



## CITY OF BOULDER

Planning and Development Services Center

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### ESTIMATING WATER, WASTEWATER & IRRIGATION PLANT INVESTMENT FEES AND DETERMINING WATER METER SIZING

**Water, Wastewater and Irrigation Plant Investment Fees (PIFs) are charged when an increase in demand is placed on the city's existing water and wastewater systems. The Water, Wastewater and Irrigation PIFs are linked to the water budget rate structure used to calculate a customer's monthly utility bill.**

#### **Step 1. Determine if the lot is served by an existing meter or if the lot requires a new meter installation.**

- For additions, remodels and new construction on lots previously served by city water, determine the existing meter size by contacting Utility Billing (303-441-3260) for assistance.
- For additions, remodels and new construction requiring new meter installation, go to Step 2 and 3 below to determine the meter size. All work in the city Right-of-Way (ROW), must be completed by a ROW licensed contractor. Refer to the Right-of-Way Permits and Utility Fees sections of the Schedule of Fees to determine meter and tap fees. Please note: these fees do not include excavation costs. In addition, refunds will not be given for existing meters and taps.

#### **Step 2. Determine the total number of water fixture units for the project by completing the Plumbing Fixture Unit Calculation Worksheet (page 4):**

- Completely fill out columns A, B, C, D, and G. Be sure to include all fixtures served by the water meter. For example, if you are remodeling a tenant space, it is likely that all fixtures in the entire core and shell building are served from the same meter.
- Sum the water fixture units and write the total in the space for TOTAL FIXTURE UNITS at the bottom of column G.

#### **Step 3. Estimate the gallons per minute (gpm) demand and determine the water meter size for the project:**

- Go to the Meter Size /Fixture Unit/G.P.M. Demand Chart (page 3) and determine the meter size required for the project. In cases where one water meter serves a mixed use development, a non-residential meter size can be determined by counting only the non-residential fixtures. This will be necessary to establish the non-residential portion of the Plant Investment Fees.
- Irrigation meter sizing will be determined by the gallon per minute demand of the largest irrigated zone. Approved landscape plans or an irrigation demand letter provided by the irrigation consultant or landscape architect will need to establish this amount.

#### **Step 4. Determine the new irrigable area for the project:**

- A default water budget of 15 gallons per square foot per year will be given for the irrigable area. This outdoor component of the water budget is used to determine the monthly utility bills and the plant investment fee. The minimum irrigable area for all metered city lots is the larger of 2,000 square feet or the area on a city approved landscape plan. The total area can include any landscape area in city right-of-way directly adjacent to or served by the properties irrigation system. An application rate different from 15 gallons per square foot may be used for projects if a letter from a Landscape Architect with plantings and application rates is provided. However, the

annual irrigation budget cannot be less than 30,000 gallons. The application rate is already tiered for single family homes.

- Per section 5.09(C) of the Boulder Design and Construction Standards, all irrigation services shall have a separate service line and meter, with the exception of single-family residential properties.

**Step 5. Determine the customer type for the project and reference pages 14-15 in the Schedule of Fees:**

- New Residential PIFs include either single-family residential or multifamily residential.
  - Single-family PIFs residential are determined by the number of units, the irrigable area and bedrooms in the case of multi-unit structures.
  - Multifamily residential PIFs are determined by the number of units, number of bedrooms within a unit, and the irrigable area.
- New Non-residential PIFs are determined by the meter size, the selected annual water budget and the irrigable area. Each meter size and water budget (percent of average winter consumption (AWC)) correlates to a specific PIF payment. A customer may select a smaller water budget and pay less in PIFs; however, if a customer goes over their monthly water budget, they will pay more in their monthly utility bills.
- New mixed use developments will be assessed a residential PIF and a nonresidential PIF.
- Existing Customers - When sites are redeveloped, PIF credits for city water metered facilities will be applied to newly permitted construction. In the event PIF credits exceed the amount of the new PIFs, the surplus credits will be retained for exclusive use against future PIFs for the applicable property, no cash refunds will be given. Residential PIF credits are given based on irrigable area, the number of units and the number of bedrooms in the case of multi-unit structures. Non-residential PIF credits are given based on irrigable area, the meter size and the average historical water usage for the structure(s). Mixed use developments will receive both residential and non-residential PIF credits. Please supply a written description of the demolished structures and include the meter size with your building permit application.
- All Non-residential or Mixed Use accounts can opt to choose the **efficiency standard** to establish a custom water budget. The PIF will be determined at that time. See number 6 on page 5 of [http://bouldercolorado.gov/files/Utilities/Water%20Budgets/final\\_rule-466.pdf](http://bouldercolorado.gov/files/Utilities/Water%20Budgets/final_rule-466.pdf) for details.
- All non-residential meters greater than three inches or larger in size require a **large user agreements and** are subject to the Boulder Revised Code, 4-20-26 (a) (5) and 4-20-29 (a) (4). Non-residential meters two inches or smaller are subject to **large user agreements** when the impact and usage thresholds specified in Boulder Revised Code, 11-1-52(j) or 11-2-33(j) are exceeded.

**EXAMPLES OF WATER, WASTEWATER & IRRIGATION PIF ESTIMATES**

**NEW SINGLE-FAMILY RESIDENTIAL**

New 4 bedroom 5 bathroom single-family with 2,500 square feet of irrigable area on newly subdivided lot:

- The irrigation portion of the water PIF will be  $\$2.13 \times 2,500 = \$5,325$  with an annual irrigation water budget of 37,500 gallons based on the default 15 gallon per square foot application rate.
- The indoor portion of the water PIF will be \$9,282 with an annual water budget of 84,000 gallons.
- The wastewater PIF will be \$3,356.

**SINGLE-FAMILY ADDITION**

- If the house only has a 3/4" water meter, the increase in plumbing fixtures may require a new 1" water meter, tap and service to be installed at the customer's expense. However, no new water or wastewater PIFs will be due and no change to the water budget will be made.

**NEW MULTIFAMILY RESIDENTIAL**

New 6 unit 2 bed 3 bath multifamily structure with 10,000 square feet of irrigable area.

- The irrigation portion of the water PIF will be  $\$2.13 \times 10,000 = \$21,300$  with an annual irrigation water budget of 150,000 gallons based on the default 15 gallon per square foot application rate.
- The indoor portion of the water PIF will be  $\$5,304 \times 6 = \$31,824$  with an annual water budget of 288,000 gallons.
- The wastewater PIF will be  $\$1,919 \times 6 = \$11,514$ .

**NEW NONRESIDENTIAL**

New restaurant requiring a 1.5" water meter with a ¾" irrigation meter serving 1,800 square feet of irrigable area

- The irrigation portion of the water PIF will be  $\$2.13 \times 2,000 = \$4,260$  with an annual irrigation water budget of 30,000 gallons, (2,000 square feet or 30,000 gallons based on the default 15 gallon per square foot application rate is the minimum). The indoor portion of the water PIF at 50% AWC will be \$25,194 with an annual water budget of 228,000 gallons. The customer may choose a higher or lower budget and pay a higher or lower PIF according to the referenced schedule of fees.
- The wastewater PIF will be \$9,109.

**NONRESIDENTIAL TENANT FINISH**

- The customer will only incur a water or wastewater PIF if the water meter is required to be increased because of an increase in plumbing fixtures. Any new water meters, taps and services will be installed at the customer's expense. No new water or wastewater PIFs will be due and no change to the water budget will be made if the existing water meter size is adequate after the tenant finish. When a nonresidential customer increases the water meter size, they will pay the difference in water and wastewater PIFs between their average annual usage under the old meter size and the selected AWC usage for the new meter size.

**Meter Size / Fixture Unit / G.P.M. Demand Chart**

Water Meter Size	Maximum Fixture Unit Count	Maximum Gallon Per Minute Demand
¾"	44	25
1"	88	41
1.5"	283	81
2"	525	129
3"	1952	321
4"	4599	641
6"	6384	1201
8"	8648	2801



City of Boulder Planning and Development Services Center  
**PLUMBING FIXTURE UNIT CALCULATION WORKSHEET**  
 For applicant use only.\*

TYPE OF FIXTURE	NUMBER OF EXISTING FIXTURES	NUMBER OF FIXTURES TO BE REMOVED	NUMBER OF NEW FIXTURES	TOTAL NUMBER OF PLUMBING FIXTURES (A-B+C)	RESIDENTIAL FIXTURE UNITS	NON-RESIDENTIAL FIXTURE UNITS	TOTAL WATER FIXTURE UNITS (Res. = D x E) (Non-Res. = D x F)
RESIDENTIAL OR NON-RESIDENTIAL	(A)	(B)	(C)	(D)	(E)	(F)	(G)
Tank Toilet					3	5	
Bathtub / Bathtub Shower Combo					2	4	
Shower Stall (per head)					2	4	
Sink (Bath, Hand, Bar, Lab)					1	2	
Sink (Kitchen/Compartment)					2	4	
Dishwasher					2	4	
Ice Machine, 3/8" line size					1	2	
Washer / Laundry Tub / Utility Sink					2	4	
Hose Bibb / Sill Cock					3	5	
Floor Drain / Floor Sink					2	2	
Sand Trap, Interceptor					2	6	
<b>NON-RESIDENTIAL</b>							
Flush Valve Toilet						8	
Urinal						5	
Industrial Dishwasher						6	
Beverage Hook-up						1	
Drinking Fountain						1	
Sink (Service / Mop / Janitor)						4	
Emergency Eye Wash						1	
Emergency Shower						2	
Dip Well						1	
Grease Trap, Interceptor						3	
Industrial Clotheswasher						6	
Ice Machine, 3/8" line size						2	
Ice Machine, 1/2" line size						4	
Ice Machine, 3/4" line size						6	
Ice Machine, 1" line size						10	
<b>* THIS WORKSHEET IS FOR APPLICANT USE ONLY. DO NOT SUBMIT THIS FORM AT THE TIME OF BUILDING PERMIT. A SEPARATE PLUMBING FIXTURE COUNT AND IRRIGATION FORM WILL BE REQUIRED TO BE SUBMITTED.</b>					<b>TOTAL FIXTURE UNITS (sum column)</b>		
					<b>REQUIRED METER SIZE (see chart - page 3)</b>		