

Cost/Benefit of Dual (Sub) Metering



Urban Agriculture

Definition

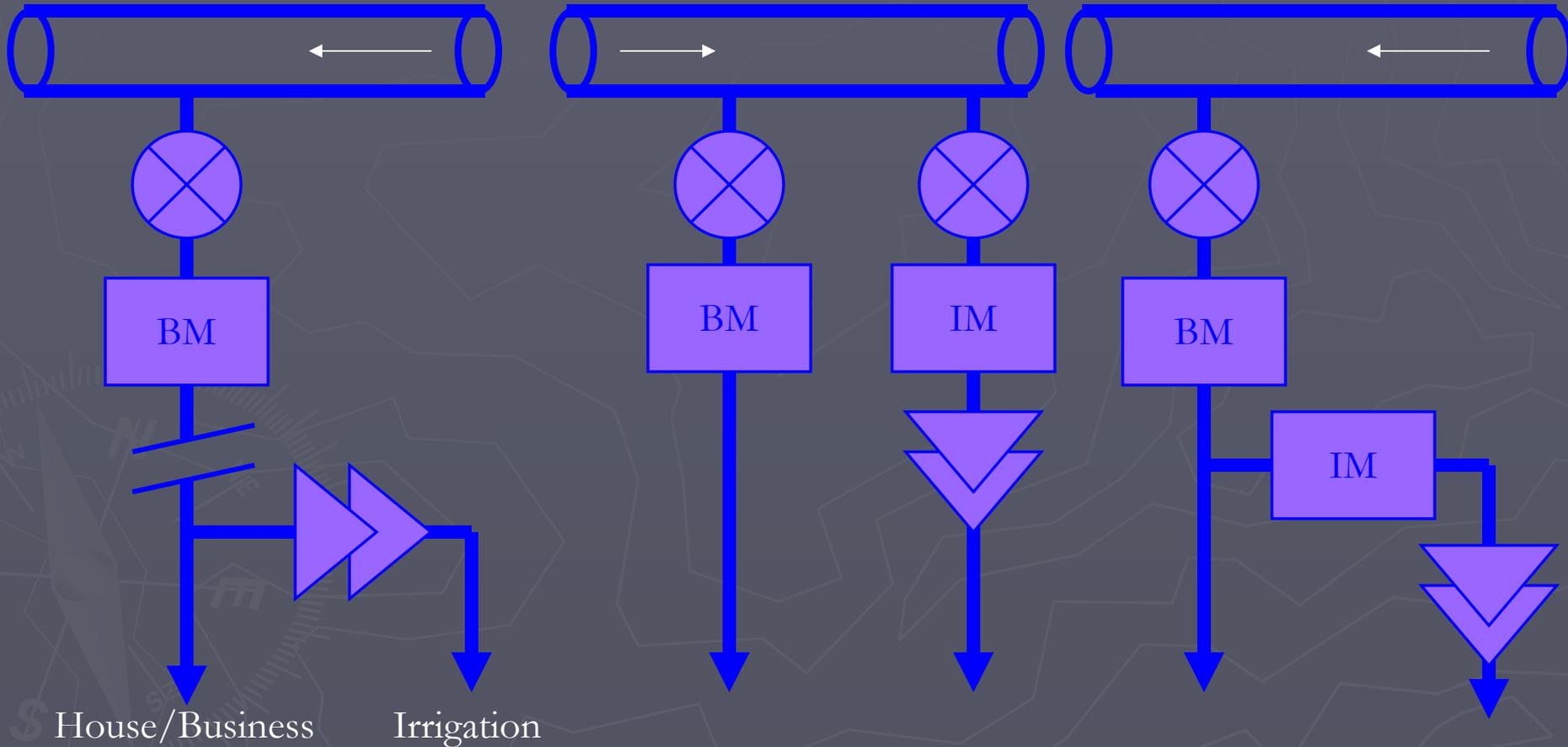
The City's Planning and Development Services Dept will likely be defining Urban Agriculture as:

- A) Non-Profit Community Gardens
- AND
- B) For-Profit Urban Gardens

Residential properties are excluded from Urban Agriculture definition, since gardening is a traditional use of residential properties.

Metering Installation Types

(for irrigation using potable water)



Standard

Parallel

Dual (sub)

Dual Meters for Urban Agriculture

Water Type	Customer Type	Installation Type			Remarks
		Standard	Parallel	Dual Meter	
Potable	Commercial and Multi-Family	Yes	Yes	No*	* Parallel Meters are used for this application
	Non-Profit Commercial	Yes	Yes	Yes	
	Residential	Yes	Yes	No*	*Not eligible for Urban Agriculture
Reclaimed	Commercial and Multi-Family	Yes	Yes	No*	* Reclaimed meters do not have an associated wastewater component and would not benefit from Dual (Sub) Metering
	Non-Profit Commercial	Yes	Yes	No*	
	Residential	Yes	Yes	No*	

Meter Size	Installation Fee		System Equity Fee	CAP Fee	Back-flow Permit	Totals
	Type	Cost				
5/8 "	Existing Tap Developer install	359.00	(4)	(4)	\$82.00	\$ 441.00 (4)
	Existing Tap TW Install	438.00	(4)	(4)	\$82.00	\$ 520.00 (4)
	Tap w/pavement	2,414.00	1,311.00	200.00	\$82.00	\$4,007.00
	Tap w/o pavement	1,536.00	1,311.00	200.00	\$82.00	\$3,129.00
3/4 "	Existing Tap Developer install	383.00	(4)	(4)	\$82.00	\$ 465.00 (4)
	Existing Tap TW Install	462.00	(4)	(4)	\$82.00	\$ 544.00 (4)
	Tap w/pavement	2,439.00	1,967.00	300.00	\$82.00	\$4,788.00
	Tap w/o pavement	1,561.00	1,967.00	300.00	\$82.00	\$3,910.00
1 "	Existing Tap Developer install	428.00	(4)	(4)	\$82.00	\$ 510.00 (4)
	Existing Tap TW Install	527.00	(4)	(4)	\$82.00	\$ 609.00 (4)
	Tap w/pavement	2,504.00	3,278.00	500.00	\$82.00	\$6,364.00
	Tap w/o pavement	1,626.00	3,278.00	500.00	\$82.00	\$5,486.00
1-1/2"	Existing Tap Developer install	634.00	(4)	(4)	\$82.00	\$ 716.00 (4)
	Existing Tap TW Install	778.00	(4)	(4)	\$82.00	\$ 860.00 (4)
	Tap w/pavement	3,054.00	6,555.00	1,000.00	\$82.00	\$10,691.00
	Tap w/o pavement	2,176.00	6,555.00	1,000.00	\$82.00	\$9,813.00
2 "	Existing Tap Developer install	755.00	(4)	(4)	\$82.00	\$ 837.00 (4)
	Existing Tap TW Install	899.00	(4)	(4)	\$82.00	\$ 981.00 (4)
	Tap w/pavement	3,419.00	10,488.00	1,600.00	\$82.00	\$15,589.00
	Tap w/o pavement	2,541.00	10,488.00	1,600.00	\$82.00	\$14,711.00

Meter Installation Fees

(existing, for standard and parallel installations)

Notes:

- 1) Standard fees included in the table. Table does not include multiple service line connections, main extensions, or plan review services
- 2) Table is for standard meter installation, and is not applicable to sub-metering.
- 3) Meters over 2-inch size not shown, and are not likely needed for Urban Agriculture applications.
- 4) System Equity Fee AND CAP Fee will be assessed on any new meter installation (even at existing taps) if the tap was previously not assessed these fees. This will result in total installation cost greater than is shown in the table.
- 5) Table does not include customer installed piping and appurtenances.

Meter Size	Installation Fee		System Equity Fee (2)	CAP Fee (2)	Back-flow Permit	Totals
	Type	Cost				
5/8 "	Existing Tap Developer install	359.00	0	0	\$82.00	\$ 441.00
	Existing Tap TW Install	438.00	0	0	\$82.00	\$ 520.00
	Tap w/pavement	Not Applicable – New Tap not needed				
	Tap w/o pavement	Not Applicable – New Tap not needed				
3/4 "	Existing Tap Developer install	383.00	0	0	\$82.00	\$ 465.00
	Existing Tap TW Install	462.00	0	0	\$82.00	\$ 544.00
	Tap w/pavement	Not Applicable – New Tap not needed				
	Tap w/o pavement	Not Applicable – New Tap not needed				
1 "	Existing Tap Developer install	428.00	0	0	\$82.00	\$ 510.00
	Existing Tap TW Install	527.00	0	0	\$82.00	\$ 609.00
	Tap w/pavement	Not Applicable – New Tap not needed				
	Tap w/o pavement	Not Applicable – New Tap not needed				
1-1/2"	Existing Tap Developer install	634.00	0	0	\$82.00	\$ 716.00
	Existing Tap TW Install	778.00	0	0	\$82.00	\$ 860.00
	Tap w/pavement	Not Applicable – New Tap not needed				
	Tap w/o pavement	Not Applicable – New Tap not needed				
2 "	Existing Tap Developer install	755.00	0	0	\$82.00	\$ 837.00
	Existing Tap TW Install	899.00	0	0	\$82.00	\$ 981.00
	Tap w/pavement	Not Applicable – New Tap not needed				
	Tap w/o pavement	Not Applicable – New Tap not needed				

Dual Meter Probable Installation Fees?

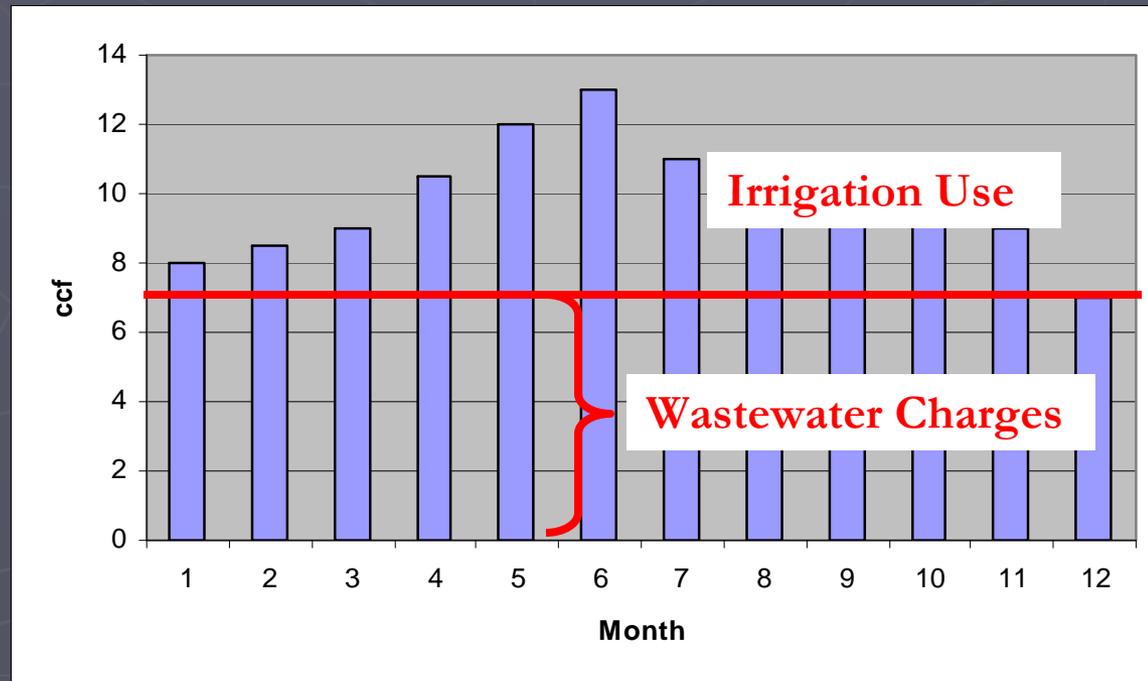
Notes:

- 1) Meters over 2-inch size not shown, and are not likely needed for Urban Agriculture applications.
- 2) Table assumes that the existing billing meter was previously assessed the System Equity Fee, as well as the CAP Fee. These fees may be applicable if not previously applied to the existing tap
- 3) Table does not include customer installed piping and appurtenances.

Dual-Metering Purpose for Urban Agriculture

Dual-meter installation is to accurately determine how much of the potable water that is used (by a customer) likely flows into the sewer system and should be assessed wastewater charges

Main Potable
Water Billing
Meter Use



Periodic Water Fees to be Offset to Justify Sub-Metering

Meter Size	Monthly Service Charge	Yearly Backflow Inspection Fee (2)	Monthly Average Cost	Yearly
5/8"	8.27	75.00	14.52	\$174.24
3/4"	10.92	75.00	17.17	\$206.04
1"	16.23	75.00	22.48	\$269.76
1-1/2"	29.49	75.00	35.74	\$428.88
2"	45.41	75.00	51.66	\$619.92

Notes:

- 1) Costs do not include repair of backflow assemblies if they do not pass the yearly testing.
- 2) Backflow Inspection Fees Range from about \$50-\$100, depending on the firm hired for the work. An average of \$75 is used in this table, for comparison purposes.

Wastewater Rates applicable to Urban Agriculture

Monthly Charges = (Volume of Wastewater X Wastewater Rate) + Monthly Service Fee

Monthly Charges = (Volume of Wastewater X 3.523\$/ccf) + \$12.63

Where:

Wastewater Rate = 3.523\$/ccf as of July 2013

Monthly Wastewater Service Fee = \$12.63

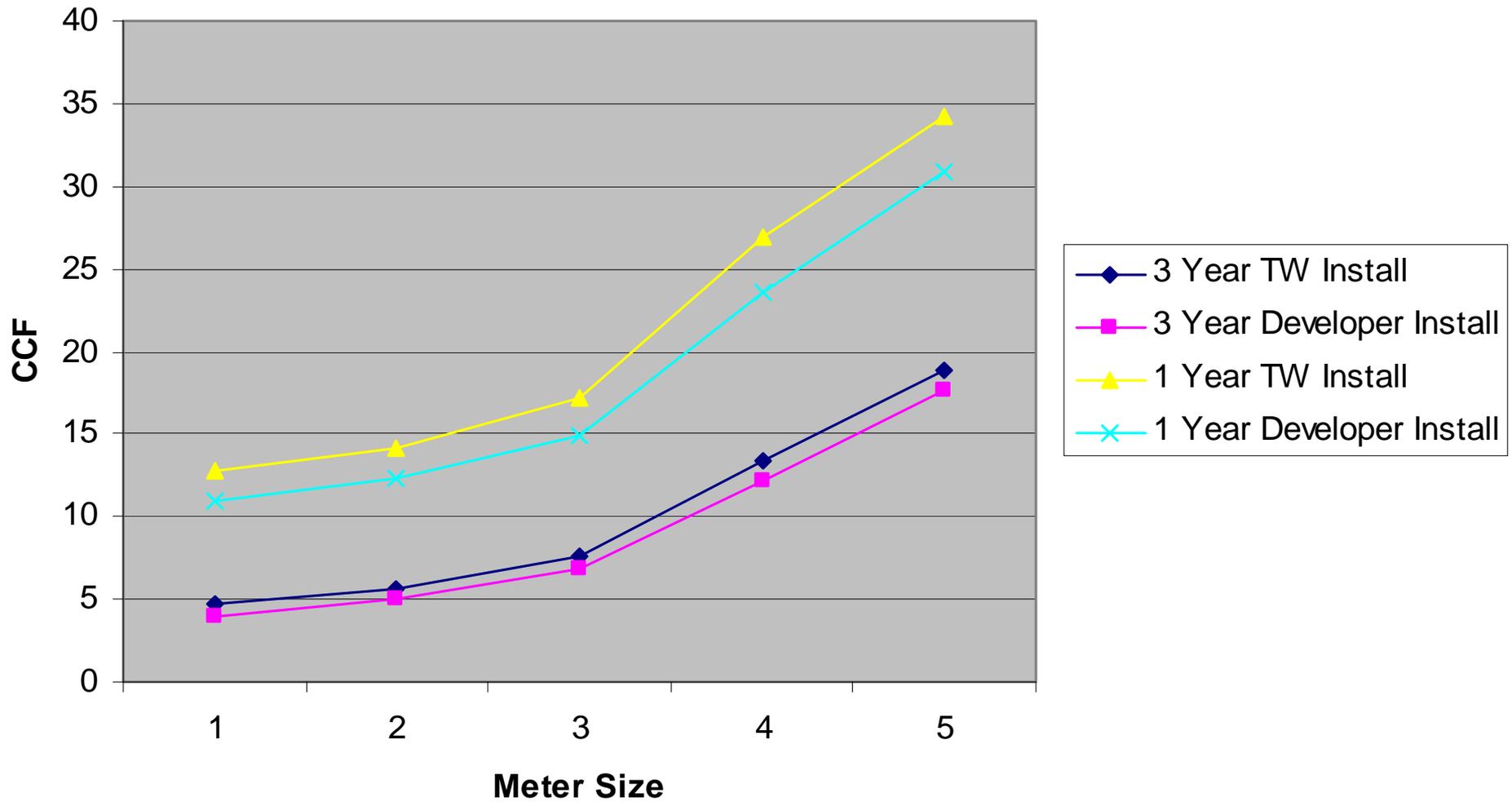
Meter Size	Installation Type (See Table 3)	Installation Cost (See Table 3)	Monthly Equivalent (/12)	Monthly Avg Periodic Fee (See Table 4)	Total Monthly Charges (Offset Required)	Volume of Wastewater Offset Needed (eq #1)
5/8 "	Existing Tap Developer install	\$ 441.00	36.75	14.52	\$51.27	10.96 ccf
	Existing Tap TW Install	\$ 520.00	43.33	14.52	\$57.85	12.83 ccf
3/4 "	Existing Tap Developer install	\$ 465.00	38.75	17.17	\$55.92	12.29 ccf
	Existing Tap TW Install	\$ 544.00	45.33	17.17	\$62.50	14.16 ccf
1 "	Existing Tap Developer install	\$ 510.00	42.50	22.48	\$64.98	14.85 ccf
	Existing Tap TW Install	\$ 609.00	50.75	22.48	\$73.23	17.20 ccf
1-1/2"	Existing Tap Developer install	\$ 716.00	59.67	35.74	\$95.41	23.50 ccf
	Existing Tap TW Install	\$ 860.00	71.67	35.74	\$107.41	26.90 ccf
2 "	Existing Tap Developer install	\$ 837.00	69.75	51.66	\$121.41	30.88 ccf
	Existing Tap TW Install	\$ 981.00	81.75	51.66	\$133.41	34.28 ccf

**1 Year
Payback
For Amount
of Monthly
Wastewater
Charged
(but not sent to
sewer)**

Meter Size	Installation Type (See Table 3)	Installation Cost (See Table 3)	Monthly Equivalent (/36)	Monthly Avg Periodic Fee (See Table 4)	Total Monthly Charges (Offset Required)	Volume of Wastewater Offset Needed (eq #1)
5/8 "	Existing Tap Developer install	\$ 441.00	12.25	14.52	\$26.77	4.01 ccf
	Existing Tap TW Install	\$ 520.00	14.44	14.52	\$28.96	4.64 ccf
3/4 "	Existing Tap Developer install	\$ 465.00	12.92	17.17	\$30.09	4.96 ccf
	Existing Tap TW Install	\$ 544.00	15.11	17.17	\$32.28	5.58 ccf
1 "	Existing Tap Developer install	\$ 510.00	14.17	22.48	\$36.65	6.82 ccf
	Existing Tap TW Install	\$ 609.00	16.91	22.48	\$39.39	7.60 ccf
1-1/2"	Existing Tap Developer install	\$ 716.00	19.89	35.74	\$55.63	12.21 ccf
	Existing Tap TW Install	\$ 860.00	23.89	35.74	\$59.63	13.34 ccf
2 "	Existing Tap Developer install	\$ 837.00	23.25	51.66	\$74.91	17.68 ccf
	Existing Tap TW Install	\$ 981.00	27.25	51.66	\$78.91	18.81 ccf

**3 Year
Payback
For Amount
of Monthly
Wastewater
Charged
(but not sent to
sewer)**

Monthly Wastewater CCF Offset for Payback



Lower Cost Urban Agriculture Customer Alternative to Dual Metering

Pima County allows non-residential customers to install what they term as 'secondary' meters

- * These meters are located downstream of the main water billing meter
- * These meters are not installed, nor read, nor maintained by TW
- * These meters are installed by a qualified plumber

Customers call Pima County to report their secondary meter use.

- * Pima County then makes adjustments to their wastewater bill so that the customer is not charged wastewater fees for the irrigation use.

This service is provided to customers at no charge.