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Marsha Water Supply Corporation

15504 Brenda St., Austin, Texas 78728 Telephone: 512-803-8725

Central Records

Public Utility Commission of Texas

Attached is the revised and rewritten Member Service Handbook that also serves as our tariff. This is being presented for filing for informational purposes as tariff 43329, as described by section 13.136(c) of the Texas Water Code. This revision of the tariff was approved by the Marsha WSC board of directors at its regular meeting on 15 February 2024, becoming effective 1 March 2024.

Thank you.

/sgd/ *Randall Raemon*

Randall Raemon

Secretary Treasurer Pro Tem

Marsha WSC

Marsha Water Supply Corporation
Tariff / Arancel

CCN 12166
Travis County
effective
01 March 2024

Member Service
Handbook

Manual de Servicios
para Miembros

PUC Tariff 43329

Contact Information and Details

Mailing Address, and Office:

Marsha WSC
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EIN	74-2068667	tax identifier
DUNS	08-827-6188	credit report, used by USDA for funding applications
Texas Comptroller TaxID		17420686671

CCN 12166
PWS TX 2270040

TCEQ RN 101 199 974 ignore the spaces, only for readability
TCEQ CN 600 644 959

PUC Tariff 43329

SIC	4941	economic work classifications, used for taxes and labor reports
NAICS	221310	

Secretary of State filing number 3799 5901 used for filing Periodic Information Reports

Quick Reference - Charges

Members must own the service property (WC 67.016(d)). Renters and tenants are not members.

Water rates - variable, recalculated monthly to hit target revenue set by the Board. At time of writing, target revenue is $16,000.00 per month. See Chapter 6 for details.

Surcharges:

TCEQ/PUC regulatory fee	0.5% of water charges, by statute
Equity construction charge	$40.00 per meter
Asset management charge	None at time of writing
Capital improvement charge	None at time of writing
Late charge	None
Inaccessible/blocked meter	$25 first occurrence $50 second occurrence within 12 month $75 third occurrence within 12 months $100 for fourth and subsequent occurrence in 12 mon
Return check charge	$35.00 or bank charge, whichever is more
Service trip	$50.00
Information disclosure	cost of effort and materials
Transfer fee	$25.00
Member application Fee	$100.00 (this is for paperwork, not membership)
Equity Buy-in Fee	variable, increase by $40.00 each month, see Chapter 3
City of Austin Capital Recovery	$1300.00 typical, see Chapter 4

NEW SERVICE INSTALLATION REQUIRES SEPTIC PERMIT, See chapter 4

Service extension	$60/linear foot or $6000/hundred feet

Real Short Summary for Agency Review

Marsha WSC

* is organized and operated under chapter 67, Water Code
  Originally incorporated 1976 as non-profit under VTCS 1396-01 (BOC chap 22 now)
  Reincorporated 1992 as WSC under VTCS 1434a (WC chap 67 now)
  Restated incorporation 2012 as WSC under WC chap 67

* is a federal tax-exempt as a 501(c)(12) entity, granted 27 Dec 2017
* is NOT sales tax exempt
* is NOT exempt from ad valorem taxes (no well, pump, treatment, or storage)

* has a water purchase contract with the City of Austin, which is the sole source of water supply
* CCN granted after water purchase contract with City of Austin 1992
  Prior to that time, operated without a CCN (from 1976 continuing into 1992)

* neighborhood plat accepted by Travis County 22 Aug 1960
* water source 1960s??-1976 was a privately owned well, serving neighborhood
  no history available prior to 1976
  owner sold service property to neighborhood after non-profit incorporation in 1976

* does NOT have a well, well pump, treatment, or storage facility
* is inside the 2-mile ETJ of the City of Austin
* is located in the unincorporated area of Travis County

* has a waiver for the Emergency Preparedness Plan required by 87R-SB3 (WC 13.1394)
* has 164 retail connections, as of early 2023
* is NOT compliant with TCEQ regulations regarding distribution capacity, design, or installation, specifically 30 TAC 290.44(a)(4), (c), (d)(1,5,and 6)
* service area is almost fully developed, with an estimated limit of just under 200 connections
* CANNOT expand the service area, as the existing CCN is surrounded by Wells Branch MUD and the City of Austin

* has NO fireflow capability at all
* is located in Travis County ESD #2 (City of Pflugerville Fire Department)

* service area does NOT have sewer service. All locations are on-site septic systems (OSSF). Property lots are 1/4-acre, and NOT 1/2-acre required by TCEQ reg 30 TAC 285.4. Travis County permit required for water service (LGC 212.012 and WC 13.2501)

Table of Contents

About this document

This is not your standard form tariff. It is trying to serve multiple purposes, while still fulfilling the role as a tariff.

This document is intended to serve as a handbook for our Board of Directors, people working as staff, and working with us. We don't have waterworks professional staff, and we don't have full-time staff. The folks who come in and want to help make this thing called MWSC to work, invariably have no background on what a water supply corporation is, how it works, or what our specific history is, and why things are the way they are ("WTF ... Everything is all snafu ... Why?")

As a handbook, there is descriptive background to put context around why we do some things the way that we do them. That background is not typical in a water system tariff. In our case, we need it. This document is an effort to institutionalize our history and our way of doing things. This document reflects the reality of what's in the ground, in our office, and in our board meeting room.

Updating this document

Times change. Circumstances change. And so this document will change.

Here is some guidance on how to make changes to this document.

This version is written in 2023, using Wordperfect. As a commercial word processing system, it does its job very well. But, like all software products, it is subject to obsolescence. In time, it may not be possible to edit the original source anymore.

This document is being pushed out in published form as a PDF. PDFs are going to be around for a while. Adobe Acrobat is a PDF editor, and there are a number of comparable editors in the software market. Acrobat has a capability to save a PDF in other document formats, including as an editable word processing file. At time of writing, that is specifically as a Microsoft Word document.

So, if there need to be changes, and the original Wordperfect source isn't available or usable, then get the PDF, and save that PDF in as Word source document. And edit that.

An alternative method, is to use an OCR program to scan the PDF and produce text. OmniPage and ABBYYFineReader (which is also a PDF editor) are two such OCR programs. You lose the formatting, but you do get text. Edit the text, reformat as needed, and there you go.

A note about statutory notations

VTCS - Vernon's Texas Civil Statutes. There is a long story behind this.

Texas codified and reissued the civil statues in 1925 as the "Texas Revised Civil Statutes of 1925". The code numbered articles sequentially, from 1 to some very big number, with no method adopted for additions or changes. The Texas Legislature would enact things without any guidance on how to update the 1925 Revised Civil Statutes. The Vernon Law Book Company (later bought out, and now owned by Thomson Reuters) was a publishing house specializing in law. Vernon came up with a workable way of shoehorning enacted bills into the code, and so provided a shorthand for enacted law that was adopted in practice by just about everybody. So things like "the 43rd Texas Legislature, 1st called session, chapter 76" could simply be referred to as "VTCS 1434a". Vernon's method of shoehorning things into the code was not consistent, but it did allow people to be able to find things and to consistently reference them.

Legislative references - There are occasionally some references in this tariff to enacted legislation, like 43CS1-76-SB103. That is a shorthand for "the 43rd Texas Legislature, 1st called session, chapter 76, enacted Senate Bill 103". "CS" is "called session", and "R" is "regular session". This notation makes it easier to find legislation on the Texas Legislature Online web site.

WC - Texas Water Code. Mostly references to Chapter 67 (written as WC 67), Chapter 13 (written as WC 13), and Chapter 49 (written as WC 49)

BOC - Texas Business Organizations Code. Chapters are referred to by number, e.g chapter 22 (written as BOC 22)

LGC - Texas Local Government Code, mostly references to Chapter 212 (written as LGC 212)

GC - Texas Government Code, mostly references to Chapter 551 (written as GC 551) and Chapter 552 (written as GC 552)

H&SC - Texas Health and Safety Code, mostly references to Chapter 341

Chapter 1 - Background

Section 1.01 - Jurisdiction Shield

Water supply corporations are an odd sort of creature. The Legislature enacted the statute back in 1933, in the depth of the Great Depression, establishing a way for a community, or some collection of folks out somewhere, to pool resources to get themselves water. This presumably is west Texas, in the middle of nowhere, and it's way beyond the means of any individual to get a proper water well, but a group of folks could do it. Great, here's a way. (43CS1-76-SB103)

The only legal entities that Texas recognized at that time, was a corporation (VTCS 1302) and a partnership (aka joint stock company or joint venture, VTCS 6110). A corporation had a legal status for public utilities (VTCS 1416) including water utilities (VTCS 1433) as an entity that a partnership didn't. (If you're really curious, see Texas Revised Civil Statutes of 1925 online.)

So, a corporation it is, with share holders, board of directors, all the usual stuff. And the folks who got together to fund it and benefit from the work, are also the owners. Basically it is a partnership in corporate form. (That form of entity later became known as a co-operative, and Texas didn't recognize co-operatives as a legal entity type until 1975 (64R-318-HB643))

But, this water supply corporation thing is a water utility. Utilities are monopolies, and get regulated by the state to make sure the corporate barons are not gouging prices.

But, a water supply corporation is funded, and owned, by the folks it serves. And they're not going to gouge themselves. They can't, because it is the owners taking money out of one pocket (their wallet), and putting it into another pocket (their corporate ownership). That's what it is to be a non-profit entity. So a water supply corporation is self-regulated and by it's nature cannot make a profit, so therefore the state does not have to really monitor the corporation. Because the corporation provides service only to its members according to mutually agreed terms of service, the corporation has no income. (Texas did not recognize non-profit corporate entities as such until 1959 (56R-162-HB145))

People being people, there are sometimes instances where a water supply corporation and its board are just being plain (insert colorful language here) "unreasonable". In those instances, there needs to be some recourse to say "(expletive) no, you are not doing that". But that only happens when somebody new comes in. Member-owners can fix their internal problems within the corporate framework. Folks outside don't have that recourse. So the state steps in.

The Legislature has defined what a water supply corporation is, and the conditions that give the State the reason to step in and say something. That's in Texas Water Code, chapter 13.

Texas Water Code, Chapter 13 [slightly reformatted for clarity and emphasis]

Sec. 13.001. LEGISLATIVE POLICY AND PURPOSE.

(a) This chapter is adopted to protect the public interest inherent in the rates and services of retail public utilities.

(b) The legislature finds that:

(1) retail public utilities are by definition monopolies in the areas they serve;

(2) the normal forces of competition that operate to regulate prices in a free enterprise society do not operate for the reason stated in Subdivision (1) of this subsection; and

(3) retail public utility rates, operations, and services are regulated by public agencies, with the objective that this regulation will operate as a substitute for competition.

(c) The purpose of this chapter is to establish a comprehensive regulatory system that is adequate to the task of regulating retail public utilities to assure rates, operations, and services that are just and reasonable to the consumers and to the retail public utilities.

Sec. 13.002. DEFINITIONS. In this chapter:

(11) "Member" means **a person who** holds a membership in a water supply or sewer service corporation and **is a record owner of a fee simple title to property** in an area served by a water supply or sewer service corporation or a person who is granted a membership and who either currently receives or will be eligible to receive water or sewer utility service from the corporation. In determining member control of a water supply or sewer service corporation, a person is entitled to only one vote regardless of the number of memberships the person owns.

(24) "Water supply or sewer service corporation" means

* **a nonprofit corporation**
* **organized and operating under Chapter 67**
* **that provides potable water service or sewer service for compensation and**
* **that has adopted and is operating in accordance with by-laws or articles of incorporation which ensure that it is member-owned and member-controlled.**

The term does not include a corporation that provides retail water or sewer service to a person who is not a member, except that the corporation may provide retail water or sewer service to a person who is not a member if the person only builds on or develops property to sell to another and the service is provided on an interim basis before the property is sold.

Sec. 13.003. APPLICABILITY OF ADMINISTRATIVE PROCEDURE AND TEXAS REGISTER ACT.

Chapter 2001, Government Code applies to all proceedings under this chapter except to the extent inconsistent with this chapter.

Sec. 13.004. JURISDICTION OF UTILITY COMMISSION OVER CERTAIN WATER SUPPLY OR SEWER SERVICE CORPORATIONS.

(a) Notwithstanding any other law, **the utility commission has the same jurisdiction** over a water supply or sewer service corporation that the utility commission has under this chapter over a water and sewer utility if **the utility commission finds** that the water supply or sewer service corporation:

(1) **is failing to conduct annual or special meetings in compliance with Section 67.007; or**

(2) **is operating in a manner that does not comply with the requirements for classifications as a nonprofit water supply or sewer service corporation prescribed by Sections 13.002(11) and (24).**

How does Marsha WSC satisfy the requirements for the jurisdiction shield? Looking at each of the statute requirements in turn:

1. WC 13.004(a)(1) "is failing to conduct annual or special meetings in compliance with Section 67.007"

   Our annual meeting (which is also board elections) and special meetings that involve any kind of balloting, are done with the election being supervised by our Election Auditor according to the written procedures provided by the board. We get a written report of the results of balloting.

   Our Election Auditor since 2011 is the firm of Atchley & Associates LLP, an Austin area CPA firm.

2. WC 13.004(a)(2) and WC 13.002(24) "is organized and operating under Chapter 67, Texas Water Code"

   Marsha WSC in its Articles of Incorporation is incorporated Chapter 67, Texas Water Code. Articles of Incorporation are available from the Texas Secretary of State.

3. WC 13.004(a)(2) and WC 13.002(24) "is a non profit corporation"

   Marsha WSC is incorporated under WC67, of which WC 67.004 says the Texas Non-Profit Corporation Act applies. Tracing thru the statutes, it is BOC 22 that applies (see BOC 1.008(d) and BOC 23 subchapter A for the trace detail)

   Also, as a nonprofit corporation, Marsha WSC is a Federal 501(c)(12) tax exempt entity.

4. WC 13.004(a)(2) and WC 13.002(24) "provides potable water service for compensation"

   Well, this is a tariff. So, yup, that's us. We charge for water usage. See the chapters in this tariff about water rates and charges.

5. WC 13.004(a)(2) and WC 13.002(24) "has adopted and is operating in accordance with by-laws or articles of incorporation which ensure that it is member-owned and member-controlled"

   See the Marsha WSC corporate bylaws, and also Chapter 12 of this document (Page 137) . The board of directors is an executive committee of the Members overseeing administration and operation of the corporation. Final authority rests with the Members.

6. WC 13.004(a)(2) and WC 13.002(11), a member must own property

Yup, that's us, again. See also WC 67.016(d), and the chapter in this tariff about application for service. We need to have a copy of the deed as recorded with Travis County.

7. WC 13.004(a)(2) and WC 13.002(24), is not a corporation that provides retail water service to a person who is not a member.

We provide service only to Members, who must own property (WC 67.016(d)). Consequently, we bill only Members thru their Member Account. We do not bill by service location, and therefore cannot be providing service to a person who is not a member.

Statute allows opportunity for review by state agencies (at time of writing, that is PUC) in the following circumstances

statute	for what	by who and when
WC 13.043(b)	may appeal their water rates	petition by 10% of Members within 90 days of effective date of rate change
WC 13.043(g)	may appeal cost to obtain service other than the regular membership or tap fees	applicant within 90 days after notice of costs
WC 13.043(g-1)	for a determination of whether the regular membership fee or tap fee required to be paid to obtain service is consistent with the tariff	applicant within 30 days after notice of costs
WC 67.011(b)	drought penalties	Member, under terms of WC 13.043(g)

Note - there does not seem to be a statutory or regulatory definition of "membership fee".

The TRWA definition (from their Sample Tariff) is:

> Membership Fee – A fee qualified as such under the terms of the tariff and the bylaws of the Corporation assigned to the real estate designated to receive service. The membership fee shall be refundable upon termination of service and surrendering the Membership. The membership fee cannot be more than 12 times the minimum monthly base rate.

There is an indirect definition of a "tap fee" in PUC regulation, as follows:

> 16 TAC 24.163(a)(1)(A)
> The (tap) fee charged by a utility for connecting a residential service applicant's premises to the system shall be as stated on the approved tariff. In determining the reasonableness of a tap fee, the commission will consider the actual costs of materials, labor, and administrative costs for such service connections and road construction or impact fees charged by authorities with control of road use if typically incurred and may allow a reasonable estimate of tax liabilities.

Section 1.02 - Definitions

We, MWSC, Corporation, Marsha WSC - Marsha Water Supply Corporation

You - generally discernable by context, but usually meant to be "you", the reader of this document

Austin - City of Austin, Texas

business day - any day of the week except Saturday, Sunday, and Federal holidays

CCN - "Certificate of Convenience and Necessity", a license issued by Texas agencies for a utility to function as a service provider within a given geographic region. Water utility CCNs are governed by Subchapter G, Chapter 13, Texas Water Code. Administration of CCNs are presently (2023) handled by the Texas PUC.

CFR - Code of Federal Regulations. The US federal agency administrative code.

Customer - read as "Member"

ETJ - Extra Territorial Jurisdiction, the surrounding region outside of the boundary of a municipality. Texas statutes grant municipalities some limited authority over this region.

IPC - International Plumbing Code. Generally referenced as a section citation for a particular edition (year). For example 2021 IPC 609.2.1, to be read as Section 609.2.1 of the 2021 edition.

IRC - International Residential Code. Generally referenced as a section citation for a particular edition (year). For example 2015 IRC P2902.3.2, to be read as Section P2902.3.2 of the 2015 edition.

Member - a person or entity that owns property in the MWSC service area, has paid the appropriate fees, has a meter providing water service at that property, and has been assigned a Member Account as described in this tariff (see also WC 13.002(11) for the statutory definition)

Member in good standing - a Member with equity parity to other Members, and is not delinquent in their billing payments to the point of service termination

"not withstanding" - used in regulations and statutes, best to be read as "without regard to"

PUC, PUCT - Public Utility Commission of Texas, a state agency overseeing financial regulation of Texas utilities. Agency regulations are Title 16, Part 2, chapters 21 thru 28, Texas

Administrative Code. Particular reference for water utilities are chapters 22 (Procedural Rules) and 24 (Water)

"Rate" - as defined in WC 13.002(17), means every compensation, tariff, charge, fare, toll, rental, and classification or any of those items demanded, observed, charged, or collected whether directly or indirectly by any retail public utility for any service, product, or commodity described in (the definition of "water and sewer utility", WC 13.002(23)) and any rules, regulations, practices, or contracts affecting that compensation, tariff, charge, fare, toll, rental, or classification.

tariff - There does not seem to be a statutory definition of tariff. In the more classic definition, a tariff is a menu or schedule of rates and prices. The term is more typically used as in the context of WC 13.136, to be a single document that is inclusive of all prices, rules, and regulations. Note also WC 67.016 has "rates, charges, and conditions of service" which can be read as "tariff" (and is edited as such in the back of this document). Also note that "rate" as defined in WC 13.002(17) is pretty much all inclusive, and "tariff" is the document that describes "rates". So here we are.

> Water Code
> Sec. 13.136. FILING TARIFFS OF RATES, RULES, AND REGULATIONS; ANNUAL FINANCIAL REPORT. (a) Every utility shall file with each regulatory authority tariffs showing all rates that are subject to the original or appellate jurisdiction of the regulatory authority and that are in force at the time for any utility service, product, or commodity offered. **Every utility shall file with and as a part of those tariffs all rules and regulations relating to or affecting the rates, utility service, product, or commodity furnished.**

TCAD - Travis County Central Appraisal District (see also WC 13.002(1-a) for statutory definition of "landowner")

TCEQ - Texas Commission on Environmental Quality, a Texas state agency with responsibility for regulating water operations. Agency regulations are Title 30, Texas Administrative Code.

TNRCC - Texas Natural Resource Conservation Commission, predecessor agency to TCEQ

TRWA - Texas Rural Water Association, an industry group

TWDB - Texas Water Development Board - Texas state agency for providing financial support to water utilities, and for monitoring water usage. Agency regulations are Title 31, Part 10, chapters 353 thru 380, Texas Administrative Code.

UPC - Uniform Plumbing Code. Generally referenced as a section citation for a particular edition (year). For example 2024 UPC 604.10.1 , to be read as Section 604.10.1 of the 2024 edition.

USDA RD - US Department of Agriculture, Rural Development, a division within a Federal agency that provides funding to qualifying utilities, including water supply corporations

writing - see 88R-SB1778 which added WC 13.152 as follows (lacuna - two bills passed during the Legislative 88R session that added this same section number, 88R-SB594 and 88R-SB1778)

> Water Code
> Sec. 13.152. INITIATION, TRANSFER, OR TERMINATION OF SERVICE.
> A retail public utility may initiate, transfer, or terminate a customer's retail water or sewer service on receipt of a customer request by mail, by telephone, through an Internet website, or through another electronic transmission.

WSC - "water supply corporation", a form of Texas corporation, organized under chapter 67, Texas Water Code, as a non-profit corporation consistent with BOC 22, as described by BOC 23 subchapter A (yes, that is BOC 23 - not a typo)

Section 1.03 - Adoption of Tariff

At the regular board meeting held 15 February 2024, the board did adopt the following:

Resolved, by the Board of Directors, that

1. This Member Service Handbook, to serve as the tariff, of the Marsha Water Supply Corporation, providing water service to the Pamela Heights subdivision in Travis County, is adopted and enacted as the current regulations and policies effective as of 01 March 2024.

2. This Member Service Handbook is a complete rewrite and replacement of prior enacted policy. Any policy contained within the Member Service Handbook controls and otherwise supersedes any policy or agreement that is not in the Handbook. Any policy that is not contained in the Handbook is enforceable to the extent that the policy does not contradict the policy contained within the Handbook.

3. Various Member Service Agreements, Water Service Agreements, or like agreements by whatever name or description, have been put into place over the years, with differing terms and conditions, potentially contradictory among the various agreements, and potentially contradictory with the purposes of the Corporation.

   All existing Member Service Agreements, Water Service Agreements, or like agreements in whatever form, are to be discontinued as of 30 September 2024. All existing property owners with water service are to be provided the opportunity to sign the Member Agreement with Water Service Rider that is contained within the Member Service Handbook.

   Services that are not covered by a signed Member Agreement with Water Service Rider before 1 October 2024 will have service discontinued, any presumed membership canceled, and member equity returned. (WC 67.016(e)(2))

4. An official copy of this and all policies or records shall be available during regular office hours of the Corporation and a copy may be viewed on the Corporation's website. The Secretary of the Corporation shall maintain the original copy as approved and all previous copies for exhibit.

5. Rules and regulations of state or federal agencies having jurisdiction shall supersede any terms of this policy. If any section, paragraph, sentence, clause, phrase, word, or words of this policy are declared unconstitutional or invalid for any purpose, the remainder of this policy shall not be affected.

6. This tariff has been adopted in compliance with the Open Meetings Act, Chapter 551 of the Texas Government Code.

7. The Forms, Regulations, and Submittals portions of the Handbook can be revised, replaced, or deleted at any time by resolution of the Board. This does not apply to the Member Service Agreement or the Water Service Rider, as their method of amendment is described in the Handbook.

8. This resolution is effective immediately.

/sgd/ Robert Rodriguez - President Pro Tem of the Board

/attest sgd/ Randall Raemon - Secretary-Treasurer Pro Tem

Section 1.04 - Method of amendment

The Board will announce any proposed revenue changes, or amendments to this Member Service Handbook, tariff, Member Application and Agreement, or Water Service Rider over the course of two consecutive regular Board meetings, to give Members an opportunity to give their feedback on any proposed changes. After two consecutive regular Board meetings, the Board may vote to adopt changes that have incorporated consideration of Member feedback.

Amendments to the Member Application and Agreement, or to the Water Service Rider, must themselves be in the form of a Rider to the Member Application and Agreement.

The Board may enact Contingency Rate Structures (as described in Chapter 6) at any regular, special, or emergency board meeting so long as there is not a revenue target change. A revenue target change is a "rate change", and must have the two consecutive meetings to allow Members opportunity for feedback.

Section 1.05 - Utility Regulation and WSCs

The history of Texas state-wide utility regulation is very straightforward. There wasn't any. Municipalities had some limited jurisdiction over local utilities (water, electricity, telephone in local corporations or cooperatives), but that was about it. That was the situation up until newsworthy events in the early 1970s that caused some political uproar.

In 1975, largely in response to those newsworthy events, the legislature enacted 64R-721-HB819, which became VTCS 1446c, creating the PUC as of 1 Jan 1976. This was the first state-wide utility regulatory agency in Texas, and made Texas the last state in these United States to have such an agency. (Source is the Texas State Historical Association on the history of PUC)

PUC was given the job of certifying geographic service areas (called CCNs) and reviewing rates and services of utilities. All types of utilities, including WSCs. (Note - This implies there was no such thing as a CCN prior to 1976)

In 1979, 66R-57-SB418 specifically removed WSCs from PUC review of rates and services, but kept WSCs under CCNs. There is a testimony transcript in the bill file that clarifies the intent of the legislative bill. WSCs are self regulated, in that members choose the board that set the rates that members pay. There is no need to burden PUC with that work already done. This mirrors the self-regulation in municipalities, and municipalities are not under PUC oversight unless they choose to be.

In 1985, three water agencies are reorganized by 69R-795-SB249, creating the Texas Water Development Board, and the Texas Water Commission (TWC). TWC is intended to be a water utility regulatory agency, like PUC. Water Code chapter 13 is created and cloned from VTCS 1446c. WSCs are included, but are given the option to choose by member petition to be included or excluded from oversight of rates and services, in a manner very similar to that of municipalities (in WC 13.044, as a House-Senate conference compromise amendment)

In 1987, 70R-539-HB1459 is a cleanup bill to the water agency creation, WC 13.043 is rewritten to include the rates and services review of a WSC if there is a petition by WSC ratepayers. This is the statute that we have today (2023), in WC 13.043(b) and (g) as it applies to WSCs. (WC 13.044, the compromise amendment, is repealed)

In 2003, 78R-512-HB1152 amended WC 67.011 to allow PUC review of drought penalties on complaint. (Lacuna - two bills amended WC 67.011 in 78R, with different wordings)

In 2005, 79R-1057-HB1358 added WC 13.004 to set conditions on when the state has jurisdiction over WSCs in the same manner as an investor owned utility.

In 2013, 83R-171-SB567 moved water utility oversight back to PUC from TCEQ (successor agency to TWC), but still under the regulatory statutes of WC 13.

In 2023, 88R-1051-SB317, added 13.043(g-1) for a WSC member-applicant to appeal membership and tap fees. This complements WC 13.043(g) for member-applicants.

Section 1.06 - Statutory Water Operator and Plans Approval

The regulatory history for water operators isn't readily something for including in a tariff. The historical background is important to understanding how and why MWSC is the way it is, and because, at time of writing, we don't readily have another place to record this history, this is being presented here. (Said differently, this doesn't really belong here, but we don't have another place to institutionalize the information. So, it's here.)

From what we can tell from available records, MWSC had its first licensed operator in 1998.

In 1945, 49R-178-SB81 is enacted, becoming VTCS 4477-1, establishing sanitation rules for water systems.

Note - 49R-71-SB81 was passed in April 1945. World War II was in progress, in both Europe and the Pacific. The bill caption/header notes that Texas has grown considerably due to war production efforts, and steps are needed to enhance the sanitation practices of the state. Water is only one part of the Act.

Context implies there was only local regulation prior to the statute enactment. Reading VTCS 4477 for years prior does not show any mention of water works. There's a lot on sewage and septic sanitation, but not for water works.

The Act refers to the Texas Water and Sanitation Research Foundation. A search finds that Foundation sponsored a manual distributed by the Texas State Department of Health that is titled a "Manual for Water Works Operators". Further searches find editions published in 1938 (278 pages, 1st edition), in 1943 (392 pages, 2nd edition), and in 1951 (509 pages, 3rd edition). Evidently publication continued, with subsequent editions, as there are references into the 1960s.

VTCS 4477-1 Sections 11 and 12 eventually become the current Health and Safety Code sections 341.033 and 341.035 respectively.

VTCS 4477-1 text from 1948 publication of the Texas Civil Statutes (text quoted here is incomplete, as each section has several subsections)

Section 1 has some definitions

(e) "Drinking water" - all water distributed by any agency or individual, public or private, for the purpose of human consumption or which may be used in the preparation of foods or beverages or for the cleaning of any utensil or article used in the course of preparation or consumption of food or beverages for human beings. The term "Drinking Water" shall also include all water supplied for human consumption or used by any institution catering to the public.

(p) "water plant operator" - any person trained in the purification or distribution of a public water supply who has a practical working knowledge of the chemistry and bacteriology essential to the practical mechanics of water purification and who is capable of conducting and maintaining the purification processes in an efficient manner

(q) "water supply" - any source or reservoir of water distributed to and used for human

consumption.

Section 10

(a) All drinking water for public use shall be free from deleterious matter and shall comply with the standards established therefore by the State Department of Health or the United States Public Health Service.

Section 11

(a) No district, municipality, firm, corporation, or individual shall furnish to the public any drinking water for which any charge is made, unless the production, processing, treatment, and distribution is at all times under the supervision of a competent water works operator holding a valid certificate of competency issued under the direction of the Texas State Department of Health.

Section 12

(a) Every person, firm, corporation, public or private, contemplating the establishment of any drinking water supply or sewage disposal system for public use shall, previous to construction thereof, submit completed plans and specifications therefore to the State Department of Health and the said Department shall approve same; provided said plans conform to the water safety and stream pollution laws of this state. The said water supply or sewage disposal system shall be established only after approval has been given by the State Department of Health.

(b) Any governing body of any municipality or any other agency supplying drinking water or sewage disposal service to the public desiring to make any material or major changes in any water or sewerage system that may affect the sanitary features of such utility shall, before making such changes, give written notice of such intentions to the State Department of Health.

Sidenote - An interesting little bit of history turned up, that seems to indicate that Texas was one of the very early states to require water works operator licensing. Quoting, with some slight contextual reformatting, from an article in an AWWA publication:

> Bingley, W. McLean. "Status of Operator Certification and Training, 1960." Journal (American Water Works Association) 53, no. 4 (1961): 435–37. http://www.jstor.org/stable/41257105.
>
> It is interesting to note that (an interim report of a joint AWWA and CSSE committee submitted at the 1960 AWWA Annual Conference in Bal Habour, Fla) showed that as of May 1960 water operator certification or licensing was required by state law in ten states and by voluntary action in 25 states. ... A study of the status of operator certification made in 1952 indicated that at that

time seven mandatory-certification programs existed and sixteen voluntary plans were functioning.

Section 1.07 - History of Platting

The Pamela Heights subdivision plat was accepted by the Travis County Commissioners Court on 22 August 1960. The statute governing county plat acceptance was VTCS 2372k (52R-151-SB321, enacted 1951), which put requirements on roadways in subdivisions. If a plat had lot lines, a right-of-way of sufficient size, and provision for drainage, it would be acceptable. So Pamela Heights got lot lines, a 50-ft right-of-ways, dirt roads, and drainage bar ditches.

Note VTCS 2372k would be superseded by VTCS 6702-1 in 1983 by the "County Road and Bridge Act" (68R-288-SB148), which in 1987 would be transformed into chapters of the newly enacted Local Government Code (70R-149-SB896). County requirements for subdivision plats would become LGC chapter 232.

When the first homeowners moved into the subdivision, and didn't have water, the question arises of "did they ask Austin?". The Interstate I-35 has been, or is in the process of, being built and Austin has a 6-inch fire line running along the frontage road. That fire line may not have been there with the first houses built, but it would have been there with later houses. So why not Austin to provide water, instead of the private well and the spaghetti pipe system?

The answer to that question comes back to what we know today as LGC 212.012. At that time, it was VTCS 974a section 8. This turns out to have a very long history, enacted in 1927 as 40R-231-SB277. No municipal utility is to be connected to any lot that does not meet the municipality plat requirements. That applies also to any lot within a 5-mile ETJ. That wording is effectively unchanged until 1989, when WSCs are added to the statute, and issues with informal subdivisions and colonias along the international border are being addressed.

Pamela Heights was platted according to county requirements (LGC 232 today), and not municipal requirements (LGC 212 today). The City of Austin, by statute, could not have Austin municipal utilities provide service.

There have been amendments and exceptions added since LGC chapter 212 was created in 1987. The more important one for MWSC is the county-municipal interlocal agreement under LGC chapter 242, which gives the means to harmonize the plat requirements.

1

Chapter 2 - System

Section 2.01 - Service Area

Marsha WSC provides service to the Pamela Heights Subdivision in Travis County, Texas. Marsha WSC is within the 2-mile ETJ of the City of Austin, but is not within the zoning jurisdiction of the City of Austin.

Online maps of the Marsha WSC service area are accessible from

Public Utility Commission of Texas, The Marsha WSC CCN number is 12166, https://www.puc.texas.gov/industry/water/utilities/map.aspx

Texas Water Development Board, The Marsha WSC system number is 2270040, https://www3.twdb.texas.gov/apps/waterserviceboundaries

Hardcopy of maps produced on 17 May 2023 are on the following pages.

NOTE: The online versions are updated more frequently than hardcopy version here.

Texas Commission On Environmental Quality

By These Presents Be It Known To All That

Marsha Water Supply Corporation

having duly applied for certification to provide water utility service for the convenience and necessity of the public, and it having been determined by this commission that the public convenience and necessity would in fact be advanced by the provision of such service by this Applicant, is entitled to and is hereby granted this

Certificate of Convenience and Necessity No. 12166

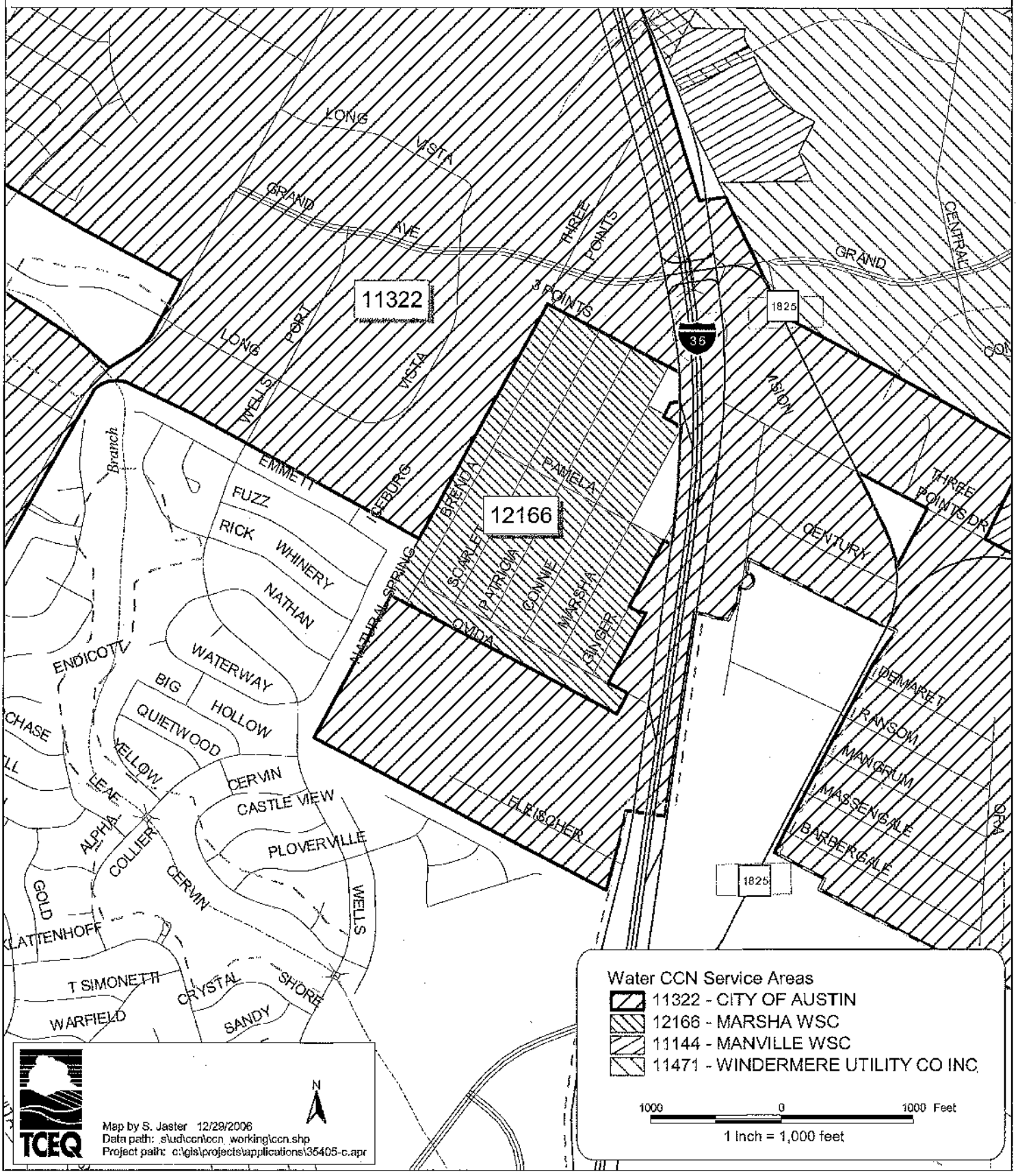
to provide continuous and adequate water utility service to that service area or those service areas in Travis County as by final Order or Orders duly entered by this Commission, which Order or Orders resulting from Application Nos. 35405-C are on file at the Commission offices in Austin, Texas; and are matters of official record available for public inspection; and be it known further that these presents do evidence the authority and the duty of Marsha Water Supply Corporation to provide such utility service in accordance with the laws of this State and Rules of this Commission, subject only to any power and responsibility of this Commission to revoke or amend this Certificate in whole or in part upon a subsequent showing that the public convenience and necessity would be better served thereby.

Issued at Austin, Texas, this NOV 13 2007

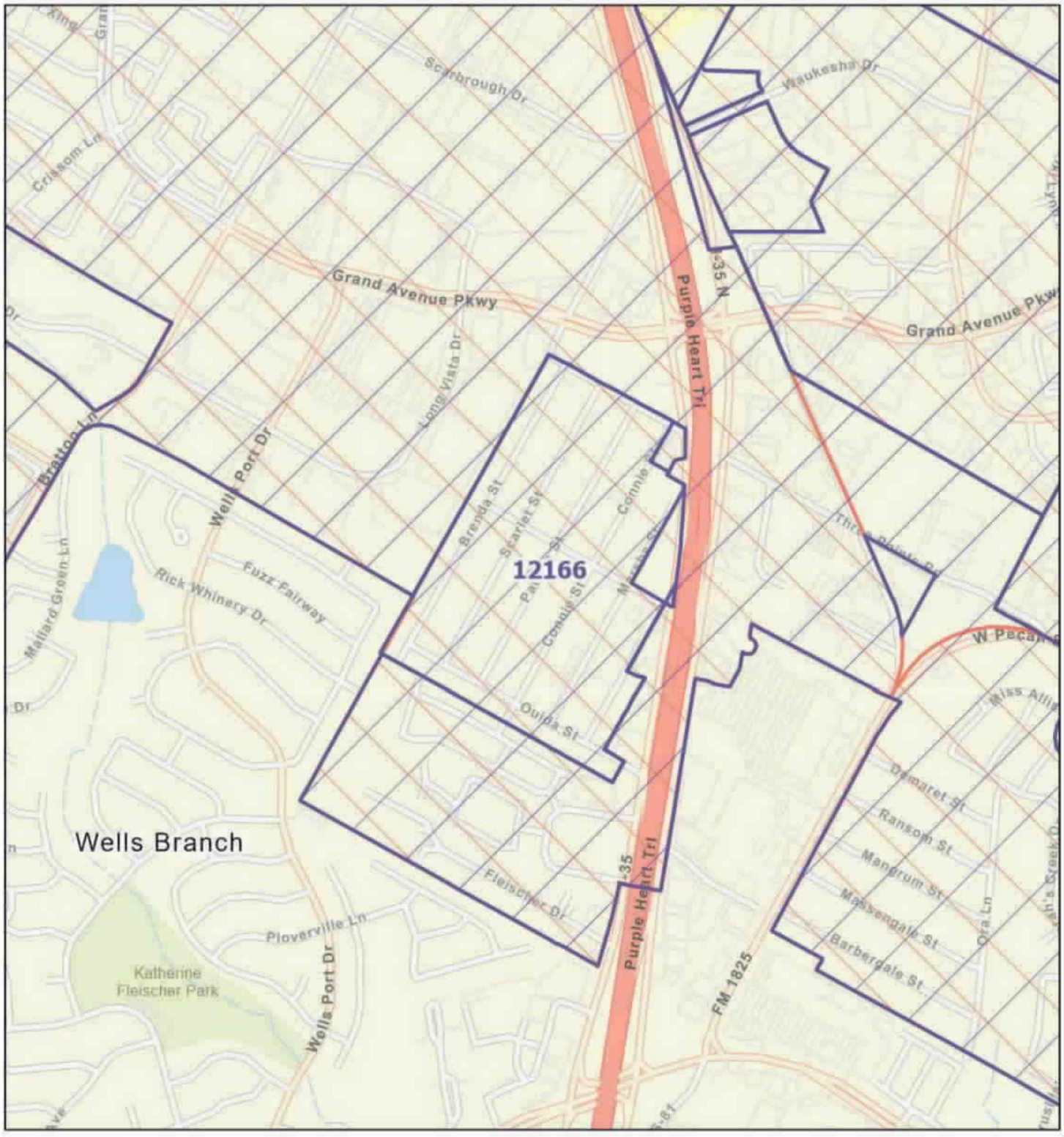
Buddy Garcia

For the Commission

City of Austin / Marsha Water Supply Corporation 13.248 Agreement
Portion of Water Service Area
Application No. 35405-C (Transferred a Portion of CCN No. 12166 from Marsha WSC)
Travis County



ArcGIS Web Map



May 17, 2023

Water CCN Service Areas

Sewer CCN Service Areas

1:14,520

0 0.1 0.2 0.4 mi

0 0.15 0.3 0.6 km

Marsha WSC Service Area

Texas Water Development Board

May 17, 2023

0 0.075 0.15 0.3 mi

0 0.1 0.2 0.4 km

1:9,028

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS TEXAS WATER DEVELOPMENT BOARD

 This material is based upon work supported by the U.S. Geological Survey under Cooperative Agreement No. G17AC00015.

Section 2.02 - Authority to Use ROW

The question comes up sometimes, what gives us the authority to put water lines in the Travis County right-of-way (ROW). Answer is from two statutes:

> Water Code
> Sec. 49.220. RIGHT TO USE EXISTING RIGHTS-OF-WAY.
> All districts or water supply corporations are given rights-of-way within, along, under, and across all public, state, county, city, town, or village roads, highways, and rights-of-way and other public rights-of-way without the requirement for surety bond or security; provided, however, that the entity having jurisdiction over such roads, highways, and rights-of-way may require indemnification. A district or water supply corporation shall not proceed with any action to change, alter, or damage a portion of the state highway system without having first obtained the written consent of the Texas Department of Transportation, and the placement of any facility of a district or water supply corporation within state highway right-of-way shall be subject to department regulation.
>
> Local Government Code
> Sec. 552.104. LOCATION OF WATER LINES OUTSIDE MUNICIPAL BOUNDARIES.
> (a) A water corporation or municipality may lay water system pipes, mains, conductors, or other fixtures through, under, along, across, or over a public road, a public street, or a public waterway not in a municipality in a manner that does not inconvenience the public using the road, street, or waterway.
> (b) A water corporation or municipality proposing under this subchapter to build a water line along the right-of-way of a state highway or county road not in a municipality shall give notice of the proposal to:
> (1) the Texas Transportation Commission, if the proposal relates to a state highway; or
> (2) the commissioners court of the county if the proposal relates to a county road.
> (c) On receipt of notice under Subsection (b), the Texas Transportation Commission or commissioners court may designate the location in the right-of-way where the corporation or municipality may construct the water line.

Legal nit - "water corporation" is a term that predates the existence of "water supply corporation". You have to backtrack into the Texas Civil Statutes of 1925 to get the full meaning. It does include water supply corporations, and some other entities as well. LGC 552.104 derives from VTCS 1433.

Section 2.03 - Our Story (At least so far as water, meters, and pipe are concerned)

Disclaimer: this is mostly speculation based on very scant documentation. What's presented here fits what we know, but may not be accurate in the actual events or timing.

The year is 1960. The Interstate I-35 is making its way from the drawing board into the ground. The Pamela Heights subdivision plat is approved by the Travis County Commissioners Court on 22 August 1960. The deed for the subdivision, referencing the approved plat, is recorded with the Travis County Clerk in October of 1960.

With a subdivision being platted, and next to an interstate highway, both telephone and electricity utilities are seeing opportunity. So they go out into what are farm fields, and put in their poles and wires, and wait for the homeowners to come.

And they do come. Records haven't been searched to show how fast, or how many, or when. While the first lots sold may have electricity and telephone, there is no water.

So the first people to move into Pamela Heights are going to have to drill themselves a well in order to have water. So they get themselves a well, for their household.

Then some more folks move into the subdivision. And they don't have water. Being Texas friendly, neighbor helps out neighbor, and so a neighborhood (of at least two, and later several more) has water.

There are very few details here. Speculation is that when some new owner wants water, the new owner lays the pipe and puts in his own meter. There is no design to follow, just the neighborhood lore on what works, where things are, and how they've been put in. Probably after a few trips to the nearby hardware store (McCoys Building Supplies seems to have been a popular choice from what we've seen in repairs), the new owner home has running water.

In 1976, the folks operating the well decide that the area is not for them anymore, and decide to move. Not being able to take the well with them, they decide to sell it to the neighborhood.

The neighborhood gathers together, decides that "yes, we'll buy it", and in April 1976 forms a non-profit corporation (under VTCS 1396-01) as Marsha Water Corporation. Putting up $395 per connection, 27 households put up $10,665 and become the proud owners of the water well.

In 1984, Travis County got around to paving the then dirt streets that existed.

Also in 1984, a new owner comes in, wants to get water, and is told "no, we can't supply you" (that well was one household back when, and now has a whole neighborhood hanging off it).

Being unhappy, that new owner makes a complaint to the state agency for complaints (PUC). In turn, the PUC contacts the state agency for water, and inquire about who to contact.

The state agency for water (Texas Water Commission, since assimilated elsewhere) answers PUC with the equivalent of "Who?... How do you spell that?.... Are you sure? We don't have anything on file."

And thus the microscope of the state agencies is focused on Marsha Water Corporation. And the agencies are unhappy with what they see.

Primarily for the bureaucratic sin of operating a water company without a Certificate of Convenience and Necessity (CCN), which is basically a license to be a monopoly utility provider. There are various requirements that go along with that license, and those requirements are not being met.

The state health agency also looked thru the microscope at the well and the water, and was equally unhappy.

Operation of the well was placed under the control of a water operating company (Envir-O-Spec). A CCN would be issued only when Marsha Water Corporation could provide water in sufficient quantity and quality to the neighborhood.

The records of this time (mid to late 1980s) are sparse. No doubt there would be much discussion about a new well, but there is no mention.

The City of Austin was approached at least twice, in 1986 and 1988. In response to the later query in 1988, Austin reached into the metaphorical closet, pulled out the proverbial 10-foot pole, attached a note with documentation referencing LGC 212.012, and said "NO". (see section 1.07 for background)

Evidently the state agencies did not disagree, as the "no" was not rescinded.

Presumably purely by coincidence, in 1989 the Legislature amends LGC 212.012, requiring that water supply corporations follow that statute in the same manner as municipalities. (71R-624-SB2)

Once the law book updates were published and distributed, somebody somewhere came up with an idea that would seem to work.

In February 1991, Marsha Water Corporation, incorporated in 1976 under VTCS 1396-01, reincorporated as a water supply corporation under VTCS 1434a. And now, in this new guise, approached the City of Austin once again.

This time the City of Austin said "yes", as the now Marsha Water Supply Corporation shared the same responsibility and liability under LGC 212.012 as the City.

In April 1992, Marsha Water Supply Corporation signed a wholesale water purchase contract for 25 years with the City of Austin. Having now established a source of water of sufficient quantity and quality, the Texas Water Commission issued a CCN consistent with LGC 212.012 specifically listing all 58 existing service locations as grandfathered under terms of the statute.

The state agency microscope went away. The operating company was discontinued. The neighborhood well was capped, and the property where the well was located was sold off soon thereafter.

From 1990 to 1992, there was a complete turnover of the (now) MWSC board of directors. Somebody may have gotten a memo about LGC 212.012, the Austin contract, and a little thing about septic systems. That little detail doesn't really have any impact on pipe in the ground, but is a tariff item.

With the LGC 212.012 amendment came WC 13.2501 that allows water supply corporations to refuse service. That memo seems to have gotten lost somewhere in the shuffle.

The 1992 CCN is very, very specific (see page 30). That point apparently never registered with the MWSC board of directors.

A brief digression here, regarding the Austin water purchase contract.

Regulation 30 TAC 285.4(a)(1)(A) requires that septic systems (called "on site septic facilities" or OSSF) be installed on property of no less than 0.5 acres. Lots in Pamela Heights are 0.25 acres. And everything is septic system. Pamela Heights is laid out with 262 lots. That is at most 131 residences with septic systems. The Austin contract was written with a max usage of 24,000 gallons per day. That coincidently works as 131 households at 3 persons/household at 60 gpcd to be 23,580 gallons per day.

Note that regulations of the time require a 0.6 gpm minimum per connection. A max usage of 24,000 gal/day is 16.67 gpm, which at 0.6 gpm/connection works out to be 27 connections. And 27 connections happens to be the number of connections listed in the 1976 articles of incorporation, and not the actual number of connections in service in 1992. The CCN issued in 1992 lists 58 properties, which at 0.6 gpm/connection would have a usage of 50,112 gal/day. A full 131 connections at 0.6 gpm would be 113,184 gal/day.

Now, back to our story.

With the Austin contract, there was a master meter installed at Pamela Dr and the I-35 southbound frontage road. This is a 2-inch meter. There is no clear answer on why this was a 2-inch meter. Properly for capacity, it should have been at least a 4-inch for 58 known connections that are going to have more over the course of the contract. The limitation was probably cost, as MWSC had to pay for the meter and its installation. In the late 1980s and early 1990s, MWC and the reincorporated MWSC was broke.

From about 1992 thru 2012, the meter service installations were done by the same handful of people, so there is some consistency in the way that work was done, but it still followed homeowner lore.

In the mid-late 1990s, folks who are furthest from the master meter (Brenda St, especially on the high ground) are complaining about reduced water pressure. So about 1999, a 3-inch line is laid along Pamela Dr to supply Brenda St directly from the master meter. To our knowledge, that 3-inch line does not connect to anything from Marsha St to the endpoint at Brenda St.

That solves the pressure problem on Brenda St. Repair work done in the mid 2010s and in early 2020s has revealed that the 3-inch is plain end PVC schedule 40, held together with primer only. The (insert colorful language here) installers didn't use any glue. (And not gasketed pipe either)

There is 3-inch line installed on Brenda St from Pamela Dr going north to about 15607 Brenda St, and 3-inch line from Pamela Dr going south on Marsha St to Ouida Dr. We don't know if this was put in by the same (expletive) installers.

In 2002, MWSC appears to have adopted the standard form tariff from TNRCC (predecessor agency of TCEQ)

In 2005, Brenda St south from Pamela Dr to Ouida Dr was having some kind of problem, and basically got re-done, from 15502 down to (what is now) 15300-B Brenda St. This is gasketed PVC, and all (17 at the time) meters replaced to Austin standard style of installation. Note: so far as we know, this is the first set of any standard meter installation there has been. Ever.

In 2007, the properties on the I-35 frontage road were transferred from MWSC to the City of Austin. The boundary lines for the CCN were changed. The CCN was reissued, without the LGC 212.012 notations.

In 2011, another 300 feet of 3-inch gasketed PVC SDR-21 was installed on Brenda St from (now) 15300-B Brenda to the dead-end at 15130 Brenda St. And about 100-feet of 2-inch polyethylene tube connecting to the blowoff flush valve at 15301 Brenda. The meters on that 300 feet are also on Austin standard. Specifications for the pipe installation was 5-feet from the roadway, and 24-inches down. Work was professionally done by Kinney's Commercial.

In 2012, MWSC got a tap drill. Our first time ever doing a waterworks style tap, and we haven't looked back. New meter installations are making the attempt to follow waterworks industry standards and practices.

From 2012 to date, when we have to make repairs, we are using waterworks grade parts to the extent that we can.

In 2012, we filed restated articles of incorporation to be very clearly incorporated under Chapter 67, Texas Water Code, as a water supply corporation.

In 2015, Travis County updated their septic system/OSSF regulations to require that septic systems be installed on a minimum lot size of 1-acre. MWSC service area lots are all 0.25-acre. MWSC adopted a new tariff that requires the installation of septic systems for new service installations to be consistent with LGC 212.012.

We received federal tax exempt status as a 501(c)(12) effective 27 Dec 2017.

In 2018, we had a new water purchase contract for 30 years with the City of Austin.

We started doing meter yoke installations about 2018. The meter yoke installation is intended to be the MWSC standard meter installation.

In 2019, we put in place the "construction charge" to accumulate funds for getting our water system up to the standards that it is supposed to be. This charge represents the Member equity in the corporation under WC 67.016.

And here we are, today.

TEXAS WATER COMMISSION

CERTIFICATE OF CONVENIENCE AND NECESSITY

To Provide Water Service Under V.T.C.A., Water Code and Texas Water Commission Substantive Rules

Certificate No. 12166

I. Certificate Holder:

Name: Marsha Water Corporation

Address: 15305 Marsha Street
Austin, Texas, 78728

II. General Description and Location of Service Area:

The are covered by this certificate is located approximately 13 miles north of downtown Austin, Texas on Interstate Highway 35. This certificated service area is limited to the following existing connections in the Pamela Heights Subdivision:

Block 1, Lot 3
Block 2, Lots 3, 6, 10 and 13
Block 3, Lots 2 and 11
Block 4, Lots 6, 15, 16 and 19
Block 5, Lots 4, 5, 6, 9 and 14
Block 6, Lots 1, 4, 6, 9, 12, 17 and 19
Block 7, Lots 3 and 10
Block 8, Lots 1, 6, 11 and 21
Block 9, Lots 1, 2, 6, 8, 10, 11, 12, 16, 18 and 21
Block 10, Lots 5, 8, 9, 18 and 19
Block 11, Lots 3, 4, 7, 9, 11, 13 and 19
Block 13, Lots 7, 11 and 20
Block 14, Lots 7 and 13
Block 15, Lots 6 and 8

The Pamela Heights Subdivision is bounded on the east by Interstate Highway 35, on the south by Ouida Drive, on the west by Brenda Street, and on the north by an unnamed county in Travis County, Texas.

III. Certificate Maps:

The certificate holder is authorized to provide water service in the area identified on the Commission's official water service area map, WRS-227, maintained in the offices of the Texas Water Commission, 1700 North Congress, Austin, Texas with all attendant privileges and obligations.

EXHIBIT R D. 2 of 2

Some observations based on this story:

The bulk of the installed distribution pipe was installed probably prior to 1985. It was done by the homeowners. There was no design, and no common standard. We don't know what we've got until we dig it up. Nobody kept records or mapped anything back in the day. A simplistic description of the distribution system is "a backyard irrigation system, writ large".

It is unlikely that any distribution line got installed while under agency microscope. It's not known if there were any new connections made during that time. The owner who made the complaint in 1984 does have service today, but we don't know the history.

We have at least four different kinds of meter installations:

* homeowner, using PVC parts typically - this is from first meter thru 2012
* Austin standard - almost entirely on south Brenda St, done 2005 as a batch
* waterworks industry style - mostly from repairs since 2012
* yoke - standard on new installs since 2018, usually - there have been some exceptions

Several major issues:

* Pamela Heights has a solid limestone ground layer that is only inches from the surface. The topsoil depth varies from a few inches, to maybe a couple of feet. Installed distribution pipe was not trenched. Topsoil was scraped away down to the limestone, pipe laid down, and then covered over. Regulations say minimum cover is 24 inches. Nope, not here.
    * The pipe wasn't properly bedded either. We can tell a professional install from a homeowner install by the presence or absence of sand bedding. Sand is rare.
    * The lack of depth means lack of protection. As the neighborhood has gotten more populated, vehicles have been crushing the distribution pipes.

* Homeowners used retail parts for valves. These are gate valves on the corporation side of the meter. Retail valves are cheap, because they are 30+% zinc. And we have a major problem with dezincification. We're seeing a retail gate valve as having a survival lifetime of about 5 years. Most of these valves were installed decades ago. Touch a gate valve, and you've got a repair. (Refer section 5.07 for consequences of this.)

* There are retail gate valves on street isolation valves also. Same problem with dezincification. We get one or two use attempts on an isolation valve, and then it's gone. Repair of an isolation valve is a full system shutdown.

Section 2.04 - System Description

The piping system is primarily PVC, solvent weld, unrestrained, with retail plumbing fittings and valves, installed without proper bedding. There is approximately 18,000 feet of distribution pipe installed.

Pipe sizes encountered and estimated to be in service (as of May 2023)		
pipe size (inches)	approximate installed length (feet)	pipe types
1	1000 ft, serving about 6 to 10 connections	pvc sch 40 and sdr-21
1-1/4	600 ft, serving 4 to 6 connections	pvc sch 40
2	10,000 ft, of which about 2,000 ft is galvanized	pvc sch 40, sdr 21 and 26, and galvanzied
3	6,000 ft, of which 300ft is known sdr-21	pvc sch 40, and sdr-21

TCEQ reg 290.44(c) "minimum pipe size", is 2-inch to serve at most 10 connections. The overall distribution system is not compliant with TCEQ reg 290.44(c).

The system overall is not looped (not compliant with TCEQ reg 290.44(d)(6)).

There is a limited ability to make repairs on a single street, if the street isolation valves work, and most such valves don't work due to dezincification of the retail plumbing valves that were installed. Most repairs, often including even a single meter change-out, require shutting the entire system off at the master meter. There are perhaps a dozen resilient wedge gate valves installed that are reliably used.

There are no air valves installed. (Not compliant with TCEQ reg 290.44(d)(5))

There are two reliably working flush/blowoff valves.

There are no storage tanks or treatment facilities.

There is no raw water or reclaimed water usage.

MWSC does not provide wastewater service.

The MWSC water system is substandard and does not meet the TCEQ requirements of 30 TAC 290 Subchapter D. The TCEQ notification letter is attached.

PWS_2270040_CO_20161013_Plan Ltr

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 13, 2016

Mr. Randall Raemon
15504 Brenda Street
Austin, Texas 78728

Re: Marsha WSC - Public Water System ID No. 2270040
85% Planning Report
Engineer Contact Telephone: (512) 803-8725
Plan Review Log No. P-08252016-152
Travis County, Texas

CN600644959; RN101199974

Dear Mr. Raemon:

On August 25, 2016, the Texas Commission on Environmental Quality (TCEQ) received 85% planning report with your letter dated August 23, 2016 for the above referenced public water system. Your report stated that the water system receives 24,000 gallons per day (= 16.67 gpm) treated water from City of Austin. According to your report, the water system currently has 160 connections.

Based on information submitted, the water system **does not meet** the requirements of Title 30 Texas Administrative Code (TAC) Chapter 290 - Rules and Regulations for Public Water Systems as listed below. Please provide the following additional information showing how the water system will meet the requirements:

1. The water purchase contract shall meet the minimum water capacity requirements as required in 30 TAC Section 290.45(f). For purchased water system the water system must meet the following requirements:

    a. The water purchase contract must be available to the executive director in order that production, storage, service pump, or pressure maintenance capacity may be properly evaluated. For purposes of this section, a contract may be defined as a signed written document of specific terms agreeable to the water purchaser and the water wholesaler, or in its absence, a memorandum or letter of understanding between the water purchaser and the water wholesaler.

    b. The contract shall authorize the purchase of enough water to meet the monthly or annual needs of the purchaser.

    c. The contract shall also establish the maximum rate at which water may be drafted on a daily and hourly basis. In the absence of specific maximum daily or maximum hourly rates in the contract, a uniform purchase rate for the contract period will be used.

d. The maximum authorized daily purchase rate specified in the contract, or a uniform purchase rate in the absence of a specified daily purchase rate, plus the actual production capacity of the system must be at least 0.6 gpm per connection.

e. For systems which purchase water under direct pressure, the maximum hourly purchase authorized by the contract plus the actual service pump capacity of the system must be at least 2.0 gpm per connection or provide at least 1,000 gpm and be able to meet peak hourly demands, whichever is less.

f. The purchaser is responsible for meeting all production requirements. If additional capacity to meet increased demands cannot be attained from the wholesaler through a new or amended contract, additional capacity must be obtained from water purchase contracts with other entities, new wells, or surface water treatment facilities. However, if the water purchase contract prohibits the purchaser from securing water from sources other than the wholesaler, the wholesaler is responsible for meeting all production requirements.

The water system may request approval to meet alternative capacity requirements (ACR) in lieu of the minimum capacity requirements in accordance with 30 TAC Section 290.45(g). For additional assistance regarding ACR, please contact Technical Review Oversight Team (TROT) or visit the website as indicated in item No. 4.

2. As required in 30 TAC Section 290.44(c), the minimum waterline sizes to serve more than 150 connections shall be 6-inches as shown below in the table. The minimum waterline sizes are for domestic flows only and do not consider fire flows. Larger pipe sizes shall be used when the licensed professional engineer deems it necessary. It should be noted that the required sizes are based strictly on the number of customers to be served and not on the distances between connections or differences in elevation or the type of pipe. No new waterline less than two inches in diameter will be allowed to be installed in a public water system distribution system. These minimum line sizes do not apply to individual customer service lines.

Maximum Number of Connections	Minimum Line Size (Inches)
10	2
25	2.5
50	3
100	4
150	5
250	6
>250	8 and larger

Based on the information provided, the water system has maximum 3-inch waterline sizes to serve existing 160 connections which do not meet the minimum waterline size requirements. The water system may request exception regarding this requirement. Please see item No. 4 regarding exception requests.

3. According to planning report, the existing water distribution system is proposed to be modified in future. Before any modifications to the existing distribution system is made, the water system must submit sealed engineering plans and specifications for review and approval in accordance with 30 TAC Section 290.39(d).

4. If compliance with TCEQ requirements cannot be met, a written exception request for each rule may be submitted to TROT. The exception must be substantiated by carefully documented data. The request for an exception shall precede the submission of engineering plans and specifications for a project for which an exception is requested. For addition assistance exception requests, please contact TROT at 512-239-4691 (main line) or visit the following website:

http://www.tceq.texas.gov/drinkingwater/trot/exception

The submittal consisted of capacity report with existing conditions study narrative and concept plan narrative.

We will retain these documents for **100 calendar days** from the date of this letter. Revisions or additional information must be submitted to the TCEQ (Plan Review Team, MC-159) within that time or the entire package must be resubmitted for review. Please refer to the Plan Review Team's Log No. **P-08252016-152** in all correspondence for this project.

Please Note: In order to determine if a new source of water or a new treatment process results in corrosive or aggressive finished water that may endanger human health, we are requesting additional sampling and analysis of lead, alkalinity (as calcium carbonate), calcium (as calcium carbonate) and sodium in addition to the required chemical test results for public water system new sources. We are requiring these additional sampling results as listed in our currently revised checklists (Public Well Completion Data Checklist for Interim Use – Step 2 and Membrane Use Checklist – Step 2) which can be found on TCEQ's website at the following address:

https://www.tceq.texas.gov/drinkingwater/udpubs.html

Please include these additional sampling results in well completion submittals, membrane use submittals, and other treatment process submittals.

New surface water sources will need to also include lead, total dissolved solids, pH, alkalinity (as calcium carbonate), chloride, sulfate, calcium (as calcium carbonate) and sodium with the analysis required in 30 TAC Section 290.41(e)(1)(F).

Please complete a copy of the most current Public Water System Plan Review Submittal form for any future submittals to TCEQ. Every blank on the form must be completed to minimize any delays in the review of your project. The document is available on TCEQ's website at the address shown below. You can also download the most current plan submittal checklists and forms from the same address.

https://www.tceq.texas.gov/drinkingwater/udpubs.html

For future reference, you can review part of the Plan Review Team's database to see if we have received your project. This is available on TCEQ's website at the following address:

https://www.tceq.texas.gov/drinkingwater/planrev.html/#status

You can download the latest revision of 30 TAC Chapter 290 – Rules and Regulations for Public Water Systems from this site.

If you have any questions concerning this letter or need further assistance, please contact Pritesh Tripathi at (512)239-3794 or by email at pritesh.tripathi@tceq.texas.gov or by correspondence at the following address:

Plan Review Team, MC-159
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Sincerely,

John Lock, P.E.
Plan Review Team
Plan and Technical Review Section
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Texas Commission on Environmental Quality

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Chapter 3 - Member Equity

Section 3.01 - Background

In 1976, the existent community bought out the private well owner, and a non-profit corporation formed by 27 residents for $10,665. The resident member buy-in fee was $395.00 from inception in 1976 up until 2019, when the board enacted the system construction charge. During that 43 years, the system was occasionally repaired and expanded as needed, but was substantially unchanged. Most notably, there was no planned replacement or funding for such replacement (Look up "waterworks asset management" for details. It makes tax returns look elementary.). Consequently, the system depreciated into effective financial non-existence. The only assets that existed was whatever funds were on deposit in a bank account.

In 2019, the board put in place a surcharge per tap of $40.00 to be billed monthly. The funds collected are restricted to replacing and upgrading the existing system so as to have compliance with TCEQ regulations, and sufficient water capacity to provide some kind of fire flow for the neighborhood.

That construction fund surcharge is (at time of writing) the sole member equity. The original $395 was rolled into that construction fund.

Because this surcharge is ongoing as a monthly surcharge, there is no fixed number that represents the equity for a member. We can give a snapshot in time, and that's it.

Section 3.02 - Expected Equity

Jan 2019 actual	$0
Jan 2020 actual	$480
Jan 2021 actual	$840
Jan 2022 actual	$1,320
Jan 2023 actual	$1,800
Jan 2024	$2,280
Jan 2025	$2,760
Jan 2026	$3,240
Jan 2027	$3,720
Jan 2028	$4,200
Jan 2029	$4,680
Jan 2030	$5,160
Jan 2031	$5,640
Jan 2032	$6,120
Jan 2033	$6,600
Jan 2034	$7,080
Jan 2035	$7,560
Jan 2036	$8,040
Jan 2037	$8,520
Jan 2038	$9,000
Jan 2039	$9,480
Jan 2040	$9,960
Jan 2041	$10,440
Jan 2042	$10,920
Jan 2043	$11,400
Jan 2044	$11,880

The board paused collection of the construction charge for 3 months, April thru June, 2020 to ease the financial burden caused by the 2020 Covid pandemic shutdowns.

Add the amount for the month to the January amount to determine the accumulated construction charge.

Jan	$0
Feb	$40
Mar	$80
Apr	$120
May	$160
Jun	$200
Jul	$240
Aug	$280
Sep	$320
Oct	$360
Nov	$400
Dec	$440
Jan next year	$480

Section 3.03 - Estimated Maximum Equity

However, we can estimate the maximum value of member equity, assuming we will eventually get a proper system funded, installed, and maintained.

The estimates that we have today (mid 2023), is that a new system will cost something on the order of $4.8 million (note the number is chosen to make the following math easy, the range is $3 to $5 million)

We have at present (mid 2023) about 160 connections.

So the math is easy

max member equity = ($4.8 million) / (160 connections) = $30,000/connection

This number highlights the fact that small systems are incredibly expensive, because we don't have the number of connections (or members or customers) to bring that number down.

Right now (May 2023), the per connection buy-in is about $2,000/connection

It grows at the rate of ($40/month x 12 months/year) = $480/year per connection

It's going to be a long time to reach that maximum member equity.

For comparison, January 2019 had exactly 160 connections. At $395.00 per connection, the total for accumulated member equity would be $395 * 160 = $63,200.

There is an estimated back-of-the-envelope calculation of what a minimum equity should be (section 3.06). For 164 connections, the corresponding member equity would be somewhere around $7,719, which is nowhere near the $395.

It is possible to quibble about the cost numbers, but that does not change the point that $395 is at the very least an order of magnitude short of what it needs to be.

The only conclusion is that we are very, very badly undercapitalized. Draw your own conclusions about the overall management capacity of the board over all those years.

Section 3.04 - TRWA description of member equity and buy-in fee

(This is extracted from the TRWA Sample tariff. Section references are within that tariff.)

Equity Buy-In Fee – Each Applicant for new service where a new service tap is necessary shall be required to achieve parity with the contributions to the construction or acquisition of the Corporations assets related to capacity that have been made previously by existing Members. This fee shall be calculated annually after receipt of the system audit and assessed prior to providing (or reserving service for nonstandard service applicants) on a per service unit basis for each property and shall be assigned and restricted to that property for which the service was originally requested. (See Section G. 7., also See Section K, Calculation of Average Net Equity Buy in Fee)

7. Equity Buy-In Fee. In addition to the Membership Fee, each Applicant for new service that requires a new service tap shall be required to achieve parity with the contributions to the construction or acquisition of the Corporation's assets related to capacity that have been made previously by existing Members. This fee shall be assessed immediately prior to providing service on a per-service unit basis for each service requested and shall be assigned and restricted to that property for which the service was originally requested. This fee shall be set aside for future capacity improvements such as line upgrades, new tanks, treatment, or production. The formula applied to such fee calculated annually after receipt of the system audit is as follows:

Sample Calculation:

Total Contributions and Assets of the Corporation minus (-)
Accumulated Depreciation minus (-)
Outstanding Corporation Debt Principle minus (-)
Developer Contributions minus (-)
Grants received divided by
Total Number of Members / Customers equals = Average Net Equity Buy-In Fee

---------- (end of TRWA extract)

Note about the TRWA calculation:

We have no debt, no developer contribution, and no grant funding. Our existing system has effectively depreciated out of existence, and we don't yet have an asset management system for replacement funding. That leaves the TRWA equation to be

Net equity buy-in = (Total contributions) / (number of connections)

Section 3.05 - Membership and Equity Buy-In

(This is extracted from a 2023 email exchange with a Member regarding their request for an explanation of the construction charge, and how long that charge will be in place)

In regard to your questions about the Marsha WSC construction charge,

The charge is the "member right of participation" described by section 67.016, Texas Water Code. That's the legal stuff, but what does that mean for Marsha WSC?

Here's the background, and the detail.

A chapter 67 water supply corporation is a member owned, member controlled, member benefit cooperative corporation. Financially, that means the corporation looks a lot like a partnership, where member-partners by statute must own property to have water service (section 13.002(11 and 24), Water Code, for details).

In a partnership, the member-partners contribute funds to a common pot so that the corporation can do its thing.

For Marsha WSC, that thing, is to get the water system infrastructure up to what it is supposed to be. The existing water infrastructure was installed by homeowners, with no design, and no consideration to industry standards. The existing system does not meet TCEQ regulations (30 TAC 290.44), and does not provide fire flow at all. We've got 2-inch and 3-inch lines, where we are supposed to have 6-inch and 8-inch lines.

We've gotten engineering estimates on what kind of funding we would need. If there is a spare $3 to $5 million floating around, we'd love to hear about it.

We have made application to the Texas Water Development Board (TWDB) for funding thru the state revolving fund. We have found that effectively there is no chance of getting funding that way.

(Short summary - TWDB uses a point ranking system, with high point scores being funded. Our top point score will be about 5. We are a purchase water system getting water from the City of Austin, so no chance of there being any water quality issues. We are in Travis County, with its corresponding median household income, so we don't qualify as a disadvantaged community. TWDB ranks disadvantaged communities with a minimum score of 20. Meaning every disadvantaged community is going to be funded before we are. So it isn't happening that way.)

We have looked at funding thru USDA Rural Development, but their funding can only provide about $1.5 million (40 year loan at $6400/mon)

So we have to provide our own funding. That's the construction charge, at $40/mon. It is charged only to the property owner, as the member-partner, as this funding is solely for the infrastructure to provide service to their property. It is prohibited from being used for any kind of operating expenses. Those expenses are paid only by water revenue.

And, under WC67.016, the member-partner contribution is refundable on sale of property ("by sale to the corporation" is a fancy way of saying refund), or conveyed by sale of the property to a new owner ("to another person or entity as part of the conveyance of real estate").

Aside, it is our understanding that water supply corporation memberships should be listed on TREC Form OP-M, as memberships are personal property and can transfer with the sale of the property being valued at the member-partner contribution.

As for how long that charge will be in place. The answer is "a very long time". We have 160 service connections, each paying $40/mon ($6400/mon, which would be our USDA mortgage payment for 40 years). If we have to fund this entire system by ourselves, we're looking at, say, $4.8 million (just to make the math easy)

$4,800,000 / (160 connections) / ($480yr per connection) = 62.5 years.

To date (mid 2023), each member-partner has about $2000 in partner contribution. This grows by $40 each month.

We are just now getting to the point where we can start doing something to get some kind of upgrade in place.

You are welcome to attend our board meetings, every 3rd Thursday of each month (next is 18 May). We meet at Comfort Suites at the intersection of I-35 and Wells Branch Pkwy (located in the northeast corner of the intersection). The conference room is behind the front desk. Meeting time is 6:30pm. Agendas are posted to our website (marshawsc.org) three days before the meeting.

We hope this provides some answers for your questions. If not, please let us know, and we'll try to clarify.

Thank you

Marsha WSC

Section 3.06 - Hypothetical System for Minimum Compliance

This is a hypothetical MINIMUM compliance system, done cheap and cutting a bunch of corners. The numbers here DO NOT consider the administrative overhead of building a system, and certainly DOES NOT have any engineering design behind it. Consider this as a back-of-the-envelope estimation.

The intent is to establish an understanding of what a Member equity buy-in is reasonable and expected. Reminder: small systems are not cheap. At time of writing, we have 164 connections.

How much pipe are we talking about

Street	south of Pamela Dr		north of Pamela Dr	
	length	pipe size	length	pipe size
Brenda St	1200	4	1200	6
Scarlet St	1200	4	1200	4
Patricia St	1200	4	1200	4
Connie St	1200	4	1200	4
Marsha St	1200	4	800	6
Ginger St	800	6	none	
total	6800		5600	

Street	length	Pipe size (inches)
Three Pts Rd	900	6
Pamela Dr	1500	6
Ouida Dr	1800	6
total	4200	

total installed length = 6800 + 5600 +4200 = 16,600 ft
at $60/linear foot that is = 16600 x 60 = $996,000 for the pipe alone
note that is not making any distinction about pipe size or type

TCEQ regs require 6-inch for at most 250 connections (we'll max out around 200)
and 6-inch is the minimum for any kind of fire flow and C-900 pipe size minimum is 4-inch

This hypothetical is for agency review and background

Now, what about valves.
We need isolation valves at each intersection.
There are 22 lots served on each block (in theory, assuming no subdivision or combining)

	valves per intersection			
street	Three Pts Rd	Pamela Dr	Ouida Dr	total
Brenda St	2	3	2	7
Scarlet St	3	3	3	9
Patricia St	3	3	3	9
Connie St	2	3	3	8
Marsha St	none	3	3	6
Ginger St	none	none	2	2
total valves				41
total intersections	4	5	6	

Note - this is a minimum number of valves at each intersection. It is not using industry best practice.
This also does not make any distinction in valve size.
4-inch valves have been priced at $700 each, so 700 x 41 = $28,700

What about fire hydrants? Table above shows 15 intersections. There are two dead-ends that also need hydrants (blowoffs). These are Marsha St north of Pamela Dr, and Ginger St north of Ouida Dr. (Note this is a 600 ft reach for fire hydrants, well beyond the recommendation for any residential separation of 400 ft)

That's a total of 17 hydrants. A hydrant has a service valve, and approximately 20 feet of pipe (our ROW is 50ft wide). We're going with a guess of $5,000 per hydrant.

So 17 x $5,000 = $105,000 for hydrants

This hypothetical is for agency review and background

What about a meter installation?

The description here is a MINIMUM compliance with industry. It DOES NOT reflect any kind of viable solution to other problems that we are trying to solve (traffic damage, labor costs, maintenance). This is spending the absolute minimum amount of money up front, and paying thru the nose on the back end.

THIS IS NOT WHAT WE ARE INSTALLING. We're trying to do it right, not cheap. This is cheap.

Pricing is from the Ford Meter Box price book of January 2022

meter instllation of 5/8x3/4 meter, with 3/4-inch service line and tap		
what	part	list price as of Jan 2022
tap saddle 4inch C900	Ford FS323-554-CC3	174.01
corporation valve	Ford FB1000-3-G-NL	107.20
insert (qty 4, $3.16 ea list)	Ford Insert-51	12.64
polyethylene tubing	meets AWWA C-901	
curb valve	Ford B44-333-G-NL	146.72
meter valve	Ford BA43-332W-G-NL	168.17
meter	PD, disc, direct read, gallons 5/8x3/4	60.00
meter coupling	Ford C38-23-3-NL	26.15
union (demarc point)	UNION-3-NL	46.78
meter box	DFW1814FR	67.77 (order 9/09/20)
meter box lid	DFW18AMR-3EQA-LID	21.18 (order 9/09/20)
total		830.62

For our presently installed connections (164 at time of writing), this is
830.62 x 164 = $136,221.68
plus tubing for the material costs, and then we have labor also.

This hypothetical is for agency review and background

So our hypothetical minimum compliance system is going to cost us

pipe	$996,000.00
valves	$28,700.00
meters	$136,221.68
Hydrants	$105,000.00
Total	$1,265,921.68

Not yet accounted for are

* 2x 6-inch master meters with backflow preventers (contract requirement)
* roadway repair, if pipe is laid in the middle of the road

That total, divided over our current 164 connections is

(1,265,921.68) / 164 = $7,719.03

And that is what our absolute minimum equity buy-in should be, if we had compliance with regulations, and an otherwise properly working water system.

Add in the administrative cost, engineering design, and whatever else, and we are looking at a minimum of $2.5 to $3 million.

If you know a funding source that can get us on the road to get this system working, please let us know about it. Otherwise, our construction charge stands as our only means to fund what we need to do.

Chapter 4 - Application for Service

Section 4.01 - Obligations Under Statute

There are two statutory obligations that have to be satisfied. One is for the person making member application. The other is for the property to be provided service.

The obligations for the person is that the person must own property within our CCN service area to have service:

> Water Code
> Sec. 13.250. CONTINUOUS AND ADEQUATE SERVICE; DISCONTINUANCE, REDUCTION, OR IMPAIRMENT OF SERVICE. (a) Except as provided by this section or Section 13.2501 of this code, any retail public utility that possesses or is required to possess a certificate of public convenience and necessity **shall serve every consumer within its certified area** and shall render continuous and adequate service within the area or areas.
>
> Water Code
> Sec. 13.002 - Definitions
> (11) "Member" means a person who holds a membership in a water supply or sewer service corporation and **is a record owner of a fee simple title to property** in an area served by a water supply or sewer service corporation or a person who is granted a membership and who either currently receives or will be eligible to receive water or sewer utility service from the corporation.

The obligations for the property, that it meets certain plat and land use requirements. You have to trace thru LGC 212 to determine what this means for us. It seems to come down to meeting the requirements set forth in the Austin/Travis County Joint Development Code, Title 30.

> Local Government Code
> Sec. 212.012. CONNECTION OF UTILITIES.
> (a) .... , an entity described by Subsection (b) may not serve or connect any land with water, sewer, electricity, gas, or other utility service unless the entity has been presented with or otherwise holds a certificate applicable to the land issued under Section 212.0115.
> (b) The prohibition established by Subsection (a) applies only to:
> (4) a water supply or sewer service corporation organized and operating under Chapter 67, Water Code, that provides any of those services;

Absent those statutory conditions, we are obligated to refuse service

> Water Code
> Sec. 13.2501. CONDITIONS REQUIRING REFUSAL OF SERVICE. The holder of a certificate of public convenience and necessity shall refuse to serve a customer within its certified area if the holder of the certificate is prohibited from providing the service under Section 212.012 or 232.0047, Local Government Code.
>
> (statute note: LGC 232.0047 got rolled into LGC 212.012 a couple of years after this statute was enacted. The text was never updated.)

Section 4.02 - What We need

In order to get service:

1. The applicant must be the owner of the property, as recorded by TCAD. If the property sale is too recent for TCAD, we will do a search on the Travis County Clerk website to locate deed information. TCAD reports deed identifying information, which we will use to get a copy from the Travis County Clerk website.

   If the property owner is a legal entity that would be registered with the Texas Secretary of State, we will check the registration to make sure the entity is active and in good standing with its registration. If not, then we will not accept the application.

   In the Forms section of this tariff, there is a form for an entity representative to present their credentials as a signer for the entity.

2. Submit the completed (legal nit - administratively complete) application paperwork
   a. Member Agreement, if the applicant does not already own property in the service area. If an agreement is on file already, and the applicant submits a new one, the new one supersedes any and all prior agreements.
   b. Water Service Agreement, for the property to have water service
   c. Signing Authority, if the applicant is a legal entity (example, is an LLC). We will verify the entity status with the registration at the Texas Secretary of State. If the registration is not current/valid, we will refuse the application.
   d. Provide a copy of an ID (drivers license, passport, etc to verify who is signing the paperwork)

3. For a location that already has water service, then this is a transfer of some kind, so must submit the necessary fees
   a. a membership application fee

b. a transfer fee
c. an equity buy-in fee as may be needed to come to member parity

4. For a location that does not already have water service, and needs to have a new tap, then so must submit
   a. a membership application fee
   b. an equity buy-in fee as may be needed to come to member parity
   c. a **septic system permit**
   d. Austin capital recovery fee
   e. Meter installation charges
   f. Service extension charges as may be needed

(Legal nit) Items 1, 2, and 3 or 4, must be submitted to be qualified as an "applicant".

After a Member Account has been assigned, and service provided, or service work scheduled for a new installation, then we have to have the following.

1. Within a reasonable time, a customer service inspection (CSI). If we don't get a CSI report within some time limit, we will discontinue service until we get a CSI report.

2. We will need to do an inspection of yard pipe and plumbing installation to confirm
   a. depth of trenching, (12 inches of cover)
   b. type of yard pipe (LCRR rules for record keeping) and thermal expansion
   c. service valve, if we didn't install it
   d. tracer wire and accessibility
   e. installation of thermal expansion valve - with meter yoke installations and DCVs
   f. hose bibb backflow preventer installations

Section 4.03 - New Installation Requires Septic Permit

[text from our 2015 tariff]

For compliance with Travis County and City of Austin ordinances, all new services shall present a permit for the installation and operation of the septic system issued by Travis County.

[end text from 2015 tariff]

We have had a complaint made to PUC regarding our tariff requirement for a septic system.

PUC Note: refer to complaint CP2020070080

Once a complaint is made, PUC may, or may not, accept any additional complaints for the same reason.

> Water Code
> WC 13.043 (g) An applicant for service from ... a water supply or sewer service corporation may appeal to the utility commission a decision of the ... water supply or sewer service corporation affecting the amount to be paid to obtain service other than the regular membership or tap fees. ... A determination made by the utility commission on an appeal under this subsection is binding on all similarly situated applicants for service, and **the utility commission may not consider other appeals on the same issue until the applicable provisions of the tariff of the water supply or sewer service corporation are amended.**

Background:

Water supply corporations must comply with LGC 212.012, which requires a certificate for plat compliance before utility (including water) service is allowed. Absent such certification, WSCs are obligated to refuse to provide service under WC 13.2501.

Tracing thru how that certification gets done, eventually leads back to LGC 242, and the interlocal agreement between a county (Travis County, in this instance) and the city having extra territorial jurisdiction (City of Austin, in this instance).

For MWSC, that is Title 30, the Austin/Travis County Joint Development Code.
In that title,

> § 30-2-198 - PRIVATE ON-SITE SEWAGE FACILITY.
>
> A subdivision that is to be served by private on-site sewage facilities must comply with the requirements of the authorized agent adopted in accordance with Texas Administrative Code Title 30, Chapter 285 (On-Site Sewage Facilities). The authorized agent shall review a preliminary plan or plat and report its findings to the single office.
>
> Source: City Code Section 25-4-198; Ord. 031211-11; Ord. 031211-42.

The plat for Pamela Heights subdivision was accepted by Travis County in 1960, and had no specifications for utility infrastructure. The lots were platted at 0.25 acres.

There is a problem here. Everything in Pamela Heights is a septic system (on site septic facility, or OSSF). TCEQ regs 30 TAC 285.4(a) specify a minimum lot size as 0.5 acres for septic systems. Travis County has a different requirement as of 2015. At time of writing, Travis County requires

1.0 acre for a septic system (Travis County Code 448.032). Travis County is the "authorizing agent" for septic systems outside of municipalities.

The lots in Pamela Heights do not meet the plat requirements for septic systems.

If Travis County issues a permit for a septic system for a 0.25 acre lot, then that lot will have met the plat requirements, and so will satisfy LGC 212.012.

Section 4.04 - Member Agreement and Water Service Riders

(This derives from 7 CFR 1780.44(b) in the USDA RD funding verification process)

To be provided service, we MUST have on file, or as part of an application, a signed Member Application and Agreement for the property owner, AND a Water Service Rider for each service location.

See Forms section of this tariff, page 155, for a Member Application and Agreement.

See Forms section of this tariff, page 163, for a Water Service Rider.

Section 4.05 - Membership Fee

Members must own the service property (WC 67.016(d)). Renters and tenants are not members. Consequently, we do not have a membership fee, as defined by TRWA.

> Membership Fee – A fee qualified as such under the terms of the tariff and the bylaws of the Corporation assigned to the real estate designated to receive service. The membership fee shall be refundable upon termination of service and surrendering the Membership. The membership fee cannot be more than 12 times the minimum monthly base rate.

This definition seems to be aimed at those water supply corporations that do not require Members to own property under WC 67.016(d). We require that Members own the property in order to have service, and the equity buy-in fee more than makes up for the membership fee as defined by TRWA.

Section 4.06 - Member Application Fee

The member application fee is $100. It is not refundable. This is an administrative fee for search of TCAD, county clerk, and possibly Secretary of State or other records to verify property ownership and legal status.

Section 4.07 - Transfer Fee

The transfer fee for changing service records for an existing service to a new property owner is $25.00. It is not refundable.

Section 4.08 - Equity Buy-In Fee

(See the Chapter on Member Equity for details)

If the accumulated construction charge for a service location (meter tap) is not at parity with all other service locations, the member-applicant will be required to pay an "equity buy-in" fee to bring the accumulated construction charge funds to parity.

Note that this is a moving target, as the construction charge is a monthly charge. We may give the applicant a quote for a dollar amount, which is a snapshot in time. When the applicant has paid the quoted amount, with all other application requirements being met, and the applicant is a Member, the new Member will be billed any difference in changes in the buy-in fee.

We require that the equity buy-in fee to be paid in full with the Member application. We do not accept an equity buy-in fee on an installment plan.

Section 4.09 - Customer Service Inspection Fee

TCEQ regulations 30 TAC 290.46(j) require "customer service inspections" on new service installations, or on substantive changes in existing service locations.

Customer Service Inspections are not something that we provide. We'll give you a pointer to a list, and you pick someone (on that list, or elsewhere) and you pay them accordingly.

We will require these inspections

* on new service locations (part of the construction permitting)
* on transfer by sale of property to another Member
* on indications of substantive changes to the property or property use
* on indications of a possible backflow event

Section 4.10 - City of Austin Capital Recovery Fee.

The Wholesale Water Purchase contract between the Corporation and the City of Austin requires the Corporation to collect a capital recovery fee on each newly installed retail service connection. This fee is subject to modification from time to time by the Austin City Council and will be passed thru to the Applicant unmodified by the Corporation. (Note: see also Austin City

Code, Title 25, Article 3 (more specifically, section 25-9-311) and the Marsha WSC Wholesale Water Purchase Contract with the City of Austin)

The City of Austin charges a recovery fee based on the plat date of the property requesting service.

The Pamela Heights subdivision was platted in 1960, and for the most part has been unchanged since that time. If property lots have been merged, or subdivided, then the plat date of a given lot may be different, and so the charges will be different.

This table is unofficial, and is included here for convenience. See the Austin Water web site for details about impact fees, and the current fee schedule

AWU Impact Fee Schedule for Lots Platted		
Plat Date	Zone	Water Fee
Before 1 Oct 2007	Zone DDZ-ETJ	$1300
Between 1 Oct 2007 and 31 Dec 2013	Zone DDZ-ETJ	$1800
Between 1 Jan 2014 and 30 Sep 2018	All Zones	$5400
After 1 Oct 2018	All Zones	$4700
This table extracted from Austin Water web site on 2 June 2023		

Section 4.11 - Service Extension - When there is no distribution in front of, or across the street from, a property requesting new service

Background

The Pamela Heights service area is pretty much built out, with distribution lines available to almost all properties within the subdivision. There are a few exceptions.

These exceptions are:

* the very east end of Ouida Drive (2-inch dead end) for a max of about 200 feet
* the north end of Ginger Street (2-inch dead end) for a max of about 250 feet,
* the south end of Scarlet Street (1-1/4 inch dead end on the west side, and 3-inch dead end on the east side) for a max of about 100 feet each

Note - the pipe sizes on the dead ends, and the distances are best guess, and subject to the realities that are in the ground. We won't know until we dig it up.

Coverage Note - Our service area is surrounded by Wells Branch MUD, and the City of Austin. They don't extend into our area (nor do they want to), and we don't extend into theirs.

Our existing distribution pipeline system is undersized for the number of connections that we have. We DO NOT comply with TCEQ regs (30 TAC 290.44) regarding minimum pipe sizes.

Consequently, we are EXTREMELY RELUCTANT to consider any service extension. What is presented here is consistent with our system upgrade plans, but has not been reviewed by any engineering service.

There has not been anything resembling a service extension since year 2000 thereabouts. Cost estimates are based on repairs that have been done over the years.

Costs and type of installation

If we do any kind of line extension of 20-feet or more (one full length pipe stick), the installation charge will be $60/linear foot of pipe.
(Digging a trench doesn't care about the pipe size in our case)
[that is $1200/stick installed, or $6000/hundred-feet]
Please note that these costs are subject to change at prevailing commercial rates.

When we install pipeline in the right-of-way, it is approximately 5-feet from the edge of roadway pavement, generally no less than 2-feet from the property line. This avoids street cuts, and reduces the need for permitting in the Travis County ROW.

The upgrade plans (as of 2023) are for the installation of 4-inch C900 pipeline. If we do a service extension of more than 60 feet (more than 3 full length sticks), this is what we will be installing. Otherwise we will match the size of the existing dead end pipeline.

Chapter 5 - Meters

Section 5.01 - Meter Installation

Our standard meter install is a 5/8x3/4 inch meter. Our maximum size is a 1-inch meter. We use positive displacement (PD) meters because of the dezincification residue that builds up inside the meter. A PD meter will continue to work more or less reliably in those conditions.

We will not install a meter that is larger than half the diameter of the distribution pipe.

Yes, we do have some undersized distribution lines (1-inch and 1-1/4 inch), and we will adamantly decline to connect a new meter to these lines. If you want a new service connection to an undersized line, we are now talking about a service extension because we would have to replace the existing undersized line with something larger.

Meter installations are trying to solve two main problems that we have encountered:

* damage from traffic (vehicle running over the meter crushes the lines)
* ease of routine maintenance (meter replacement)

To prevent traffic damage, the best method is have the service line pipe (tubing) buried deep, so the meter box can be crushed down around the meter, and not damage either the meter or the service line. That means the service line is coming up from below, rather than being in-line with the meter. That means an angle meter valve.

For proper waterworks maintenance, we need to be able to replace meters at regular service intervals. Our standard right now is to replace a meter when it has recorded 1,000,000 gallons. Other water utilities use the meter warranty period, typically about 6 or 7 years.

Meter replacements for us are a nightmare, and take a crew (minimum two people). To say that is a problem for us, is an understatement. Ideally, we need to be able to do work like this, with one unskilled person, in a matter of a few minutes. In reading thru the Ford Meter Box catalog (or any other waterworks catalog), there are only two ways of doing this. That's a meter yoke, or some kind of meter setter.

We cannot use a meter setter, as those are typically near-custom pieces, that are supplied in specific heights and sizes. We're not able to do that, because of the variety of installations that we have.

That leaves us with using a meter yoke style of installation. We can customize the height by using cut-to-length PVC pipe, and it gives us a standard set of parts and practices. This makes a meter replacement viable for an unskilled person. And that's one unskilled person, and not

some kind of trained crew.

Residential Dual Check Valve

We're going to be doing work on our system for a long time (many years). That work means that we are going to have outages, localized on a street if we can, or entire system shutdowns otherwise.

A shutdown produces a vacuum that will pull water from a service connection. That's called backflow, and is not a good thing. One of the things about a meter yoke installation is that we can easily include a residential dual check valve (DCV) at the meter to prevent that backflow.

This does several things

* backflow prevention, by design
* eliminates the air surge in service lines when water service is restored (no more explosive pop sound)
* keeps the meter from running backwards and giving false readings

However, there is a downside. There is thermal expansion pressure on the service side that needs to be released. This can induce cyclic wear on the service line, and eventually produce a leak that the Member will have to repair. So, when we install a residential DCV, we will have to give notice that the Member will need to install a pressure relief valve into their premises water distribution system.

Section 5.02 - Parts List for Meter Installation

Ford Meter Box parts prices are list price from their January 2023 price book

Tap - Short Side

Tap saddle (presuming short side connection), 3/4-inch service			
what	part	note	price
	saddles are 6-inch wide (-W for 2- and 3-inch saddles) tap threading is AWWA/CC thread		
2-inch IPS	Ford FS313-238-CC3	2-inch IPS, 6-inch wide, 2-bolt, 1/2in PVC 40/80/SDR	105.42
3-inch IPS	Ford FS313-350-CC3	3-inch IPS, 6-inch wide, 2-bolt, 1/2in PVC 40/80/SDR	110.31
4-inch C900	Ford FS323-554-CC3	4-inch C900, 2 band, 4 bolt, 5/8in	187.93
6-inch C900	Ford FS323-720-CC3	6-inch C900, 2 band, 4 bolt, 5/8in	195.86
8-inch C900	Ford FS323-920-CC3	8-inch C900, 2 band, 4 bolt, 5/8in	198.46

NARUC account 333

Corporation Valve

corporation valve, 3/4inch			
corporation valve	Ford FB1000-3-G-NL	3/4in tap, AWWA CC thread, to 3/4 PJ grip CTS	115.78
If the connection needs to go at 90-deg ell bend, then the following parts adapt the corporation valve to an ell-fitting			
90-ell adapter set for corp valve	Ford RA42-33-NL	ring adapter, pack joint to flare, 3/4in	7.40
	Ford SLC-3	copper gasket, 3/4in	3.00
	Ford L04-33S-G-NL	90-ell swivel, flare x PJ grip, 3/4in	71.95
PEX stiffener	Ford INSERT-51	3/4in PEX/poly stiffener 200ct/box	3.41/ea

NARUC account 333

Tap - Long Side, Street Crossing

For long side - street crossing to existing mains			
for 3/4 PVC crossing street	Ford B47-333-G-NL	ball valve, 3/4 PJ PVC x 3/4 PJ CTS grip	188.08
for 3/4 galvanized crossing street	Ford NG-D5 or Ford NG-D7 - diameter of PVC pipe, need check sizing	nut and gasket assembly, 3/4 iron pipe pack joint, complete (replace the PVC PJ on the valve)	11.30 13.68
If the connection needs to go at 90-deg ell bend, then the following parts adapt the corporation valve to an ell-fitting			
90-ell adapter set for street crossing valve	Ford RA42-33-NL	ring adapter, pack joint to flare, 3/4in	7.40
	Ford SLC-3	copper gasket, 3/4in	3.00
	Ford L04-33S-G-NL	90-ell swivel, flare x PJ grip, 3/4in	71.95
PEX stiffener	Ford INSERT-51	3/4in PEX/poly stiffener 200ct/box	3.41/ea

NARUC account 333

This description is for a 3/4 PVC street crossing pipe, typically PVC schedule 80. This can sometimes be 1-inch PVC. It can also be galvanized pipe, 3/4 or 1-inch

Connection - Tap to Curb Valve

Connecting the corporation valve/tap or street crossing valve to the curb stop			
Pipe	PEX-A, C904, CTS, SDR9	3/4 CTS, Rehau Municipex, Uponor, or Sharkbite PEX-A	
pipe encasement	Abbot Rubber T34 1-1/2 ID #T34005004, 50ft	1-1/2inch bilge and drain pipe used as PEX encasement	
locator aid marker tape	Presco B6104B52	undetectable marker tape, blue, 6inch wide Caution Buried Water Line	

NARUC account 333

Note:
Presco makes the marker flags, and an insertion tool, also detectable marker tape in widths 2, 3, 6 (#D6105B52-457 stock 1000ft), and 12

Curb Valve

curb valve (curb stop), 3/4-inch			
PEX stiffener	Ford INSERT-51	3/4in PEX/poly stiffener 200ct/box	3.41/ea
curb valve	Ford B44-333-G-NL	ball valve, 3/4in, CTS, PJ grip x PJ grip	158.46
If there connection needs to go at 90-deg ell bend, then the following parts adapt the valve to an ell-fitting			
90-ell adapter set for curb valve	Ford RA42-33-NL	ring adapter, pack joint to flare, 3/4in	7.40
	Ford SLC-3	copper gasket, 3/4in	3.00
	Ford L04-33S-G-NL	90-ell swivel, flare x PJ grip, 3/4in	71.95
PEX stiffener	Ford INSERT-51	3/4in PEX/poly stiffener 200ct/box	3.41/ea
valve box	Bingham and Taylor Eclipse E100 curb box	valve box, 2-3ft extension, 1-inch	

Note: Unless you want to go thru concrete to get to the meter assembly, the curb valve is the "demarc point" for making connection to the distribution line, either the existing system, or the Plan-A or Plan-B system.

Note: also, under NARUC accounting, the output of the curb valve is also a "demarc point".

NARUC account 333 "Services" is for everything feeding into the curb valve, including the valve box.

NARUC account 334 "Meters and Meter Installations" begins at the output of the curb valve

Connection - Curb Valve to Meter Assembly

Connecting the curb valve to the meter box			
Pipe	PEX-A		
pipe encasement	Abbot Rubber T34 1-1/2 ID #T34005004, 50ft	1-1/2inch bilge and drain pipe used as PEX encasement	
locator aid marker tape	Presco B6104B52	undetectable marker tape, blue, 6inch wide Caution Buried Water Line	

NARUC account 334

Meter Assembly

meter yoke assembly, 3/4 inch, for 5/8x3/4 meter will also work for 3/4 meter with same lay length as 5/8x3/4 meter (7-1/2 inches)			
PEX stiffener qty 2	Ford INSERT-51	3/4in PEX/poly stiffener 200ct/box	3.41/ea
Yoke	Ford Y502P	cast iron yoke, 3prong support, for 5/8x3/4 meter	28.06
Expander	Ford EC-23W-NL	expansion connection, wrench type	47.96
Meter valve	Ford BA94-323W-G-NL	ball valve, 3/4in, CTS grip PJ x yoke nose	185.04
DCV	Ford HHCA94-323-G-NL	cartridge style angle dual check valve, yoke nose x PJ grip CTS, 3/4in	193.68
yoke nose gaskets qty 2	Ford GT-118	3/4in gasket for 5/8x3/4meter 400 ct/pkg (This is the meter washer)	0.65/ea

The yoke is supported at the proper height by a stand fabricated from 3/4 PVC40 pipe and fittings. Description is elsewhere.

NARUC account 334

Meter Box and AMR Meter

meter yoke assembly, 3/4 inch, for 5/8x3/4 meter will also work for 3/4 meter with same lay length as 5/8x3/4 meter (7-1/2 inches)			
Meter body	Badger Recordall 25	5/8x3/4 nutating disk water meter, 7-1/2in lay length	
Meter register	Badger HR-E LCD encoder	meter register encoder	
AMR transceiver	Badger Migrateable Endpoint (ME)	meter radio transceiver, 900Mhz freq band	
AMR mounting	Badger Endpoint pipe install kit 64394-003	transceiver mounting kit for meter pit	
meter box and lid	Oldcastle Polymer 1324-18	meter box, polymer concrete, Tier 22 traffic rating (lid), penta head bolts, standard thread, w/bolt retainer lid 50-lbs, body 70-lbs	
	DFW Plastics DFW1324CD-18-BODY DFW1324C-AF3DA-LID DFW1324CD-18-3EDA combo	meter box, plastic, Tier 8 rated bolt down hole (no bolt,extra) rebar in lid, blue lid AMR in the lid	186.06 bdy 83.48 lid

The Oldcastle Polymer meter box is transparent to radio waves. The box body is traffic rated to Tier 22. The box lid comes in two ratings: Tier 15 and Tier 22. Just use Tier 22 to keep things consistent. To achieve the traffic rating, the lid must be bolted to the body, not just set in place. There are two penta-head bolts.

The Oldcastle box body weighs 70 pounds for the 18-inch tall box. The lid weights 50 pounds (OSHA lifting limit). **This will require use of an AMR meter**

NARUC Account 334

Connection - Meter Assembly to Service Valve

Connecting the meter box to the service valve			
Pipe	PEX-A		
pipe encasement	Abbot Rubber T34 1-1/2 ID #T34005004, 50ft	1-1/2inch bilge and drain pipe used as PEX encasement	
locator aid marker tape	Presco B6104B52	undetectable marker tape, blue, 6inch wide Caution Buried Water Line	

NARUC 334

Service Valve Assembly

property service valve assembly, 3/4-inch			
PEX stiffener	Ford INSERT-51	3/4in PEX/poly stiffener 200ct/box	3.41/ea
service valve	Ford BA41-333W-G-NL	ball valve, angle service valve, 3/4in, CTS PJ grip x FNPT	168.30
Valve handle pick one	Ford HB-34S	handle for ball valve, short version 3-3/8in	10.61
	Ford HH-34	high handle for ball valve	14.54
Pipe nipple	Grainger #1VGU2	3x3/4in red brass nipple, threaded both ends, certified UNS C23000	$9.58/ea
pick one	Legend #311-084		
union	Ford UNION-3-NL	brass union, 3/4in, FNPT x FNPT	50.52
pick one	Legend #310-144NL		51.92
Valve box body	DFW1017-14-BODY	meter box, 14in high,	CM 53.02
Valve box lid	DFW1017-3EQA-LID	meter box lid, blue	CM 27.52

Plumbing codes set the minimum depth for yard pipe to be 12-inches. The DFW1017 box is 14 inches, with mouseholes for piping at 12 inches.

Note: the DFW 1017 is the least expensive meter box that is available. It's just big enough to hold the valve and the union.

The union is our "repair demarc" point.

Section 5.03 - Costs and Prevailing Commercial Rates

We will quote costs at prevailing commercial rates. Quoted costs are estimates only. Billed costs can vary substantially from the quotes, depending on what is in the ground, and materials, effort involved, and commercial rates at the time that work is actually done. (Said differently, a cost quote is a SWAG.)

Section 5.04 - Meter installation - short side installation

A "short side" installation is where the water distribution line is located in the right-of-way immediately in front of, or adjacent to, the property to have service. Said another way, there is no need to have a service line crossing the street.

Hardware costs are about $1500, based on list prices for 2022. Details with the meter installation in the preceding sections.

Labor costs will be quoted for 12 hours, start to finish. It could be less, and it could be a whole lot more. Experience has shown us that we can do a meter in 8 hours, or 20 hours, or more, or less. There is no way of knowing what it will be until the pick and shovel hit the dirt, and we find out what is already in the ground.

REMINDER - MWSC is a non-standard, undesigned system, installed by home owners, as an overgrown irrigation system writ large, with next to no records about installation.

REMINDER - This is manual labor, no power equipment digging a meter pit. If you hit something, you likely will have a full, complete system shutdown in order to make the repair. Consequently, you dig very, very carefully.

Section 5.05 - Meter installation - long side

A long side meter installation requires a street cut as the distribution line is across the street, and requires digging two meter pits. This is at least a two day job: one day for the street cut, and one day, or more, for the meter pits.

These pit locations are the pit for the new meter location, and the pit needed to make the tap. Both of these meter locations are a manual dig, with the same risk factors as a new short-side installation.

We will quote two times (2x) the labor costs for a short side installation (that's 24 hours), plus the costs of the street cut.

Labor cost for digging a new meter pit is quoted at 12 hours, start to finish, with the same caveats as for a short side meter installation.

Labor cost for digging out the tap pit: same, and we're a lot more paranoid about digging the tap pit than we are about digging out the meter pit. We know there is a pipe, or something, in the tap pit, whereas the meter pit should be "clear".

Hardware cost: same hardware costs as for a short side meter installation.

Extra cost: Travis County requires a utility construction permit for a street cut. This is a complete unknown to MWSC.

Section 5.06 - Meter relocation - Widely separated

A widely separated meter location requires digging two meter pits.

These pit locations are the new meter location, and the old meter so you can recover hardware.

Both of these meter locations are a manual dig, with the same risk factors as a new short-side installation. We will quote two times (2x) the labor costs for a short side installation (that's 24 hours).

Labor cost for digging a new meter pit is again quoted at 12 hours, start to finish, as with a short side meter installation with all the same caveats.

Labor cost for digging out the existing meter: same, and we're a lot more paranoid about the digging.

Hardware cost: none - there would be a new tap requiring a saddle, corporation valve, and a cap/plug for the old tap. Those costs are being absorbed in the estimate costs.

Section 5.07 - Meter Replacements and Tests

General Provisions and Background

Meter replacement and testing is a minefield, due to the very high chance of damage to the water system. We have four different kinds of installations:

* meter yoke
* AWWA style meter valve
* retail ball valve
* retail gate or globe valve

What we do is going to depends entirely on what kind of valve is installed in front of the meter.

Meter yoke installation

On site meter testing is viable ONLY if the installed meter is a yoke configuration. It's an easy matter of a few minutes.

Industry style meter valve

If the installed meter is not a yoke, AND the corporation valve is an AWWA style meter valve, we will simply replace the meter because of the inherent pain in trying to reinstall a meter (same meter, new meter, doesn't matter - you still having to put the damn thing back in). Count on it taking about 2 hours.

Why 2 hours? Because when you take the meter out, the pipes will become misaligned, and you will have a god-awful time trying to get things realigned so the meter threads will engage. All the while doing that face-down in a mud pit (because, of course, the house drained back at you)

Retail Ball Valve

If it is a retail/plumbing ball valve, and it can turn off properly, then we can replace the meter as we would with an AWWA style meter valve. The same conditions apply. If the ball valve cannot turn off properly, then we aren't going to touch it. In which case, we'll treat it just like a gate valve.

By properly, we mean the ball valve turns a full 90 degrees/quarter turn. Retail ball valves are subject to dezincification damage, but that damage usually keeps the valve from turning a full 90 degrees. But if it does turn, then it will turn back okay.

Retail Gate or Globe Valve

If it is a retail gate or globe valve, then all bets are off. We won't touch it for the purpose of a meter test.

If it is a globe valve, it would likely work just fine. But we cannot tell if this is a globe valve or a gate valve by looking at it (you're face down in a meter pit, trying to determine a very subtle difference that may or may not be present in the markings on the valve). We aren't going to take the chance.

If it is a gate valve, we're treating it like it was an unexploded munition. We aren't going to touch it. On-site testing is the only option here.

Why? Two words: dezincification failure. That gate valve may turn down and shut off just fine. And because of dezincification in the valve stem, it will not turn up to open. Congratulations, you now have an emergency meter repair.

Because of the lack of working street isolation valves, a meter repair almost invariably requires a full system shutdown (160+ connections), and at many hours of manual labor, which we would have to do "right (expletive) now". We are simply not going to risk that occurrence to test a meter.

On-site Meter Test and Fee

This is if we can do an on-site test, with a meter yoke installation. We may test a Member meter on-site by comparison to reference meter. A fee of $15.00 shall be charged for the comparison. A service trip fee may also be charged in addition to the test fee if the comparison shows no difference. If the Member further requests an off-site meter test, the service trip fee will be deferred, subject to the accuracy of the off-site meter test.

The meter test is done with a tandem configuration with a reference meter.
[Ford Meter Box catalog, Section F, Tandem Coppersetter or Tandem Resetter (Type A)]

If the Member requests an off-site meter test, we will replace the meter with a new meter so as to keep the service location with service. No meter, no service, that how it works. We don't do our own off-site testing, so the turnaround time is an unknown but likely measured in days or parts thereof. So we will replace the meter with a new meter.

If this is not a meter yoke installation, but is a AWWA style meter valve or a retail ball, globe, or gate valve, then we will do a bucket volume test. This is crude, but it will kind of work to identify any gross problems with the meter.

We will take an empty 5-gallon bucket, and fill it to its factory indicated 5-gallon fill mark. If the meter registers exactly 5 gallons, we will consider the meter to be recording consumption accurately. In which case the fee is $15.00. If the meter registers less than 5 gallons, then there will be no test fee charged, and we will note the meter for replacement. If the meter registers more than 5 gallons, then there is evidently a leak in the yard pipe, and we cannot do anything like an accurate test.

Off-site Meter Test and Fee

If this is a meter yoke installation, we bill

* the charge from the testing facility that we are charged,
* plus a meter test fee of $15.00
* if meter tests accurate, then plus a service trip charge

If this is not a meter yoke install AND we can turn the water off safely, we bill

* the charge from the testing facility that we are charged,
* plus the labor to get the meter out and a new meter put in, at a minimum of 2 hours,
* plus a service trip charge,
* plus a meter test fee of $15.00

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Chapter 6 - Water Rates

Section 6.01 - History and Water Rate Structure

General Rate Calculation Process

This is the general outline, at a very high level, for water rate calculation and billing

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cold-start:
enter a data stream of records consisting of consumption (gallons, liters, cubic feet, acre-feet, jugs, teaspoons, or whatever) and classifications of that consumption (billing class and usage class)

produce a profile of that consumption for each class. Historically, this has been the hardest part to do. (RCAP publication "Great Rates" for how to do a profile)

enter revenue requirements for a billing interval (dollar amounts, and how those dollars distribute over the billing classes). This produces the rates for each class

warm-start:
enter the data stream for consumption and billing class for the billing interval. This produces the bills to be sent to the consumers

package those bills and send to the consumers

collect payments

update billing information (amounts paid, balances due, and so on)

let's go do it again... warm or cold?

Our water rate history

Up until the mid-to-late 1960s, this entire process was done by hand. A few lucky folks in cities or in large corporations could use punch card tabulating machines to semi-automate some of the work.

Producing a consumption profile was a god-awful nightmare because of the sheer amount of data calculation and reduction that had to be done. Consequently, this was something to be done as seldom as possible (think in years).

Things began to change in the late 1960s, with the advent of mainframe computers. Municipalities and large utilities began to use computers for their profile generation. Still not simple (it is a lot of punch cards with that consumption data), but the calculations and data reduction were much, much easier.

Small systems on the other hand, still had their rate calculations done by hand, and were invariably just straight fixed rates, with just one billing class.

Not until the mid-to-late 1990s would computers be usable for small systems to do the profile and rate calculations.

Records show that up until about 2002, MWSC used only a flat rate.

That was when a TRWA FMT contractor produced a rate structure that MWSC adopted. This was a 4-tier rate structure for a single billing class. There is no information about how that was calculated. There is no revenue or consumption data in the records available.

In 2013, we did our own rate structure calculation, using an RCAP publication[1] ("Great Rates") for guidance. Like the TRWA rates, this was a 4-tier rate structure, across two billing classes. This is the first time that MWSC has had more than one billing class.

Then we run into a revenue stream problem, as it's variable. Revenue follows the water consumption variations over the seasons. And cash-in-hand lags billing by about two months. And the cash stream is almost entirely out-of-phase with our needs.

Our peak time for line breaks is winter. Our least water consumption (and so revenue) is winter. Our peak water consumption (and so revenue) is summer, and we are in a mad scramble to fund everything that got put off in winter. Making that situation worse is the fact that there is no cash reserve to function as a buffer or shock-absorber when something happens.

The comparison was a person with no savings working a job paid by commission. It can be done, but any mishap, however minor, can set everything back for a long time.

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[1] "Formulate Great Rates: The Guide to Conducting a Rate Study for a Small System", Rural Community Assistance Partnership (RCAP), available for download from rcap.org

This situation made it next to impossible to even try to get the MWSC distribution system fixed.

Doing our own rate structure calculation was insightful. There is no magic about a "test year". Using yearly data was simply an artefact of the historical method of producing a consumption profile (it's painful, so don't do it unless you have to). Doing the rate process pointed out that the process does not depend on the time interval of the data used to construct the profile. Historically, it was a year. The interval could just as well be 6-months, 18-months, 3 years, 5 years, or even the billing interval itself. The mathematics of the process doesn't care.

All you need is the target revenue and the consumption data over the billing interval, and the method for distributing that revenue over the consumer billing classes.

In 2018, we adopted an entirely new rate structure, effective beginning 2019.

People know how to live on a salary, to budget for expenses and to build a savings buffer. The decision was to fix the revenue each month, effectively putting MWSC on a salary, and getting away from the variability of the revenue stream. Because consumption changes, that is going to mean variable rates. We have computers now, and the computers can automate the pain of the profile generation.

So that's what we did. Our billing process recalculates rates each month to hit the revenue target set by the board. (At time of writing, that is $16,000 each month)

It's the same rate process as described above. Only difference is, we're doing a cold start each billing cycle, instead of a warm start.

Change Notices

We don't talk about rate changes. We talk about revenue changes, and describe that in the context of an average bill (average bill = (revenue target) / (number of connections)). When there is a revenue change, we keep it within the change range of the Federal CPI over the last year, or the PUC water utility Class-D change limit (presently 5%, per WC 13.1872), whichever is higher. Posted changes are "use it or lose it", and do not accumulate past this last year.

Revenue from water rates is only for the day-to-day operational expenses. We use surcharges for other specialty charges, such as those charges that are imposed on us by outside agencies. If those external charges are consumption related, those charges will be passed on, as a consumption based surcharge.

Fixing the Water System

The rate structure changes we put in place in 2019 put us on a steady financial footing, for day-

to-day operations. It does absolutely nothing for fixing our system.

In 2016, we contracted with the engineering firm KPFF Inc to work up a conceptual design and cost estimate for us, of what a proper water system should be, including fire flow capability. It's a beautiful design, and estimated to cost (at that time) about $4-million.

Wonderful, but how in the (expletive) are we going to pay for something like that?

In the absolute worst case scenario, we do it ourselves. (Plan for the worst, and be pleasantly surprised later, as opposed to being repeatedly disappointed and beaten down). It also allows us to show that we are making our very best effort on our own when looking for outside support.

Going back to the intent of what a water supply corporation is supposed to be (folks pooling resources to get water), we needed some kind of surcharge to fund a new distribution system. This is the construction charge. Keeping with the intent of a water supply corporation, Member funding thru the construction charge is the Member right of participation, as described in WC 67.016.

The amount of the construction surcharge comes from our sense of what was a practical limit that some residential Members could pay. These are primarily the older residents, those on limited and fixed incomes, especially those who have lived in the service area since the inception of the corporation. As demographics change, and those older residents leave, the construction charge can be changed. But not yet.

Section 6.02 - Description and Statute Background

As a water supply corporation, we are not subject to the rate structure requirements under Water Code chapter 13.

> Water Code
> Sec. 13.181. POWER TO ENSURE COMPLIANCE; RATE REGULATION. (a) Except for the provisions of Section 13.192, **this (subchapter F)** shall apply only to a utility and **shall not be applied to** municipalities, counties, districts, or **water supply or sewer service corporations.**

What that means, is that as a WSC we can establish pretty much any kind of rate structure that we choose. The statutory limitation on the rate structure is from WC 13.043(j)

> WC 13.043. APPELLATE JURISDICTION. (j) In an appeal under this section, the utility commission shall ensure that every appealed rate is just and reasonable. Rates shall not be unreasonably

* preferential,
* prejudicial, or
* discriminatory

but shall be

* sufficient,
* equitable, and
* consistent

in application to each class of customers.

We operate under a fixed revenue variable water rate system. The board sets a target revenue determined on a cash-needs basis, and the rates are adjusted each month, based on that month's meter readings, to produce billing to achieve that revenue. We calculate the average rate ($/gal) to achieve the target revenue, and then adapt that rate to the several billing classes.

Section 6.03 - Adopted Rate Structure

We have adopted a rate structure that is divided into two parts: a fixed rate, and a variable rate. At time of writing, the target revenue is comprised of a 40% fixed, and a 60% variable rate.

The fixed rate is the same for all consumer billing classes. This resembles, but is not the same as, a "base rate" in more conventional rate structures.

The variable rate is divided across the consumer billing classes, with each class being subdivided into water usage "rate blocks". The blocks are determined in the rate profile such that consumption is always contained within a rate block. Consumption is never split across rate blocks.

The details of the respective rates are in the following sections.

Section 6.04 - Adopted Fixed Revenue - Block Rates

Description

Board of Directors adopted Resolution 20180918 item 7, that

1. To comply with Member Resolution 20170304-03, service billing shall be divided into three classes as follows:
    a. Member Residential shall consist of those service accounts for single family residential by water usage classification where corporate members are residing

as their home.

b. Commercial Residential shall consist of those service accounts that are single family residential by water usage classification that are not Member Residential.

c. Commercial shall be any service account that is not Member Residential or Commercial Residential.

2. The revenue to be generated each month shall be a fixed dollar amount to be set by Board resolution.

3. The average rate shall be the monthly revenue divided by the total number of gallons used by the aggregate of the service accounts.

4. The initial revenue target for each billing class shall be the total number of gallons consumed by that class multiplied by the average rate.

5. Revenue from the Member Residential class shall be discounted 20% to comply with Member Resolution 20170304-03.

6. The combined Commercial and Commercial Residential revenue shall be total gallons of those classes multiplied times the average rate to which will be added the amount discounted from Member Residential revenue.

7. Revenue from the Commercial Residential class shall be discounted the same percentage as the Member Residential discount of paragraph 5.

8. The revenue for the Commercial class shall be added with the discounted revenue from the Commercial Residential class.

9. Member Residential class and Commercial Residential class shall be billed using block rates, as follows:

a. Those service accounts with the lowest water consumption shall be grouped together such that their aggregate consumption shall not exceed 25% of the total water consumption within that billing class. These service accounts shall be billed in "Block A" for that billing class.

b. Those service accounts with the lowest water consumption that are not included in "Block A" shall be grouped together such that their aggregate consumption shall not exceed 50% of the total water consumption within that billing class. These service accounts shall be billed in "Block B" for that billing class.

c. Those service accounts not included in "Block A" or "Block B" shall be billed in "Block C" for that billing class.

10. Commercial class shall be billed using block rates, as follows:

a. Those service accounts with the lowest water consumption shall be grouped together such that their aggregate consumption shall not exceed 50% of the total water consumption within that billing class. These service accounts shall be billed in "Block A" for that billing class.
b. Those service accounts not included in "Block A" shall be billed in "Block B" for that billing class

11. Revenue derived from "Block A" billing shall be discounted 20% from the average revenue requirement.

12. "Block B" for Member Residential class and Commercial Residential class shall be billed using the average rate for that class.

13. The average rate within a class shall be the class revenue divided by the total number of gallons consumed within that class.

14. The revenue to be produced by each billing block shall be the total gallons within that block multiplied times the average rate within that class.
15. The revenue for "Block A" for each class shall be discounted by the same percentage as paragraph 5.

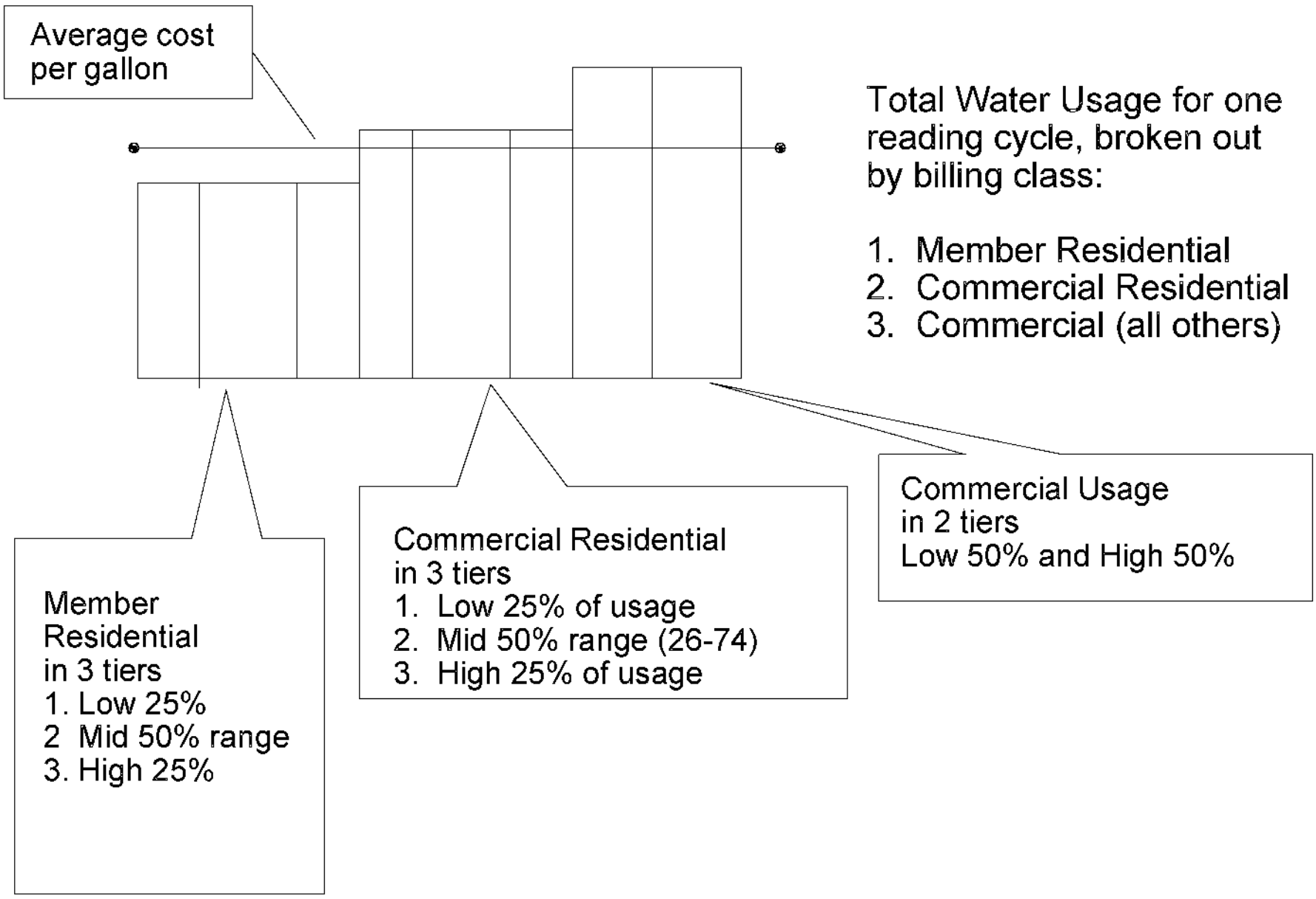
16. For the Member Residential and Commercial Residential classes, the revenue discounted from "Block A" shall be added to the revenue for "Block C".

17. For the Commercial class, the revenue discounted from "Block A" shall be added to the revenue for "Block B".

18. Service accounts within each Block within each class shall be billed at a rate equal to the revenue requirement for that Block divided by the total gallons consumed by the service accounts within that Block.

Leak Adjustment Policy

There is no leak adjustment with this rate structure. If it went thru the meter, it gets billed.


Average cost per gallon
Total Water Usage for one reading cycle, broken out by billing class:
1. Member Residential
2. Commercial Residential
3. Commercial (all others)
Commercial Usage in 2 tiers Low 50% and High 50%
Commercial Residential in 3 tiers
1. Low 25% of usage
2. Mid 50% range (26-74)
3. High 25% of usage
Member Residential in 3 tiers
1. Low 25%
2 Mid 50% range
3. High 25%

Section 6.05 - Adopted Fixed Revenue - Fixed Rate

Description

Board of Directors adopted Resolution 20180918 item 7, that

1. The revenue to be generated shall be a fixed amount set by Board resolution.

2. The average rate shall be revenue divided by the total number of gallons consumed by service accounts.

3. The amount to be billed to a service account shall be the average rate multiplied by the number of gallons consumed by that service account.

Leak Adjustment Policy

There is no leak adjustment policy with this rate structure. If it went thru the meter, it gets billed.

Section 6.06 - Contingency Rate Structures - Background

Our adopted rates are recalculated each month. That means that we are dependent on the computers, and the people who operate the computers, to properly perform our billing.

"(Expletive) happens", and we have to deal with it. Right (Expletive) Now.

There is no time to do a rate study. There is no time to call a board meeting and work out what new rates should be. There is no time to update the tariff, and all the administrative overhead that goes with that.

So, we are including two different contingency rates structures that the Board can adopt on an emergency basis that will keep us running, while we pick up the pieces from whatever happened.

Both of these contingency rate structures are such that they can be done by hand. A spreadsheet would be a great help, but a pencil and a calculator will do the job.

The first contingency rate structure is a fixed revenue, like our adopted rate structure. It is a flat rate, based simply on the current consumption.

The second contingency rate is a flat rate, but variable revenue. This is a classic water utility rate. The details for what would be a rate study are included, and are 13 years worth of data.

Section 6.07 - Contingency Rates - Fixed Revenue

This Contingency Rate is being provided in this tariff so that the board can, by resolution in an emergency, switch to a new rate structure without having to go thru a tariff revision.

Description

The intent behind these methods is to be able to do the billing by hand, with nothing more powerful than a very basic spreadsheet (and the ability to understand formulas), or a manual process, with paper, pencil, and a calculator.

This retains the fixed revenue billing for each month.

HOWEVER, this completely ignores any concept of billing class, and so people are going to see some (perhaps extreme) billing changes. Member Residential rates will go up, and Commercial will come down.

How this works:

1. Determine the gallons consumed for each meter (directly from the reader sheets, or compare last month's reader sheets to the current reader sheets)

2. Add up all the gallons consumed for everybody. This is what we (MWSC) used in total.

3. Calculate: (water rate) = (monthly revenue target) / (total gallons consumed)

4. For each meter, calculate: (water charge) = (gallons consumed) * (water rate)

5. Match each meter to a member account

6. Calculate member bill:
   add meter to the member bill
   add construction charge to member bill for that meter
   total the charge to the member

7. Ship the billing

All of this can be done in a fairly straightforward manner with a basic spreadsheet.

This needs
* The reader sheet information, last month and current readings.
* A list of what member owns which meter

This Contingency Rate is being provided in this tariff so that the board can, by resolution in an emergency, switch to a new rate structure without having to go thru a tariff revision.

* A form to be filled out would be good (like the old NCR forms MWSC used in the 1990s)
* Prior account balances would be good to have for consistency in billing

Leak Adjustment Policy

There is no leak adjustment with this rate structure. This rate structure is billing by proportional usage.

Example

Member has water use of 200,000 gallons (presumably from a leak, as their normal usage is 10,000 gallons).

The collective membership usage is 1,000,000 gallons for this month.

The revenue target for the month is $16,000.

The water rate then is $16,000/(1,000,000 gallons) = 0.016/gal

Member has used 200,000 gallons, so the water charge is
(200,000 gallons) x (0.016/gal) = $3,200

This is the Member proportion of the target revenue based on the amount of water consumed

(200,000 gallons) / (1,000,000 gallons) = 0.20 of total usage

Water charge is (0.20) x ($16,000) = $3,200

Member uses, for whatever reason, some x% of the total water, then Member is charged x% of the target revenue.

Section 6.08 - Contingency Rates - Variable Revenue

This Contingency Rate is being provided in this tariff so that the board can, by resolution in an emergency, switch to a new rate structure without having to go thru a tariff revision.

Description

The intent behind this method is to be able to do the billing by hand, with nothing more powerful than a very basic spreadsheet (and the ability to understand formulas), or a manual process, with paper, pencil, and a calculator.

The precalculation is the classic water rate calculation.

1. Determine the (average annual MWSC consumption) over the last 3 to 5 years

2. The (annual revenue) = 12 * (monthly revenue target)

3. Calculate: (water rate) = (annual revenue) / (average annual MWSC consumption)

And proceed with billing as in the first method.

There are some serious downsides to this method.

1. The revenue billed, and paid by members, is going to swing month-by-month. That swing will lag water consumption by about two months. The tariff related calculations will be able to give an estimate of what the revenue intake should be like on a month-by-month basis. This revenue swing will hurt the ability to get stuff done, as MWSC may occasionally be short on funds.

2. Same downside with regard to member rates, in that member residential will go up and commercial will come down.

The upside on this method: it can be done with pencil, paper, and a calculator. You don't need a spreadsheet, or a computer. This is old school stuff.

This Contingency Rate is being provided in this tariff so that the board can, by resolution in an emergency, switch to a new rate structure without having to go thru a tariff revision.

Leak Adjustment Policy

If a Member has a substantial water leak, then the amount charged for water may be recalculated as follows:

* the Member will be charged an estimated bill (as described elsewhere)
* the gallons estimated will be subtracted from the amount of water consumed with the leak
* the Member will be charged the Austin Water rate for the difference. (We are a purchase water system, we pay Austin for all water, and we're not footing that charge)

Example:

Member has a water leak, has 200,000 gallons consumed. Normal usage, and what would be an estimated usage, of 10,000 gallons. Leak overage then is 200000 - 10000 = 190,000 gallons

Using the $16,000/month revenue target, with the rate being $0.018842/gal

Then the water charge for the leak (200,000 gallons) x (0.018842/gal) = $3768.40

With the leak adjustment, we bill

10,000 gallons at our rate of 0.018842/gal	= 188.42
190,000 gallons at Austin rate of 0.00402/gal	= 763.80
	$952.22

Plus the usual surcharges

This Contingency Rate is being provided in this tariff so that the board can, by resolution in an emergency, switch to a new rate structure without having to go thru a tariff revision.

Data - Average Water Consumption

Average Water Consumption for years 2010 thru 2022

year	gallons
2010	10,054,710
2011	10,668,260
2012	10,001,543
2013	10,307,670
2014	9,441,660
2015	9,357,610
2016	9,960,920
2017	10,946,810
2018	10,301,610
2019	9,826,950
2020	9,627,410
2021	11,376,460
2022	10,600,298
total	132,471,911
average	10,190,200

This Contingency Rate is being provided in this tariff so that the board can, by resolution in an emergency, switch to a new rate structure without having to go thru a tariff revision.

Calculated Water Rates With Average Annual Consumption

This is a calculation aide. For water target revenue that the board decides on, this page can serve as a guide to what the expected rates would be for that target revenue.

This is the calculated water rate of rate = (target revenue per year) / (10,190,200 gallons/year)

Water Rate at average of 10,190,200 gallons per year					
revenue target per-month	revenue target per-year	rate/gal	revenue target per-month	revenue target per-year	rate/gal
$8,000	$96,000	0.009421			
$9,000	$108,000	0.010598			
$10,000	$120,000	0.011776			
$11,000	$132,000	0.012954	$21,000	$252,000	0.024730
$12,000	$144,000	0.014131	$22,000	$264,000	0.025907
$13,000	$156,000	0.015309	$23,000	$276,000	0.027085
$14,000	$168,000	0.016486	$24,000	$288,000	0.028262
$15,000	$180,000	0.017664	$25,000	$300,000	0.029440
$16,000	$192,000	0.018842	$26,000	$312,000	0.030618
$17,000	$204,000	0.020019	$27,000	$324,000	0.031795
$18,000	$216,000	0.021197	$28,000	$336,000	0.032973
$19,000	$228,000	0.022374	$29,000	$348,000	0.034150
$20,000	$240,000	0.023552	$30,000	$360,000	0.035328

This Contingency Rate is being provided in this tariff so that the board can, by resolution in an emergency, switch to a new rate structure without having to go thru a tariff revision.

Example - Monthly Variation of Billing

This table is for board guidance to have some sense of what the expected revenue would be.
This uses the target revenue of $16,000/month.

Recognize that billing is NOT the same thing as cash-in-hand.
Cash-in-hand occurs about two (2) months after billing.

	average monthly usage	billing at 0.018842/gal
Jan	789,400	$14,873.58
Feb	802,400	$15,118.53
Mar	807,300	$15,210.85
Apr	777,600	$14,651.25
May	811,000	$15,280.56
Jun	885,900	$16,691.80
Jul	960,700	$18,101.16
Aug	1,014,600	$19,116.72
Sep	950,600	$17,910.86
Oct	822,200	$15,491.59
Nov	811,600	$15,291.87
Dec	756,900	$14,261.23
total	10,190,200	$192,000.00