WATER CONNECTION CHARGES: A TOOL FOR ENCOURAGING WATER EFFICIENT GROWTH

Case Study on Little Thompson Water District, Colorado

October 2017

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Little Thompson Water District (LTWD) is located in Northern Colorado and delivers water across three counties. The District provides water to a historically rural community, with just 7,700 residential connections in a service area of 300 square miles. In recent years, new residential developments have become denser and more typical of urban and suburban development patterns.

In 2016, the District revised its tap fee structure and adopted an “Urban” tap option for residential developments that are built on smaller lots. The Urban tap not only costs less, but it also comes with an annual water budget for the residential customer, unlike the “Standard” tap. LTWD also incentivizes water conservation in new developments’ landscapes by offering cash rebates for soil amendment and the installation of lower-water-using plants.

**Fees Redesigned in Response to Changing Development Patterns**

The densification of new, residential developments in Little Thompson Water District’s service area is typical of Northern Colorado on the whole; new development is shifting from a more rural and agricultural character to a more urban and suburban one. As Colorado’s population grows and the demand for new housing continues, single-family residential units are being built on smaller lots than in previous decades, and more multi-family housing developments are being built as well.

LTWD requires developers to obtain the water rights necessary to support new developments. The water supply options available to developers, however, are limited. Often developers purchase shares from ditch companies (that provide water to agricultural irrigators through ditches), buy water rights directly from other rights holders, or purchase water through a broker. Once water rights are obtained, developers then dedicate those rights to LTWD in order to build their development. Obtaining water rights can be a significant hurdle for developers, since water supplies are limited and completing these transactions can be complicated and/or time-consuming.
Urban Tap Fees: The Option to Choose Less Water at Lower Cost

When new construction started to pick up again after the housing crash in 2008, LTWD reviewed its tap fee structure in response to the new development patterns. Since 2002, LTWD had a Standard residential tap fee as well as a “Conservation” tap fee. The Standard tap fee was intended for new homes built on larger lots, whereas the Conservation tap fee was designed for smaller residential lots that were expected to use less water. This meant that developers would not have to obtain as much water for smaller residential lots. The Conservation tap fee also tied the residential occupant to a monthly “water budget” (i.e., allocation) which, if exceeded, resulted in higher water rates charged to the residential occupant.

In 2016, LTWD revised its tap fee structure, in an effort to better correlate the fees it was charging with the actual water use trends of its customers. LTWD analyzed its customers’ water usage and correlated it with lot size, taking into account seasonal usage and weather conditions (such as years of drought vs. wet years). The analysis showed that smaller lots—up to 9,000 square feet—most often used less than 114,000 gallons per year. LTWD renamed the Conservation tap fee an “Urban” tap fee; it also changed the associated monthly water budget to an annual water budget, with an allocation of 114,000 gallons per year per household. The Standard taps are associated with a 228,000-gallons-per-year budget; however, there is no penalty for exceeding this amount, unlike with the Urban tap.

Since the water rights dedication is smaller for Urban taps, two components of the total Urban tap fee are also smaller: the “raw water dedication” and the “plant investment fee.” The raw water dedication is the amount of water rights that must be obtained by the developer and then dedicated (i.e., turned over to) LTWD. The cost of these fees is proportionate to the amount of water required and is not paid to LTWD; rather, these water rights typically come from sellers of either the Colorado-Big Thompson Project rights or (irrigation water) ditch rights. Only for single lots can a fee be paid to LTWD in lieu of obtaining water rights. The Cash in Lieu fee for an Urban tap is $19,250; it’s $38,500 for a Standard tap.¹ The plant investment fee recovers the capital costs associated with treatment plant capacity, storage, and transmission mains to serve new customers.

Thus, the Urban tap fees cost substantially less and come with half the water that a Standard tap does, as shown in Figure 1. As of 2017, a new development may choose either tap size, according to its projected need.

¹ The Cash in Lieu fee is based on the estimated market rate of one acre-foot (325,851 gallons) of water ($55,000). Personal communication with Nancy Koch, Water Resources Manager, Little Thompson Water District. June 2017.
Tap Fees Are Connected to Monthly Water Rates

LTWD has adopted an inclining block rate structure for its residential monthly water rates. Urban tap customers who are within their annual budget of 114,000 gallons pay monthly for their water in accordance with the rate schedule in Table 1. However, if Urban tap customers use more than their budgeted 114,000 gallons within a year, then there is a surcharge of $8.00 per 1,000 gallons once the allotment is exceeded.2 At the beginning of the next year, the water budget is “reset” and the surcharge is removed. The $8.00 is almost a doubling of the price of water in the highest tier of water use for residential customers. This sends a very strong financial signal to customers that their water usage is too high. LTWD helps its customers know how much water they’re using in relation to their water budget by printing the information on every customer’s monthly bill regarding their year-to-date water use and their budget (114,000 gallons/year). A customer can upgrade their water allocation to the Standard tap’s allocation (228,000 gallons/year) if they pay the difference in the tap fees.

Table 1. Tap Fees and Water Rates Charged to Residential Homes in LTWD’s Service Area. The Urban tap fee includes a smaller water allocation and steep surcharge for using more water than is allocated annually. The Standard tap fee—which is most appropriate for properties with large landscapes and gardens, livestock, and higher indoor usage—does not have a surcharge associated with it. The fees listed reflect the costs as of June 2017.

<table>
<thead>
<tr>
<th>Tap Size</th>
<th>Annual Water Allocation</th>
<th>Tap Fees</th>
<th>Monthly Base Fee</th>
<th>Monthly Rates for Residential Water Use</th>
<th>Surcharge for Exceeding Annual Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban (5/8” meter)</td>
<td>114,000 gallons</td>
<td>Installation fee:*$1,500 Plant investment fee:$7,000</td>
<td>$26.86</td>
<td>$2.37 (0–6,000 gal.) $2.98 (6,001-15,000 gal) $4.03 (&gt;15,000 gal)</td>
<td>$8.00 per 1,000 gallons</td>
</tr>
<tr>
<td>Standard (5/8” meter)</td>
<td>228,000 gallons</td>
<td>Installation fee:*$1,500 Plant investment fee:$11,000</td>
<td>$26.86</td>
<td>$2.37 (0–6,000 gal.) $2.98 (6,001-25,000 gal) $3.50 (25,000–50,000 gal) $4.03 (&gt;50,000 gal)</td>
<td>None</td>
</tr>
</tbody>
</table>

* The installation fee is for the cost of labor and parts when installing the service line, meter, and meter pit. The installation fee is reduced to $365 if the water service line and meter pit are installed by the developer.

Incentives for New Developments Aim to Reduce Water Use

Little Thompson Water District does not have land use authority and, therefore, cannot impose landscaping requirements on its customers. So instead, LTWD created two water conservation incentive programs for new developments that can be used by either the developer or the residential customers. When a tap is purchased, the new owner is provided with a pamphlet about LTWD’s incentive programs, described below. In addition, the incentive programs are promoted on the LTWD website.

The District offers a $500 rebate to amend soil in residential properties that purchased a water tap after January 1, 2016. Soil amendment improves the quality of the soil by improving plants’ access to water, nutrients, and oxygen,
ultimately reducing the amount of water that needs to be applied for a healthy landscape. The soil amendment requirements include: 1) applying a minimum of 3 cubic yards of soil amendment per 1,000 square feet of area to be landscaped, and 2) rototilling or mixing the soil amendment into the top 4 to 6 inches of soil.

The other incentive applies to the purchase of lower-water-using plants from Plant Select®, a nonprofit collaboration of Colorado State University, Denver Botanic Gardens, and professional horticulturists. A rebate of up to $250 may be applied to the total cost of plants purchased. This rebate is only available to homes with a tap purchased after January 1, 2016. Both rebates are issued with proof of receipts. There is no inspection of the soil amendment or plantings.

In 2017, more than two-thirds of the taps sold by LTWD were Urban taps.³ While both rebates have been used by new homeowners, they have not been used as frequently as LTWD predicted. LTWD does understand, however, that there is often a lag time between when a home is purchased and when the landscaping is completed. The District plans to continue these rebate programs and work to increase participation by new homeowners.

How a Small Water District Crafted Big Innovations
Little Thompson Water District recognized it had the opportunity to “right size” the water dedication requirements for new developments and proceeded to analyze the water use patterns of its customer classes. This resulted in an optional, smaller water dedication for smaller properties available through its Urban tap fee. The District also connected the issuance of an Urban tap with an annual water allocation for its customers, and when the allocation is exceeded, a surcharge is applied. LTWD actively helps its customers manage their water use by providing monthly on-bill information about the remaining water in the customers’ budget, and it also provides staff assistance to customers, if requested. The District goes one step farther by helping new developments be as water-efficient as possible by providing financial incentives to improve soil quality and encourage the use of lower-water-using plants.

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³ Personal communication with Nancy Koch, Water Resources Manager, Little Thompson Water District. June 2017