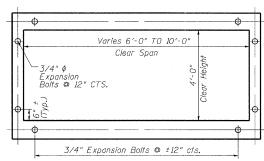
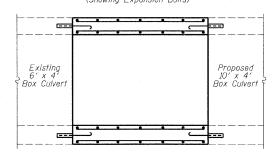


SECTION THUR BARREL

(Showing Reinforcement)



CROSS SECTION THRU BARREL (Showing Expansion Bolts)

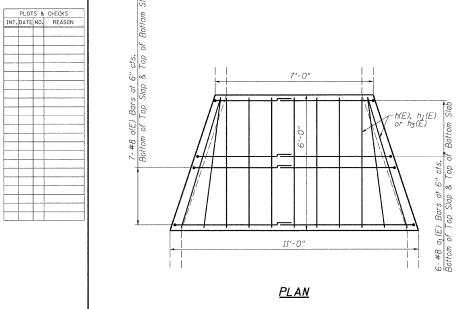


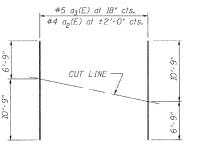
<u>ELEVATION</u>

BILL OF MATERIAL FOR CONNECTION STRUCTURE

Bar	No.	Size	Length	Shape
a(E)	14	#8	8'-1"	
a ₁ (E)	12	#8	7'-1"	
a ₂ (E)	3	#4	17'-6"	
a ₃ (E)	4	#5	17'-6"	
h(E)	11	#6	5′-9"	
h1(E)	18	#5	5′-9"	
h ₂ (E)	8	#5	5'-9"	
h3(E)		#4	5′-9"	
v(E)	18	#4	5'-4"	
Expansion Bolts 3/4 Inch			Each	48
Reinforcement Bars, Epoxy Coated			Pound	1000
Concrete Box Culverts			Cu. Yd.	4.1

Reinforcement Bars Designated (E) Shall Be Epoxy Coated





FIELD CUTTING DIAGRAM

DESIGN STRESSES

fy = 60,000 psi

f'c = 3,500 psi

σ(E) 7'-2" II" σ₁(E) 6'-2"

CONCRETE STRUCTURE DETAILS

BARS a(E) and $a_1(E)$

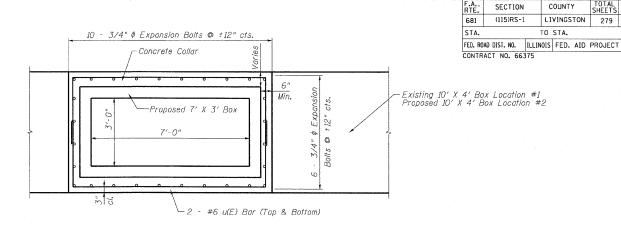
MIN. BAR LAP

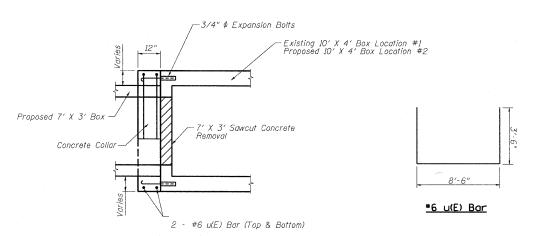
#8 Bar = 3'-8"

GENERAL NOTES

- 1. Reinforced bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.
- 2. All construction joints shall be bonded.

LOADING HS 20-44





Concrete Collar Each

CONCRETE COLLAR CONNECTION DETAIL

Proposed 7' X 3' into existing 10' X 4' Location #1 Proposed 7' X 3' into proposed 10' X 4' Location #2

<u>GENERAL NOTES</u>

- Class SI concrete shall be used throughout. The inside dimensions of the class SI concrete collar shall be the same as the outside dimensions of the new precast concrete box culvert.
- 2. Expansion bolts, 3/4" shall be placed in each corner and shall also be placed at 12" centers.
- 3. 3/4" expansion bolts, the concrete removal, and reinforcement bars shall be included with the cost of the collar. The precast concrete box cullverts will be paid for as specified elsewhere.
- 4. Class SI concrete collars will be paid for at the contract unit price per each for concrete collars including all labor and material as specified and no additional compensation will be allowed, regardless of differences in dimensions. Collars for multiple barrel culverts shall be cast, and paid for as one each.
- 5. Reinforced bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.
- 6. All construction joints shall be bonded.

ILLINOIS DEPARTMENT OF TRANSPORTATION BOX CULVERT DETAILS

FAP 681 (IL RTE. 116) SECTION (115)RS-1 LIVINGSTON COUNTY VILLAGE OF CULLOM

REVISIONS
NAME DATE
FAV 12/08

CALE: HORIZ.
DATE: 11/07/03

GREE

VERT. DRAWN BY: BISHOP DESIGNED BY: BOTT CHECKED BY: COLBROOK

OF SPRINGED, INC. OF SPRINGED.

OF SPRINGED.

OF SPRINGED.

OF SPRINGED.

DRAWN BY: BISHOP DESIGNED BY: BOTT CHECKED BY: COLBROOK OF SPRINGED.

OR OF SPRINGED.

PROJECT 03145 8/30/07-MML

IDOTPL-20 1"= 20' 8/07/00