

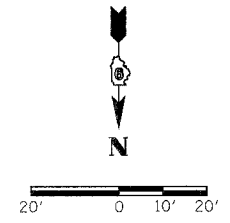
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	*	JACKSON	258	81
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

**Existing Structures:**

The single barrel 7'X5' cast-in-place box culvert under Illinois Route 13 EB was built in 1938 and was extended to the Northwest in 1954 when Illinois Route 13 WB was added.

The single barrel 6'X4' precast box culvert under Emerald Lane was built in 1938.

Both box culverts shall be extended and connected using a cast-in-place Junction Box Culvert at the Southwest quadrant of Illinois Route 13 and Emerald Lane. The 7'X5' box culvert shall also be extended using a cast-in-place box culvert at the Northwest quadrant of Illinois Route 13 and Sycamore Street.



**GENERAL NOTES**

1. Reinforcement bars shall conform to the requirements of AASHTO M31, M42 or M53 Grade 60.
2. For backfilling and embankment, see Standard Specifications.
3. Precast culvert alternative is not allowed.
4. Exposed edges shall have a 3/4" chamfer.
5. Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
6. All construction joints shall be banded.
7. Expansion bolts shall be 3/4" φ X 12" hooked bolts. Hooked bolts shall extend a minimum of 9" into new concrete and have a minimum certified proof load of 4,080 lbs.

**BILL OF MATERIAL**

(cast-in-place junction box culvert)

Bar	No.	Size	Length	Shape
a1	48	#5	7'-10"	U
a2	7	#4	6'-6"	U
a3	80	#7	9'-9"	U
a4	12	#4	8'-0"	U
a5	8	#6	2'-6"	U
d	9	#4	4'-6"	L
h	10	#5	12'-2"	U
h1	14	#4	13'-6"	U
h2	10	#5	12'-2"	U
h3	9	#6	21'-5"	U
h4	18	#4	21'-5"	U
h5	9	#5	21'-5"	U
h6	6	#5	9'-5"	U
h7	6	#5	5'-8"	U
h8	15	#6	8'-2"	U
h9	9	#6	11'-6"	U
h10	11	#6	8'-0"	U
h11	8	#6	10'-6"	U
h12	11	#6	8'-0"	U
L	12	#5	4'-4"	L
L1	8	#5	3'-5"	L
v	36	#4	4'-9"	U
v1	54	#4	5'-10"	U
v2	17	#5	8'-9"	U
v3	8	#4	8'-9"	U
x	30	#4	5'-3"	U
x1	6	#4	8'-0"	U
x2	6	#4	6'-1"	U
Concrete Box Culverts	Cu. Yd.	22.9		
Reinforcement Bars	Pound	4860		
3/4" Expansion Bolts	Each	20		

**BILL OF MATERIAL**

(cast-in-place 7'X5' box culvert extension)

Bar	No.	Size	Length	Shape
a1	76	#7	10'-3"	U
a2	11	#4	8'-6"	U
d	8	#4	4'-6"	L
h	11	#5	19'-8"	U
h1	16	#4	19'-8"	U
h2	12	#5	19'-8"	U
h3	15	#6	8'-7"	U
h4	9	#6	13'-6"	U
h5	11	#6	8'-0"	U
h6	10	#5	10'-0"	U
h7	12	#5	8'-0"	U
v	58	#4	5'-9"	U
v1	19	#5	8'-9"	U
v2	8	#4	8'-9"	U
Concrete Box Culverts	Cu. Yd.	16.5		
Reinforcement Bars	Pound	3520		
3/4" Expansion Bolts	Each	18		

**LOADING HS20-44**

Allow 50#/sq. ft. for future wearing surface.

**DESIGN SPECIFICATIONS**

2002 AASHTO

**DESIGN STRESSES**

FIELD UNITS  
 f'c = 3,500 psi  
 fy = 60,000 psi (reinforcement)

PLAN

2/15/2006  
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 rodeva.cad

**CAST-IN-PLACE BOX CULVERT EXTENSIONS AT IL 13 AND EMERALD LN/SYCAMORE ST STA 53+62.29 (EB) & STA 53+82.80 (WB)**