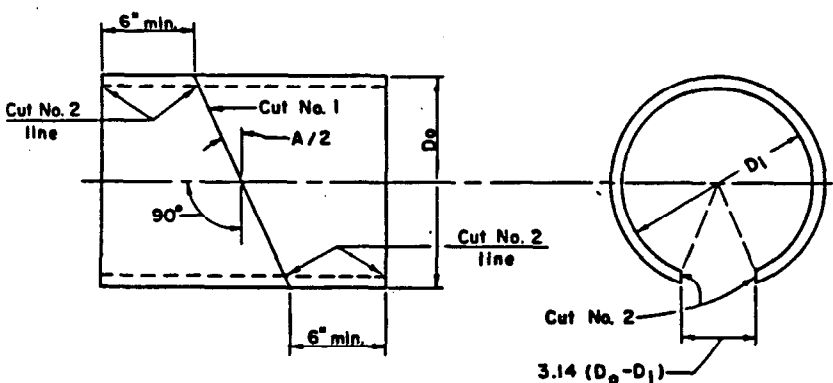


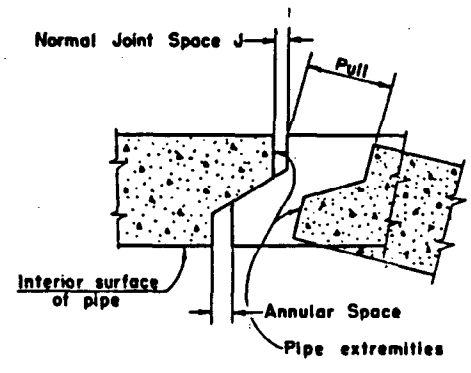
D	L	T	J
12"	12"	4"	1/16"
15"	12"	4"	1/16"
18"	12"	5"	1/16"
21"	12"	5"	1/4"
24"	12"	6"	1/4"
27"	12"	7"	1/4"
30"	12"	7"	5/16"
33"	18"	8"	5/16"
36"	18"	9"	5/16"
39"	18"	9"	5/16"
42"	18"	9"	5/16"
45"	18"	10"	5/16"
48"	18"	10"	3/8"
51"	18"	10"	3/8"
54"	18"	10"	3/8"
57"	18"	10"	3/8"
60"	21"	11"	3/8"
66"	21"	11"	3/8"



DETAIL "A"
(Sono-Tube, or equal, interior form)

CUT No. 1: Saw the tube at an angle of $A/2$ with the transverse plane. Reverse one section and tape both sections together forming the deflection angle A .

CUT No. 2: Saw the tube longitudinally removing a strip $3.14(D_0 - D_1)$ inches wide on the side opposite the open joint. Bend the ends of the cut together and insert the tube in the pipe.



DETAIL "B"
TYPICAL JOINT FOR REINFORCED CONCRETE PIPE

BUREAU OF ENGINEERING			DEPARTMENT OF PUBLIC WORKS				CITY OF LOS ANGELES	
CONCRETE COLLAR FOR STORM DRAIN PIPE						STANDARD PLAN S-333-0		
SUBMITTED <i>July 29</i> 1971 <i>Mark E. Kelly</i> DESIGN ENGINEER <i>Richard L. King</i> DEPT. ENGINEER			REVISIONS				REFERENCES	
NO.	DATE	DESCRIPTION	DIV. ENGR.	CITY ENGR.				
APPROVED <i>Sept 26</i> 1971 <i>Lyell J. Padua</i> CITY ENGINEER								
DESIGNED BY	DRAWN BY	CHECKED BY						
JPO	AKF	JPO						
						VAULT INDEX NUMBER B-3794		
						SHEET 1 OF 2 SHEETS		

NOTES

1. A concrete collar is required if the permitted pull at the pipe joint is exceeded. Pulling of joints shall be limited to $\frac{3}{4}$ -inch from normal closure for pipe 36-inches or less in diameter and to 1-inch from normal closure for pipe 39-inches or more in diameter.
2. Concrete collars shall not be constructed on main line storm drain unless shown on the plans or ordered by the Engineer.
3. Reinforcing shall be used where the pipe diameter is greater than 21-inches and on all pipes where the space between the extremities (outermost elements) is $2\frac{1}{2}$ -inches or larger.

4. CIRCULAR TIES:

PIPE DIAMETER	SPACE BETWEEN PIPE EXTREMITIES	NO. OF CIRCULAR TIES
21" or less	$2\frac{1}{2}$ "	3
24" to 30"	$2\frac{1}{2}$ " or less	3
33" to 57"	$2\frac{1}{2}$ " or less	4
60" to 66"	$2\frac{1}{2}$ " or less	5

Where the space between the pipe extremities exceeds $2\frac{1}{2}$ -inches, the number of circular ties shall be increased to maintain an approximate spacing of 6-inches center to center.

5. Concrete shall be Class 6.0-C-3000.
6. For pipe larger than 66-inches in diameter a special collar detail shall be delineated on the project plans.
7. Where the pipe is 21-inches or less in diameter, an interior form of unsealed Sono-Tube, or equal, shall be used to provide a smooth interior joint. The paper form may be left in place. When the pipe is 24-inches or larger a removable interior form shall be used or the interior joint shall be completely filled with mortar and neatly pointed.
8. Where pipes of different diameters are joined with a concrete collar, L and T shall be those of the larger pipe. A concrete collar shall not be constructed connecting a larger diameter pipe upstream to a smaller diameter pipe downstream unless shown on the improvement plans or ordered by the Engineer.
9. The value for angle A shall be shown on the improvement plans.