

AIR TEST FORMULA

The contractor shall plug all lateral sewers. The sewer main ends shall be plugged and braced where needed, and if buildings have been connected, cleanouts shall be plugged also.

The Contractor will supply the necessary metering equipment and hoses for the test and a blower or compressor with adequate capacity to perform the test.

The line shall be supplied with air until 4p.s.i.g. has been reached, at which time the flow to the pipe shall be shut off. The Inspector will then accurately determine the time of loss of 1p.s.i. pressure in the range from 3.5 p.s.i.g. to 2.5 p.s.i.g.

The minimum time allowable for loss of 1p.s.i. shall be computed by use of the following table or formula.

(Diameter of pipe in inches)² x 0.0109 = seconds per lin.ft. of pipe equals time required to lose one pound air pressure (from 3.5 pounds to 2.5 pounds) at a loss rate of 3c.f.m.

EXAMPLE :

$$\begin{array}{r}
 400 \text{ lin.ft. } 8'' \text{ V.C.P. } , 8 \times 8 \times .0109 \times 400 = 279 \\
 + 400 \text{ lin.ft. } 4'' \text{ V.C.P. } , 4 \times 4 \times .0109 \times 400 = 70 \\
 \hline
 349 \text{ sec.} = 5 \text{ min. } 49 \text{ sec.}
 \end{array}$$

If the time loss is less than 5min.49sec., there are one or more leaks that exceed 3cu.ft. per min.

For computation, the following table will apply:

Size of pipe	Seconds per lin.ft. of pipe
4" _____	.17
6" _____	.39
8" _____	.70
10" _____	1.09
12" _____	1.57
15" _____	2.45
18" _____	3.53
21" _____	4.81
24" _____	6.28
27" _____	7.95
30" _____	9.82
33" _____	11.88
36" _____	14.14

Any pipe test section losing a pound of air in less than this time will leak more than 3 c.f.m. and shall be rejected.

COMPARISON

The amount of water that will infiltrate at six foot head through this opening will vary from 10 to 60 gallons per hour, depending on the size and shape of hole or holes.

REV	DATE	APPROVED	DESIGN	CITY OF MILPITAS PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION STANDARD DRAWING	AIR TEST FOR SEWER MAINS	NO. 610
			DRAWN			
			CHECKED			
			APPROVED BY			
			 CITY ENGINEER			ADOPTED
			DATE 10/2/91			S# 59
				DATE: 2/9/61		SHEET 1 OF 2

DIRECTIONS

Use straight edge
 Scales 1 & 4 give T values on scale 5
 Scales 1 & 2 give T values on scale 3

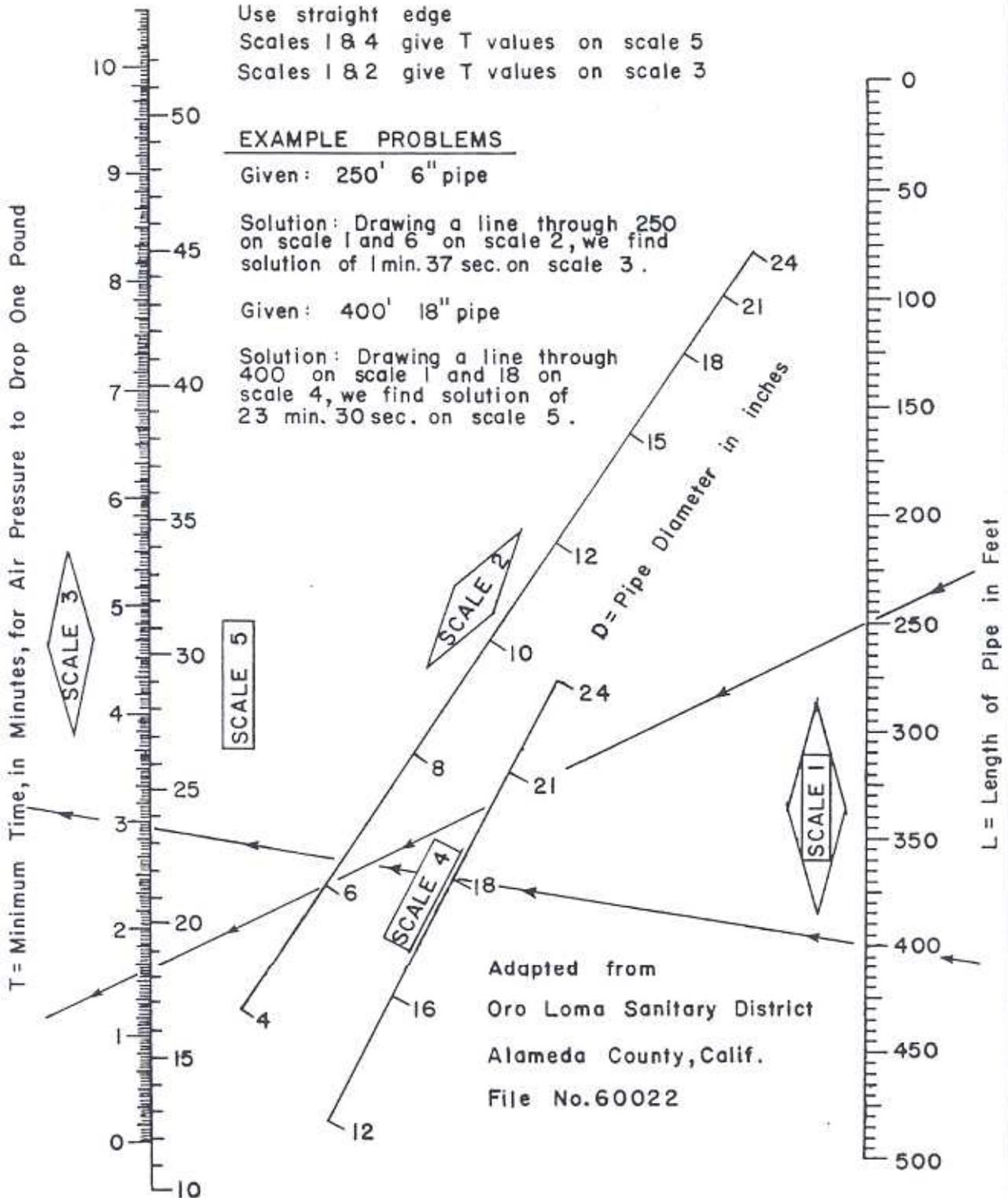
EXAMPLE PROBLEMS

Given: 250' 6" pipe

Solution: Drawing a line through 250 on scale 1 and 6" on scale 2, we find solution of 1 min. 37 sec. on scale 3.

Given: 400' 18" pipe

Solution: Drawing a line through 400 on scale 1 and 18 on scale 4, we find solution of 23 min. 30 sec. on scale 5.



Adapted from
 Oro Loma Sanitary District
 Alameda County, Calif.
 File No. 60022

NOMOGRAPH FOR AIR PRESSURE TEST

REV	DATE	APPROVED	DESIGN
			DRAWN
			CHECKED
			APPROVED BY
			<i>David M. [Signature]</i> CITY ENGINEER
			DATE 10/8/91

CITY OF MILPITAS
 PUBLIC WORKS DEPARTMENT
 ENGINEERING DIVISION
 STANDARD DRAWING

AIR TEST
 FOR
 SEWER MAINS

NO. 610

ADOPTED
 S# 59
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 SHEET 2 OF 2