MINIMUM PIPE WELDING LENGTHS

INSTALLATIONS FOR CLASS 150 UP TO CLASS 200				
PIPE DIA	0 - 22.5°	22.5° - 45°	45° - 67.5°	67.5° - 90°
4"	15'	40'	85'	140'
6"	20'	60'	100'	200'
8"	20'	80'	165'	265'
12"	25'	90'	190'	305'
14"	30'	105'	215'	350'
16"	30'	115'	245'	395'
18"	35'	130'	270'	435'
20"	40'	140'	295'	480'
24"	45'	165'	345'	560'
30"	55'	200'	415'	670'
36"	60'	230'	480'	775'

General Notes:

- 1. Welded pipe lengths to be used only upon approval by the City.
- 2. Welded lengths indicated are to be provided on each side of bend.
- 3. All joints within the lengths indicated shall be full weld, double pass.
- 4. Dead end" thrust is equivalent to a 60° bend.
- 5. For service laterals, including fire hydrants, fire services, blow-offs, weld all mainline joints (double pass) 10' minimum each side of tee outlet.

The following assumptions apply:

1. length of welded pipe is for each side of bend using the following equation:

 $L = 1.5PA (1 - COS\Delta / [u(We+Ww+Wp)]$

Where:

P = maximum test pressure (psi)

A = Cross-sectional area of the pipe (sq. in.)

 \wedge = Angle of Bend (degrees)

u = Coeff. Of friction between pipe & soil (assumed 0.3)

We = Weight of the prism of soil over the pipe (lb.ft.) of pipe length (wt of

soil assumed to be 110 lb./cu.ft.)

Wp = Weight of the pipe (lb./ft.)

Ww = Weight of the contained water (lb./ft.)

- 2. 3' minimum pipe cover for pipe diameters > 12"
 - 4' minimum pipe cover for pipe diameters>
- 3. Factor of safety = 1.5 times maximum test pressure
- **4.** Maximum angle (\triangle) used for each range shown

