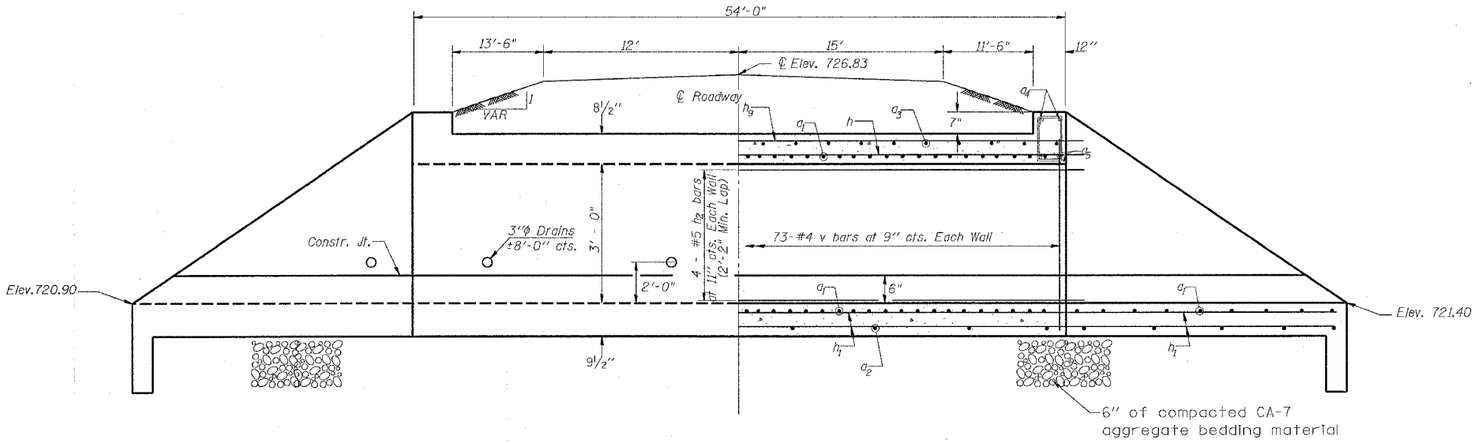
CONTRACT NO. 64178

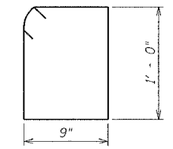
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 549 | 116 RS-1 | OGLE | 593 | 211 |
| STA. | | TO STA. | | |
| FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT | | |

# CONCRETE BOX CULVERTS

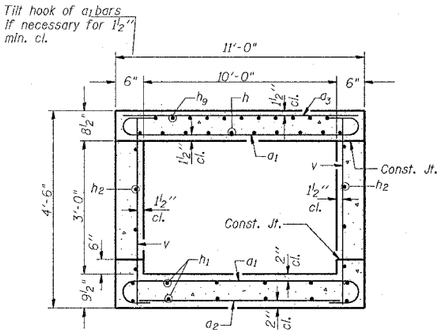
## STA 700+65.73



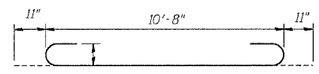

HALF ELEVATION HALF LONG. SECTION



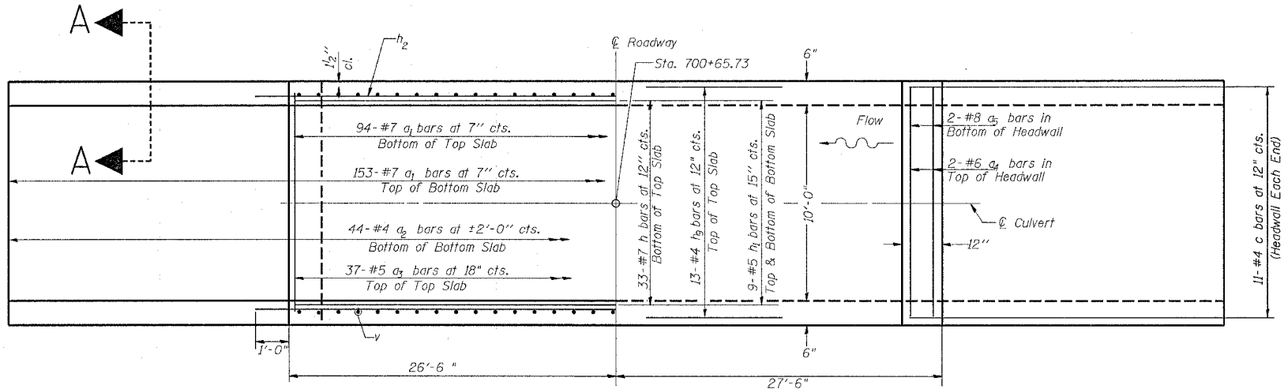

BAR C




SECTION THRU BARREL

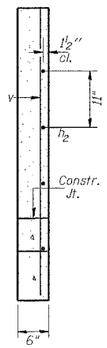



BAR a1

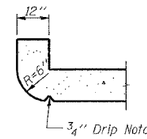



SHOWING REINFORCEMENT SHOWING OUTLINES

PLAN




SECTION A-A




SECTION THRU HEADWALL
(Up Stream End Only)

### BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|---|---|---|---|---|
| a1 | 247 | #7 | 12'-6" | ⊂⊃ |
| a2 | 45 | #4 | 10'-3" | — |
| a3 | 37 | #5 | 10'-9" | — |
| a4 | 4 | #6 | 10'-9" | — |
| a5 | 4 | #8 | 10'-9" | — |
| h | 22 | #7 | 31'-3" | — |
| h1(B) | 36 | #5 | 30'-10" | — |
| h1(W) | 36 | #5 | 19'-2" | — |
| h2 | 16 | #5 | 31'-4" | — |
| h9 | 26 | #4 | 28'-4" | — |
| v | 146 | #4 | 4'-3" | — |
| C | 22 | #4 | 3'-6" | |
| Conc. Box Culverts(B) | | | Cu. Yd. | 39.47 |
| Reinforcement Bars | | | Pound | 11976.66 |

B= Barrel
W= Wingwalls

### NOTES

A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.

Reinforcement Bars shall conform to the requirements of AASHTO M-31, M-42 or M-53, Grade 60.

Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.

All construction joints shall be bonded.

6" of compacted CA-7 aggregate bedding material shall be place beneath the box culvert. The cost for the Ca-7 aggregate shall be included in the cost of Concrete Box Culverts.

The cost of excavation and backfilling shall be included in the cost of Concrete Box Culverts.

### LOADING HS20-44 & ALT.

### DESIGN SPECIFICATIONS

1996 AASHTO with 1997, 1998, 1999 and 2000 Interims

### DESIGN STRESSES

**FIELD UNITS**

fy = 60,000 psi
f'c = 3,500 psi

### WATERWAY INFORMATION

DRAINAGE AREA = 0.80sq mi  LOW GRADE ELEV. (FT) 765.24 (Exist) 765.49 (Proposed) @ Sta. 419+57

| FLOOD | FREQUENCY (YEAR) | Q C.F.S. | OPENING (SQ. FT.) EXIST. | OPENING (SQ. FT.) PROP. | NAT. H.W. ELEV. (Ft) | HEAD (Ft) EXIST. | HEAD (Ft) PROP. | HEADWATER ELEV. (Ft) EXIST. | HEADWATER ELEV. (Ft) PROP. |
|---|---|---|---|---|---|---|---|---|---|
| DESIGN | 10 | 271 | 45.8 | 54.7 | 761.36 | 2.02 | 2.00 | 763.38 | 763.36 |
| BASE | 100 | 482 | 47.7 | 57.0 | 761.55 | 2.05 | 1.40 | 763.60 | 762.95 |
| OVERTOP EX | 385 | 599 | 55.0 | | 762.28 | 2.97 | | 765.25 | |
| MAX CALC | 500 | 630 | | 60.0 | 762.30 | | 2.34 | | 764.64 |

•DATE-TIME•
•DGN-SPEC•
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