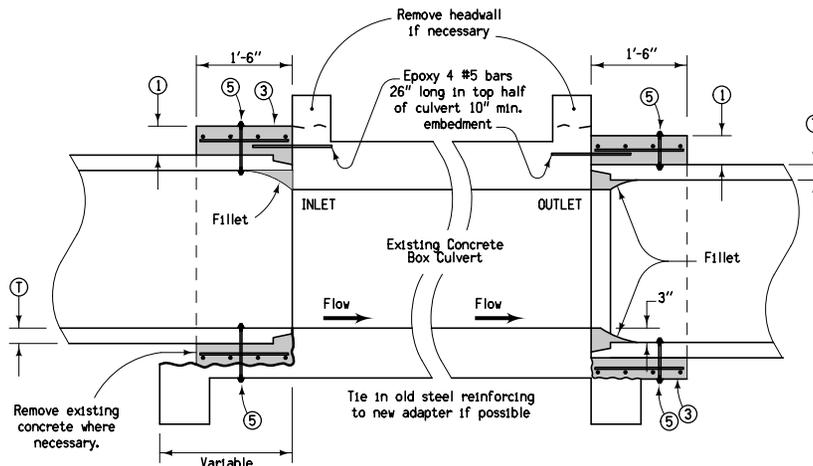
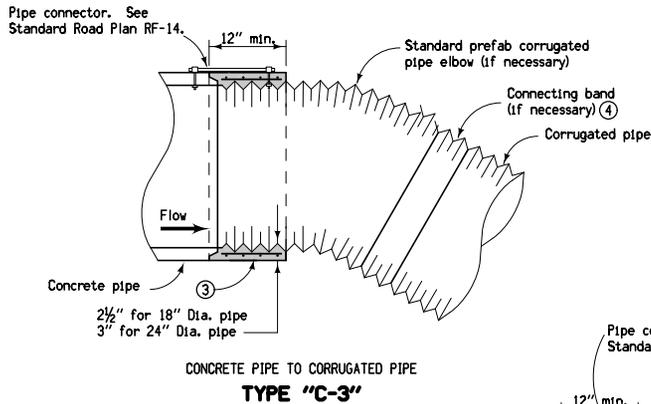


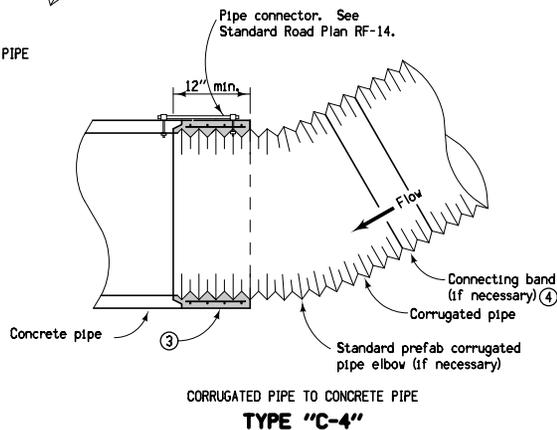
CONCRETE PIPE TO CONCRETE PIPE  
**TYPE "C-1"**



CONCRETE PIPE TO CONCRETE BOX CULVERT  
**TYPE "C-2"**



CONCRETE PIPE TO CORRUGATED PIPE  
**TYPE "C-3"**



CORRUGATED PIPE TO CONCRETE PIPE  
**TYPE "C-4"**

No payment will be made for individual adaptors.

The cost of furnishing all materials and constructing adaptor as indicated will be considered incidental to the pipe culvert.

The cost of removing and disposing, as directed, of any necessary headwall, wingwall or other concrete, shall be bid as "Removal of Existing Structures".

Type "C-1" and "C-2" adaptors shall be formed and constructed on the job site by methods approved by the Engineer.

Type "C-3" and "C-4" adaptors may be shop fabricated by a method approved by the Engineer for attaching a concrete collar (either tongue or groove end) to a standard section of corrugated pipe. Holes may be field drilled in corrugated pipe to match alignment with concrete pipe.

- ① Thickness same as pipe thickness (T) but not less than 4 Inches.
- ② Opening between pipes shall be carefully grouted.
- ③ Minimum reinforcing shall be steel wire mesh 6" x 6" - W2 No. 8 wire - 30 lbs/100 sq. ft. Lap ends 6 inches.
- ④ Positive type joint coupling required.
- ⑤ 5/8" (min.) bolts in 7/8" (min.) holes. Four bolts around each connection at equal intervals. Existing pipe connector holes may be used if available; place remaining two bolts at approximate equal intervals.
- ⑦ Thickness of wall of concrete pipe. See AASHTO M 170.

ESTIMATED ENCASEMENT QUANTITIES PER LINEAR FOOT FOR "C-2" ADAPTORS			
Diameter, D Inches	Concrete cu. yds.	Wire Mesh lbs.	Concrete for Fillet ("C-2") cu. yds.
15	0.1	2.0	N.A.
18	0.1	2.3	N.A.
21	0.1	2.6	N.A.
24	0.1	2.8	N.A.
30	0.2	3.4	0.1
36	0.2	4.0	0.1
42	0.2	4.5	0.1
48	0.3	5.1	0.1
54	0.3	5.7	0.1
60	0.4	6.2	0.1
66	0.5	6.9	0.1
72	0.6	7.5	0.1
78	0.6	8.1	0.1
84	0.7	8.7	0.1

(2000 D and 3000 D Pipe )

 Iowa Department of Transportation <b>STANDARD ROAD PLAN</b>	REVISION	
	10	10-18-11
	<b>RF-2</b>	
SHEET 1 of 1		

REVISIONS: Modified circle note 5 to allow 1/2" holes to be used for tie rods. Changed RF-1 reference to AASHTO M 170.

*Deanna Mufsh*  
APPROVED BY DESIGN METHODS ENGINEER

**CONSTRUCTION OF TYPE 'C'  
CONCRETE ADAPTORS FOR  
PIPE CULVERT CONNECTIONS**