

Job Name: 24-1643B - KYTC McCracken Co. Call 200 (ID 241301)
Job Location: Paducah, KY
Contractor: Jim Smith Contracting Co, LLC

Plant: 100

5/28/2026 7:52:48 AM

Tech: J. Horsley

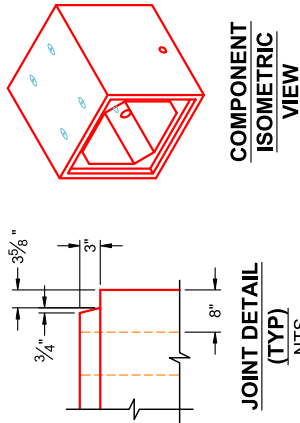
PC: C. Goff



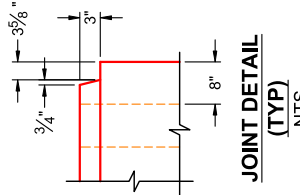
Structure ID: St. 45+00 (PC 7)

P1 BC048048-08WLF-9H

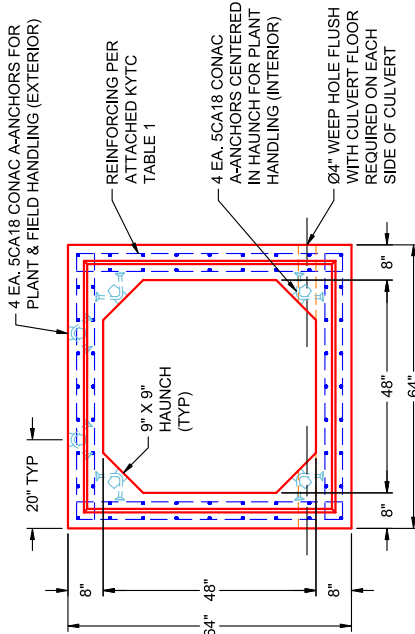
BOX CULVERT (08W/08F/08T) G/T



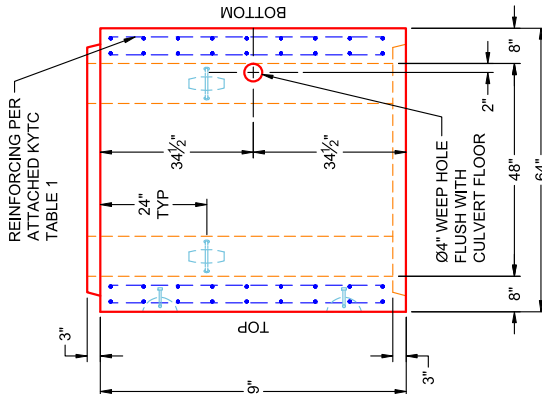
COMPONENT
ISOMETRIC
VIEW



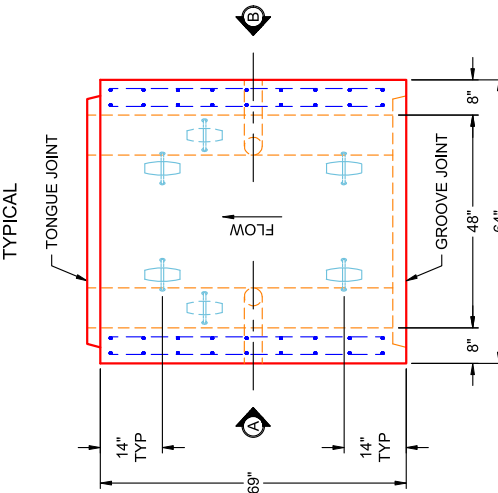
JOINT DETAIL
(TYP)
NTS



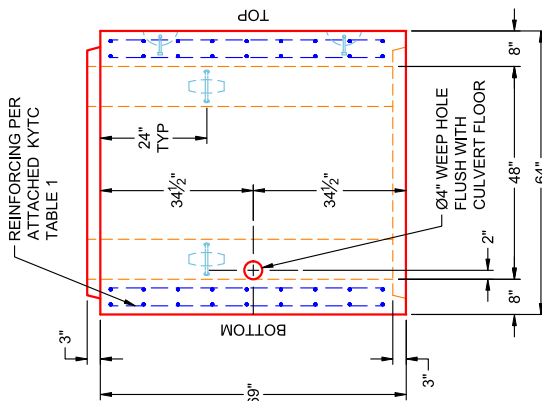
END VIEW
TYPICAL



VIEW B
PC 7
(UPRIGHT IN MOLD)



PLAN VIEW
PC 7
(UPRIGHT IN MOLD)



VIEW A
PC 7
(UPRIGHT IN MOLD)

GENERAL NOTES:

- PER SECTION 605 OF KYTC STANDARD SPECS FOR ROAD & BRIDGE CONSTRUCTION
- KYTC STAMP REQUIRED
- WEEP HOLES REQUIRED
- LOAD REQUIREMENTS: KY-HL93 (KY TABLE 1)
- REINFORCEMENT PER ATTACHED KYTC TABLE 1
- COVER DEPTH: 0' - 7'
- CONCRETE: 5,000 PSI AT 28 DAYS
- JOINT SEALANT: 1" BUTYL MASTIC (CS-102)
EXTERIOR JOINT WRAP: 12" WIDE (CS-212)
- WEIGHT: 4' X 4' RCBC = 1,968 LBS / LF
(5-9' LONG SECTION = 11,314 LBS)

PRODUCTION WORK ORDER



QUALITY CONTROL CHECKLIST

- ☐ ALL DIMENSIONS CORRECT.
- ☐ LIFTERS INSTALLED INSIDE.
- ☐ RECESS WITH HAUNCHES CORRECT.
- ☐ REINFORCING CORRECT.
- ☐ SURFACE QUALITY ACCEPTABLE.
- ☐ LIFTERS INSTALLED OUTSIDE.
- ☐ PRODUCT SQUARE.

PRODUCT I.D.: BC048048-08WLF-9H

PRODUCT VIEW: RIGHT SIDE UP

PLANT: BEAVER DAM, KY

WEIGHT: 11,314 LBS

TOP SECTION JOINT: TONGUE

BASE SECTION JOINT: GROOVE

QC CHECK INITIALS:

DESCRIPTION: 48" X 48" X 69" BOX CULVERT (8" WALLS & 9" HAUNCH)

CUSTOMER: JIM SMITH CONTRACTING

PROJECT: KYTC MCCracken CO. CALL 200 (ID 241301)

STRUCTURE: ST. 45+00 (PC 7)

ORDER NO: 24-1643B

PE: J.H. ROSS

DRAWING: K. CARDWELL

DATE: 05/28/26

SCALE: NTS

PG. 1 OF 1

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- * <L1> is Splice Length
- * (AS7) is Top Slab Outside
- * (AS8) is Bottom Slab Outside
- * See Box Culvert Design Summary Sheet for transverse and distribution reinforcement, as required.
- * For sidewall thicknesses of 6 in. and above, extend AS2 and AS3 a min. of 4 in. beyond the inside face of the sidewall. For thicknesses less than 6 in., extend AS2 and AS3 at least to within 1-1/2 in. of the outside face of the sidewall.

Notes:

- 1) Other reinforcement schemes that provide the required reinforcement areas at all locations identified in the program output are acceptable.
- 2) Longitudinal reinforcement is not shown for clarity, see AASHTO M259 for longitudinal reinforcement and for additional requirements.

KY Table 1

Precast Culvert KYHL-93 Design Table

Design Earth Cover, ft		As1	As2	As3	As4	As7	As8	As5	As6
4x3x5	0<2*	0.18	0.705	0.199	0.12	0.18	0.144	0.18	0.18
	2<3	0.198	0.309	0.27	0.12	0.12	0.12		
	3-5	0.123	0.191	0.193	0.12	0.12	0.12		
	10	0.12	0.142	0.146	0.12	0.12	0.12		
	15	0.12	0.193	0.197	0.12	0.12	0.12		
	20	0.152	0.249	0.253	0.12	0.12	0.12		
	25	0.187	0.306	0.31	0.12	0.12	0.12		
	30	0.225	0.366	0.37	0.12	0.12	0.12		
	35	0.263	0.428	0.432	0.12	0.12	0.12		

*top slab 7.5", bottom slab 6"

Design Earth Cover, ft		As1	As2	As3	As4	As7	As8	As5	As6
4x4x5	0<2*	0.18	0.745	0.22	0.12	0.18	0.144	0.18	0.18
	2<3	0.154	0.314	0.276	0.12	0.12	0.12		
	3-5	0.12	0.215	0.219	0.12	0.12	0.12		
	10	0.12	0.155	0.162	0.12	0.12	0.12		
	15	0.12	0.21	0.217	0.12	0.12	0.12		
	20	0.124	0.269	0.276	0.12	0.12	0.12		
	25	0.152	0.331	0.339	0.12	0.12	0.12		
	30	0.182	0.396	0.403	0.12	0.12	0.12		
	35	0.213	1.205	0.471	0.12	0.12	0.12		

*top slab 7.5", bottom slab 6"

Design Earth Cover, ft		As1	As2	As3	As4	As7	As8	As5	As6
5x3x6	0<2*	0.192	0.726	0.201	0.144	0.6	0.168	0.192	0.192
	2<3	0.224	0.288	0.232	0.144	0.144	0.144		
	3-5	0.16	0.205	0.19	0.144	0.144	0.144		
	10	0.144	0.164	0.168	0.144	0.144	0.144		
	15	0.174	0.224	0.228	0.144	0.144	0.144		
	20	0.223	0.288	0.292	0.144	0.144	0.144		
	25	0.276	0.354	0.359	0.144	0.144	0.144		
	30	0.331	0.423	0.427	0.144	0.144	0.144		
	35	0.389	1.349	1.168	0.144	0.144	0.144		

*top slab 8", bottom slab 7"

Default Configuration Image

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Design Code: 2450110-LL110

Strength Reduction Factors: Design Code: 1, Flexure: 0.9, Shear: 0.25

Axial Thrust Load Factor: User Specified

Crack Width (CHBDC Only): 0.25 mm

Reinforcement Diameter: 1

Maximum Spacing: 4 in.

Soil Load Data: Soil Unit Weight: 120 pcf, Minimum Lateral Pressure Coefficient: 0.25, Maximum Lateral Pressure Coefficient: 0.5, Vertical Arching Factor: Embankment/Compacted

Reinforcement Details: Sidewall Outside (AS1) to Bottom Outside (AS8) with diameters and thicknesses.

Return to Main Menu

Jeremiah Littlejohn Documents 3052483

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SPAN < / ft: 12, 12, 12, 12

SPAN > / ft: 12, 12, 12, 12

MINIMUM DEPTH OF FILL < 2 ft: 2, 1, 1, 1, 1, 1

MINIMUM DEPTH OF FILL >= 2 ft: 2, 1, 1, 1, 1, 1

Reinforcement Type: Welded Wire

Restore Default Settings

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Material Properties

Main Reinforcement Yield Strength: 65000 psi

Design Concrete Strength: 5000 psi

Concrete Unit Weight: 150 pcf

Stirrup Reinforcement Developable Yield Stress: 60000 psi

Total Service Stress Limit: 100 %

Boxcar - Default (page 3) - Intermodal

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Live Load Data: HS-Series, Interstate/Tandem, Cooper Series, CHBDC Truck, Tandem/Tandem, Other, None

Magnitude (k): 25, 25, 80, 140, 140, 15

Direction of Traffic: Parallel, To Span

Impact Factor Options: Design Code: 1

Impact Factor (User Def): 1

Lane Load: 0 lb/ft

Live Load Distribution Factor (LLDF): 1.15

Fluid Loads: Depth of Fluid: 1, Fluid Unit Weight: 62.5 pcf

Surcharge Loads: Uniform Vertical: 0 lb/ft, Lateral - Top of Culvert (LLTC): 90 lb/ft, Lateral - Bottom of Culvert (LLBC): 90 lb/ft

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Interstate/Tandem Truck Wheel Layout

Diagram showing truck wheel spacing: 14 ft, 5 ft, 0.5 ft, 0.5 ft, 4 ft

A=Axle Load