

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	2ZRS-1	CRAWFORD	191	129
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

GENERAL NOTES

1. Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
2. Expansion bolts shall consist of approved expansion anchors, providing minimum certified proof load = 18.15 kN, and 20 mm ϕ hooked bolts shall extend a minimum of 250 mm into new concrete.
3. Reinforcement bars shall conform to the requirements of AASHTO M-31M or M-322M, Grade 400.
4. Reinforcement bars designated (E) shall be epoxy coated.
5. All dimensions are in millimeters (mm) except as noted.
6. Precast reinforced concrete box sections shall conform to AASHTO M-259M and M-273M.
7. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

TOTAL BILL OF MATERIAL

(Culverts E.C. 101, 105) (Box Culvert Nos. 1, & 4)

Item	Unit	Total
M5030350 Concrete Structures	cu. m.	4.9
M5080205 Reinforcement Bars, Epoxy Coated	kg	880
* M5401005 Precast Concrete Box Culvert (900x450)	m	15.2
* M5401005 Precast Concrete Box Culvert (600x600)	m	15.6
* 5401001 Box Culvert End Section, Culvert No. 1	Each	2
* 5401004 Box Culvert End Section, Culvert No. 4	Each	2
M5403220 Expansion Bolts (M20x250)	Each	206
M2810707 Stone Riprap, Class A4	sq. m.	See Plans
M5050405 Furnishing & Erecting Structural Steel	kg	260
* MX033694 Structural Repair of Concrete (Depth Equal to or Less than 125mm)	sq. m.	3.2
M5900200 Epoxy Crack Injection	m	5
* MX032196 Polymer Modified Portland Cement Mortar	sq. m.	25.9
M5930100 Controlled Low-Strength Material	cu. m.	7.0

* Non-standard size.

INDEX OF SHEETS

- S1 Gen. Notes & Bill of Material
- S2 General Plan & Elevation, Box Culvert No. 1
- S3 General Plan & Elevation, Box Culvert No. 4
- S4 Concrete Repair Details, Box Culvert No. 4
- S5 Precast Section Details
- S6 Precast End Section Details
- S7 Cast-In-Place Collar Details
- S8 Miscellaneous Details
- S9 Plug & Fill Details, E.C. #101 And E.C. #105

DESIGN SPECIFICATIONS

2002 AASHTO Specifications

DESIGN STRESSES (New Construction)

<i>Field Units</i>	<i>Precast Units</i>
$f'_c = 24 \text{ MPa}$	$f'_c = 35 \text{ MPa}$
$f_y = 400 \text{ MPa (Reinf.)}$	$f_y = 450 \text{ MPa (Welded wire fabric)}$
$f_y = 250 \text{ MPa (Str. Steel)}$	

LOADING MS18

Allow 1.2 kN/m² for future wearing surface

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION BOX CULVERT EXTENSIONS GEN. NOTES & BILL OF MATERIAL
NAME	DATE	
LWJ	2-02-09	SCALE NONE DATE DECEMBER 10, 2006 DRAWN BY MLB CHECKED BY MTH