 | 18 | 2 1/4 | 19 | 7 | 7 | 8 3/4 | 21 | 12 |
| 9–10 | 9 | 0 | 3 | 6 | 9 | 8 1/8 | 11 | 4 1/8 | 22 | 10 3/8 | 18 | 2 1/4 | 16 | 10 3/8 | 6 | 7 | 18 | 10 |
| 7–8 | 7 | 6 | 2 | 9 | 7 | 1 7/8 | 9 | 3 5/8 | 22 | 3 | 18 | 2 1/4 | 12 | 4 5/8 | 5 | 4 1/2 | 13 | 8 |
| 5–6 | 6 | 6 | 2 | 3 | 5 | 6 1/8 | 7 | 3 1/8 | 21 | 9 1/8 | 18 | 2 1/4 | 9 | 7 1/8 | 4 | 2 1/4 | 10 | 6 |

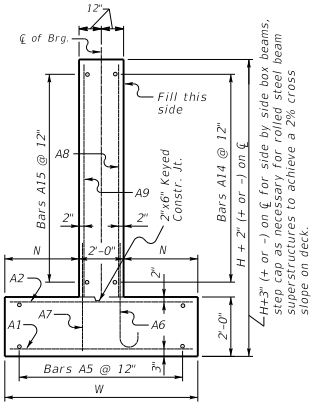
# 4 foot min. shoulder



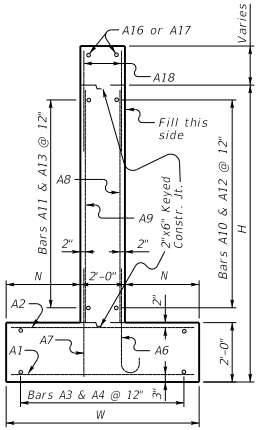

(Left Skew as shown; right skew opp. hand)

**PLAN**

**NOTE**: Trim A16 & A17 bars if necessary




**WALL SECTION**

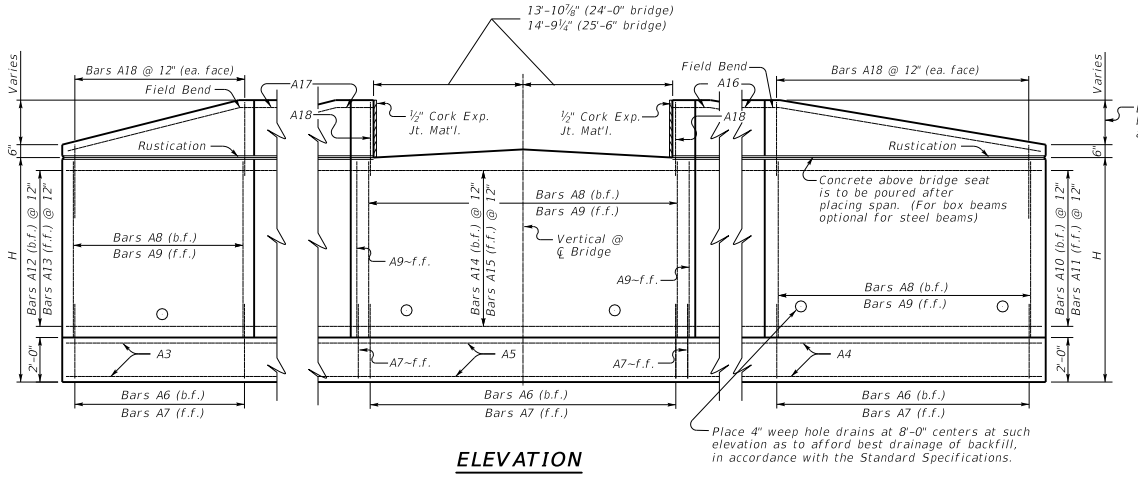



**WING SECTION**

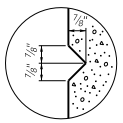
## Quantities

| H | Concrete* C.Y. | Reinforcement LBS. |
|---|---|---|
| 5 | 41.7 | 3510 |
| 6 | 45.7 | 3510 |
| 7 | 58.9 | 4875 |
| 8 | 63.3 | 4875 |
| 9 | 83.2 | 7013 |
| 10 | 88.1 | 7013 |
| 11 | 105.5 | 9709 |
| 12 | 110.8 | 9709 |
| 13 | 131.7 | 13702 |
| 14 | 137.4 | 13702 |
| 15 | 162.5 | 18180 |
| 16 | 168.7 | 18180 |

*Concrete quantities computed using 21" beam depth on ½" pad & 24'-0" Bridge Width




**ELEVATION**




**RUSTICATION GROOVE**

## GENERAL NOTES

***SPECIFICATIONS:*** *Construct abutments according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Abutments are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. Dimensions may be adjusted to allow for 25'-6" rolled steel beam bridge width.*

***FOUNDATION PRESSURE:*** *Construct abutment footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored as recommended by a geotechnical engineer.*

***WING LENGTHS:*** *Calculated assuming 21" superstructure depth and stream bank elevation at top of footing.*

***FOOTING ELEVATION:*** *Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces as recommended by geotechnical engineer.)*

***NOTE:*** *Distances to bars shown are clear dimensions unless otherwise noted.*

***MATERIAL SPECIFICATIONS:***
*Concrete, Class "A" = 3500 psi*
*Steel Reinforcement = Grade 60*

KENTUCKY
DEPARTMENT OF HIGHWAYS

30° SKEW
24'-0"–25'-6" BRIDGE WIDTH
2:1 FILL SLP, 4' MIN. SHLDR.

STANDARD DRAWING NO. BSA-108

SUBMITTED _____ DIRECTOR DIVISION OF STRUCTURAL DESIGN — 02-26-20 DATE

APPROVED _____ STATE HIGHWAY ENGINEER — 02-26-20 DATE