

| FHWA REGION NO. | STATE | PROJECT NO. | YEAR | SHEET NO. | TOTAL SHEETS |
|-----------------|--------|-----------------|------|-----------|--------------|
| 7 | KANSAS | 54-87 K-6657-01 | 2002 | 399 | 1122 |

GENERAL NOTES

UNIT STRESSES: Class AAA Concrete; $f'c = 28 \text{ MPa}$
Reinforcing Steel; $f_y = 420 \text{ MPa}$

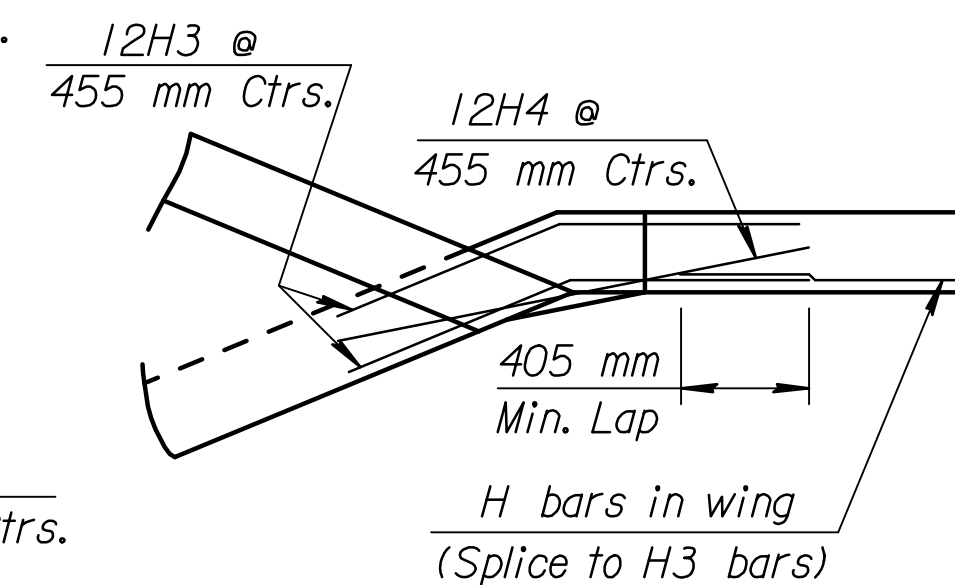
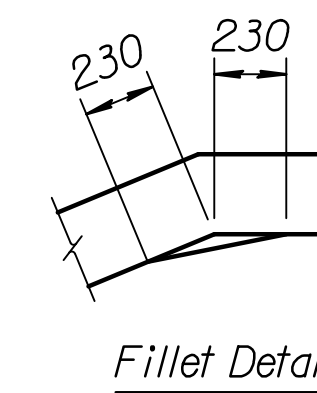
CONCRETE: Class AAA Concrete shall be used throughout. Bevel all exposed edges with a 20 mm triangular moulding.

REINFORCING: All reinforcing shall conform to ASTM A615M-96, Grade 420. Welded Wire Fabric shall conform to ASTM A185M. 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 125 mm 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 150x150-MW10xMW10 welded wire fabric and shall be classified as kilograms of reinforcing.

FOUNDATION AND BACKFILL MATERIAL: Soils judged as high plasticity clays, fat clays, expansive clays, or organic clays are unsuitable for foundation and/or backfill material for wingwalls and will not be used. Where these conditions exist, Foundation Stabilization and/or Granular Backfill (Wingwalls) shall be used as determined by the Engineer. See "RCB Auxiliary Details" sheet for additional details.

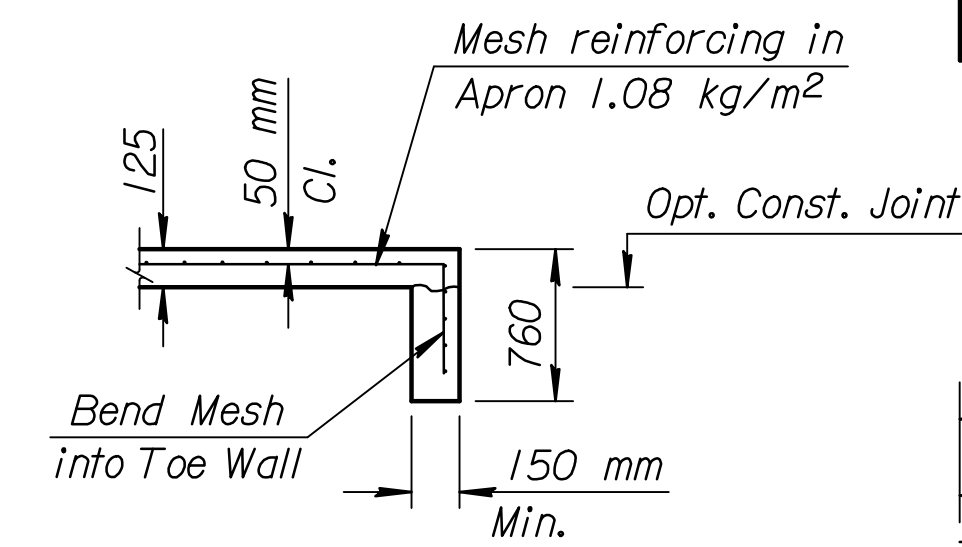


DETAIL OF 230 mm x 230 mm FILLET (Plan View)

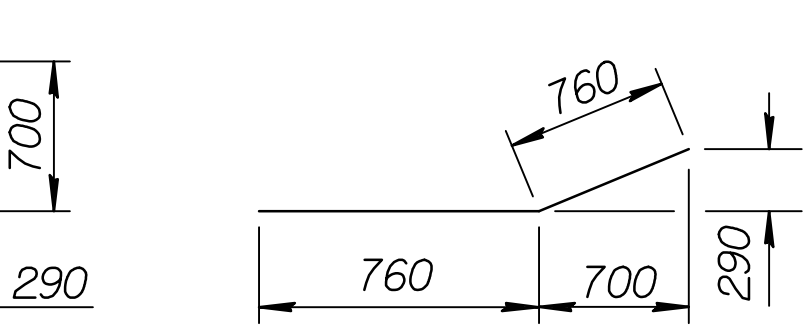
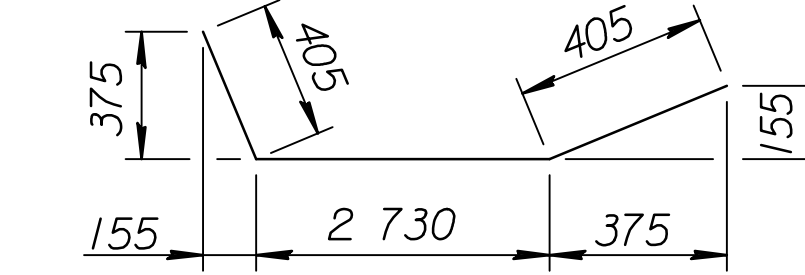
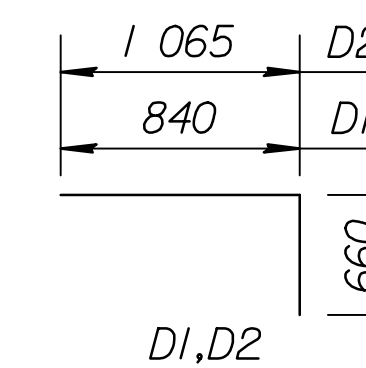
† NOTE: Const. Jt. may be used at Contractor's option when approved by the Engineer. DI bars or mesh may be spliced thus: Minimum overlap shall be 380 mm. No increase in quantities or cost shall be allowed when Contractor elects this option.

| Bar | Incrmts. |
|-----|----------|
| VIS | 90 |
| VIL | 30 |

Var. 990 mm to 1 450 mm by equal incre. (See Table)



SECTION B-B



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

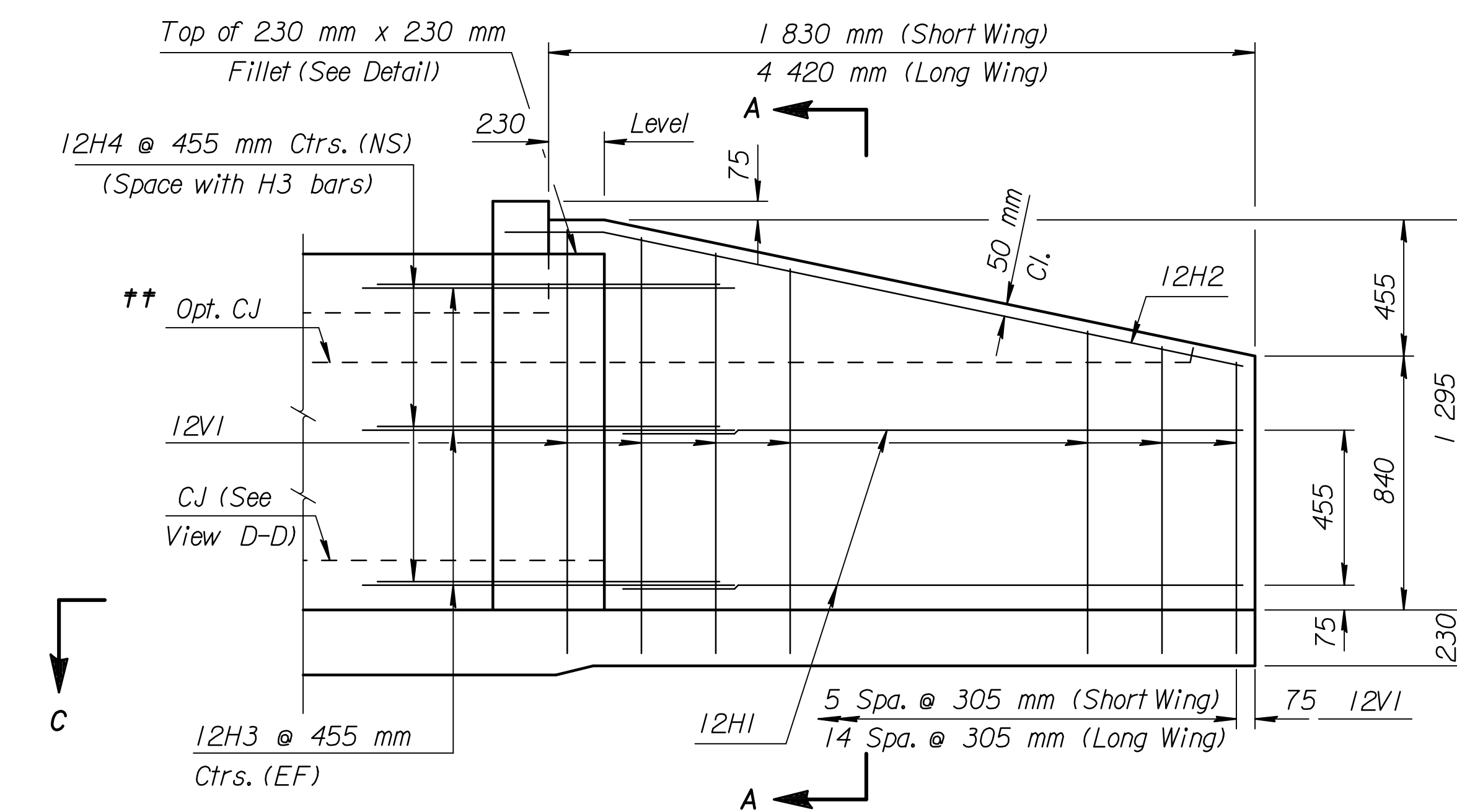
| WINGWALL QUANTITIES | |
|---|--------------------|
| Class AAA Concrete: | |
| Wingwalls (Lt. or Rt.) | 3.7 m ³ |
| Apron (Rt.) | 1.6 m ³ |
| Soil Saver & Apron (Left Only) | 2.2 m ³ |
| Reinforcing Steel (Wingwalls Rt. or Lt.) 163.5 kg | |
| Reinforcing Steel (Soil Saver) | 51.9 kg |
| Welded Wire Fabric (@ Soil Saver) | 7.3 kg |
| Welded Wire Fabric (Apron Rt.) | 13.6 kg |

BENDING DIAGRAM

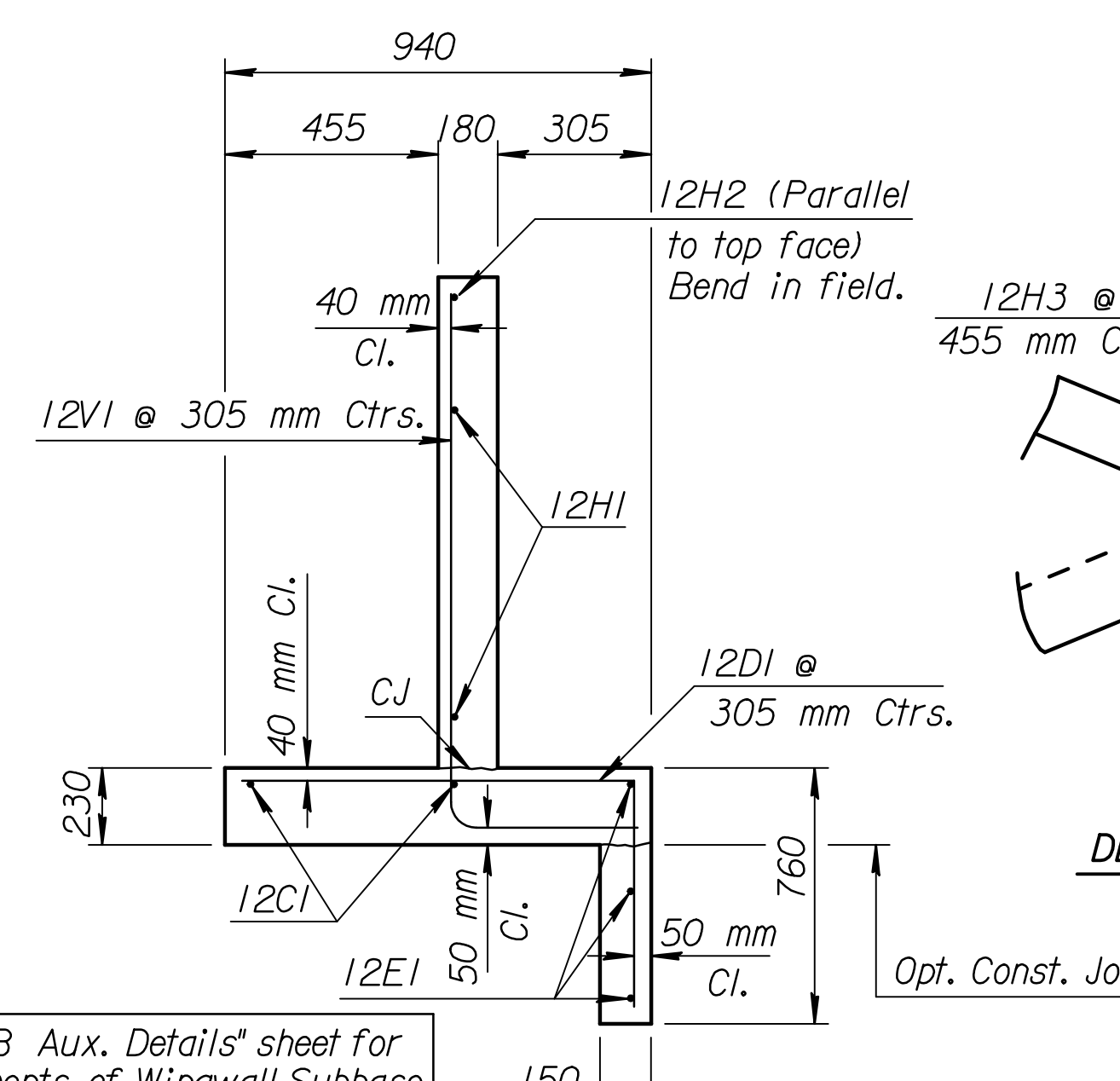
(All dimensions are out to out of bars.)

RECORD DRAWING

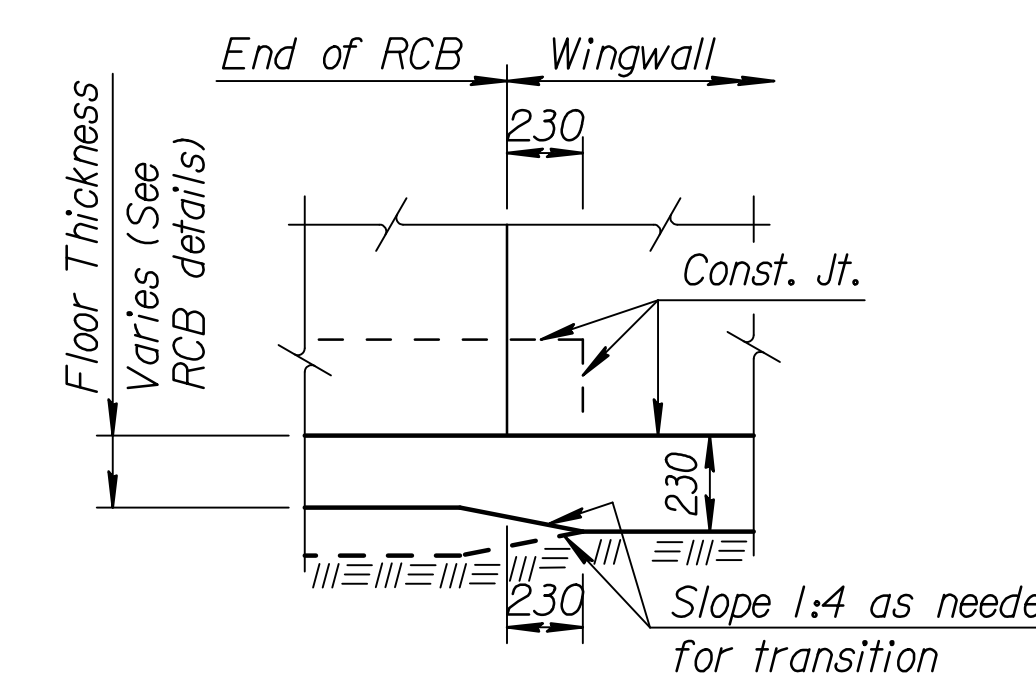
| NO. | DATE | REVISIONS | BY | APP'D |
|--|------------|-----------------|------------------|-------|
| KANSAS DEPARTMENT OF TRANSPORTATION | | | | |
| Br. No. 54-87-(003) | | Sta. 15+407.000 | | |
| FLARED WINGWALLS 0.915 m Rise (45°SKEW) | | | | |
| BR 10.45.03 SI | | Sedgwick | | |
| FHWA APPROVAL | DESIGNED | 6-5-91 APP'D | KENNETH F. HURST | |
| DESIGN CK. | DETAILED | QUANTITIES | TRACED | |
| | DETAIL CK. | QUAN. CK. | TRACE CK. | |



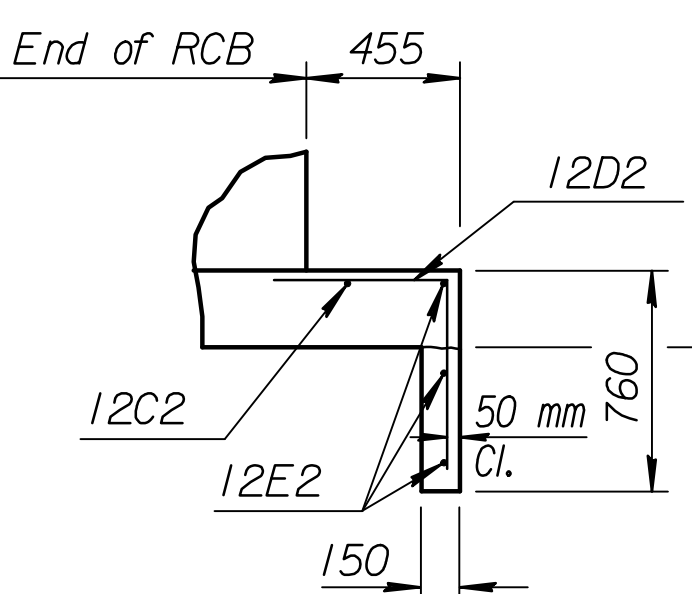
ELEVATION OF WINGWALL (Backface Shown)



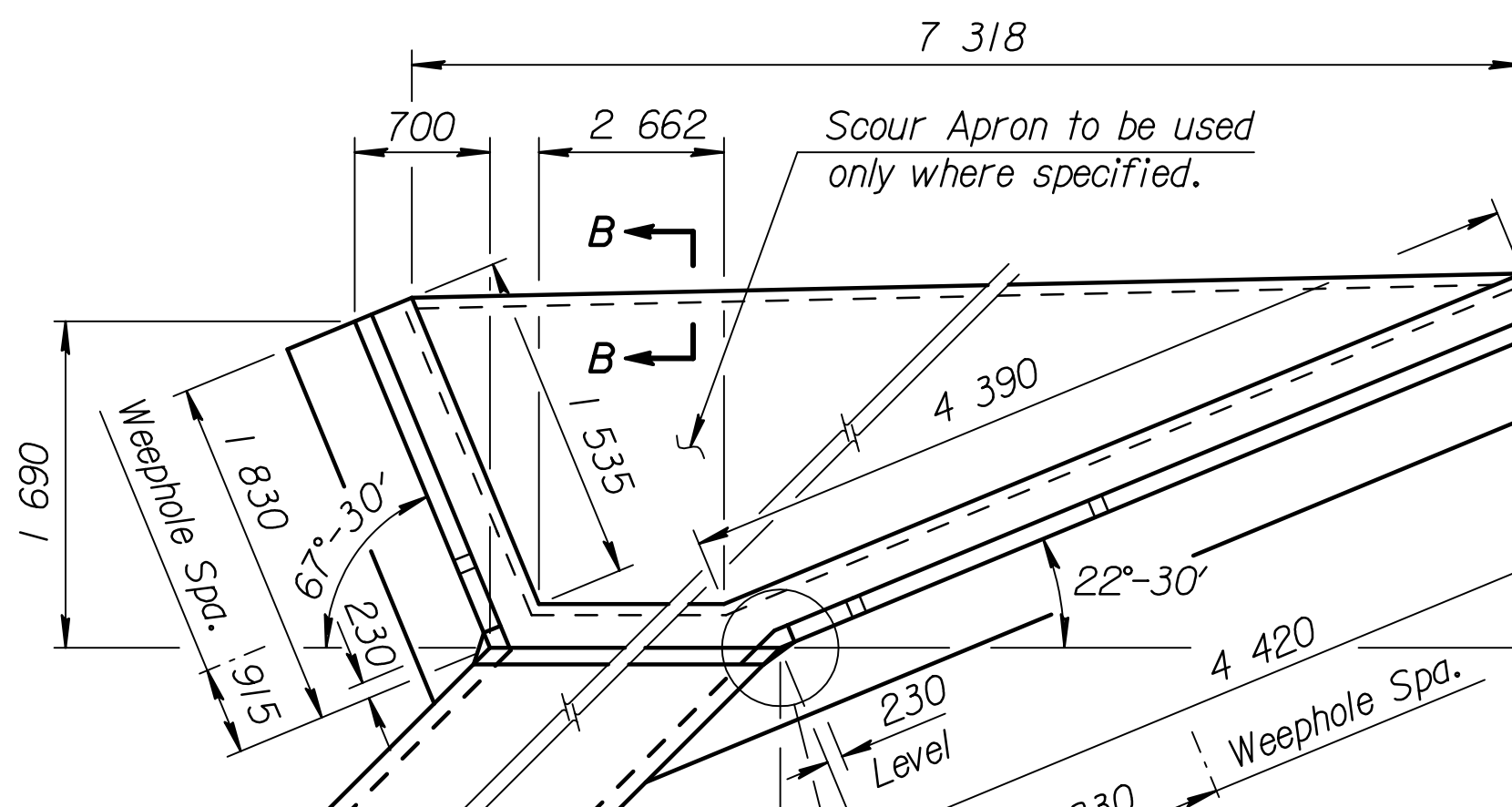
SECTION A-A



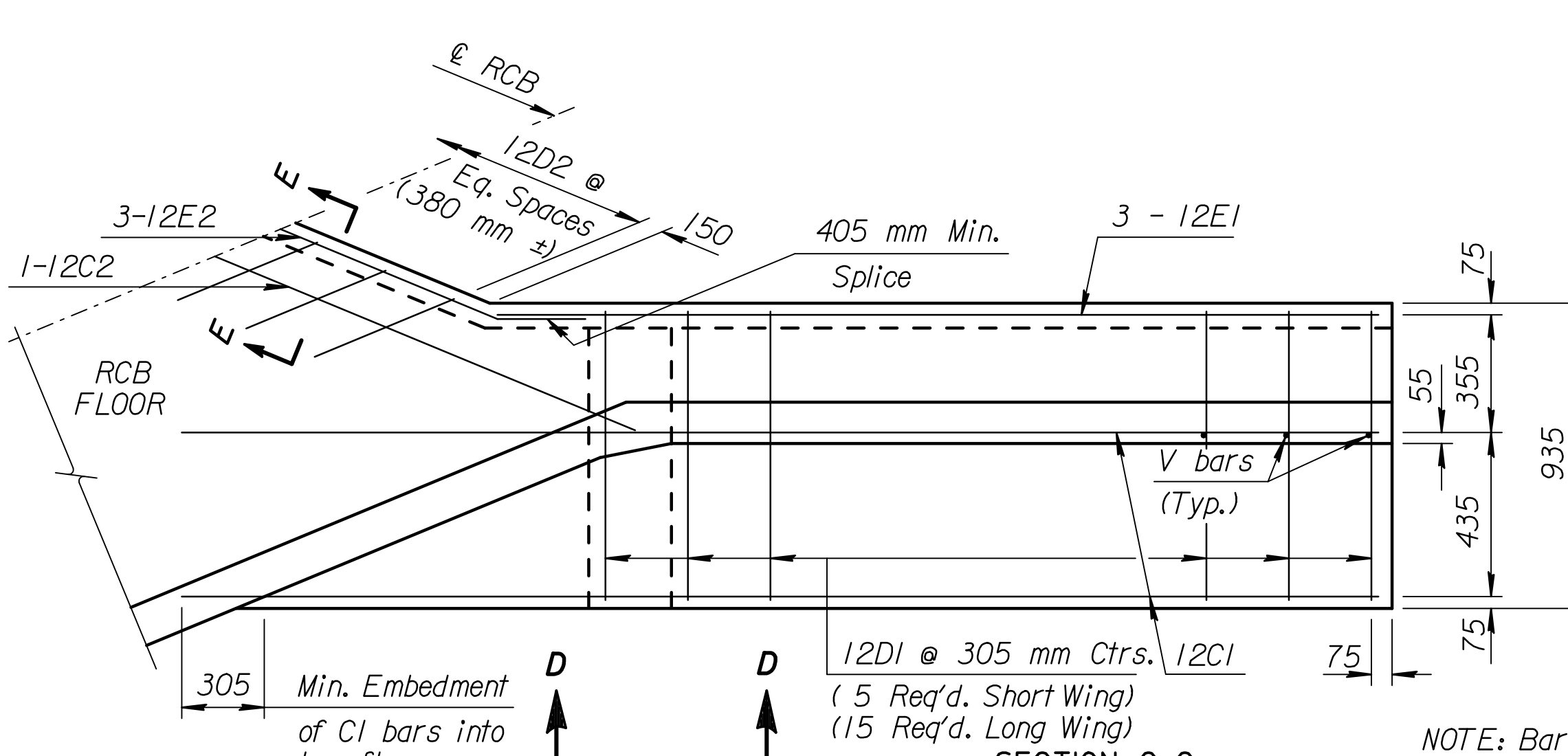
VIEW D-D



SECTION E-E



WING DIMENSIONS FOR 45° SKEWED BOX (1:3.5 Embankment Slope)



SECTION C-C (Plan of Footing)

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

NOTE: Bars with an 'L' or 'S' designation identifies bars in the long wing-wall ('L') or short wing-wall ('S'); ie. 12H2L, 12H2S, etc.

* See Bending Diagram

| 45° Skew | Mark | 12C1S | 12C1L | 12D1 | 12E1S | 12E1L | 12C2 | 12D2 | 12E2 | 12VIS | 12VIL | 12H1S | 12H1L | 12H2S | 12H2L | 12H3S | 12H3L | 12H4S | 12H4L |
|----------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | Number | 2 | 2 | 20* | 3 | 3 | 1 | 7* | 3* | 6 | 15 | 2 | 2 | 1 | 1 | 6* | 6* | 3 | 3 |
| | Length | 2 285 | 5 640 | 1 500 | 1 450 | 4 320 | 3 070 | 1 725 | 3 540 | * | * | 1 475 | 4 065 | 2 030 | 4 575 | 1 520 | 1 520 | 760 | 1 220 |

| DESIGN | DATE | DESIGN | DATE |
|------------|------|------------|------|
| | | | |
| QUANTITIES | DATE | QUANTITIES | DATE |
| | | | |
| TRACING | DATE | TRACING | DATE |
| | | | |
| RETRACTED | DATE | RETRACTED | DATE |
| | | | |

Plotted By: will Scale 1:1 000
 L:\1997\97362\As-Builts\dgn\Vol 2\Sn 399-KDOT_S1d-15407.dgn Last Rev: 8-28-07 By: gdr