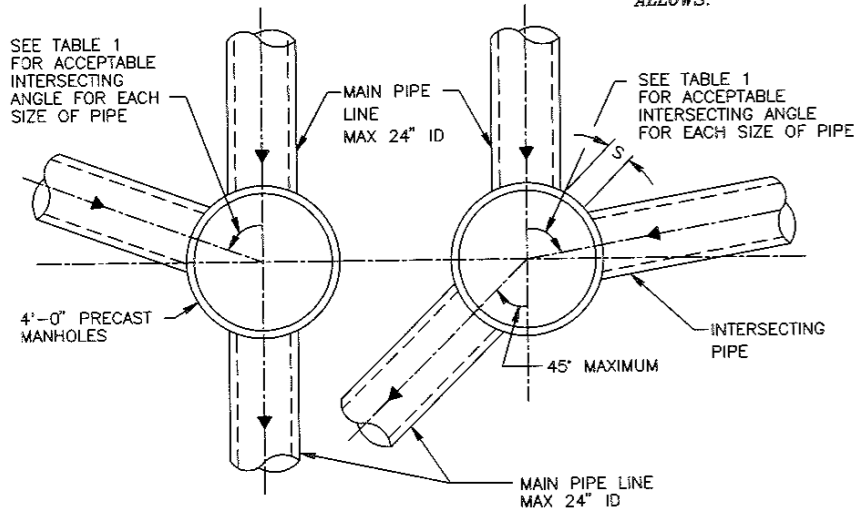
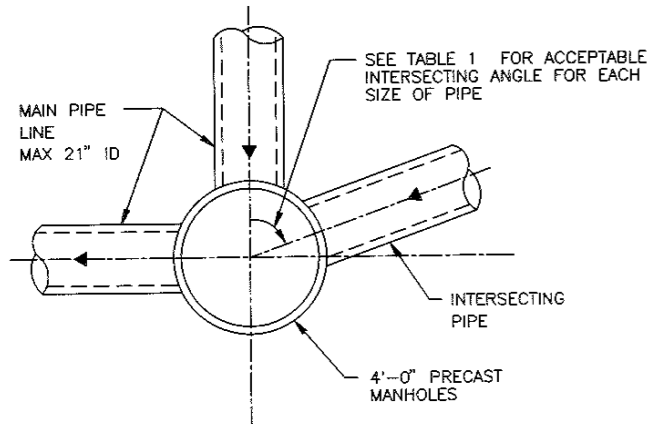


NOTES TO SPECIFIER:

1. "-" INDICATES THAT A SPECIAL DESIGN OR THE NEXT LARGER MANHOLE SIZE SHALL BE USED.
2. TABLE 1 IS BASED ON A MIN SEPARATION DISTANCE "S" OF 15.5" OR INTERSECTION PIPE OD/2, WHICHEVER IS GREATER, BETWEEN MAIN AND INTERSECTING PIPES ALONG THE MANHOLE INSIDE WALL ARC.
3. PIPE WALL THICKNESS USED IN TABLE 1 ARE BASED ON RCP. THE DESIGN ENGINEER MAY CALCULATE TO SEE IF THINNER WALL PIPES CAN MEET THE SEPARATION CRITERIA FOR ANGLES SMALLER THAN THE TABLE ALLOWS.



MAX 24" ID MAIN PIPE ALLOWED FOR STRAIGHT THROUGH TO 45° DEFLECTION



MAX 21" ID MAIN PIPE ALLOWED FOR 45° TO 90° DEFLECTION

TABLE 1
MIN ANGLE AND INTERSECTING PIPE SIZES FOR A 4'-0" DIA MANHOLE

INTERSECTING PIPE SIZE (INCHES)	MIN INTERSECTING ANGLE IN DEGREES FOR VARIOUS MAIN PIPE SIZES IN INCHES							
	6"	8"	10"	12"	15"	18"	21"	24"
6	55	58	60	65	70	75	80	85
8		60	63	68	73	77	82	87
10			66	71	75	80	85	90
12				76	80	85	90	-
15					85	90	-	-
18						-	-	-
21							-	-
24								-

NOT APPLICABLE UNLESS HYDRAULICS DICTATE (INTERSECTING PIPE > MAIN PIPE)

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING
ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION

SANITARY SEWER
4'-0" DIAMETER PRECAST CONCRETE MANHOLE NOTES
(NOT TO SCALE)

APPROVED BY: *[Signature]* CITY ENGINEER
APPROVED BY: *[Signature]* DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: OCT-01-2002 DWG NO: 02082N-02