

|        |              |      |           |              |
|--------|--------------|------|-----------|--------------|
| STATE  | PROJECT NO.  | YEAR | SHEET NO. | TOTAL SHEETS |
| KANSAS | 87 N-0514-01 | 2010 | 43        | 148          |

**GENERAL NOTES**

**UNIT STRESSES:** Grade 4.0 Concrete;  $f'c = 4,000$  p.s.i.  
Reinforcing Steel;  $f_y = 60,000$  p.s.i.

**CONCRETE:** Grade 4.0 Concrete shall be used throughout. Bevel all exposed edges with a  $\frac{3}{4}$  inch triangular moulding.

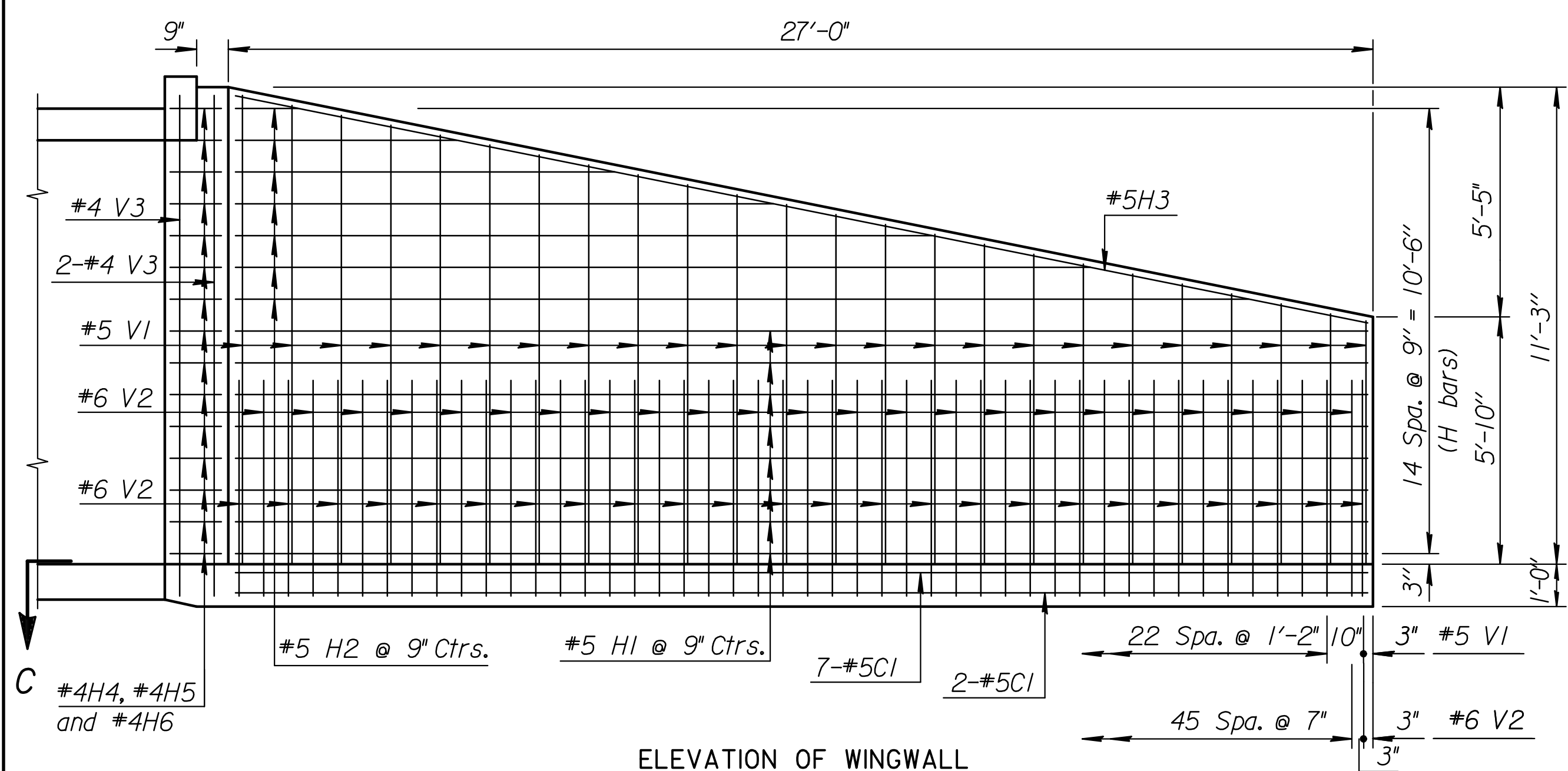
**REINFORCING:** All reinforcing shall conform to ASTM A615, Grade 60. Welded Wire Fabric shall conform to ASTM A185. All dimensions relative to reinforcing steel shall be to center-line of bar unless otherwise noted.

**QUANTITIES:** Wingwall Quantities include all quantities outside the neat lines of the box, excluding the hubguard.

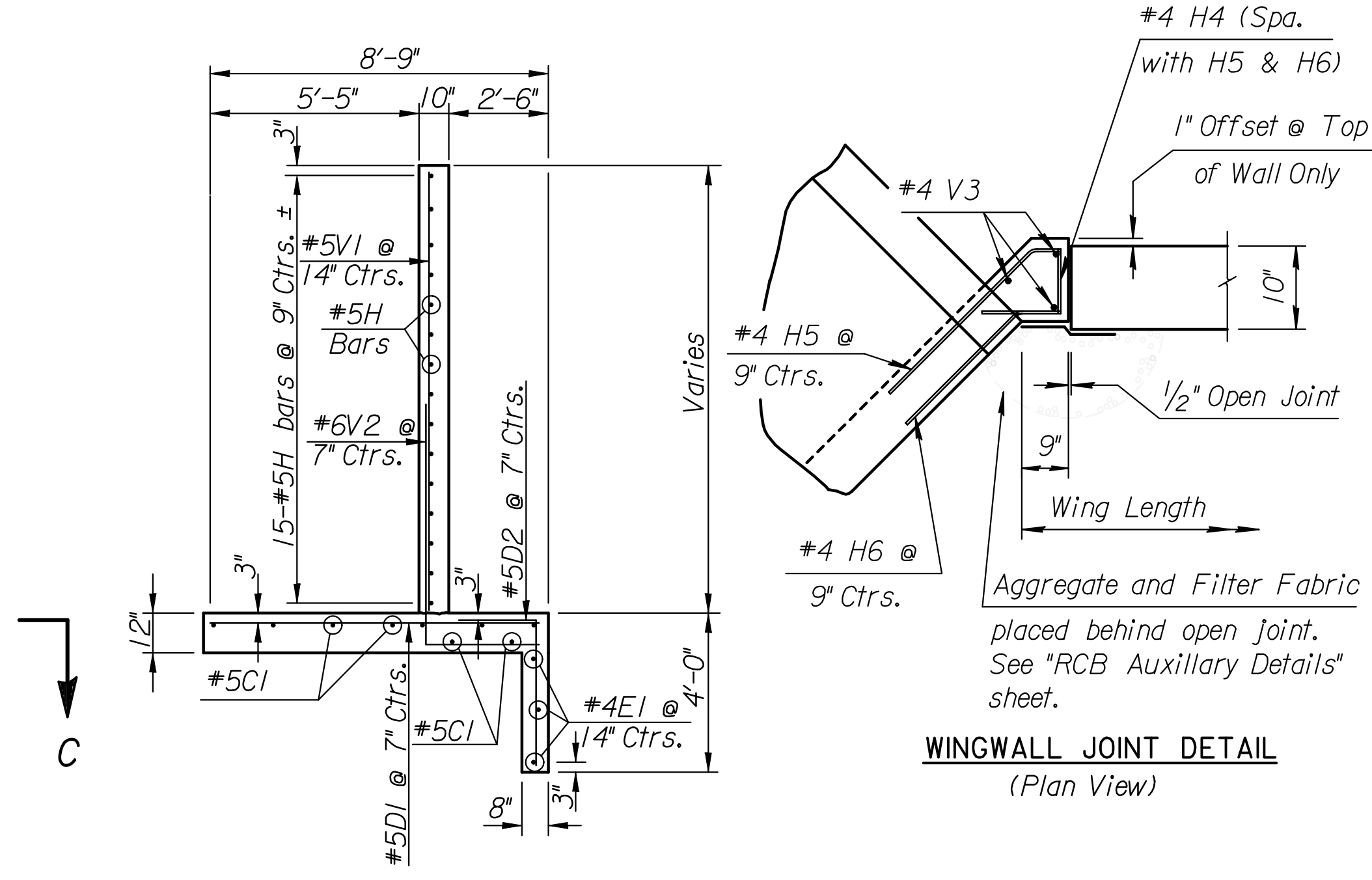
**APRON:** A 5" concrete slab shall be constructed between the downstream wings in locations subject to scour only when specified on the plans or by the Engineer. Wire Reinforcing mesh shall be electrically welded and shall be composed of 6 x 6-W1.4 x W1.4 welded wire fabric and shall be classified as pounds of reinforcing and included in the total quantity for the bid item Reinforcing Steel (Gr. 60)

**BACKFILL MATERIAL:** Soils Judged as high plasticity clays, fat clays, expansive clays, or organic clays are unsuitable for backfill material for wingwalls and will not be used. Where these conditions exist, use Granular Backfill (Wingwalls).

**FOUNDATION STABILIZATION:** Use Foundation Stabilization on all wingwalls unless founded on rock or granular material.



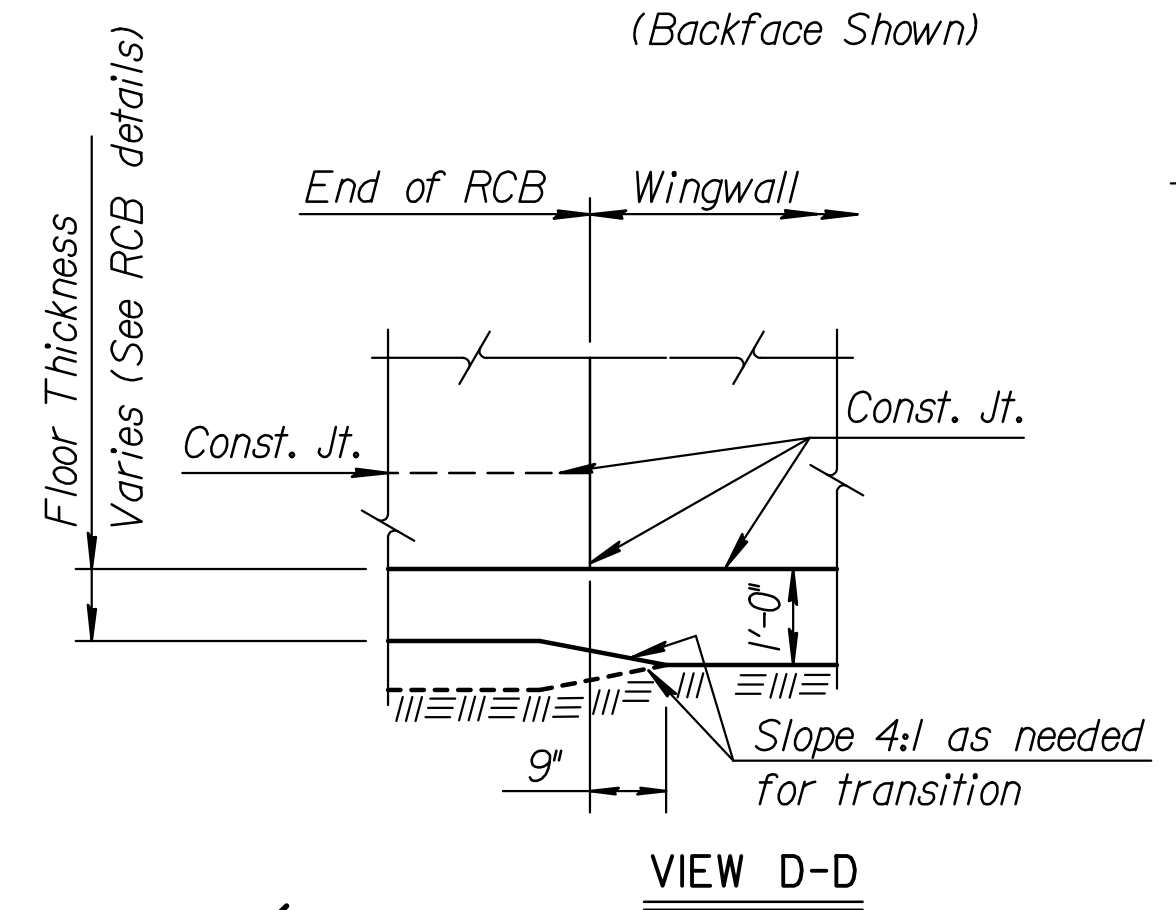
**ELEVATION OF WINGWALL**  
(Backface Shown)



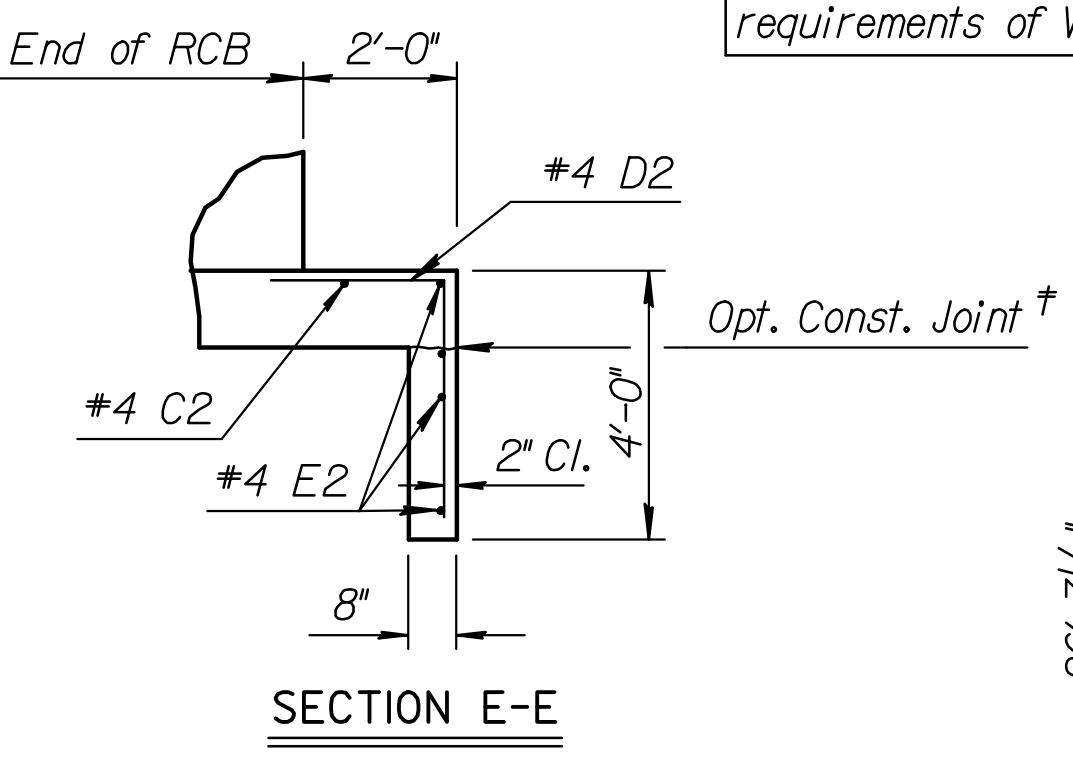
**TYPICAL SECTION**

**WINGWALL JOINT DETAIL**  
(Plan View)

\* NOTE: Const. Jt. may be used at Contractor's option when approved by the Engineer. DI bars or mesh may be spliced thus: Minimum overlap shall be 1'-3". No increase in quantities or cost shall be allowed when Contractor elects this option.

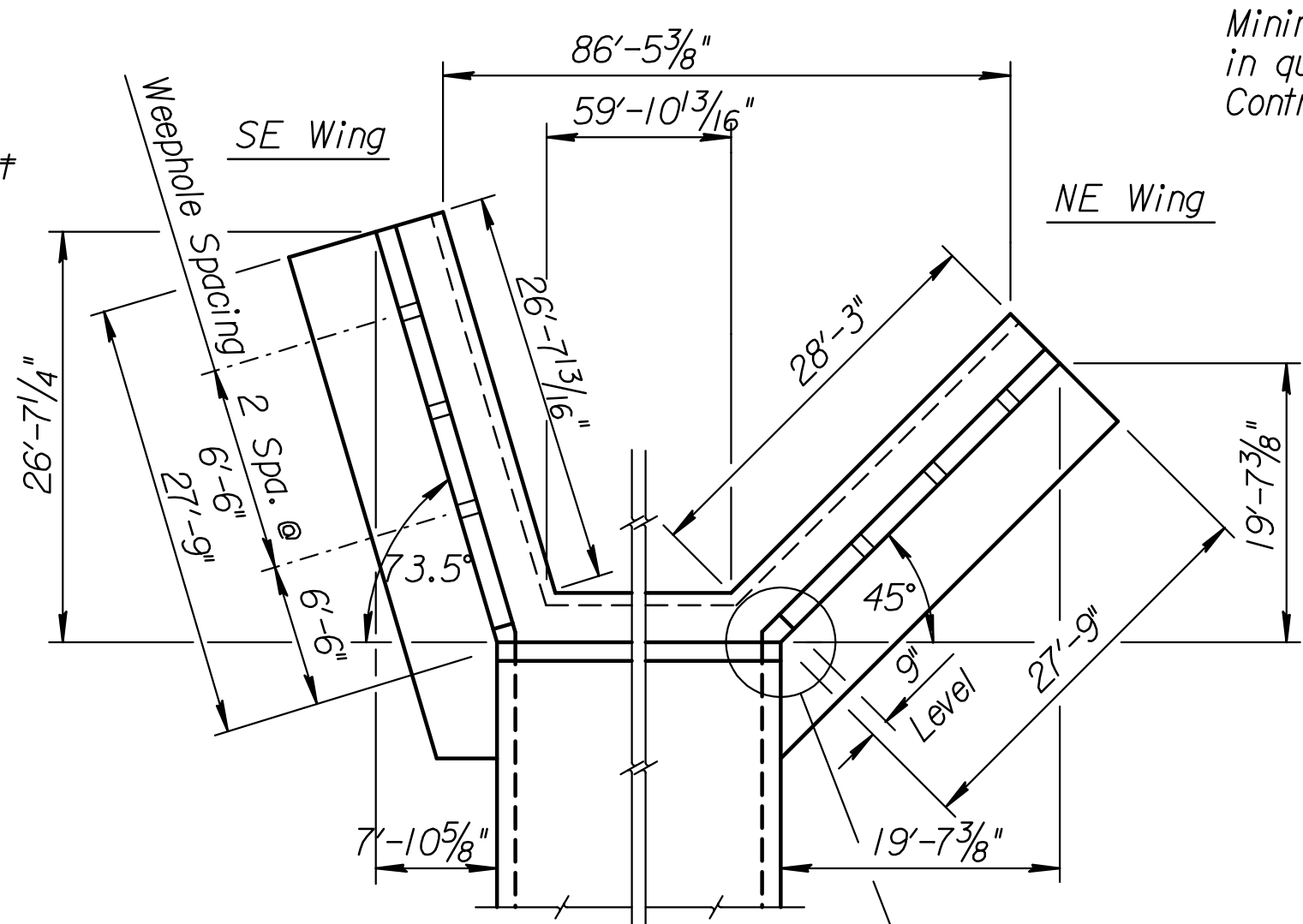


**VIEW D-D**



**SECTION E-E**

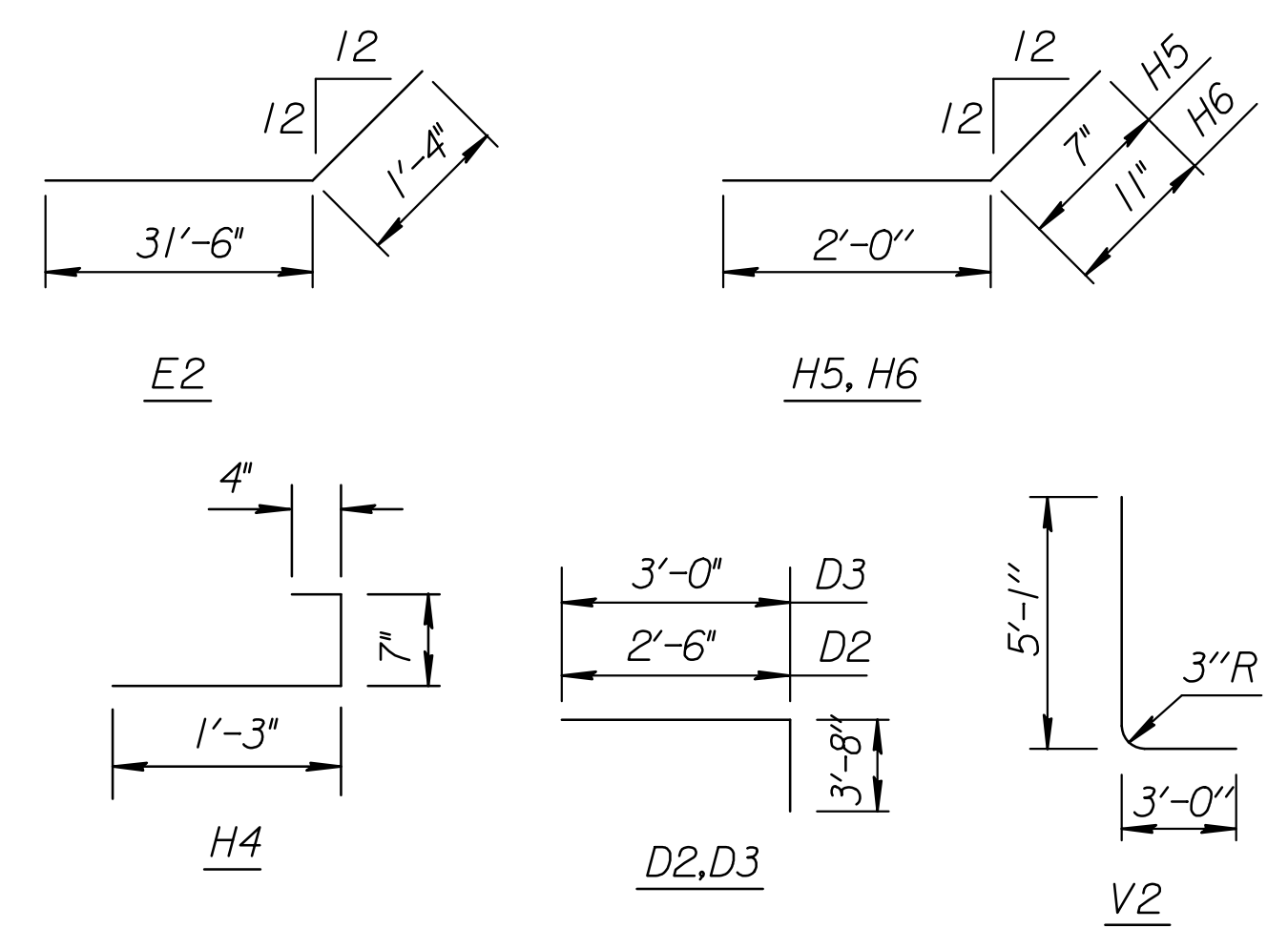
See "RCB Aux. Details" sheet for requirements of Wingwall Subbase.



**WING DIMENSIONS FOR NORMAL BOX**  
(3 1/2:1 Embankment Slope)

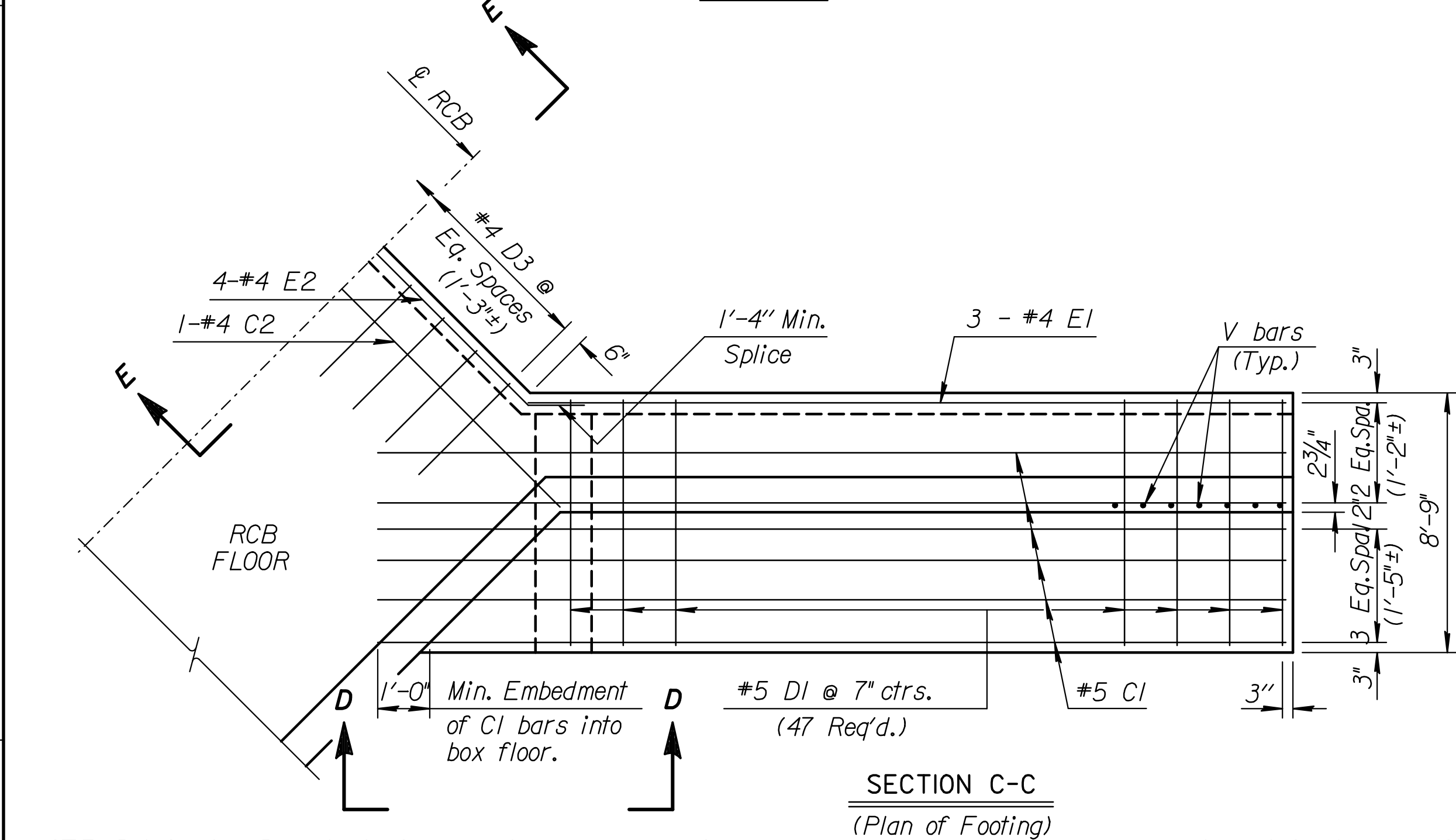
NOTE:  
EF = Each Face  
NS = Near Side  
FS = Far Side  
CJ = Const. Joint

|    |                       |
|----|-----------------------|
| V1 | Var. 10'-11" to 5'-6" |
|    | by equal increments   |
| H2 | Var. 23'-11" to 1'-6" |
|    | by equal increments   |



**BENDING DIAGRAM**

(All dimensions are out to out of bars.)



**SECTION C-C**  
(Plan of Footing)

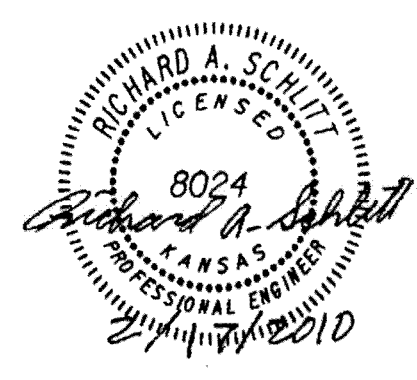
NOTE: Reinforcing Bar List is for one wing at one end of box only.

| Mark    | #5C1   | #5D1  | #4E1   | #4C2   | #5D2  | #4E2    | #5V1 | #6V2  | #4V3   | #5H1   | #5H2 | #5H3   | #4H4  | #4H5  | #4H6   | #4D3  |
|---------|--------|-------|--------|--------|-------|---------|------|-------|--------|--------|------|--------|-------|-------|--------|-------|
| 0° Skew | 9      | 47    | 3      | 1      | 47*   | 4*      | 24   | 47*   | 3      | 8      | 7    | 1      | 15*   | 15*   | 15*    | 25*   |
| Number  | 9      | 47    | 3      | 1      | 47*   | 4*      | 24   | 47*   | 3      | 8      | 7    | 1      | 15*   | 15*   | 15*    | 25*   |
| Length  | 33'-9" | 8'-5" | 28'-1" | 34'-0" | 6'-2" | 32'-10" | *    | 8'-1" | 11'-2" | 26'-8" | *    | 27'-3" | 2'-2" | 2'-7" | 2'-11" | 6'-8" |

\* = Lap with reinforcing steel from SE wing. \* See Bending Diagram

Quantities listed below are included in the Summary of Quantities shown on the RCB details.

|                            | WINGWALL QUANTITIES<br>(One Wing Only) |                           |
|----------------------------|--|---------------------------|
|                            | Foundation Stabilization (C.Y.)        | Concrete (Gr. 4.0) (C.Y.) |
| Wingwalls                  | 4.5                                    | 18.5                      |
| Apron                      | 0.00                                   | 0.00                      |
| Soil Saver                 | 0.00                                   | 0.00                      |
| Reinforcing Steel (Gr. 60) |  | 2530 Lbs.                 |
| Welded Wire Fabric         |  | 0 Lbs.                    |



| NO. | DATE | REVISIONS | BY | APP'D |
|-----|------|-----------|----|-------|
|     |      |           |    |       |

KANSAS DEPARTMENT OF TRANSPORTATION  
127TH ST. Sta. 5+86.19  
FLARED WINGWALLS NE  
10 ft Rise (O'SKEW)

BR-10-00-10 Sedgwick Co.  
DESIGNED APP'D 6-5-91 APP'D KENNETH F. HURST  
DESIGN CK. DETAIL CK. QUANTITIES QUAN. CK. TRACED TRACE CK.

Plotted By: rjm  
File: I:\2008\08\18\Office Check\0818-043-5-12\10-RFB-WingWall.dgn  
Plot Date: 2/17/2010