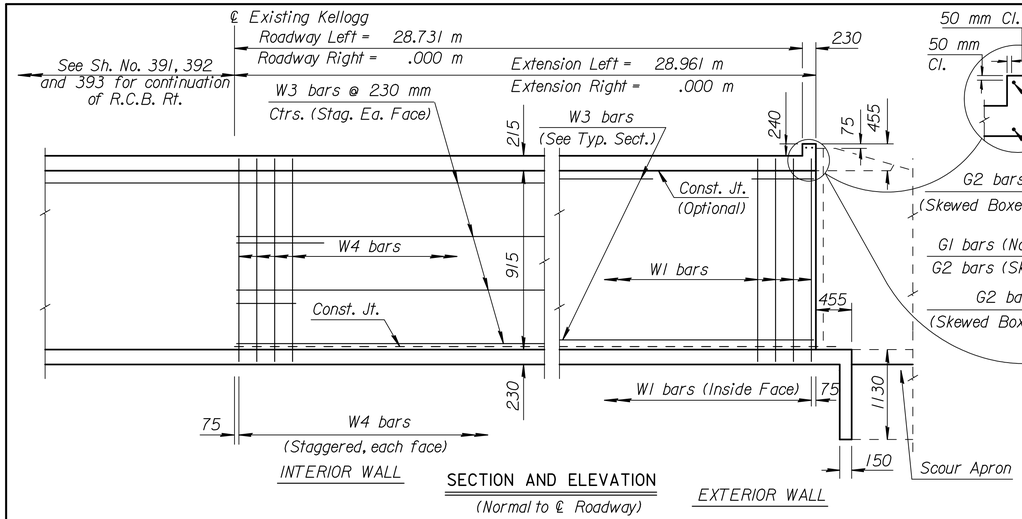
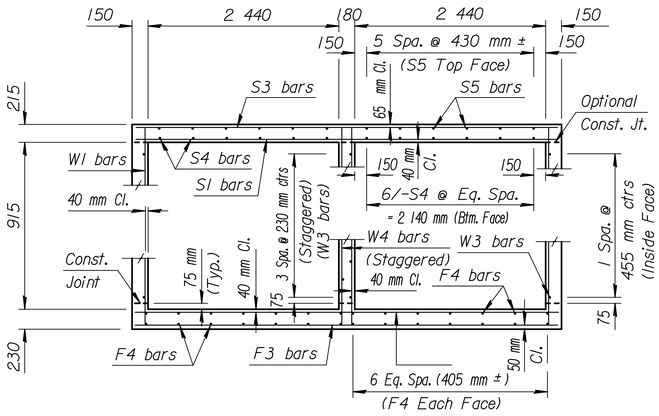
| STATE | PROJECT NO. | YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| KANSAS | 54-87 K-6657-01 | 2002 | 389 | 1122 |



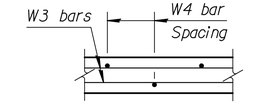

SECTION AND ELEVATION

(Normal to ℄ Roadway)




TYPICAL SECTION

See Standard No. RD 510 S1 for additional details.




PLAN OF INTERIOR WALL

## GENERAL NOTES

DESIGN SPECIFICATION: AASHTO Specifications, 1983 Edition
DESIGN LOADING: MS18-44
UNIT STRESSES: Class AAA Concrete f'c = 28 MPa
Reinforcing Steel fy = 420 MPa

FILL HEIGHT: Unless otherwise noted, the Design Fill Height is measured from the riding surface at the culvert and includes the surfacing.

CONSTRUCTION: R.C.B.'s shown are for cast-in-place construction. The Contractor has the option of constructing either cast-in-place or precast R.C.B.'s. Payment for the structure will be the same regardless of which option is used for construction. See Sheet No. 432 for Precast Concrete Box Culvert Details.

CONCRETE: Use concrete conforming to Class AAA Concrete. Bevel all exposed edges with a 20 mm triangular molding. Where Class AAA(AE) is specified, place this concrete in the top slab above the Construction Joint.

REINFORCING: Use reinforcing steel conforming to ASTM A615M, Grade 420. All dimensions relative to reinforcing steel are to the centerline of the bar unless otherwise noted.

EXCAVATION: Excavation for culverts less than bridge length shall not be paid for directly but shall be subsidiary to Class AAA Concrete. Excavation for RCB bridges shall be paid for as Class III Excavation.

SEAL COURSE: The Engineer may require a seal course. The seal course shall be unreinforced Concrete(Commercial Grade) with a minimum depth of 75 mm or as determined by the Engineer. Concrete for the seal course shall be paid for at the unit price set for Concrete for Seal Course.

FOUNDATION STABILIZATION: The Engineer may require Foundation Stabilization. The Engineer shall determine the depth of Foundation Stabilization. Foundation Stabilization shall be paid for at the unit price set for Foundation Stabilization. See the "Auxiliary Details" sheet.

QUANTITIES: The quantities shown in the Culvert Summary include apron and/or soil saver quantities when they are required by the plans. Payment for additional quantities that result from including a seal course and/or a floating apron, as a change in the original plans, shall be made at the unit price bid for the various items involved.

GRANULAR BACKFILL (WINGWALLS): The Engineer may require special backfill procedures. See the "Auxiliary Details" sheet.

STRIKE LINE: Construct the wingwalls and that portion of the RCB outside the Strike Line level. Construct the wingwall footings with the culvert floor. See the wingwall detail sheets.




PLAN




LOCATION PLAN LEFT




LOCATION PLAN RIGHT

(See Sheet No. 393 to 397)

* Includes quantites for Ext. Lt., Ext. Rt., P.I. section & Resthaven Retaining Walls

**RECORD DRAWING**

CULVERT SUMMARY

| | Flow Line Elev. (m) | Crown Gr. Elev. (m) | Design Fill Ht. (m) | Skew N/A | Wings | Scour Apron | Soil Saver | Granular Backfill | Concrete Barrel ($m^3$) | Concrete Wings & Apron ($m^3$) | Concrete Total ($m^3$) | Reinf. Steel (Gr. 420) Barrel (kg) | Reinf. Steel (Gr. 420) Wings & Apron (kg) | Reinf. Steel (Gr. 420) Total (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ext.Lt. | 403.311 | 405.663 | 0.61 | 0 | FLARED | YES | NO | NO | 82.1 | 6.4 | 88.5 | 10 236.0 | 217.0 | 10 453.0 |
| Ext.Rt. | 403.412 | | | | NONE | | | | 0.0 | 00 | 00 | 0.0 | 00 | 00 |

BAR SCHEDULE

| | F1 Size | F1 Spa. | F1 No. | F1 Length | F3 Size | F3 Spa. | F3 No. | F3 Length | F4 Size | F4 No. | F4 Length | S1 Size | S1 Spa. | S1 No. | S1 Length | S3 Size | S3 Spa. | S3 No. | S3 Length | S4 Size | S4 No. | S4 Length | S5 Size | S5 No. | S5 Length |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ext.Lt. | 20 | 165 | 176 | 5 260 | 15 | 140 | 207 | 5 260 | 12 | 84 | 9 890 | 20 | 165 | 176 | 5 260 | 15 | 140 | 207 | 5 260 | 15 | 24 | 14 680 | 12 | 36 | 9 890 |
| Ext.Rt. | | | | | | | | | | | | | | | | | | | | | | | | | |

| | K1 Size | K1 Spa. | K1 No. | K1 Length | K2 Size | K2 Spa. | K2 No. | K2 Length | W1 Size | W1 Spa. | W1 No. | W1 Length | W3 Size | W3 No. | W3 Length | W4 Size | W4 Spa. | W4 No. | W4 Length | G1 Size | G1 No. | G1 Length | G2 Size | G2 No. | G2 Length | G2 Size | G2 Spa. | G2 No. | G2 Length |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ext.Lt. | | | | | | | | | 12 | 230 | 252 | 1 250 | 12 | 24 | 9 890 | 12 | 230 | 126 | 1 250 | 15 | 2 | 5 260 | | | | | | | |
| Ext.Rt. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Minimum Splice Lengths | |
|---|---|
| #12 | 405 |
| #15 | 510 |
| #20 | 610 |

| ITEM | STATION | OFFSET | SIZE | ℄ IN |
|---|---|---|---|---|
| Pipe A | 14+422.10 | 35.47 m Rt. | 600 mm | 403.80 |
| Pipe B | 14+426.76 | 37.00 m Rt. | 600 mm | 403.53 |
| Pipe C | ~~14+397.35~~ | ~~54.78 m Rt.~~ | ~~.35 $m^2$~~ | 403.402 |
| Pipe D | ~~14+389.794~~ | ~~53.41 m Rt.~~ | ~~.45 $m^2$~~ | 403.409 |
| Pipe E | 14+411.08 | 0.000 m Rt. | .375 mm | 403.460 |

Incorrect Information

* SUMMARY OF QUANTITIES

| | | |
|---|---|---|
| Class AAA Concrete | 303.0 | $m^3$ |
| Class AAA Concrete (AE) | 5.1 | $m^3$ |
| Reinforcing Steel (Gr. 420) | 36 480 | kg |
| Reinforcing Steel (Epoxy Coated) | N/A | kg |
| Class III Excavation | ---- | $m^3$ |
| Foundation Stabilization (Set) | 1 | $m^3$ |
| Concrete for Seal Course (Set) | ---- | $m^3$ |
| Granular Backfill (Wingwalls) (Set) | ---- | $m^3$ |

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

KANSAS DEPARTMENT OF TRANSPORTATION

Sta. 14+443.483

2-2.440 m x 0.915 m RCB

EXT. LT.

~~BR 2.8.3 P St~~ Sedgwick

| | | | |
|---|---|---|---|
| FHWA APPROVAL | 6-5-91 | APP'D | KENNETH F. HURST |
| DESIGNED | DETAILED | QUANTITIES | TRACED |
| DESIGN CK. | DETAIL CK. | QUAN.CK. | TRACE CK. |

| ORIG. FROM BR.NO. | PROJ. | CO. |
|---|---|---|
| DESIGN | DATE | CHECK DATE |
| DETAIL | DATE | DATE |
| QUANTITIES | DATE | DATE |
| TRACING | DATE | DATE |
| RETRACED | DATE | DATE |

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I:/1997/97362/As-Builts/dgn's/Kx1 2/Sh 389-KDOT_Std-14443A.dgn Last Rev: 8-27-07 By: gar