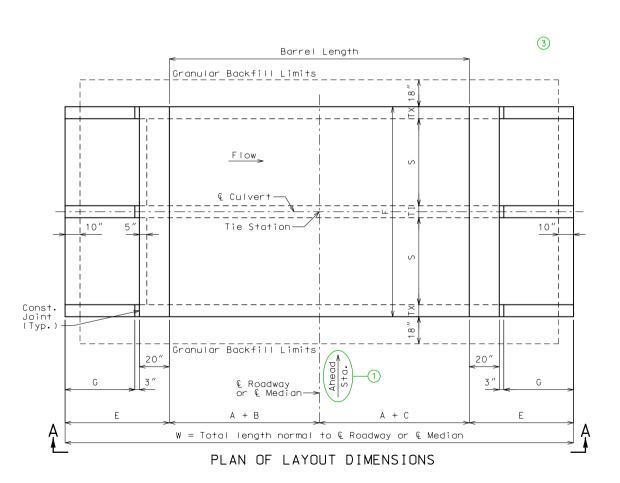
GENERAL ELEVATION A-A

Supersedes: May 2015

Construction joint key not shown for clarity, see standard plans for details.

If any part of the barrel is exposed, the roadway fill shall be warped to provide 12 inches minimum cover. (Roadway Item)

If unsuitable material is encountered, excavation of unsuitable material and furnishing and placing of granular backfill shall be in accordance with Sec 206.



(b) Layout Dimensions Equation Eauation Dim. Var. Var. Eauation Dim. Var 2S + 2TX + TI ΗТ 2 V - - -_ _ _ G TS HT + TS - 12" BS 2A + B + C + 2E ΤX - - -Ε G + 23" TW $|Max{3'-4"} \text{ or } (BS + 12")}$

Dimensions are based on end units.

	Hydrologic Data
Draina	ge Area = mi²
Design	Flood Frequency = years
Design	Flood Discharge = cfs
Design	Flood (D.F.) Elevation =
	Base Flood (100-year)
Base F	lood Elevation =
Base F	lood Discharge = cfs
Estima:	ted Backwater = ft
Outlet	Velocity = ft/s
	Roadway Overtopping
Overtop	pping Flood Discharge = cfs
Overtop	pping Flood Frequency = years
	Flood Elevation =

Elevations	⑥─ Fill Heights
Upstream (Elev. 1) =	© Rdwy at © Culvert = ft
Downstream (Elev. 2) =	Design (All units) = ft
Pr. Gr. at Tie Sta. =	

SEC/SUR *

TWP *

RGE *

THIS MEDIA SHOULD

NOT BE CONSIDERED

A CERTIFIED

DOCUMENT.

3/8/2021

JOB NO *

CONTRACT ID.

PROJECT NO

BRIDGE NO BXC01

MΩ

SHEET NO.

*

ROUTE

*

BR

Fill heights are measured from the top of top slab to the top of earth fill or roadway. Estimated Quantities Final Class 4 Excavation cu. yard Removal of Bridges lump sum Class B-1 Concrete (Culverts-Bridge) cu. yard Reinforcing Steel (Culverts-Bridge) pound

General Notes:

Design Specifications: 2010 AASHTO LRFD Bridge Design Specifications and 2010 Interim Revisions

Design Loading: Vehicular = HL-93 minus lane load, Earth = 120 lb/cf Equivalent Fluid Pressure = 30 lb/cf (min.), 60 lb/cf (max.)

Design Unit Stresses: Class B-1 Concrete (Box Culvert) f'c = 4,000 psi Reinforcing Steel (Grade 60) fy = 60,000 psi

Standard Plans: 703.37, 703.40, 703.46, 703.47 (4)

Miscellaneous:

 $\ensuremath{\mathsf{MoDOT}}$ Construction personnel will indicate the type of box culvert constructed:

☐ Precast Concrete Box used ☐ Cast-in-Place Concrete Box used

When alternate precast concrete box sections are used, the minimum distance from inside face of headwalls to precast sections measured along the shortest wall shall be 3 feet. Reinforcement and dimensions for wings and headwalls shall be in accordance with Missouri Standard Plans.

Channel bottom shall be graded within the right of way for transition of channel bed to culvert openings. Channel banks shall be tapered to match culvert openings. (Roadway Item)

Traffic Handling:

Structure to be closed during construction. Traffic to be maintained on during construction. See roadway maintained on <u>during construction</u>. See roadway plans for traffic control.

В.М.

CULVERT-BRIDGE: ROUTE * OVER *

ROUTE * FROM * TO * ABOUT * MILES * OF * TIE STA. _____

Note: This drawing is not to scale. Follow dimensions. Checked

Sheet No. 1 of

LOCATION SKETCH

BXC01_dbl_sq_str.dgn 10:17:09 AM 3/8/2021

Standard Drawing Guidance
(Do not show on plans. Turn off the
Bridge Construction level to hide)

Some details have been grouped together to allow easy substitution with alternate details. To edit grouped details, select them and press <Ctrl> U

 Ahead station is shown for streams flowing left to right. Arrow must be flipped for streams that flow right to left.

② Modify Estimated Quantities as required. Don't leave blank rows but leave space between Estimated Quantities and General Notes for at least one pay item to be added during construction. See Alternate Details for culvert extensions, or if five items are required.

3) Add any required transverse joints proportionally spaced along the barrel. Lable units and add actual lengths of units along the barrel.

(4) Insert STD 703.60 when pipe inlets are required. Add pipe inlets to Plan of Layout Dimensions at appropriate locations and to Elevation A-A if visible from elevation. Add inlet data using notes where space allows, or use tables.

5) For nonstandard culverts with only one design fill height, add supplemental reinforcement table.

⑥ No need to revise General Elevation A-A for dual roadways. In Fill Heights table add a lone designation after € Rdwy and insert another row for the other lane.

*** VARIABLE DESIGN FILL HEIGHTS ***

a) Select and delete the details grouped With the Fill Heights table. Select and move the alternate grouped details to drawing.

(b) Place "See Member Thickness table" in the Equation column and place "Varies" in the Dim. column. If Dimension F varies, place "Varies" in the Dim. column.

© Remove blank rows. End units may have different design fill heights but both units need to have the same member thicknesses.

d) This portion of table required when design fill height exceeds limits of the standard plans or when culvert cell height or span is not standard. If only a portion of the units are nonstandard, fill out entire table using the values from the standard table where applicable. Omit if not required.

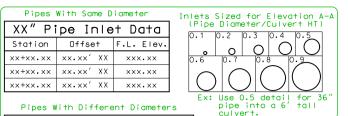
If any part of the barrel is exposed, the roadway fill shall be warped to provide 12 inches minimum cover, (Roadway Item)

Construction joint key not shown for clarity, see standard plans for details.

If unsuitable material is encountered, excavation of unsuitable material and furnishing and placing of granular backfill shall be in accordance with Sec 206.

ALTERNATE AND SUPPLEMENTAL DETAILS

Corresponds to the border of the standard drawing for ease in moving alternate details (Snap to corner)



 Pipe Inlet Data

 Station
 Offset
 Dia.
 F.L. Elev.

 xx+xx.xx
 xx.xx'
 xx
 xxx.xx

 xx+xx.xx
 xx.xx'
 xx
 xxx.xx

 xx+xx.xx
 xx.xx'
 xx
 xxx.xx

 xx+xx.xx
 xx.xxx'
 xx
 xxx.xx

— Supplemental Pipe Inlet Details (4)

— Alternate Details for Multiple Design Fill Heights (a)

Estimated Quantities Final

Class 4 Excavation cu. yard x

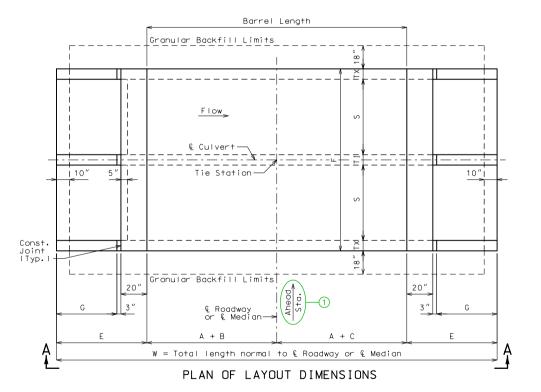
Temporary Shoring lump sum 1

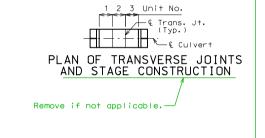
Partial Removal of Culvert-Bridge Concrete lump sum 1

Class B-1 Concrete (Culverts-Bridge) cu. yard x

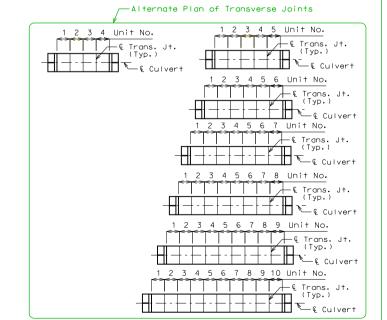
Reinforcing Steel (Culverts-Bridge) pound x

— Alternate Estimated Quantities for Culvert Extensions or when Five Items are Required





		<u> </u>																														
Member								Top Slab Reinforcement Bottom Slab Reinf												for	cemer	n†	Wall Reinforcement									
Unit No.	Unit Thickness						A 1	A1 Bars J3 Bars				H1 Bars			H2 Bars			Α2	Bars		J4 Bars				нз в	ars	B1 Bars B2 B				s	
"0.	Lengin	TS	BS	ΤX	ΤI	F	Sz	. Spa	Sz.	Spa.	C1	K2	Sz.	Spa.	C5	Sz.	Spa.	C6	Sz.	Spa.	Sz.	Spa.	C4	К3	Sz.	Spa.	C7	Sz.	Spa.	Sz.	Spa.	G1
×	×	×	×	×	X	'- '	′ ×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	Х	×	×
×	×	×	×	×	×	'_ '	′ ×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	X	×	×
×	×	×	×	×	×	′_ ′	′ ×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	X	×	×
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