



FIRE LINE / DOMESTIC / IRRIGATION CONNECTION DEMAND FORM

Date: \_\_\_\_\_ Name: \_\_\_\_\_ Project Tracker ID (if applicable): \_\_\_\_\_

Property Address: \_\_\_\_\_
Name of Building or Business: \_\_\_\_\_
Legal Description: \_\_\_\_\_
Property use: [ ] Commercial [ ] Multi-family (total units \_\_\_\_\_) [ ] Mix use\* [ ] Irrigation only
(units to be sprinkled \_\_\_\_\_) (Commercial & Multi-family) (Section 4)

FIRE LINE DEMAND DATA - all sizes View sheet 3 for recommended flow capacities per size
# of square feet to be sprinkled: \_\_\_\_\_ # of stories to be sprinkled: \_\_\_\_\_
Required sprinkler flow: \_\_\_\_\_ gpm Requested size: \_\_\_\_\_
Required residual pressure: \_\_\_\_\_ psi
Name of the street where the main is to be tapped is: \_\_\_\_\_

DOMESTIC ONLY DEMAND DATA - all sizes View sheet 2 for meter capacities
Tap size requested: \_\_\_\_\_ Domestic maximum load: \_\_\_\_\_ gpm
\* For mixed use only, please provide the following: Commercial area: \_\_\_\_\_ square feet
If this tap will also serve irrigation, please provide the following:
Area of irrigation only: \_\_\_\_\_ square feet Irrigation maximum load: \_\_\_\_\_ gpm
Concurrent irrigation/domestic use: [ ] yes [ ] no
Name of the street where the main is to be tapped is: \_\_\_\_\_

IRRIGATION DEMAND DATA - use this section only if irrigation will be served by its own separate tap
View sheet 2 for meter capacities
Tap size: \_\_\_\_\_ Area of irrigation only: \_\_\_\_\_ square feet
Maximum load: \_\_\_\_\_ gpm
If the area of irrigation is over 43,560 s.f., refer to denverwater.org/DoingBusinesswithUs/PlanReviews/IrrigationPlanSubmittal/
Name of the street where the main is to be tapped is: \_\_\_\_\_

For questions, please contact Sales Administration @ 303-628-6100

# 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"

## Backflow Preventer Sizing

Maximum rated Velocity is 7.5 ft/sec

Diameter Inches	BFP Maximum 7.5	Velocity in ft/sec
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 > = 4:1 Ratio or < 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