



FIRE LINE DEMAND DATA	
Property Address: _____	
Name of Building or Business: _____	
Legal Description: _____	
# of square feet to be sprinkled: _____	# of stories to be sprinkled: _____
Building Use: <input type="checkbox"/> Commercial <input type="checkbox"/> Residential (# of units ____)	<input type="checkbox"/> Other
Fire Line Size: _____	Required Fire Sprinkler Flow: _____ gpm
Required Residual Pressure: _____ psi	
Name of the street where the main is to be tapped is: _____	

Reference Charts *(click link to access charts)*

[Recommended Flow Capacity for Automatic Sprinkler Connection Taps](#)

[Backflow Preventer Sizings](#)

[Guidelines for Service Line & Meter Capacities](#)

COMBINATION FIRE LINE & DOMESTIC TAP DEMAND DATA <i>(if applicable)</i>	
Domestic Tap Size: _____	Maximum Domestic Load: _____ gpm
Will there be any irrigation? <input type="checkbox"/> Yes <input type="checkbox"/> No	Maximum Irrigation Load: _____ gpm
# of square feet to be irrigated: _____	Concurrent irrigation/domestic use? <input type="checkbox"/> Yes <input type="checkbox"/> No

3 INCH OR LARGER DOMESTIC ONLY DEMAND DATA <i>(if applicable)</i>	
Building Use: <input type="checkbox"/> Commercial <input type="checkbox"/> Residential (# of units ____)	<input type="checkbox"/> Other
Name of the street where the main is to be tapped: _____	
Domestic Tap Size: _____	Maximum Domestic Load: _____ gpm
Will there be any irrigation? <input type="checkbox"/> Yes <input type="checkbox"/> No	Maximum Irrigation Load: _____ gpm
# of square feet to be irrigated: _____	Concurrent irrigation/domestic use? <input type="checkbox"/> Yes <input type="checkbox"/> No

My Sales Administration Representative is:

Return to form

Guidelines for Service Line and Meter Capacities

Service Flows from DWD Internal Study of Various Code Capacities

Meter Flows from AWWA Manual M-22 *Updated 6/11/10*

Tap/Meter/Service Sizing

Maximum rated Velocity is 10 ft/sec

Diameter	Maximum Flow @ Velocity 10 ft/sec (1,2)	High Normal Meter Flows (3)			Associated BFP Diameter @ 10 ft/sec
		Displacement	Meter Type		
			Turbine Class II	Compound	
3/4"	14	15			1"
1"	24	25			1 1/4"
1.5" (4)	55	50	80		2"
2"	98	80	100	80	2 1/2"
3"	220		240	160	4"
4"	391		420	250	6"
6"	881		920	500	8"
8"	1566		1600	800	10"
10"	2447		2500		12"

All flows in gallons per minute (gpm)

- (1) Uniform Plumbing Code A 6.1: Velocities shall not exceed 10 ft/sec
AWWA Manual M-22, Appendix C: "recommended that the maximum water Velocity in the service be not more than 10 /fs"
- (2) International Plumbing Code Figure E103.3(2): Fluid velocities in excess of 5 to 8 ft/sec are not usually recommended
- (3) AWWA Manual M-22 Table 6.1
- (4) Only Badger meters are manufacturer rated to deliver in excess of 50 gpm for 1 1/2"

Return to form

Backflow Preventer Sizing

Maximum rated Velocity is 7.5 ft/sec

Diameter Inches	BFP Maximum	Velocity in ft/sec
	7.5	
0.75	10.3	Flows in gpm
1.00	18.4	
1.25	28.7	
1.50	41.3	
2.00	73.4	
2.50	114.7	
3.00	165.2	
4.00	293.6	
6.00	660.6	
8.00	1174.4	
10.00	1835.1	

Recommended Flow Capacity for Automatic Sprinkler Connection Taps

Diameter	Flow	Flow	Allowed Combination Domestic Tap Sizes	
Inches	@ 15 fps (1)	@ 20 fps (2)	at $\geq 4:1$ Ratio <i>or</i> $< 8:1$ Ratio (ASC:DOM)	
1 1/2"	83 gpm	110 gpm	N/A	
2"	150 gpm	195 gpm	N/A	
3"	331 gpm	441 gpm	N/A	(3" tapping saddle N/A)
4"	590 gpm	780 gpm	3/4"	1"
6"	1,325 gpm	1,760 gpm	1"	1 1/2"
8"	2,350 gpm	3,140 gpm	1 1/2"	2"
10"	3,675 gpm	4,895 gpm	1 1/2"	2"
12"	5,286 gpm	7,050 gpm	2"	3"

(1) From NFPA 20 Section A-2-9.4, ASC systems w/fire pump, 15 fps maximum

(2) Maximum recommended flow velocity w/o fire pump is 20 fps

Return to form