

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 7:52:51 AM

Tech: J. Horsley

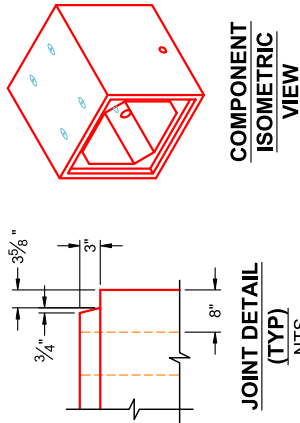
PC: C. Goff



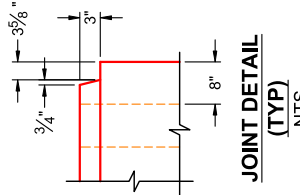
Structure ID: St. 45+00 (PC 15)

P1 BC048048-08WLF-9H

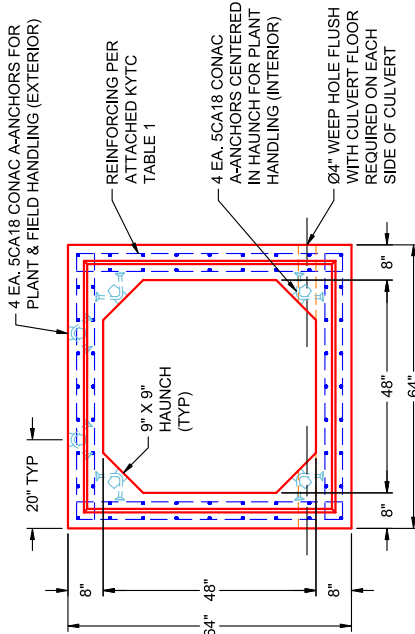
BOX CULVERT (08W/08F/08T) G/T



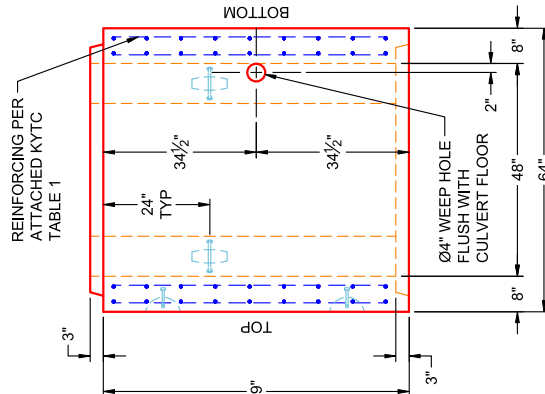
COMPONENT
ISOMETRIC
VIEW



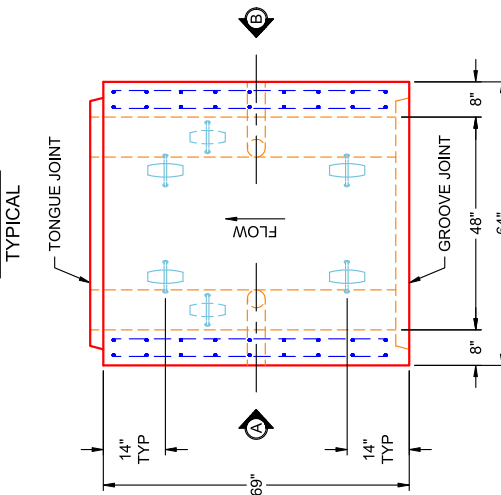
JOINT DETAIL
(TYP)
NTS



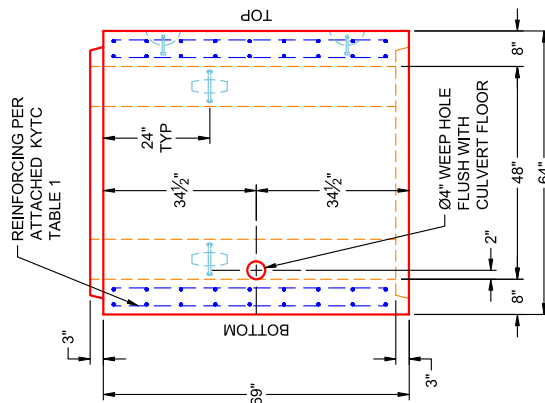
END VIEW
TYPICAL



VIEW B
PC 15
(UPRIGHT IN MOLD)



PLAN VIEW
PC 15
(UPRIGHT IN MOLD)



VIEW A
PC 15
(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 15)

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 Parameters															
☐ SI Unit File ☒ Customary US Unit File Data Directory: C:\Program Files\Autodesk\AutoCAD 2004\Sample\Documents	☐ e: C:\Program Files\Autodesk\AutoCAD 2004\Sample\Documents														
Section Length															
Box Geometry	ft														
Top Slab Thickness Bottom Slab Thickness Sidewall Thickness Horizontal Haunch Length Vertical Haunch Length	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">SPAN ≤ 7 ft</td> <td style="text-align: center;">SPAN > 7 ft</td> </tr> <tr> <td style="text-align: center;">{Span}/12 + 1</td> <td style="text-align: center;">{Span}/12 + 0</td> </tr> <tr> <td style="text-align: center;">{Span}/12 + 1</td> <td style="text-align: center;">{Span}/12 + 0</td> </tr> <tr> <td style="text-align: center;">{Span}/12 + 1</td> <td style="text-align: center;">{Span}/12 + 0</td> </tr> <tr> <td style="text-align: center;">{Span}/12 + 1</td> <td style="text-align: center;">{Span}/12 + 0</td> </tr> <tr> <td style="text-align: center;">{Span}/12 + 1</td> <td style="text-align: center;">{Span}/12 + 0</td> </tr> </table>	SPAN ≤ 7 ft	SPAN > 7 ft	{Span}/12 + 1	{Span}/12 + 0	{Span}/12 + 1	{Span}/12 + 0	{Span}/12 + 1	{Span}/12 + 0	{Span}/12 + 1	{Span}/12 + 0	{Span}/12 + 1	{Span}/12 + 0		
SPAN ≤ 7 ft	SPAN > 7 ft														
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{Span}/12 + 1	{Span}/12 + 0														
{Span}/12 + 1	{Span}/12 + 0														
Linear Concrete Covers															
Top Slab Outside Face Top Slab Outside Face Bottom Slab Outside Face Sidewall Outside Face Top Slab Inside Face Bottom Slab Inside Face Sidewall Inside Face	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">MINIMUM DEPTH OF FILL < 2 ft</td> <td style="text-align: center;">MINIMUM DEPTH OF FILL >= 2 ft</td> </tr> <tr> <td style="text-align: center;">in.</td> <td style="text-align: center;">in.</td> </tr> <tr> <td style="text-align: center;">in.</td> <td style="text-align: center;">in.</td> </tr> <tr> <td style="text-align: center;">in.</td> <td style="text-align: center;">in.</td> </tr> <tr> <td style="text-align: center;">in.</td> <td style="text-align: center;">in.</td> </tr> <tr> <td style="text-align: center;">in.</td> <td style="text-align: center;">in.</td> </tr> <tr> <td style="text-align: center;">in.</td> <td style="text-align: center;">in.</td> </tr> </table>	MINIMUM DEPTH OF FILL < 2 ft	MINIMUM DEPTH OF FILL >= 2 ft	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
MINIMUM DEPTH OF FILL < 2 ft	MINIMUM DEPTH OF FILL >= 2 ft														
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Material Properties															
Main Reinforcement Yield Strength Design Concrete Strength Concrete Unit Weight Stirrup Reinforcement Developable Yield Stress Total Service Stress Limit	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">psi</td> <td style="text-align: center;">psi</td> <td style="text-align: center;">pcf</td> <td style="text-align: center;">psi</td> <td style="text-align: center;">%</td> </tr> <tr> <td style="text-align: center;">65000</td> <td style="text-align: center;">5000</td> <td style="text-align: center;">150</td> <td style="text-align: center;">60000</td> <td style="text-align: center;">100</td> </tr> </table>	psi	psi	pcf	psi	%	65000	5000	150	60000	100				
psi	psi	pcf	psi	%											
65000	5000	150	60000	100											
Reinforcement Type															
Reinforcement Type: Welded Wire															
Next Page >> Restore Default Settings Return to Main Menu															

Design Code ASHRAE 90.1-2010		Design Code 1	
Design Load 1		Design Load 0.9	
Design Temperature 1		Design Temperature 0.9	
Design Humidity 1		Design Humidity 0.9	
Design Wind Speed 1		Design Wind Speed 0.9	
Design Seismicity 1		Design Seismicity 0.9	
Design Snow Load 1		Design Snow Load 0.9	
Design Ice Load 1		Design Ice Load 0.9	
Design Frost Load 1		Design Frost Load 0.9	
Design Thermal Load 1		Design Thermal Load 0.9	
Design Acoustic Load 1		Design Acoustic Load 0.9	
Design Air Quality Load 1		Design Air Quality Load 0.9	
Design Water Quality Load 1		Design Water Quality Load 0.9	
Design Noise Load 1		Design Noise Load 0.9	
Design Vibration Load 1		Design Vibration Load 0.9	
Design Electromagnetic Interference Load 1		Design Electromagnetic Interference Load 0.9	
Design Radio Frequency Interference Load 1		Design Radio Frequency Interference Load 0.9	
Design Power Quality Load 1		Design Power Quality Load 0.9	
Design Security Load 1		Design Security Load 0.9	
Design Disaster Load 1		Design Disaster Load 0.9	
Design Environmental Load 1		Design Environmental Load 0.9	
Design Social Load 1		Design Social Load 0.9	
Design Cultural Load 1		Design Cultural Load 0.9	
Design Economic Load 1		Design Economic Load 0.9	
Design Political Load 1		Design Political Load 0.9	
Design Religious Load 1		Design Religious Load 0.9	
Design Ethnic Load 1		Design Ethnic Load 0.9	
Design Linguistic Load 1		Design Linguistic Load 0.9	
Design Gender Load 1		Design Gender Load 0.9	
Design Age Load 1		Design Age Load 0.9	
Design Disability Load 1		Design Disability Load 0.9	
Design Sexual Orientation Load 1		Design Sexual Orientation Load 0.9	
Design Marital Status Load 1		Design Marital Status Load 0.9	
Design Family Structure Load 1		Design Family Structure Load 0.9	
Design Community Structure Load 1		Design Community Structure Load 0.9	
Design Nationality Load 1		Design Nationality Load 0.9	
Design Ethnicity Load 1		Design Ethnicity Load 0.9	
Design Religion Load 1		Design Religion Load 0.9	
Design Language Load 1		Design Language Load 0.9	
Design Culture Load 1		Design Culture Load 0.9	
Design Values Load 1		Design Values Load 0.9	
Design Beliefs Load 1		Design Beliefs Load 0.9	
Design Attitudes Load 1		Design Attitudes Load 0.9	
Design Emotions Load 1		Design Emotions Load 0.9	
Design Personality Load 1		Design Personality Load 0.9	
Design Intelligence Load 1		Design Intelligence Load 0.9	
Design Creativity Load 1		Design Creativity Load 0.9	
Design Problem Solving Load 1		Design Problem Solving Load 0.9	
Design Decision Making Load 1		Design Decision Making Load 0.9	
Design Communication Load 1		Design Communication Load 0.9	
Design Collaboration Load 1		Design Collaboration Load 0.9	
Design Teamwork Load 1		Design Teamwork Load 0.9	
Design Leadership Load 1		Design Leadership Load 0.9	
Design Management Load 1		Design Management Load 0.9	
Design Organization Load 1		Design Organization Load 0.9	
Design Structure Load 1		Design Structure Load 0.9	
Design Process Load 1		Design Process Load 0.9	
Design Methodology Load 1		Design Methodology Load 0.9	
Design Framework Load 1		Design Framework Load 0.9	
Design Model Load 1		Design Model Load 0.9	
Design Simulation Load 1		Design Simulation Load 0.9	
Design Analysis Load 1		Design Analysis Load 0.9	
Design Synthesis Load 1		Design Synthesis Load 0.9	
Design Evaluation Load 1		Design Evaluation Load 0.9	
Design Optimization Load 1		Design Optimization Load 0.9	
Design Innovation Load 1			

Buyer - Detail (page 2) - Interstate/ Tandem Truck

Live Load Data

Live Load Type (Max 2)

☒ H5 Series
☒ Interstate/Tandem
☐ Cooper Series
☐ CHBDC Truck
☐ Tandem/Tandem
☐ Other
☐ None

Magnitude (M)

75	tons
25	kips
80	kips
140	kips
140	kips
15	kips

Direction of Traffic

Parallel

To Span

Impact Factor Options

Design Code

Impact Factor (User Def) 1

Lane Load

0

lb/ft

Live Load Distribution

Factor (LLDF)

1.15

Fluid Loads

Depth of Fluid

Fluid Unit Weight

52.5

pcl

1

ft

Surcharge Loads

Uniform Vertical

Lateral - Top of Culvert (LLTC)

Lateral - Bottom of Culvert (LLBC)

lb/ft

90

lb/ft

90

lb/ft

90

lb/ft

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lb/ft

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