



HYDRANT SITE FLOW / 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 _____) [] Mixed use* (Commercial & Multi-family) [] Irrigation only (units to be sprinkled _____) (total units _____)

HYDRANT SITE FLOW DATA -
Total fire flow required for this site: _____ GPM @ 20 PSI Minimum # of required fire hydrants: _____
List ALL hydrants approved for use by the Fire Department to meet the fire flow (by Denver Water hydrant #):
If the hydrant is a new hydrant and a hydrant # has not been assigned, please identify the hydrant as "New" and reference location on site plans
(1) _____ (4) _____ (7) _____
(2) _____ (5) _____ (8) _____
(3) _____ (6) _____ (9) _____

FIRE LINE SPRINKLER DEMAND DATA - all sizes View sheet 2 for 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 Please check the box if there is a redundant fire line: []
Please check the box if fire pump is required: [] Please check the box if this fire sprinkler line is a NFPA 13D: []
Name of the street(s) 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 square feet 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 3/25/21 JG

Tap/Meter/Service Sizing - Maximum DW Rated Velocity is 10 ft/s

| Diameter | Maximum Flow |
|----------|-------------------------------|
| Inches | @ Velocity 10 ft/s (1,2,4) |
| 0.75 | 13.8 |
| 1 | 24.5 |
| 1.5(3) | 55.1 |
| 2 | 97.9 |
| 3 | 220.2 |
| 4 | 391.5 |
| 6 | 880.8 |
| 8 | 1,565.9 |
| 10 | 2,446.7 |

All flows in gallons per minute (gpm)

- (1) Uniform Plumbing Code 610.12: Maximum velocities shall not exceed 8 ft/s
- (2) International Plumbing Code Figure E103.3(2): Fluid velocities in excess of 5 to 8 ft/s are not usually recommended
- (3) Only Badger meters are manufacturer rated to deliver more than 50 gpm for 1.5"
- (4) AWWA Manual M-22 Chapter 5: Velocities greater than 10 ft/sec should be avoided

Recommended Flow Capacity for Automatic Sprinkler Connection Taps:

| Diameter Inches | Flow @ 15 ft/s (1) | Flow @ 20 ft/s (2) | Allowed Combination Domestic Tap Sizes at >= 4:1 Ratio or < 8:1 Ratio (ASC: DOM) | |
|--------------------|-----------------------|-----------------------|---|--------------------------------------|
| 0.75 | 21 gpm | 28 gpm | NA | |
| 1 | 37 gpm | 49 gpm | NA | |
| 1.5 | 83 gpm | 110 gpm | NA | |
| 2 | 147 gpm | 195 gpm | NA | |
| 3 | 330 gpm | 441 gpm | NA | (3" tapping saddle is not available) |
| 4 | 587 gpm | 780 gpm | 0.75" | 1" |
| 6 | 1,322 gpm | 1,760 gpm | 1" | 1.5" |
| 8 | 2,350 gpm | 3,140 gpm | 1.5" | 2" |
| 10 | 3,671 gpm | 4,895 gpm | 1.5" | 2" |
| 12 | 5,287 gpm | 7,050 gpm | 2" | 3" |

- (1) From NFPA 20 tables 4.28(a) and 4.28(b), water flow velocity should be less than 15 ft/s to limit turbulent flow
- (2) Maximum recommended flow velocity w/o fire pump is 20 ft/s