CITY COUNCIL SPECIAL/WORKSHOP MEETING

Monday, September 27, 2021 at 5:30 PM
City Council Chambers | 202 N. Virginia Street, Port Lavaca TX 77979

PUBLIC NOTICE OF MEETING

The following item will be addressed at this or any other meeting of the city council upon the request of the mayor, any member(s) of council and/or the city attorney:

Announcement by the mayor that council will retire into closed session for consultation with city attorney on matters in which the duty of the attorney to the city council under the Texas disciplinary rules of professional conduct of the state bar of Texas clearly conflicts with the open meetings act (title 5, chapter 551, section 551.071(2) of the Texas government code).

(All matters listed under the consent agenda item are routine by the city council and will be enacted by one motion. There will not be separate discussion of these items. If discussion is desired, that item will be removed from the consent agenda and will be considered separately.)

AGENDA

Council will consider/discuss the following items and take any action deemed necessary.

COVID-19 MEETING PROCEDURE

Public notice is hereby given that the City Council of the City of Port Lavaca, Texas, will conduct a special meeting and a workshop session on Monday, September 27, 2021 beginning at 5:30 p.m. at the regular meeting place in Council Chambers at City Hall, 202 North Virginia Street, Port Lavaca, Texas to consider the following items of business:

Due to COVID-19 concerns, social distancing guidelines will be encouraged for in-person attendance. The meeting will also be available via the video conferencing application "ZOOM".

Join Zoom Meeting:

https://us02web.zoom.us/j/87153350922?pwd=K0cxUHF4b0dVMUtlam5rRXF6R09aQT09

Meeting ID: 871 5335 0922

Passcode: 244992

One Tap Mobile

*+13462487799,,87153350922#,,,,*244992# US (Houston)*

Dial by your location

+1 346 248 7799 US (Houston)

I. **ROLL CALL**

CITY COUNCIL SPECIAL MEETING

II. **CALL TO ORDER**

III. **COMMENTS FROM THE PUBLIC** - *Comments will be limited to three (3) Minutes per individual unless permission to speak longer is received in advance*

IV. **ACTION ITEMS** - *Council will consider/discuss the following items and take any action deemed necessary*

1. Consider award of a construction contract to vendor, Lester Contracting, for site subgrade preparation for the New Skatepark project. Presenter is Jody Weaver
2. Consider award of the construction bid to vendor, Staff Concrete Construction, for the City Harbor Upper Dock Repairs. Presenter is Jody Weaver
3. Consider Resolution No. R-092721-1 for the City of Port Lavaca to renew the application with the Texas Department of Housing and Community Affairs (TDHCA) to continue participation in the HOME Investment Partnerships Program, Homeowner Reconstruction Assistance Program. Presenter is Jessica Carpenter

V. **ADJOURN SPECIAL MEETING**

CITY COUNCIL WORKSHOP

VI. **CALL TO ORDER**

VII. **COMMENTS FROM THE PUBLIC** - *Comments will be limited to three (3) Minutes per individual unless permission to speak longer is received in advance*

VIII. **ITEMS FOR DISCUSSION** - *Council will discuss the following items*

1. Discuss and Review presentation of prioritization of a list of Sub-Standard Buildings for demolition. Presenter is Jessica Carpenter
2. Discuss and Review presentation of New "AMI" Water Meter System. Presenter is Wayne Shaffer

IX. **ADJOURN WORKSHOP**

CERTIFICATION OF POSTING NOTICE

This is to Certify that the above foregoing notice of a Special Meeting and a Workshop Session of the City Council of the City of Port Lavaca, Texas, to be held Monday, September 27, 2021 beginning at 5:30 p.m., was posted at City Hall, easily accessible to the Public, as of 5:00 p.m., Wednesday, September 22, 2021.

/s/ Mandy Grant, City Secretary

ADA NOTICE

The Port Lavaca City Hall and Council Chambers are wheelchair accessible. Access to the building is available at the primary north entrance facing Mahan Street. Special parking spaces are located in the Mahan Street parking area. In compliance with the Americans with Disabilities Act, the City of Port Lavaca will provide for reasonable accommodations for persons attending meetings. To better serve you, requests should be received 24 hours prior to the meetings. Please contact City Secretary Mandy Grant at (361) 552-9793 Ext. 230 for assistance.

COMMUNICATION

SUBJECT: Consider award of a construction contract to vendor, Lester Contracting, for site subgrade preparation for the New Skatepark project. Presenter is Jody Weaver

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INFORMATION:

CITY OF PORT LAVACA

DATE: 9.22.2021

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: JODY WEAVER, INTERIM CITY MANAGER

SUBJECT: **Site Subgrade Preparation for Wilson Park Skate Park**

As you recall we have contracted with SPASkatepark for $270,000 to construct a Skate Park at Wilson Park. Attached are the Final Design Renderings. The $270,000 contract was based upon an assumption of 12" of select fill below the concrete slab. We contracted with TSI Laboratories to perform soils testing and provide a geotechnical report and recommendations. The soils turned out to be extremely expansive with a 4" potential vertical rise (PVR). To avoid significant structural cracking, the PVR needs to be 1". In order to prepare the subgrade to meet this PVR and bring back to the existing ground elevation, a couple alternates were considered, but the less expensive of the two was to cut 4 ft, lime stabilize 24" of subgrade and fill back the excavation with 4 ft of select fill. Clearly this was beyond the initial design assumptions. SPASkatePark's scope of 12" of select fill throughout the footprint is generally equivalent to the select fill required above the existing grade, being 0" in some places, and 2 ft and 3 ft in other places.

With SPASkatepark's help bids were solicited for this subgrade prep work. The low bidder was local Lester Contracting for $49,512.00.

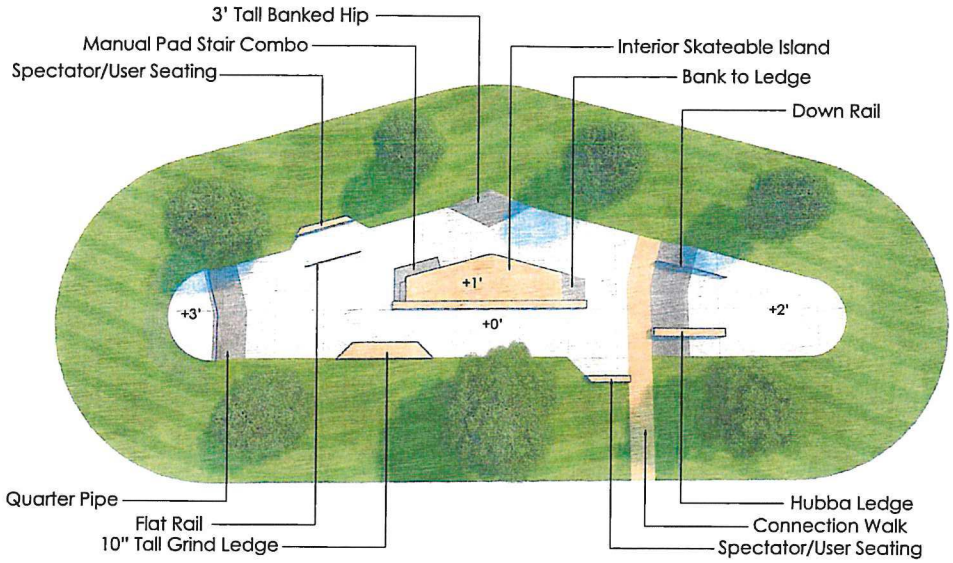
As you recall, there is $190,000 that has been budgeted for additional improvements to compliment the skate park, including sidewalks, lighting, etc. The Parks Board had talked about considering reducing the footprint of the skatepark before paying for additional subgrade preparation out of this fund, however with an estimated cost of just $13,000 to perform the 12" thickness in the SPASkatePark contract, a reduction of the footprint is not going to save us much and would sacrifice quality of the park. I would not recommend moving forward with a concrete skatepark with less select fill than has been recommended by the Geotechnical Engineer.

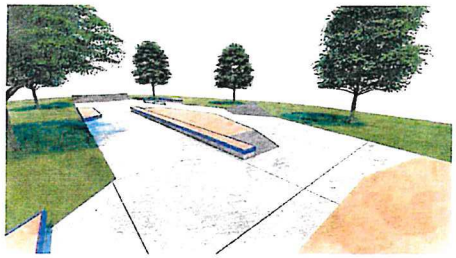
With the expenditure of $49,512, that leaves $140,000 for other improvements. Note solar lights cost approx. $5,000 each, and sidewalks are $50/LF.

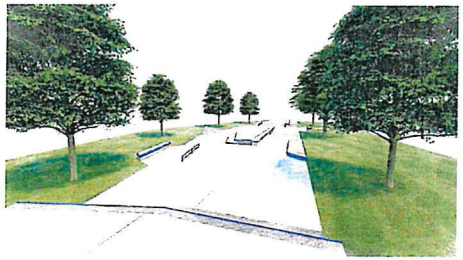
Recommendation: Award a construction contract to Lester Contracting, Inc. for $49,512.60 for the subgrade preparation for the Skate park.

Port Lavaca - New Skatepark

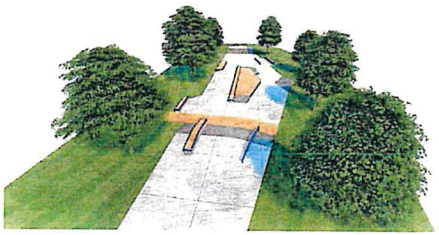
Finalized Skatepark Design Renderings











PORT LAVACA, TEXAS

AUGUST 10, 2021

WWW.NEWLINESKATEPARKS.COM

LESTER CONTRACTING, INC.

PO BOX 986
PORT LAVACA, TEXAS 77979
Contact: **MARTIN SANTIAGO**
Phone: **361-552-3024**
Fax: **361-552-4049**

Quote To: JODY WEAVER
CITY OF PORT LAVACA, TEXAS

Phone:
Fax:

Job Name: PORT LAVACA SKATEPARK
Date of Plans: 9/22/2021
Revision Date:

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	2 FT LIME STAB. W/ 4 FT REPLACE WITH SELECT FILL	5,724.00	SF	8.65	49,512.60
GRAND TOTAL					**$49,512.60**

NOTES:

EXCESS MATERIAL WILL STAY ON CITY PROPERTY. PRICE INCLUDES MOBILIZATION, LAYOUT AND SUPERVISION. PAYMENT & PERFORMANCE BOND IS NOT INCLUDED. WE USE 2'@4% FOR LIME STABILIZATION.

COMMUNICATION

SUBJECT: Consider award of the construction bid to vendor, Staff Concrete Construction, for the City Harbor Upper Dock Repairs. Presenter is Jody Weaver

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INFORMATION:

CITY OF PORT LAVACA

DATE: 9.23.2021

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: JODY WEAVER, INTERIM CITY MANAGER

SUBJECT: **CITY HARBOR UPPER DOCK REPAIRS**

The final Hurricane Harvey damage eligible for FEMA reimbursement is the repairs needed to the Upper Dock at City Harbor. The eligible scope is limited to an area of the upper dock which is 142 ft long x 20 ft wide x 5" thick or 1183 CF. Because we wanted to include construction of an ADA ramp for pedestrian access to the upper dock from Fulton Street, the flatwork concrete at the upper dock is less at 128 ft long, but we are constructing a 6" thickness instead of 5". The actual width is 17.3 ft which all equals 1107 cf which is less than 1183 cf so all of this upper flat work should be reimbursed.

We recently advertised for bids and received only one bid on September 7, 2021 from Staff Concrete. Their bid breakdown is attached.

Based upon my calculations, I anticipate that we should receive $39,505 in reimbursement from FEMA, which leaves $152,400 to complete the scope of the Base Bid. I did confirm with FEMA that our procurement met all requirements, so there is no issue in the fact that we received only one bid. In the Economic Development Capital Improvement Plan for FY 2021-22, we have $150,000 budgeted for this project.

With the construction of the ADA ramp, pedestrian access to the upper dock from Fulton St. will be safer. I have hopes of working with the Historical Society this year to make some improvements to Ranger Cemetery, so potentially more tourists and locals may visit the cemetery and thereby also have easy access to the upper docks to enjoy the view. Although the upper dock has existed as is without fall protection for many years, with these improvements we are inviting more pedestrian traffic and therefore need to consider the installation of a handrail for public safety. Alternate Bid No. 1 is to install an aluminum handrail similar to that installed along the recently completed bulkhead/walkway near Scully's restaurant.

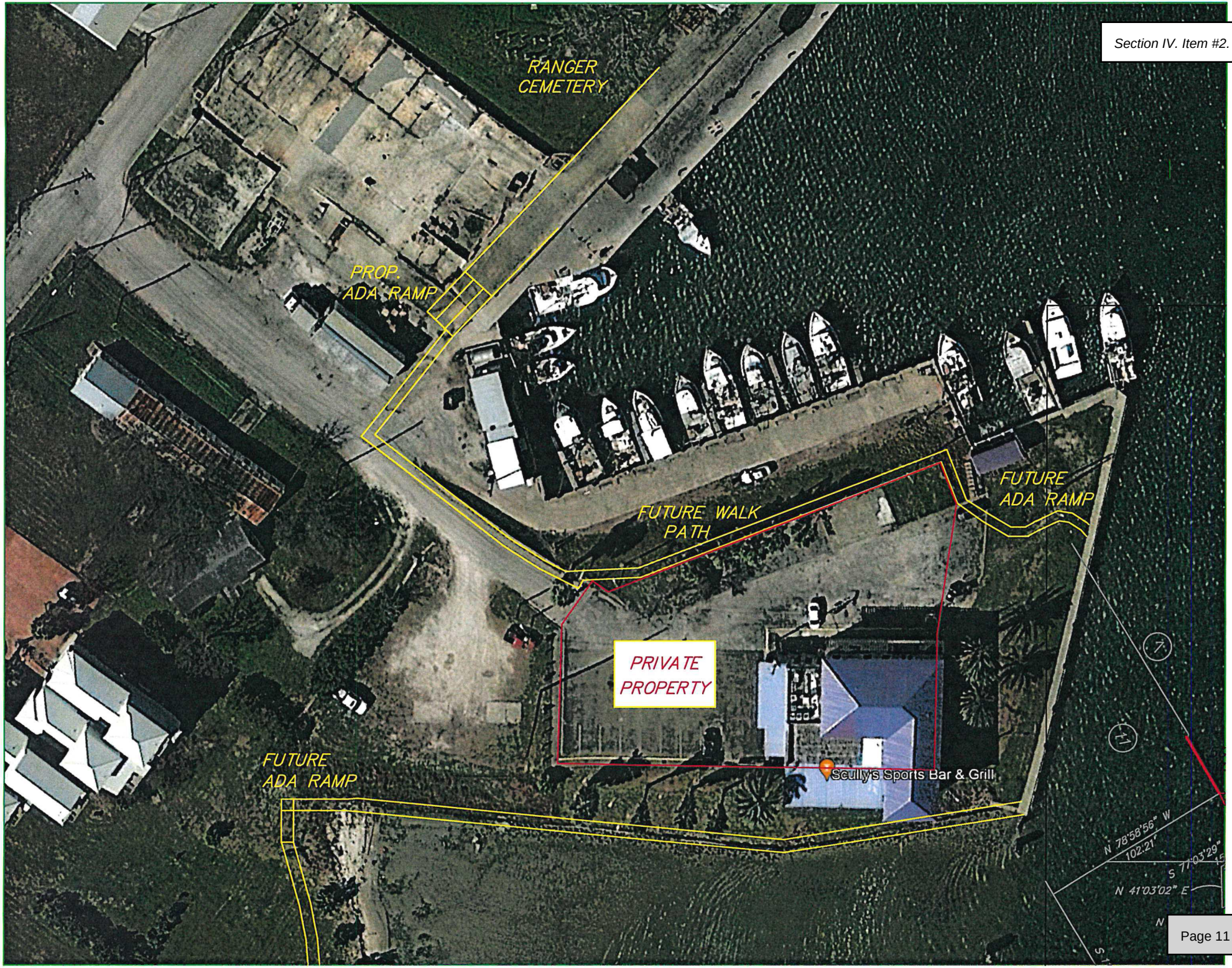
As you are aware, all these improvements are pieces of the overall goal of a walking path which will go ultimately from the Bayfront Park, around or through Clement Cove wetlands, around Scully's and City Harbor to Broadway Street. To help you visualize this plan, I've attached a sketch which shows a proposed 5 ft wide concrete walking path from the Bottom of the ADA ramp, all around the Scully's property, to the recently completed bulkhead/walkway to a future ADA ramp down to the City's Clement Cove property.

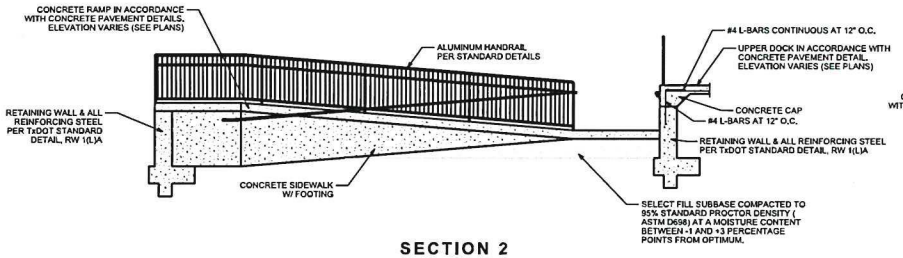
In addition, long range plans are to potentially utilize this area for markets days, small festivals with food trucks etc. Electrical conduit for future electrical outlets has been incorporated into the design.

To award the Base Bid and the Alternate handrail, we will require $103,650 of General Fund Reserves above what has been already budgeted (assuming FEMA reimbursement as anticipated). Recall that the adopted FY 2021-22 budget shows over $4M still available for Capital Improvement projects after required reserves and already budgeted items.

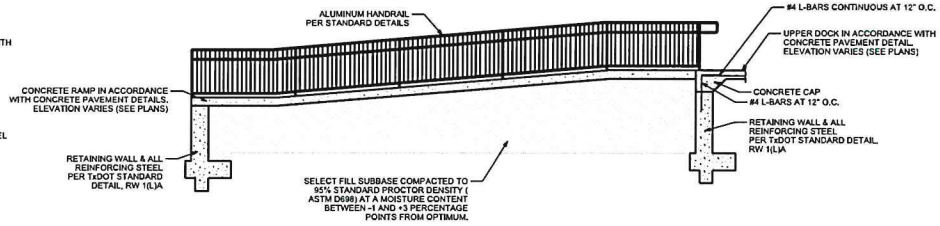
Recommendation: I recommend that Council award a construction contract to Staff Concrete Construction in the amount of $$293,155.50 for the Upper Dock repairs.

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
BASE BID					
1.	Mobilization, Insurance and Bonds (Maximum 5% of Base Bid)	1	LS	$ 9,300	$ 9,300
2.	Construction Staking	1	LS	$ 2,800	$ 2,800
3.	Remove & Dispose of Existing Concrete (Including Saw Cut)	2,670	SF	$ 2.25	$ 6,007.50
4.	Remove & Dispose of Existing Timbers & Bolts	450	LF	$ 6.00	$ 2,700
5.	Select Fill	125	CY	$ 52.00	$ 6,500
6.	Concrete Pavement (6" Thick, Class A)	2,670	SF	$ 12.90	$ 34,443
7.	Concrete Ramp Including Aluminum Hand Rails	1	LS	$ 108,097	$ 108,099
8.	Rehab Storm Sewer	22	LF	$ 289	$ 6,358
9.	Remove Existing Box Below Grade	2	EA	$ 1,062.50	$ 2,125
10.	Furnish & Install Electrical Conduit (1", Sch 40) Including Pull Boxes	1	LS	$ 13,575	$ 13,575
TOTAL BASE BID					$ 191,905.50
ALTERNATE BID NO. 1					
A1.	Aluminum Railing	450	LF	$ 225 K.S.	$ 101,250
TOTAL ALTERNATE BID NO. 1					$ 101,250
TOTAL BASE BID + ALTERNATE BID NO. 1					$ 293,155.50

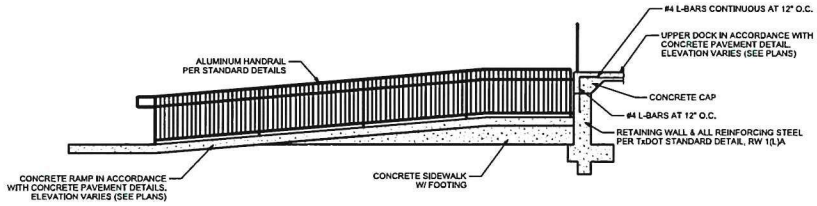

RANGER CEMETERY
PROP. ADA RAMP
FUTURE WALK PATH
FUTURE ADA RAMP
PRIVATE PROPERTY
FUTURE ADA RAMP
Scully's Sports Bar & Grill
N 78°58'56" W
102.21'
S 77°03'29"
N 41°03'02" E



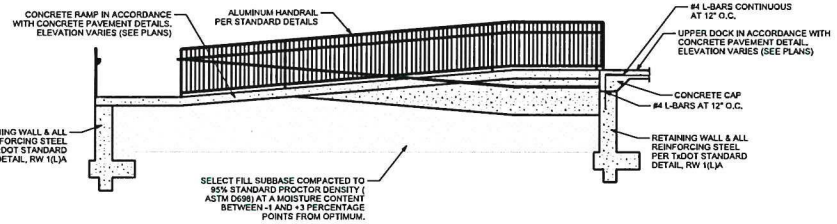
SECTION 2



SECTION 4



SECTION 1



SECTION 3

STATE OF TEXAS
MATT A. GLAZE
99253
LICENSED PROFESSIONAL ENGINEER
8/10/21

ISSUE
- [ ] PRELIMINARY
- [ ] REVIEW
- [ ] PERMITTING
- [x] BIDDING
- [ ] CONSTRUCTION
- [ ] _____

REVISIONS

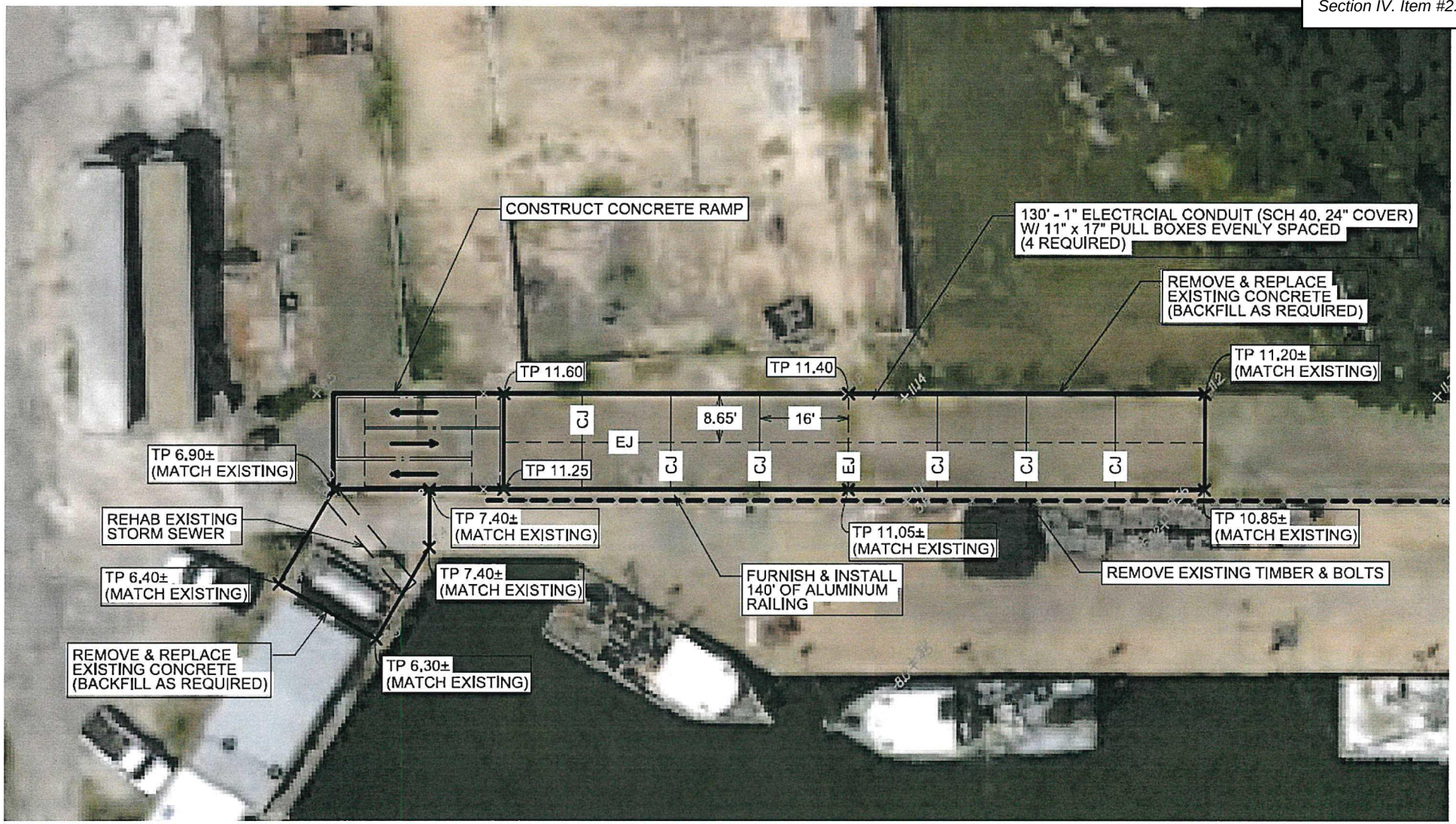
URBAN engineering
2004 N. Commerce, Victoria, Texas 77901 · 361.578.9836
urbanvictoria.com · TREF# F-160

PROJECT
CITY HARBOR UPPER DOCK REPAIRS

CITY HARBOR
PORT LAVACA, TX

TITLE
CROSS SECTIONS

DATE 08/10/21
JOB NUMBER E22288.09
SHEET
XS1
PAGE 5 of 8


CONSTRUCT CONCRETE RAMP
130' - 1" ELECTRCIAL CONDUIT (SCH 40, 24" COVER) W/ 11" x 17" PULL BOXES EVENLY SPACED (4 REQUIRED)
REMOVE & REPLACE EXISTING CONCRETE (BACKFILL AS REQUIRED)
TP 11.60
TP 11.40
TP 11.20± (MATCH EXISTING)
CJ
EJ
8.65'
16'
TP 6.90± (MATCH EXISTING)
TP 11.25
REHAB EXISTING STORM SEWER
TP 7.40± (MATCH EXISTING)
TP 11.05± (MATCH EXISTING)
TP 10.85± (MATCH EXISTING)
TP 6.40± (MATCH EXISTING)
TP 7.40± (MATCH EXISTING)
FURNISH & INSTALL 140' OF ALUMINUM RAILING
REMOVE EXISTING TIMBER & BOLTS
REMOVE & REPLACE EXISTING CONCRETE (BACKFILL AS REQUIRED)
TP 6.30± (MATCH EXISTING)

COMMUNICATION

SUBJECT: Consider Resolution No. R-092721-1 for the City of Port Lavaca to renew the application with the Texas Department of Housing and Community Affairs (TDHCA) to continue participation in the HOME Investment Partnerships Program, Homeowner Reconstruction Assistance Program. Presenter is Jessica Carpenter

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INFORMATION:

CITY OF PORT LAVACA

CITY COUNCIL MEETING: September 27, 2021

DATE: 9/21/2021

TO: HONORABLE MAYOR AND CITY COUNCIL MEMBERS

FROM: JESSICA CARPENTER, DEVELOPMENT SERVICES DIRECTOR

SUBJECT: Consider Resolution No. R-092721-1 to renew the contract with the Texas Department of Housing and Community Affairs (TDHCA) to continue participation in the HOME Investment Partnerships Program, Homeowner Reconstruction Assistance Program.

The HOME Investment Partnerships Program, Homeowner Reconstruction Assistance Program has been idle since 2018, due to the historical bids exceeding the grant per home reconstruction maximum. Staff has resurrected the HOME program. The 2021 bids came in under the maximum as the grant limit per household has increased since 2018.

The City currently has a HOME Investment Partnership Program grant agreement with the Texas Department of Housing and Community Affairs. The City has been working to qualify applicants under this HOME Investment Partnership Program grant and there are current applicants that are ready to be assisted. In order to continue forward with these efforts, the city is required to renew the TDHCA, HOME Investment Partnerships Program, Homeowner Reconstruction Assistance Program contract.

This resolution is the same as the 2018 resolution which has expired. This is formality to renew the TDHCA contract with the city for the remainder of the HOME program.

The city will utilize general funds in the amount of $40,000 as cash reserve to utilize during the agreement term for eligible program costs before reimbursements are received from the State of Texas HOME Program.

The $40,000 is not encumbered funds and is not part of a match. TDHCA wants to know that the city can pay out money and be reimbursed afterwards. This has been in every resolution to apply for the HOME program.

The HOME Program Match, if applicable, will be provided in accordance with 10 TAC 23 in the amount of Fourteen Thousand Three Hundred dollars ($14,300.) or Eleven percent (11%) of project hard costs, whichever is less, per household assisted through the Texas HOME Program, in the form of waived fees, cash, leverage, and other forms of eligible match.

The city's match can be typically met through a combination of cash, waived fees, donations, etc. The match requirement is per house.

The city authorizes JoAnna P. Weaver, City Manager, as the person authorized to represent the city of Port Lavaca in all matters related to the HOME Program and, with signature authority to sign all forms and documents related to the administration of the HOME Program, including loan documents, grant agreements and the Reservation System Participation Agreement and/or Contract, unless otherwise stated.

Grantworks, Inc., is the city's TDHCA contracted administrator for the HOME program. Grantworks Inc., has been successful in administering the HOME Investment Partnership Program grant on the behalf of the city historically. The city approved to renew the administrative contract agreement with Grantworks, Inc., for the 2021 HOME Investment Partnerships Program grant cycle on March 31, 2021.

This is a positive opportunity for the city of Port Lavaca to provide the community with the benefits of the HOME Investment Partnership Program. Therefore, the renewal application is necessary for the city to continue the grant partnership with TDHCA for the HOME Investment Partnership Program. The resolution is enclosed.

CITY OF PORT LAVACA
CALHOUN COUNTY, TEXAS
RESOLUTION NO. R-092721-1

WHEREAS, the Texas Department of Housing and Community Affairs (TDHCA) has notified the public of a funding availability to benefit low-income residents of the State of Texas communities through the Texas HOME Investment Partnerships Program; and

WHEREAS, the City of Port Lavaca has identified significant housing needs, particularly for the reconstruction of owner-occupied housing; and

WHEREAS, the City of Port Lavaca wishes to assist low-income homeowners with safe, decent, sanitary and affordable housing, and at the same time enhance the health, economic, and aesthetic quality of the community:

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF PORT LAVACA, TEXAS, THAT:

ONE, the City of Port Lavaca, acknowledges and approves that an application be completed and submitted to the TDHCA to participate in the HOME Investment Partnerships Program, Homeowner Reconstruction Assistance Program.

TWO, the City of Port Lavaca will utilize general funds in the amount of $40,000 as cash reserve to utilize during the agreement term for eligible program costs before reimbursements are received from the State of Texas HOME Program.

THREE, HOME Program Match, if applicable, will be provided in accordance to 10 TAC 23 in the amount of Fourteen Thousand Three Hundred dollars ($14,300.) or Eleven percent (11%) of project hard costs, whichever is less, per household assisted through the Texas HOME Program, in the form of waived fees, cash, leverage, and other forms of eligible match.

FOUR, the City of Port Lavaca designates JoAnna P. Weaver, City Manager, as the person authorized to represent the City of Port Lavaca in all matters related to the HOME Program and, with signature authority to sign all forms and documents related to the administration of the HOME Program, including loan documents, grant agreements and the Reservation System Participation Agreement and/or Contract, unless otherwise stated.

PASSED AND APPROVED THIS 27TH DAY OF SEPTEMBER, 2021.

_____
Jack Whitlow, Mayor

ATTEST:

_____
Mandy Grant, City Secretary

COMMUNICATION

SUBJECT: Discuss and Review presentation of prioritization of a list of Sub-Standard Buildings for demolition. Presenter is Jessica Carpenter

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INFORMATION:

MEETING: September 27, 2021 **AGENDA ITEM _____**

DATE: 09.09.21

TO: HONORABLE MAYOR AND CITY COUNCIL MEMBERS

FROM: JESSICA CARPENTER, DEVELOPMENT SERVICES DIRECTOR

SUBJECT: Consider and discuss to prioritize the list of properties for demolition approval.

The City of Port Lavaca is identifying those structures in need of demolition. Multiple structures within the city are presented before you herein for consideration of demolition. The PowerPoint presentation is a visual of the substandard properties chosen for this initial process. Of the ten (10) listed properties only two (2) are viable for demolition. An internal process has prioritized and voided properties viable for demolition. The properties that are candidates for continuing on with the demolition process are being presented for priority advisement by Council.

Neighborhood blight and the presence of vacant and abandoned properties have profound negative impacts on our community. Blighted properties decrease surrounding property values, erode the health of local housing markets, pose safety hazards, and reduce local tax revenue.

CHAPTER 374. URBAN RENEWAL IN MUNICIPALITIES
https://statutes.capitol.texas.gov/Docs/LG/htm/LG.374.htm#374.903

SUBCHAPTER A. GENERAL PROVISIONS

Sec. 374.003. DEFINITIONS.

> (3) "Blighted area" means an area that is not a slum area, but that, because of deteriorating buildings, structures… or other hazardous conditions, adversely affects the public health, safety, morals, or welfare of the municipality and its residents, substantially retards the provision of a sound and healthful housing environment, or results in an economic or social liability to the municipality…

The demolition process will utilize the City of Port Lavaca Code of Ordinances Chapter 12 and the Texas Local Government Code Chapter 214.

Chapter 12 - BUILDINGS AND BUILDING REGULATIONS
https://library.municode.com/tx/port_lavaca/codes/code_of_ordinances?nodeId=PTIICOOR_CH12BUBURE_ARTIVSUBU

ARTICLE IV. - SUBSTANDARD BUILDINGS

Sec. 12-287. - Definition; unfit condition declared; minimum standards for use and occupancy.

(a) The term "substandard building" means any building which does not meet the established minimum standards for continued use and occupancy, as set forth in this article regardless of the date of its construction.

(b) For purposes of this article, a building shall be deemed to be substandard if it is:

(1) Dilapidated, substandard, or unfit for human habitation; or

(2) A hazard to the public health, safety and welfare.

Sec. 12-289. - Hazardous to health, safety and welfare.

All substandard buildings or structures within the terms of this article that shall constitute a menace to the health, safety or general welfare of its occupants or of the public are declared to be public nuisances and shall be ordered to be either vacated, repaired or demolished as provided by this article.

CHAPTER 214. MUNICIPAL REGULATION OF HOUSING AND OTHER STRUCTURES
https://statutes.capitol.texas.gov/Docs/LG/htm/LG.214.htm

SUBCHAPTER A. DANGEROUS STRUCTURES

Sec. 214.001. AUTHORITY REGARDING SUBSTANDARD BUILDING.

(a) A municipality may, by ordinance, require the vacation, relocation of occupants, securing, repair, removal, or demolition of a building that is:

(1) dilapidated, substandard, or unfit for human habitation and a hazard to the public health, safety, and welfare;

(2) regardless of its structural condition, unoccupied by its owners, lessees, or other invitees and is unsecured from unauthorized entry to the extent that it could be entered or used by vagrants or other uninvited persons as a place of harborage or could be entered or used by children; or

(3) boarded up, fenced, or otherwise secured in any manner if:

(A) the building constitutes a danger to the public even though secured from entry; or

(B) the means used to secure the building are inadequate to prevent unauthorized entry or use of the…

The goal is to prioritize the following two (2) properties deemed as blighted and substandard properties to be considered for demolition. Currently, the newly adopted budget has allocated enough financial resources to process and demolish one single family home. This allocation of funds will grow year over year as we accomplish more demolitions over time.

It is critical for the city to take this opportunity to work progressively towards increasing neighboring property values, the vitality of our housing market, eliminate the safety hazards, and continuously improve the city tax revenue. The quality of life and safety of place is the essence of our public service mission.

From an economic development perspective, it would be advantageous of the city to attain properties through the demolition process for consideration for future development in many capacities, specifically with consideration for affordable housing.

Another relevant consideration for demolition properties to be attained by the city is to establish economic development assets. There is not enough negotiating leverage within the city's power for incentives and rebates. Having clear title property that has been demolished of the blight and cleared for new development would be opportunistic at the negotiating table with developers, and/or qualifying for grant opportunities.



City of Port Lavaca – Substandard Properties for Demolition

List of Addresses to Discuss

1.	1506 Johnny Dr.	New Owners
2.	101 Benavides St.	One owner deceased
3.	503 S San Antonio	Deceased
4.	801 S Ann	Multiple estates.
5.	517 N Guadalupe St.	Estate
6.	323 Colorado	Heir
7.	624 W Mulberry	CANDIDATE
8.	1620 W. Main Street	Homestead
9.	321 N. Guadalupe Street	Homestead
10.	411 W. Mahan	CANDIDATE

DEMOLITION PRESENTATION 2022

	Type	Homestead	Deeds *NO ACCESS*	Ownership Classification	Back Taxes	Proceed with Demo Process
1506 Johnny Drive	House	NO		New Owners	NO	NO
101 Benavides Street	House	NO		Deceased	NO	NO
503 S. San Antonio Street	House	NO		Deceased	NO	NO
801 S. Ann Street	House	NO		Multiple Estates	NO	NO
517 N. Guadalupe Street	House	NO		Estate	$335.25	NO
323 N. Colorado Street	Garage	NO		Individual	NO	NO
624 W. Mulberry	House	NO		Demo Candidate	NO	YES
1620 W. Main Street	House	YES		Homestead	NO	NO
411 W. Mahan Street	House	NO		Demo Candidate	NO	YES
321 N. Guadalupe Street	House	Yes		Estate-Homestead	NO	NO

*SOLE HEIR 100%

1506 Johnny Dr.



101 N. Benavides St.

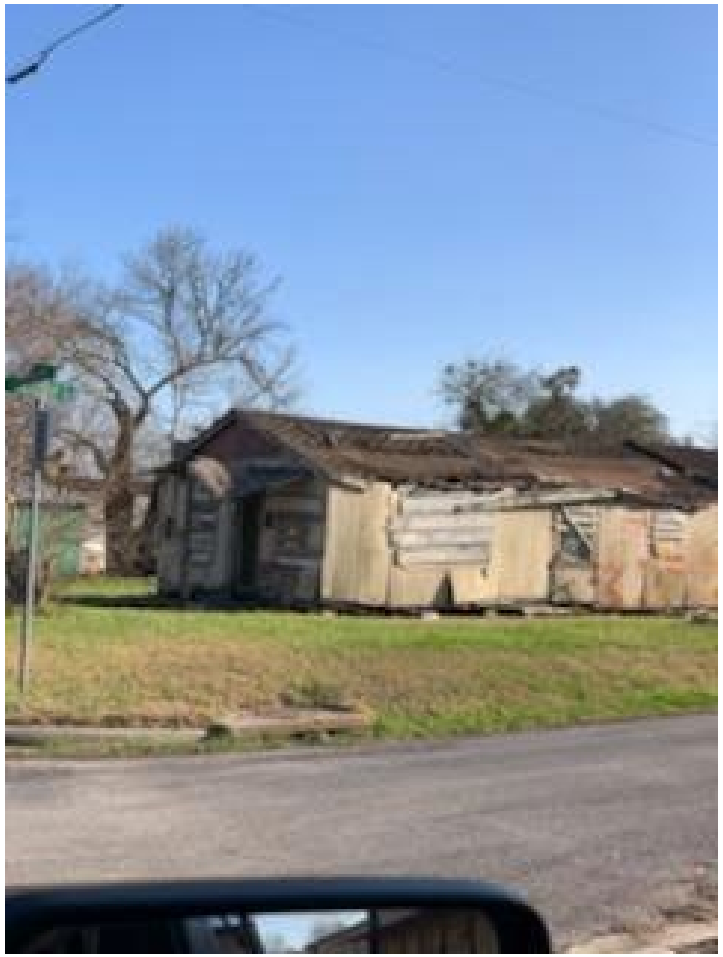




503 S San Antonio St.



801 S Ann St.



517 N Guadalupe St





323 N. Colorado St.



624 W Mulberry St.



1620 W Main St.



321 N. Guadalupe St.





411 W Mahan St.



COMMUNICATION

SUBJECT: Discuss and Review presentation of New "AMI" Water Meter System. Presenter is Wayne Shaffer

---

INFORMATION:

CITY OF PORT LAVACA

CITY COUNCIL MEETING: SEPTEMBER 27, 2021 **AGENDA ITEM** _____

DATE: 9/24/21

TO: HONORABLE MAYOR AND CITY COUNCIL MEMBERS

FROM: SUSAN LANG, FINANCE DIRECTOR

SUBJECT: DISCUSS AND REVIEW PRESENTATION OF NEW "AMI" WATER METER SYSTEM

In 2014, the City embarked on a meter change out program to replace it's manual-read brass positive displacement meters with an automated reading system which utilized composite (plastic) positive displacement meters. The complete change over and roll-out was accomplished in 2016 which afforded savings in labor costs and accuracy in meter reads. The composite meters had a ten (10) year life with full factory replacement warranty at five (5) years.

A positive displacement meter functions by spinning as the water travels through the chamber and registers the usage on either a dial (manual read) or a digital display (automated & manual read). Throughout the last several years, meters that failed to register usage at occupied structures were turned in for warranty, but were denied due to sand or debris as the culprit causing the malfunctioning of the meter. Additionally, we began experiencing issues with the automatic readings communicating with the manufacturer's software. We were told that this was probably the reason we were having so many "zero" reads in our system. It was suggested that the City upgrade to a different software platform to solve this problem. During this time, the City experienced the malware attack, and had to go through recovery efforts. Once the new software was finally installed, it became obvious that the software communication was not the problem, but a wide-spread meter malfunction due to sand and sediment produced from the City's surface water source.

A few months ago, we determined approximately 1,500 meters of the approximately 4,500 active accounts (or 33%) were malfunctioning or broken. Currently, we are estimating 2,156 out of 4613 active accounts (47%) are malfunctioning and/or not communicating with our system. Utilizing our billing system audit reports and focusing on zero reads only, we have determined the following:

Zone	Total Active Meters	Zero Consumption	9+ Months of Zero Readings
1	1900	943 (50%)	681 (72%)
2	1270	264 (21%)	114 (43%)
3	1443	720 (21%)	306 (43%)
Total	4613	1927 (42%)	1101 (57%)

As you can see, we have reached a critical situation, in that almost one-half of our water meters are malfunctioning.

Original discussions focused upon repair and replacement of the malfunctioning meters with the manufacturer's representative, but after discussions with our City personnel, it became painfully obvious that the replacement with the same style meter would not work with our particular water. The costly and time consuming "repair" process would also lead us back to the beginning, with an incorrect meter for our particular water application. Some of the original estimates for replacement (utilizing 1,500 meters) averaged $420,000 for replacement or $256,000 for repair, both utilizing out-side assistance.

Once we realized the positive displacement meters were the main source of our issue, we focused our attention on an alternative meter that would not only meet our specific application specifications, but would also enhance our customer service experience by allowing the users to see their usage in near real-time.

We concluded that a solid state meter with no moving parts to jam by the sand and sediment in our water would be the ideal meter for our application. The meter is also extremely accurate under low flow as well as high flow situations.

City staff interviewed three manufacturers and their representatives to determine who might be the best partner to meet our needs, and determined that Ferguson Waterworks was the best fit. Because we participate in interlocal cooperative purchasing agreements, prices have been pre-bid and awarded.

We received estimates from all three manufacturers as follows:

AV Water Technologies	$2,033,934
SET/MIG	$2,158,432
Ferguson Water Works	$2,000,000

After adding an allowance for contingencies for water line and valve replacements and the Customer Portal software, the final Ferguson quote amounted to $2,283,372.

This has been a collaborative effort between Public Works, Finance, Utility Billing and the City Manager's staff, and we are hopeful to receive City Council's consideration of our recommendation to proceed with Ferguson Waterworks for the replacement of the City's critical water metering infrastructure.

FERGUSON WATERWORKS

City of Port Lavaca, TX

Automated Meter Infrastructure

September 27, 2021



THANK YOU FOR THIS OPPORTUNITY!

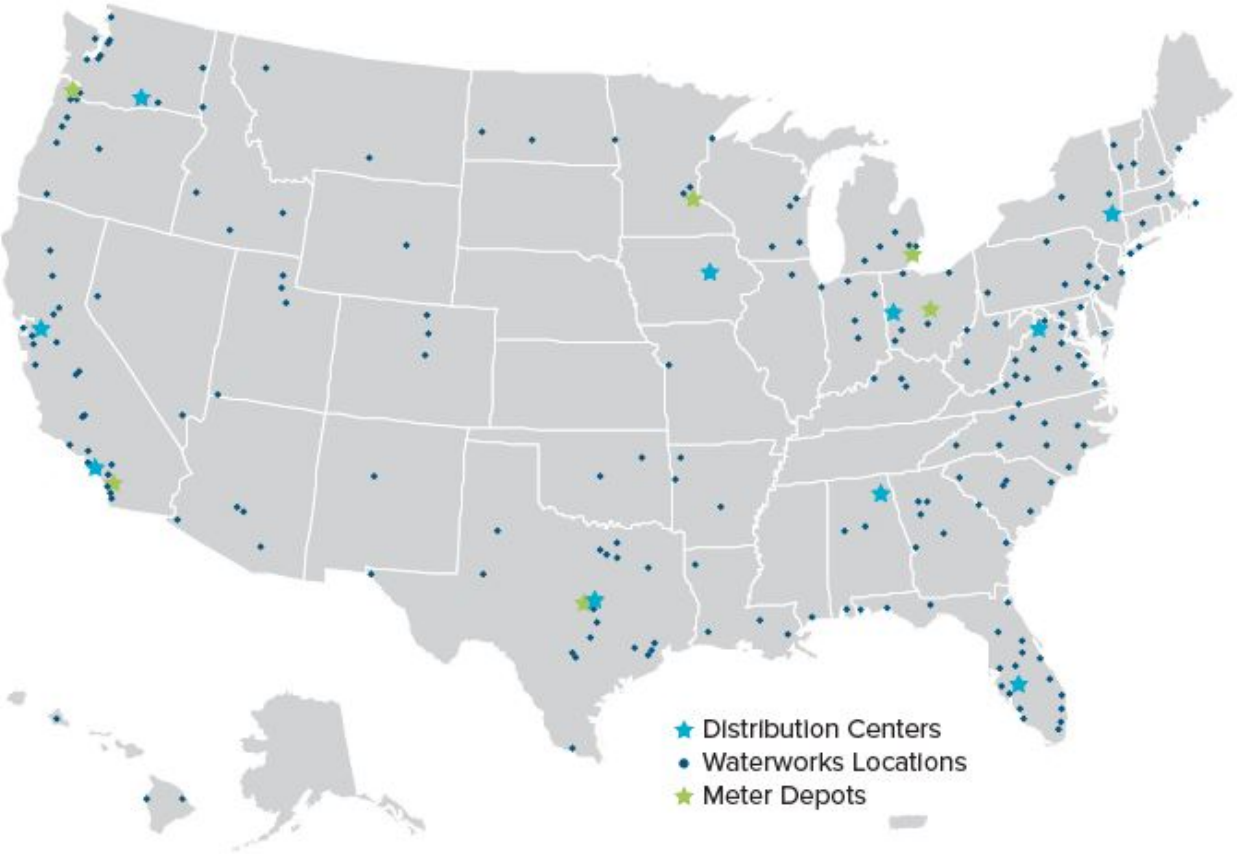
The Ferguson Advantage

Local Experts

- In-house Project Management
- In-house Technical Support
- In-house Integration
- In-house AMI Specialist
- In-house Municipal Sales & RMA Support

Local Services in DFW Metroplex

- Local Branch Inventory
- Local Branch Facility for Installation Stagir
- Local $1 Million Dollar Depot Inventory



Ferguson and Mueller Ongoing Support

MUELLER

Georgina Loginow – Territory Manager
Torrie Treece – Central District Manager
Bill Tartaglia – Project Manager
Mueller Systems - Customer Support Staff

+

FERGUSON WATERWORKS

Zeb Wright – BDM – Meters - Central Region
Barry Ferguson – AMR/AMI Specialist
Mike Grady – Victoria TX Branch Manager
Stacey Granhold – AMR/AMI Project Manager

=

Project Management

Dedicated Mueller Project Manager
Project Tracking
Dedicated Ferguson Project Manager

Product Backing

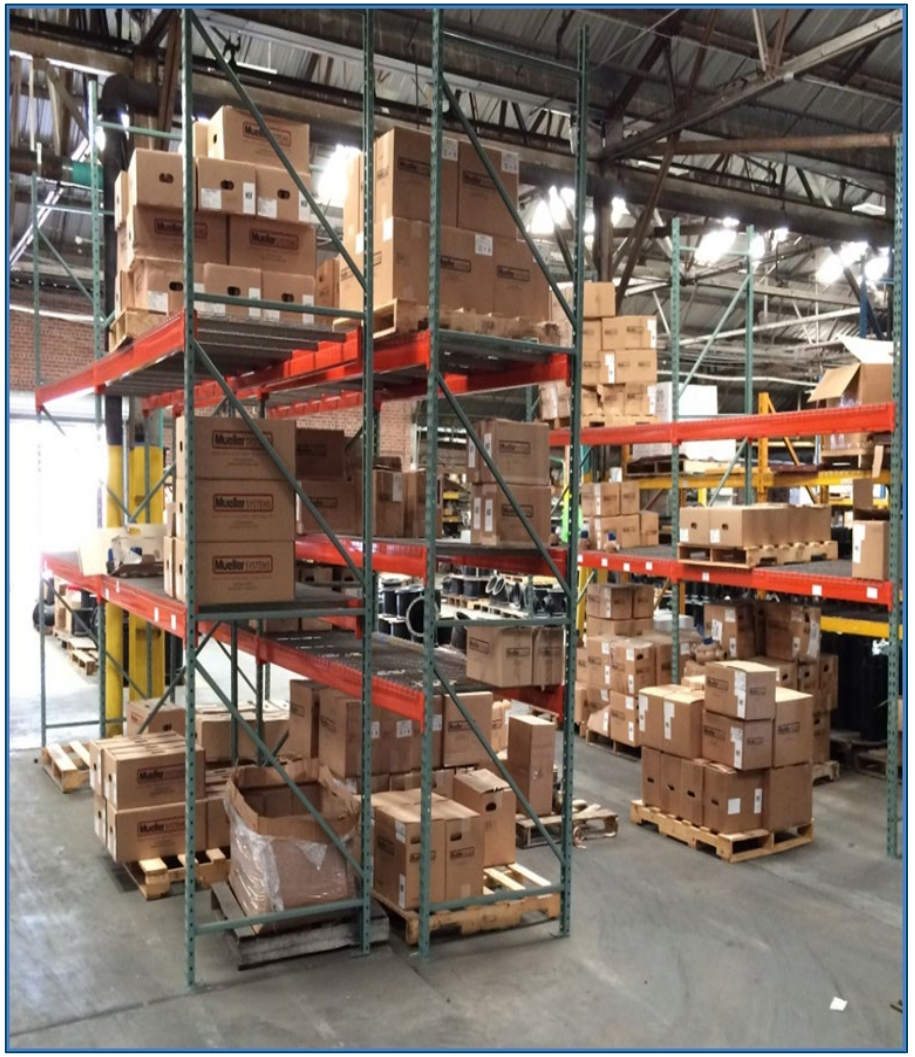
Single-Provider Solution
Strong financial company
On-site support
Warranty Labor and Material

Software Support

Single-Provider Solution
Atlanta, GA Development Group
Fully staffed Phone Support Group
Ferguson Integration Specialist

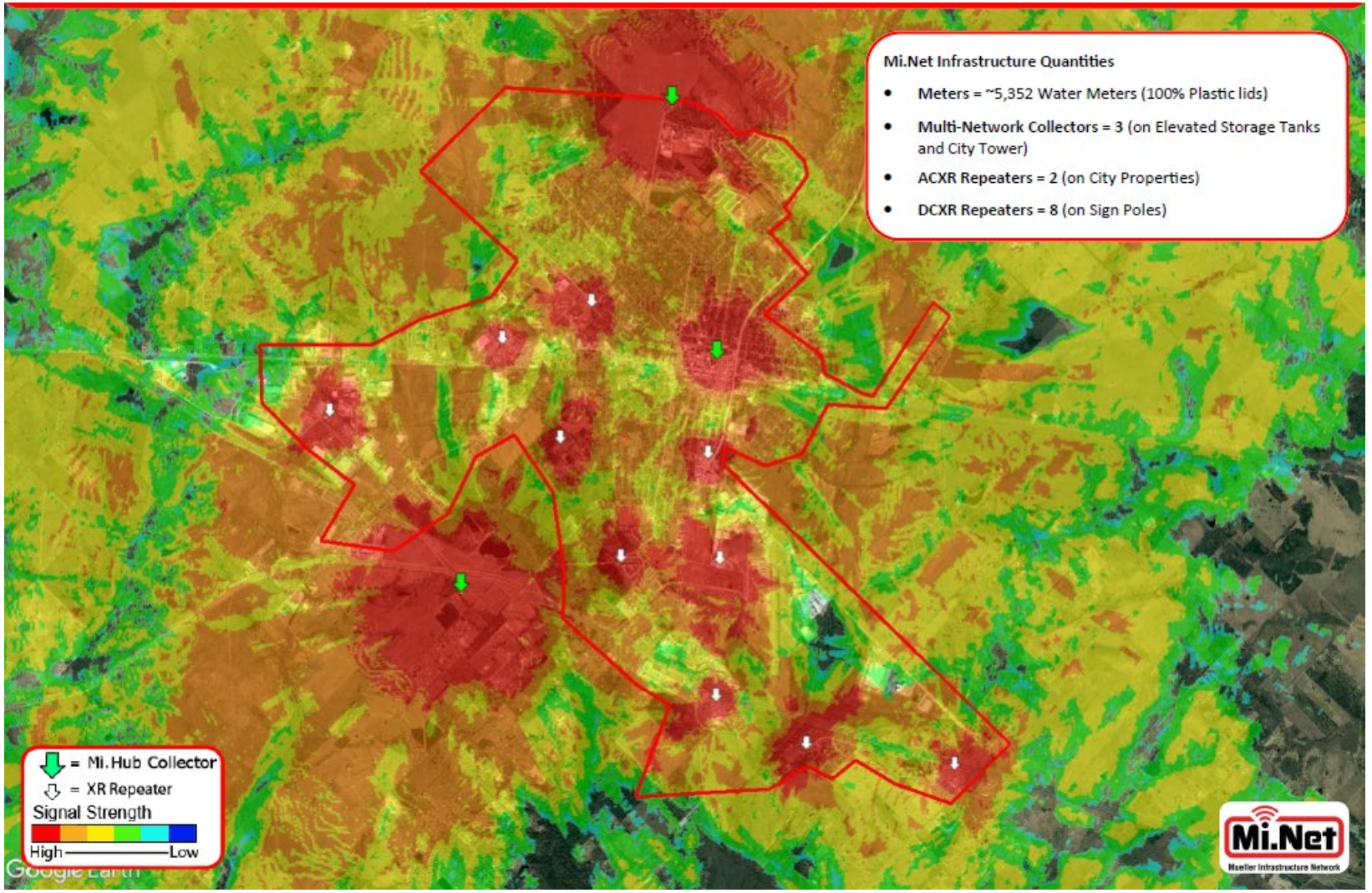
Ferguson Meter Depot = Speedy Delivery



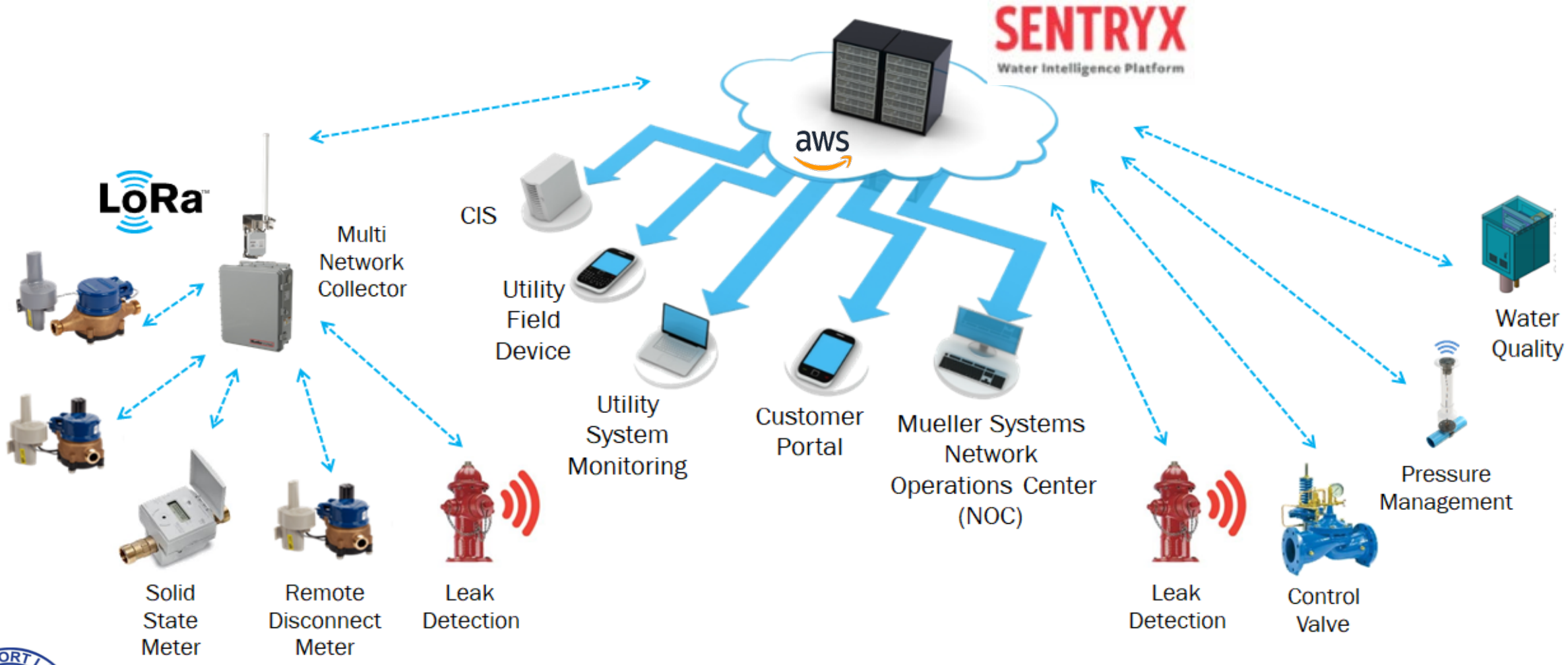


RF Propagation Study for Initial Network Design

Three data collectors and ten signal repeaters



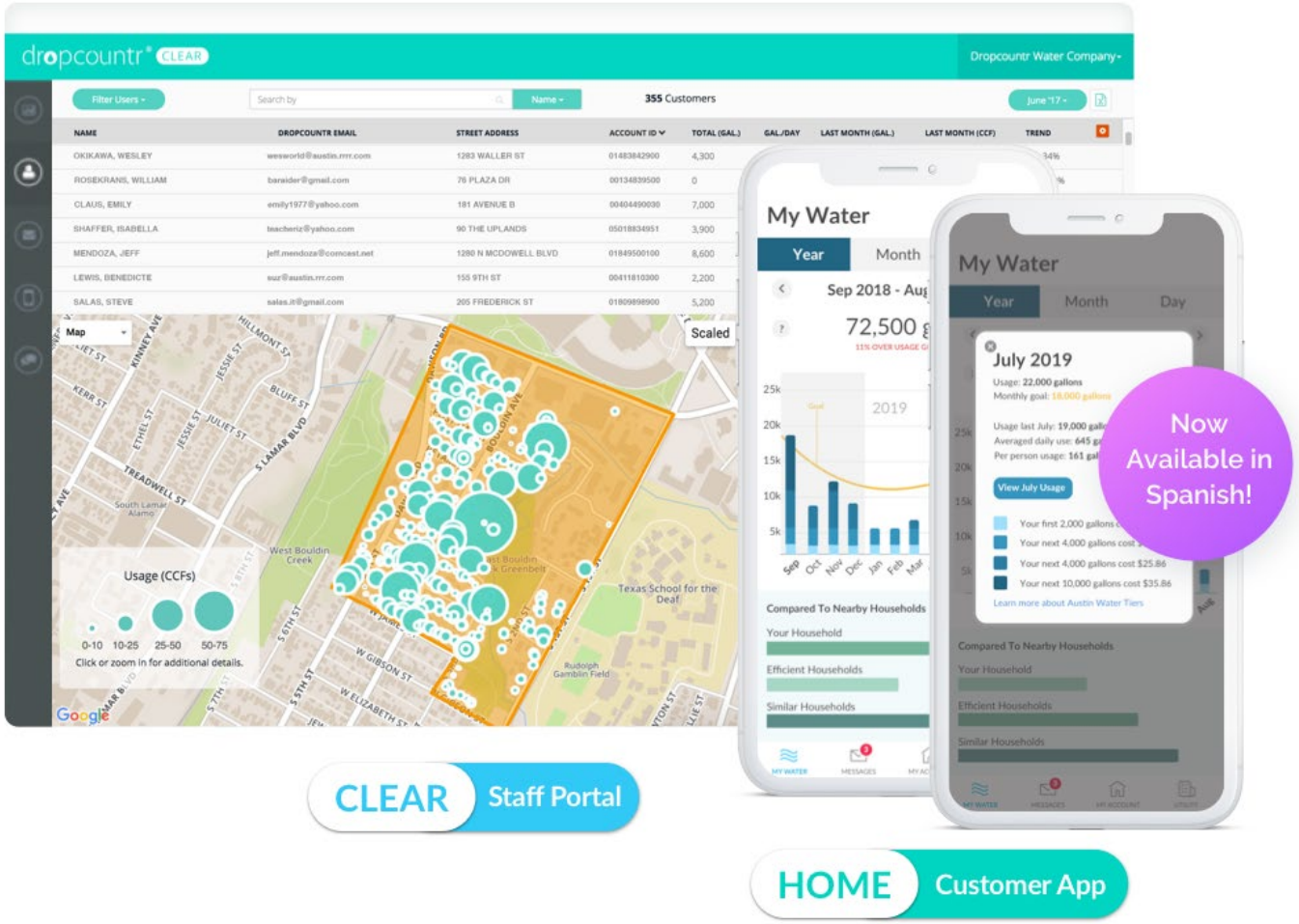
Mueller Sentryx Water Intelligence Platform



Dropcountr Overview

DIGITAL ENGAGEMENT, CUSTOMER SATISFACTION & CONSERVATION

Dropcountr is a **hosted**, software-as-a-service water analytics and customer engagement company that helps water utilities better engage with their customers to promote water efficiency. The design and capabilities of our product offerings are tailored towards using big data to improve customer engagement and to change customer behavior/habits around the topic of water efficiency. **HOME** (customer portal) and **CLEAR** (utility staff portal) represent Dropcountr's primary product offerings.



HOME | CUSTOMER PORTAL

Dropcountr HOME helps customers:

- Manage personal consumption
- Understand price tiers/bills
- Avoid leaks and water damage
- Participate in utility rebates and programs
- Resolve customer service issues

CLEAR | STAFF PORTAL

Dropcountr CLEAR helps utility staff:

- Communicate with customers
- Improve customer satisfaction
- Reduce communication costs
- Automate routine tasks and reports

Available on all platforms (web, iOS, and Android)

dropcountr

WaterPIO
ALWAYS ON CALL

Publicly Communicating AMI Projects from Concept to Customer Bills

- **We live in The Instant Information Age. Must meet expectations.**
- **More utility COMMS**
- **Proactive COMMS gain support for major projects like AMI**
- **Strengthen relationships with customers, community & media first**
- **Craft start-to-finish COMMS plan. Begin with internal buy-in.**
- **Use best practices. Proven messages. Planned transparency.**
- **Every stage. Rollout. Pilot. Installation. Launch. Portal.**
- **Focus on customer benefits then utility benefits. Prep for pushback.**

*

FERGUSON/MUELLER PROJECT BENEFITS

- THE NEW SYSTEM WILL PAY FOR ITSELF!
- IMPROVED SAFETY FOR EMPLOYEES!
- IMPROVED CUSTOMER SERVICE!
- MORE THAN JUST A METER READING SYSTEM!
- UPGRADABLE – FUTURE PROOF!
- MULTIPLE LEVELS OF ONGOING SUPPORT!

Thank You for your Consideration



We Want to Earn an ***AMAZING*** reference from the City of Port Lavaca and **Your Customers!**

FERGUSON® WATERWORKS

MUELLER

Full AMI Fixed Based Meter Reading System Upgrade

Date: 9/7/2021

Customer:

Port Lavaca, TX

628 West George Street
Port Lavaca, TX

Quoted By:

Barry Ferguson 361-444-9978

Ferguson Waterworks
15711 Eastex Freeway
Humble, Tx 77396

Quote Expiration: **12/14/2021**

Mueller Systems Mi.Net® AMI Meters & Endpoints

Description	Units	Quantity	Unit Sale Price	Extended
5/8" X 3/4" Solid State Meters, Single Gallon, with Nicor connector	Each	4,943	$ 131.00	$ 647,533.00
1" Solid State Meters, Single Gallon, with Nicor connector	Each	180	$ 267.00	$ 48,060.00
1-1/2" Solid State Meters, Single Gallon, with Nicor connector	Each	33	$ 667.00	$ 22,011.00
2" Solid State Meters, Single Gallon, with Nicor connector	Each	126	$ 770.00	$ 97,020.00
3" HBMAG Meter with Nicor connector	Each	5	$ 3,087.00	$ 15,435.00
3" HBMAG Grounding Ring	Each	10	$ 29.00	$ 290.00
3" X 24" Cement Lined Spool Piece Flange X Plain End	Each	5	$ 230.00	$ 1,150.00
3" Zip Flange	Each	5	$ 34.00	$ 170.00
3" Bolt Packs	Each	10	$ 18.00	$ 180.00
3" RR FF Gaskets	Each	10	$ 2.50	$ 25.00
4" HBMAG Meter with Nicor connector	Each	8	$ 3,531.00	$ 28,248.00
4" HBMAG Grounding Ring	Each	16	$ 38.00	$ 608.00
4" X 24" Cement Lined Spool Piece Flange X Plain End	Each	8	$ 250.00	$ 2,000.00
4" Zip Flange	Each	8	$ 51.00	$ 408.00
4" Bolt Packs	Each	16	$ 24.00	$ 384.00
4" RR FF Gaskets	Each	16	$ 3.50	$ 56.00
6" HBMAG Meter with Nicor connector	Each	2	$ 5,900.00	$ 11,800.00
6" HBMAG Grounding Ring	Each	4	$ 42.00	$ 168.00
6" X 24" Cement Lined Spool Piece Flange X Plain End	Each	2	$ 300.00	$ 600.00
6" Zip Flange	Each	2	$ 54.00	$ 108.00
6" Bolt Packs	Each	4	$ 37.00	$ 148.00
6" RR FF Gaskets	Each	4	$ 5.50	$ 22.00
MiNode V6 Radio with Nicor connector	Each	5,297	$ 94.00	$ 497,918.00
Contigency Parts Expenses	Each	1	$ 150,000.00	$ 150,000.00
Radio Hanger for composite/plastic meter box lids	Each	5,297	$ 6.50	$ 34,430.50
			Meter and Endpoint Price Sub-Total	**$ 1,558,772.50**

Ferguson Installation *Please see Installation Scope of Work & Installation Guidelines*

Description	Units	Quantity	Unit Sale Price	Extended
5/8x3/4" Installation	Each	4,943	$ 54.00	$ 266,922.00
1" Installation	Each	180	$ 54.00	$ 9,720.00
1-1/2" Installation	Each	33	$ 334.00	$ 11,022.00
2" Installation	Each	126	$ 334.00	$ 42,084.00
3" Installation	Each	5	$ 850.00	$ 4,250.00
4" Installation	Each	8	$ 1,100.00	$ 8,800.00
6" Installation	Each	2	$ 1,600.00	$ 3,200.00
Contigency Installation Expenses	Each	1	$ 150,000.00	$ 150,000.00
Mobilization	Each	1	$ 4,000.00	$ 4,000.00
			Install Sub-Total	**$ 499,998.00**

Mueller Systems Mi.Net® AMI System Infrastructure, Installation and Reading Equipment

Description	Units	Quantity	Unit Sale Price	Extended
Mi.Net Multi-Network Data Collector, AC Power V4, ATT, C3 (MS-MNC-V4-AC-AT1)	Each	3	$ 12,700.00	$ 38,100.00
Mi. Node4 Repeater DC Pole MNT (MSW-NODE4-AC)	Each	3	$ 1,400.00	$ 4,200.00
Mi.Tech Handheld kit v4 (includes cables & Install Radio) (MS-H4-HH-INST-KIT)	Each	1	$ 6,300.00	$ 6,300.00
Installation Utility Owned Tank (LABOR-COLLECTOR1)	Each	3	$ 7,200.00	$ 21,600.00
Install with Pole Set (LABOR-REPEATER1)	Each	3	$ 1,800.00	$ 5,400.00

Mueller Systems MI.Net® AMI System Infrastructure Sub-Total	$ 75,600.00

Project Management & Training One Time Fees

Description	Units	Quantity	Unit Sale Price	Extended
CIS File Interface (MS-T-CIS-FILE)	Each	1	$ 15,700.00	$ 15,700.00
Project Management Fees (PROJECT-MGMT) & Ferguson	Each	1	$ 68,000.00	$ 68,000.00
Dropcountr Customer Portal One Time Set Up	Each	1	$ 13,400.00	$ 13,400.00
Mueller Customer Portal One Time Set Up Fee(MS-S-WEB-IMP-C)	Each	1	$ 6,700.00	$ 6,700.00
Full System & Software Training (MS-T-TRAIN-DAY)	Each	3	$ 3,000.00	$ 9,000.00
			Project Management and Training Sub-Total	$ 112,800.00

Mueller Systems Mi.Net® AMI Mi.Host Software (Annual Price)

Description	Units	Quantity	Unit Sale Price	Extended
4G Data Backhaul Fees (from each collector to server) (Annual Price)	Each	3	$ 497.81	$ 1,493.43
Customer Portal Annual Price (Year One)	Each	5,297	$ 2.40	$ 12,712.80
Cloud Based Software & System Monitoring Software Hosting (Annual Price)	Each	5,300	$ 4.15	$ 21,995.00
			Mueller Systems Mi.Net® AMI Mi.Host Software Sub-Total	$ 36,201.23

Mueller Systems Mi.Net® AMI System Total:	**$2,283,371.73**

Mueller Systems Mi.Net® Optional Maintenance programs

Description	Units	Quantity	Unit Sale Price	Extended
MI. TECH HH/Install Maint-YR (MS-H-M-YR) (Optional)	Each	1	$ 1,023.09	$ 1,023.09
MI.HUB Collector Maint (MS-G-M-YR) (Optional)	Each	3	$ 2,146.01	$ 6,438.03
MI.NET Repeater EXT Warranty (MS-R-M-YR) (Optional)	Each	3	$ 393.29	$ 1,179.87
			Mueller Systems Mi.Net Maint. Program Price Sub-Total	$ 8,640.99

Mueller Systems Mi.Net® NON - Optional Annual Fees

Description	Units	Quantity	Unit Sale Price	Extended
4G Data Backhaul Fees (from each collector to server) (Annual Price)	Each	3	$ 497.81	$ 1,493.43
Customer Portal (Annual Price)	Each	5,297	$ 2.40	$ 12,712.80
Cloud Based Software & System Monitoring Software Hosting (Annual Price)	Each	5,300	$ 4.15	$ 21,995.00
			Mueller Systems Mi.Net Maint. Program Price Sub-Total	$ 36,201.23

Additional Installation Services not included in our standard scope of work

Description	Units	Quantity	Unit Sale Price
Metal Lid cut for node mount (Labor Only)	Each	TBD	$ 20.00
Plastic Lid cut for node mount (Labor Only)	Each	TBD	$ 5.00
Lid Swap (Labor Only)	Each	TBD	$ 5.00
Vac Truck - Monthly rate	Each	TBD	$ 11,400.00
Replace meter setter	Each	TBD	$ 40.00
Repipe/Plumbing Repairs (1" or less) (Labor Only)	Each	TBD	$ 60.00
Repipe/Plumbing Repairs (1-1/2"-2") (Labor Only)	Each	TBD	$ 334.00
Repipe/Plumbing Repairs (3" - 6")(Labor Only)	Each	TBD	$ 550.00
Additional Plumbing repairs (Per Tech/Per Hour)	Each	TBD	$ 140.00
Daily charge for clean up/blackout days/delays (per day/per Tech)	Each	TBD	$ 700.00
Small meter box installation or modification (Labor Only)	Each	TBD	$ 40.00
Large or Double Meter box installation or modification(Labor Only)	Each	TBD	$ 100.00

The City will be responsible for any integration fees charged by their billing software provider if integration between the two is chosen to be done.
All Nodes must be mounted through the lid with a Mueller TTLH adapter. All water meter lids must be plastic.

Quoted prices are based upon receipt of the total quantity for immediate shipment (48 hours). Shipments beyond 48 hours shal be at the price in effect at time of shipment unless noted otherwise. Seller is not responsible for delays, lack of product or increase of pricing due to causes beyond our control, and/or based upon Local, State and Federal laws governing the type of products that can be sold or put into commerce. This Quote is offered contingent upon the Buyer's acceptance of Seller's terms and conditions, which are incorporated by reference and found either following this document, or on the web at http://wolseleyna.com/terms_conditionsSale.html. Government Buyers: All items quoted are open market unless noted otherwise.
Lead Law Warning: It is illegal to install products that are not "lead free" in accordance with US Federal or other applicable laws in potable water systems anticipated for human consumption. Products with *NP in the description are NOT lead free and can only be installed in non-potable applications. Buyer is solely responsible for product selection.

SECTION 3
FINANCIAL BENEFIT ANALYSIS

FERGUSON WATERWORKS

FERGUSON WATERWORKS

Financial Analysis Worksheet

Customer Name:	City of Port Lavaca, TX

Number of Meters in System		5,000
Estimated Current Average Meter Accuracy		70.00%
Number of Staff Required to Read and Bill		3
Staff Compensation Related to Reading and Billing (Including overhead allocation)	$	49,752
Annual Fixed Water/Sewer Revenues	$	1,880,309
Annual Variable Water/Sewer Revenues	$	3,137,916
Total Annual Water/Sewer Revenues	$	5,018,225
Total Operational Costs	$	3,565,859
Approximate cost of turn key Metering Solution	$	2,000,000

As a Result of a System Implementation:

Estimated Staff Costs available to be Re-deployed with Automation	49,752
Estimated Vehicle cost available to be Re-deployed with Automation	-

10 Year AMI Projection

FERGUSON WATERWORKS

Date: 6/7/2021

City of Port Lavaca, TX

Projected Annual Operational Savings:

Operational Savings (personnel costs, transportation, etc.)	49,752
Enhanced Service, Operating Efficiencies, Reduced Maintenance	71,317
Annual Cost Reductions	**$ 121,069**

Projected Average Annual Revenue Recovery:

Revenue from Improved Meter Reading Accuracy - 10 Year Avg	998,623
Annual Revenue Increase	**$ 998,623**

Cumulative Net Benefits:

Combined Savings and Revenue Enhancement	11,196,926
Project Cost	2,000,000
10 Year Cumulative Net Financial Benefit	**$ 9,196,926**
Project Payback (Years)	**1.79**

Opportunity Costs if AMI Implementation is Delayed:

Combined Annual Savings and Revenue Enhancement (see above)	1,119,693
Annual Inflation due to Delay (5% per annum assumed)	100,000
Total Annual QUANTIFIABLE Opportunity Costs	**$ 1,219,693**

Non-Quantifiable Opportunity Costs include compliance and conservation issues, higher tax and water rates, etc.

Cost of Delay:

1 Year Cost of Delay	**$ 1,219,693**
5 Year Cost of Delay	**$ 6,098,463**
Per Day	**$ 3,341.62**

This analytical model is intended for the use of Ferguson and its clients and any unauthorized distribution is prohibited. Ferguson does not guarantee that your project will generate the results presented herein. An investment grade audit performed by a qualified engineering organization is required to determine the actual size of your savings opportunity.

10 Year AMI Projection (Financed)

FERGUSON WATERWORKS

Date: 6/7/2021

City of Port Lavaca, TX

Projected Annual Operational Savings:

Operational Savings (personnel costs, transportation, etc.)	49,752
Enhanced Service, Operating Efficiencies, Reduced Maintenance	71,317
Annual Cost Reductions	**$ 121,069**

Projected Average Annual Revenue Recovery:

Revenue from Improved Meter Reading Accuracy - 10 Year Avg	998,623
Annual Revenue Increase	**$ 998,623**

Cumulative Net Benefits:

Combined Savings and Revenue Enhancement	11,196,926
Project Cost (With Financing)	2,283,995
10 Year Cumulative Net Financial Benefit	**$ 8,912,932**
Project Payback (Years)	**2.04**

Opportunity Costs if AMI Implementation is Delayed:

Combined Annual Savings and Revenue Enhancement (see above)	1,119,693
Annual Inflation due to Delay (5% per annum assumed)	100,000
Total Annual QUANTIFIABLE Opportunity Costs	**$ 1,219,693**

Non-Quantifiable Opportunity Costs include compliance and conservation issues, higher tax and water rates, etc.

Cost of Delay:

1 Year Cost of Delay	**$ 1,219,693**
5 Year Cost of Delay	**$ 6,098,463**
Per Day	**$ 3,341.62**

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FERGUSON WATERWORKS

Date 6/7/2021

City of Port Lavaca, TX

Year	Current Accuracy	New Accuracy	Diff.	Variable Revenue	Increased Revenue	Cumulative Increase
1	70.00%	100.00%	30.00%	$ 3,137,916.00	$ 941,374.80	$ 941,374.80
2	69.67%	99.67%	30.00%	$ 3,169,295.16	$ 950,788.55	$ 1,892,163.35
3	69.34%	99.34%	30.00%	$ 3,200,988.11	$ 960,296.43	$ 2,852,459.78
4	69.01%	99.01%	30.00%	$ 3,232,997.99	$ 969,899.40	$ 3,822,359.18
5	68.68%	98.68%	30.00%	$ 3,265,327.97	$ 979,598.39	$ 4,801,957.57
6	68.35%	98.50%	30.15%	$ 3,297,981.25	$ 994,341.35	$ 5,796,298.92
7	68.02%	98.50%	30.48%	$ 3,330,961.06	$ 1,015,276.93	$ 6,811,575.85
8	67.69%	98.50%	30.81%	$ 3,364,270.68	$ 1,036,531.80	$ 7,848,107.65
9	67.36%	98.50%	31.14%	$ 3,397,913.38	$ 1,058,110.23	$ 8,906,217.87
10	67.03%	98.50%	31.47%	$ 3,431,892.52	$ 1,080,016.57	$ 9,986,234.45
Total					**$ 9,986,234.45**	**$ 9,986,234.45**

Indicative Financing Rates

Option	Financing Amount	Interest Rate	Term	No. Ammual Payments	Annual Payment	Total Payments
A	$ 2,000,000	2.10%	5 Years	5	$425,549.08	$ 2,127,745.41
B	$ 2,000,000	2.24%	7 Years	7	$311,881.17	$ 2,183,168.16
C	$ 2,000,000	2.49%	10 Years	10	$228,399.46	$ 2,283,994.60

Payments Due Annually 1 Year in Arrears

SECTION 4
PROPAGATION STUDY

FERGUSON WATERWORKS

City of Port Lavaca (TX) - Mi.Net V6 Propagation Study

Study Details

Available Information

- Water Towers available in the service area
- City Properties available in the service area
- 5,310 Meter Locations (100% Plastic Lids)

Estimated Infrastructure Requirements

- Three (3) Multi-Network Collectors (on Water Towers and Ballfield Light Pole)
- Three (3) DCXR Repeaters (on Sign Poles)

Assumptions

- 5,204 meter location were able to be geocoded for this study. Additional meter locations provided after this study may require additional infrastructure.
- Study assumes water meters mounted under plastic pit lids. Nodes installed in plastic lids must be mounted through the lid with a Mueller TTLH adapter
- Areas with low signal strength may require additional infrastructure.
- Assets proposed for infrastructure locations will require a site survey to determine any nearby assets/locations viable for infrastructure placement. After site survey, if there are no viable assets, study will need revision.
- Study assumes an average ambient RF noise floor at or below –115dBm within the Mi.Net operational frequency band. An RF spectrum analysis may be completed during the site survey. High in-band noise may require additional network infrastructure.
- **For asset assumptions see pages labeled 'Infrastructure Installation notes and assumptions'.**

Performance Goals

- RF Coverage of installed base of meter/modules to be at 100%
- Read rate of at least 98.5% over a 3-day window of the installed base of active meter/modules.

Note:

This RF propagation study was conducted using the available information and assumptions stated in this document. Quantities and infrastructure locations are subject to change after detailed site survey following award.

Mueller SYSTEMS

City of Port Lavaca (TX) - Mi.Net V6 Propagation Study

Multi-Network Collector Locations

Type	Height Assumption	Asset Name	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Labor Part Number
MNC	120ft	Village Rd Water Tower	28.637526	-96.632205	LABOR-COLLECTOR1
MNC	120ft	George St Water Tower	28.615253	-96.632554	LABOR-COLLECTOR1
MNC	75ft	Ballfield Lights	28.602538	-96.627788	LABOR-COLLECTOR1

Case #76740

7/21/2021

City of Port Lavaca (TX) - Mi.Net V6 Propagation Study

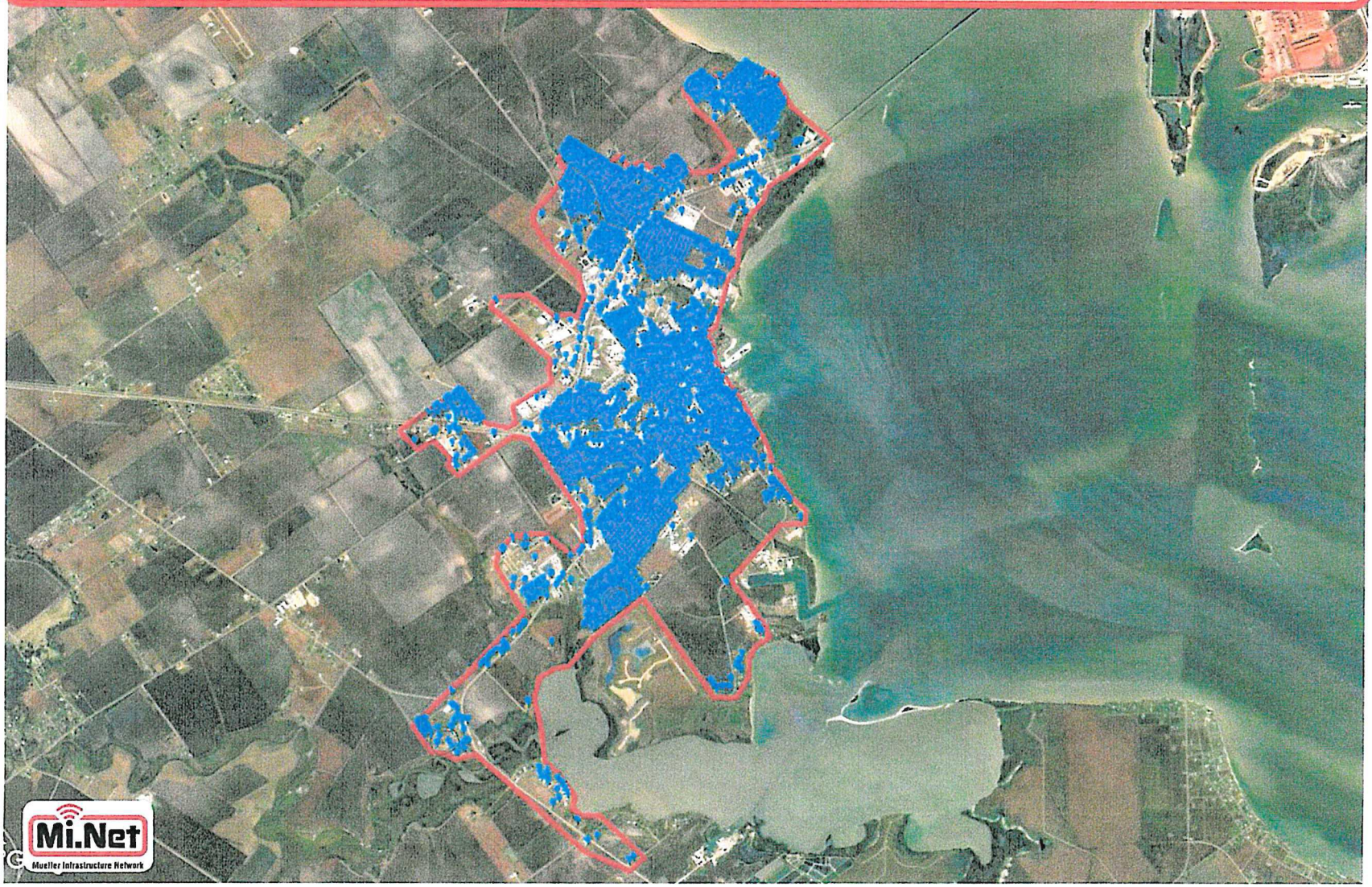
XR Repeaters

Type	Height Assumption	Asset Name	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Labor Part Number
DCXR	10ft	Sign Pole 1	28.579029	-96.655233	LABOR-REPEATER1
DCXR	10ft	Sign Pole 2	28.591655	-96.637417	LABOR-REPEATER1
DCXR	10ft	Sign Pole 3	28.610884	-96.656281	LABOR-REPEATER1

Mueller SYSTEMS

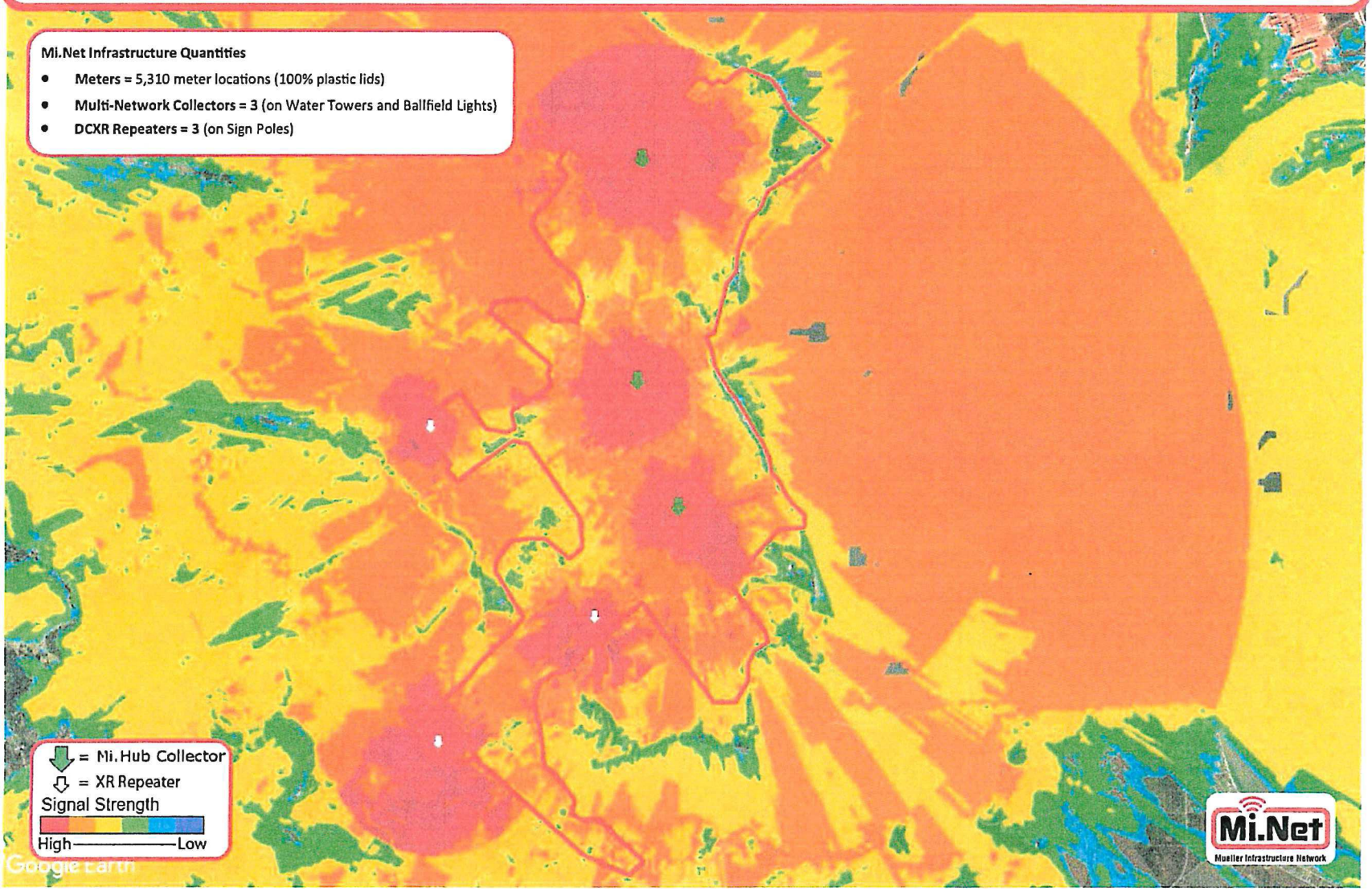
City of Port Lavaca (TX) - Mi.Net V6 Propagation Study

Estimated Service Area



City of Port Lavaca (TX) - Mi.Net V6 Propagation Study

Estimated RF Analysis Coverage



City of Port Lavaca (TX) - Mi.Net V6 Propagation Study

Infrastructure Installation Notes and Assumptions

Type/Part Numbers	Device	Notes/Assumptions
Tank <150': **LN: LABOR-COLLECTOR1** **PN:** MS-MNC-V4-AC-AT3 Tank >150': **LN: LABOR-COLLECTOR2** **PN:** MS-MNC-V4-AC-AT3	MNC/RMR/SMR on utility owned tank	Includes installation of antenna and amplifier/filter on top of tank to existing structure (i.e. corral or railing), running and securing coax from amplifier to collector on available raceway within arm's reach of ladder down the tank. Installation of the Collector at base of tank on utility supplied mounting panel or post, weather proofing all connections and RF sweep of connections. **a.** Assumes available AC source within close (3ft) range of the collectors installed site **b.** Assumes collector can be installed to an existing circuit or to an additional circuit breaker in an existing panel and that a good ground is provided or available for lightning arrestor **c.** Assumes suitable grounding point provided at top of structure, within 6ft of TTU installation location. *Does not include the following:* **d.** Other manual work not directly associated with installation of the Collector such as hand trenching from tank to Collector or electrical junction box and buildup of collector mounting frame **e.** Securing and encasing RF or AC cable in any form of conduit. **f.** Structural analysis or RF study of device with information provided by tower owner upon request, at cost plus 20%.

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Infrastructure Installation Notes and Assumptions

Type/Part Numbers	Device	Notes/Assumptions
Communication Tower <150': **LN: LABOR-COLLECTOR3** **PN:** MS-MNC-V4-AC-AT3 Communication Tower >150': **LN: LABOR-COLLECTOR4** **PN:** MS-MNC-V4-AC-AT3	MNC/RMR/SMR on communication tower	Includes installation of Antenna and Amplifier/filter on tower, running and securing coax from amplifier to collector down the tower. Installation of the Collector at base of tower on supplied mounting panel or post, weather proofing all connections, and RF sweep of connections. **a.** Assumes available AC source within close (3ft) range of the collectors installed site **b.** Assumes collector can be installed to an existing circuit or to an additional circuit breaker in an existing panel and that a good ground is provided or available for lightning protection at top of tower for TTU and bottom of tower for hub enclosure *Does not include other manual work not directly associated with installation of the Collector such as hand trenching from tank to Collector or electrical junction box and buildup of collector mounting frame.* **a. Does not include monthly lease fees (approx. $400 to $600 per month).** **b. Does not include costs associated with Construction Drawings, Structural Analysis, or any other owner fees associated installing equipment on the 3rd party structure.** **c. Does not include the required Antenna Mounting Hardware including Ring Mounts and Stand-offs.** d. Structural analysis or RF study of device with information provided by tower owner upon request, at cost plus 20%. *Assumes MS will negotiate terms of rental agreement on behalf of utility. Utility will enter into agreement with tower owner.*

Mi.Net
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City of Port Lavaca (TX) - Mi.Net V6 Propagation Study

Infrastructure Installation Notes and Assumptions

Type/Part Numbers	Device	Notes/Assumptions
Utility Asset **LN: LABOR-COLLECTOR5** **PN:** MS-MNC-V4-AC-AT3	MNC/RMR/SMR on Utility asset	Collector and MS provided hardware mounted to utility-provided asset at the height indicated in the prop study. Either bolted or clamped to building/pole provided with no additional mounting considerations using supplied mounting hardware. a. Assumes available AC source within close (3ft) range of the collectors installed site b. Assumes all parts of the installation can be accessed with a ladder and no man-lift required c. Assumes collector can be installed to an existing circuit or to an additional circuit breaker in an existing panel d. Structural analysis or RF study of device with information provided by asset owner upon request, at cost plus 20%.
Pole 25' or Smaller: **LN: LABOR-COLLECTOR6** **PN:** MS-MNC-V4-AC-AT3 Pole 25.1' to 55': **LN: LABOR-COLLECTOR7** **PN:** MS-MNC-V4-AC-AT3	MNC/RMR/SMR with MS Supplied Pole	Includes selected non-telescopic and non-tilting pole provided by MS and labor to locate, set and install pole and collector by MS in utility approved right of way. **a.** Assumes available AC source within close (3ft) range of the collectors installed site **b.** Assumes collector can be installed to an existing circuit or to an additional circuit breaker in an existing panel -Hurricane rated poles or specialized installations priced separately in accordance with requirements. *Any right of way permitting provided by utility.*

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City of Port Lavaca (TX) - Mi.Net V6 Propagation Study

Infrastructure Installation Notes and Assumptions

Type/Part Numbers	Device	Notes/Assumptions
Utility Asset **LN: LABOR REPEATER 3** **PN: MSW-NODE4-AC**	ACXR on Utility Asset	Repeater and MS provided hardware mounted to utility-provided asset at the height indicated in the prop study. Either bolted or clamped to building/pole provided with no additional mounting considerations using supplied mounting hardware. **a.** Assumes available AC source within close (3ft) range of the repeater installed site **b.** Assumes all parts of the installation can be accessed with a ladder and no man-lift required **c.** Assumes repeater can be installed to an existing circuit or to an additional circuit breaker in an existing panel.
Pole set **LN: LABOR-REPEATER1** **PN: MSW-NODE4-DC**	DCXR with Pole set	Includes 10' street sign typepost provided by MS and labor to locate and set post, and install repeater by MS in utility approved right of way. *Any right of way permitting provided by utility.*
Utility Asset **LN: LABOR-REPEATER2** **PN: MSW-NODE4-DC**	DCXR on Utility Asset	Repeater and MS provided hardware mounted to utility provided asset (i.e. street sign type post). Either bolted or clamped to asset provided with no additional mounting considerations using supplied mounting hardware.

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City of Port Lavaca (TX) - Mi.Net V6 Propagation Study

Customer Signature Approval

Customer Approval

By: _____
Authorized Signature

_____
Name (Print or Type)

_____
Title

SECTION 5
PRODUCT SPECIFICATION SHEETS

MUELLER

MUELLER

SOLID STATE METER (SSM)

Sizes 5/8" x 3/4" and 3/4" Short; 3/4" Long; and 1"

Applications: The Mueller solid state meter (SSM) is available in 5/8" X 3/4" through 2" sizes. The SSM meter provides 8 digits of granular data for visual reads and 8 digits in encoded electronic format for use in Mueller Mi.Net AMR / AMI applications. The meter can be used in any residential or commercial application where a high degree of accuracy at low flow rates is important.

Construction: The SSM meter utilizes a low lead copper alloy body with a polymer measuring tube and patented stainless steel reflectors. A heat treated glass lens and polymer lid surround provide protection for the liquid crystal display. 3.6 volt lithium batteries provide power for the processor for 20 years of life. All internal electronics are potted to prevent water intrusion in the toughest environments.

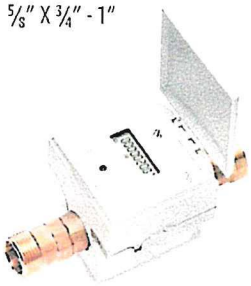
Operation: The SSM meter utilizes ultrasonic measurement technology to provide outstanding accuracy across a broad flow range with extremely low pressure loss. The static meter design means there are no moving parts inside the meter so it will not degrade in accuracy over the life of the meter due to mechanical wear, providing exceptional revenue for years to come.

With starting flow rates as low as 0.017 GPM and ultra-low flow accuracy of 95% at 0.05 GPM on the 5/8' X 3/4" and 3/4" short sizes, the SSM is capable of wringing every drop of revenue from your system and detecting the smallest leaks and backflow conditions. The stainless steel reflectors and measuring tube design channel water over the reflectors to keep them free of debris and increase the velocity of the water as it passes through the tube, contributing to the high degree of meter accuracy.

The display provides large numerals and icons that permit verification of the 8-digit meter volume as well as direction of flow, error alarm status, and battery life. A unique, never duplicated 8-digit serial number on the SSM meter faceplate and lid identifies it as the basis for all systems communication. The register face plate and housing provide visual information specific to the registration units, model, size, date of manufacture, and billing units, to provide verifiable and retrievable data in the event it is required.

Conformance to standards: Mueller SSM meter complies with AWWA C-715 requirements for accuracy and odometer wheel height as well as the American Standard Code for Information Interchange or ASCII.

SOLID STATE METER
5/8" X 3/4" - 1"



Operation: When interrogated by a Mueller AMR / AMI device, the SSM meter communicates the unique 8-digit serial number and 8-digit electronic reading in ACSII format where it can be recorded and maintained within the reporting structure of the AMR / AMI system. In the event that field testing is required, an optical button located on the display faceplate can be utilized to place the meter in test mode which provides excellent resolution for testing purposes.

Maintenance: The Mueller SSM meter is designed and manufactured to provide a 20 year service life with virtually no maintenance required. Meter lids are available as replacement components in the event of vandalism or the need for meter retrofits.

MATERIALS AND SPECIFICATIONS

Model	Solid State Meter (SSM)
Register Type	Solid State Encoder Register
Sizes	5/8" through 2" Ultrasonic Meters
Standards	Manufactured and tested to meet or exceed all applicable accuracy and pressure loss requirements of the AWWA C-715 standard and the American Standard Code for Information Interchange (ASCII)
Temperature Operating Range	34°F to 158°F
Storage Temperature Range	-4°F to 158°F
Water Temperature Range	34°F to 140°F
Connection Options	18" Nicor Connector, 5' flying lead wire, with factory potted connections
Materials	Processor / register housing and lid - thermoplastic; Register lens - heat treated, tempered glass; LCD, polymer measuring tube, SST reflectors
AMR / AMI Compatibility	Mi.Net AMR / AMI system, and other AMR / AMI systems that can utilize the standard 8-digit encoder protocol output.

SOLID STATE METER (SSM)

Sizes 5/8" x 3/4" and 3/4" Short; 3/4" Long; and 1"

GENERAL TECHNICAL DATA

	½" - ¾" - 1"
Medium Temperature Range	34 ... 122 °F
Ambient Operating Temperature	34 ... 158 °F
Ambient Storage Temperature	-4 ... +140 °F (>90° F max. for one hour)
Maximum Pressure	psi 200
Power Supply	3.6 VDC lithium battery
Battery Lifetime	20 years
Interfaces	Industry standard Encoder protocol, ASCII output for compatibility with all AMR / AMI systems
Data Storage	Alarms and consumption values
Protection Class	IP 68

TECHNICAL DATA DISPLAY

	½" - ¾" - 1"
Display Indication	LCD, 8-digit, Gallon Visual display to 0.1 Gallons and Cubic Foot Display to 0.01 Cubic Feet
Units	Flow and volume (GPM, gal, Ft^3)
Values Displayed	Volume - flow - reverse flow - water temperatures - display test - error and alarm status - battery lifetime
Values Transmitted	8-digit electronic resolution only

APPROVAL

	½" - ¾" - 1"
NSF	Complies with NSF / ANSI Standard 61, Annex F/G
AWWA	Meets or exceeds applicable sections of the AWWA / ANSI C700 Standards
FCC	Complies with FCC part 15 B

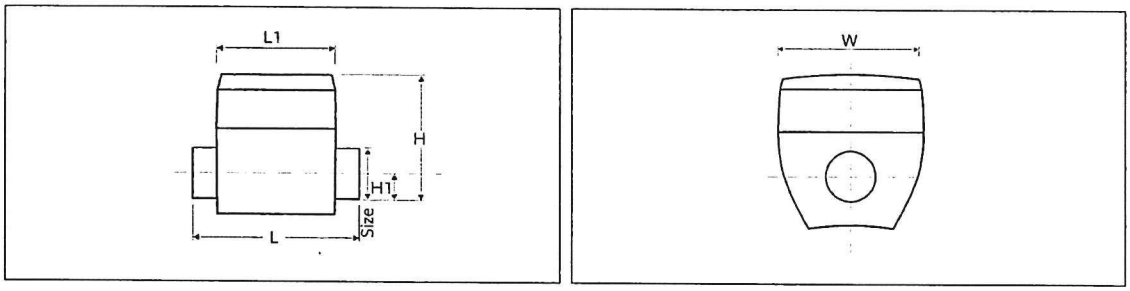
MATERIAL

	½" - ¾" - 1"
Measuring Pipe	Lead-free copper alloy "CUPHIN®"
Register Housing	Engineered Polymer
Transducers	Composite
Reflectors	Stainless steel

SOLID STATE METER (SSM)

Sizes 5/8" x 3/4" and 3/4" Short; 3/4" Long; and 1"

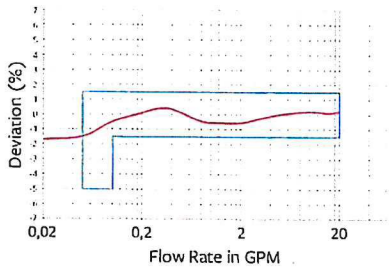
DIMENSIONS



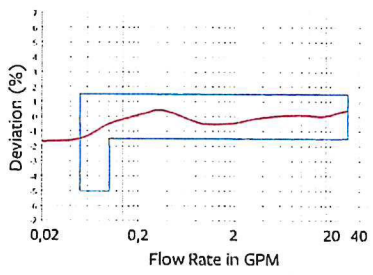
SIZE			5/8" X 3/4"	3/4" S	3/4" L	1"
Lay Length	L	Inch	7.5"	7.5"	9.0"	10.75"
Register Length	L1	Inch	3.5"	3.5"	3.5"	3.5"
Register Width	W	Inch	3.7"	3.7"	3.7"	3.7"
Height to Center of Pipe	H	Inch	4.0"	4.0"	4.0"	4.2"
Height to Center of Pipe	H1	Inch	1.3"	1.3"	1.3"	1.4"
Nominal Thread Size			1"-11.5 NPSM	1"-11.5 NPSM	1"-11.5 NPSM	1.25"-11.5 NPSM
Net Weight		Lb.	2.8	2.8	3.1	3.5

TYPICAL FLOW CHARTS

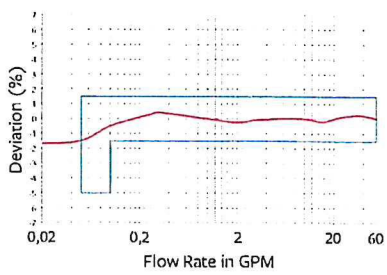
Typical Flow Chart 5/8" Mueller SSM



Typical Flow Chart 3/4" Mueller SSM



Typical Flow Chart 1" Mueller SSM



TECHNICAL DATA

SIZE			5/8" X 3/4"	3/4" S	3/4" L	1"
Lay Length	L	Inch	7.5	7.5	9	10.75
Operating Flow Range		GPM	0.1 - 30	0.1 - 30	0.1 - 30	0.4 - 55
Low Flow Range		GPM	0.05 - 0.1	0.05 - 0.1	0.05 - 0.1	0.25 - 0.4
Operating Range accuracy		%	±1.5	±1.5	±1.5	±1.5
Low Flow Range accuracy		%	-5 / ±1.5	-5 / ±1.5	-5 / ±1.5	-5 / ±1.5
Pressure Loss			2.0 psi at 15 GPM	2.0 psi at 15 GPM	2.0 psi at 15 GPM	1.5 psi at 25 GPM
Operating Performance			In the temperature range of 45 to 85° F, meter consumption measurement is accurate to ±1.5% over the normal flow range (reference: approved test bench, ISO9001 certified.			

MUELLER

SOLID STATE METER (SSM)

Sizes 1 ½" & 2"

Applications: The Mueller solid state meter (SSM) is available in 1½" and 2" sizes. The SSM meter provides 8 digits of granular data for visual reads and 8 digits in encoded electronic format for use in Mueller Mi.Net AMR / AMI applications. The meter can be used in any residential or commercial application where a high degree of accuracy at low flow rates is important.

Construction: The SSM meter utilizes a stainless steel body with a polymer measuring tube and patented stainless steel reflectors. A heat treated glass lens and polymer lid and surround provide protection for the liquid crystal display. 3.6 volt lithium batteries provide power for the processor for 20 years of life. All internal electronics are potted to prevent water intrusion in the toughest environments.

Operation: The SSM meter utilizes ultrasonic measurement technology to provide outstanding accuracy across a broad flow range with extremely low pressure loss. The static meter design means there are no moving parts inside the meter so it will not degrade in accuracy over the life of the meter due to mechanical wear, providing exceptional revenue for years to come.

With ultra-low flow accuracy of 95% at 0.08 GPM on the 1 ½" sizes, the SSM is capable of wringing every drop of revenue from your system and detecting the smallest leaks and backflow conditions. The stainless steel reflectors and measuring tube design channel water over the reflectors to keep them free of debris and increase the velocity of the water as it passes through the tube, contributing to the high degree of meter accuracy.

The display provides large numerals and icons that permit verification of the 8-digit meter volume as well as direction of flow, error and alarm status, and battery life. A unique, never duplicated 8-digit serial number on the SSM meter faceplate and lid identifies it as the basis for all systems communication. The register face plate and housing provide visual information specific to the registration units, model, size, date of manufacture, and billing units, to provide verifiable and retrievable data in the event it is required.

Conformance To Standards: Mueller SSM meter complies with AWWA C-715 requirements for accuracy and odometer wheel height as well as the American Standard Code for Information Interchange or ASCII.

Operation: When interrogated by a Mueller AMR / AMI device, the SSM meter communicates the unique 8-digit serial number and 8-digit electronic reading in ACSII format where it can be recorded and maintained within the reporting structure of the AMR / AMI system. In the event that field testing is required, an optical button located on the display faceplate can be utilized to place the meter in test mode which provides excellent resolution for testing purposes.



SOLID STATE METER
SIZES 1 ½" & 2"

Maintenance: The Mueller SSM meter is designed and manufactured to provide a 20 year service life with virtually no maintenance required. Meter lids are available as replacement components in the event of vandalism or the need for meter retrofits.

MATERIALS AND SPECIFICATIONS

Model	Solid State Meter (SSM)
Register Type	Solid State Encoder Register
Sizes	1½" & 2" Ultrasonic Meters
Standards	Manufactured and tested to meet or exceed all applicable accuracy and pressure loss requirements of the AWWA C-715 standard and the American Standard Code for Information Interchange (ASCII)
Temperature Operating Range	34°F to 158°F
Storage Temperature Range	-4°F to 158°F
Water Temperature Range	34°F to 140°F
Connection Options	18" Nicor Connector, 5' flying lead wire, with factory potted connections
Materials	Processor / register housing and lid - thermoplastic; Register lens - heat treated, tempered glass; LCD, polymer measuring tube, SST reflectors
AMR / AMI Compatibility	Mi.Net AMR / AMI system, and other AMR / AMI systems that can utilize the standard 8-digit encoder protocol output.

SOLID STATE METER (SSM)

Sizes 1 ½" & 2"

GENERAL TECHNICAL DATA

	1.5" AND 2"
Potable Water Temperature Range	34 ... 122 °F
Ambient Operating Temperature	34 ... 158 °F
Ambient Storage Temperature	-4 ... +140 °F (>90° F max. for one hour)
Maximum Pressure	psi 300
Power Supply	3.6 VDC lithium battery
Battery Lifetime	20 years
Interfaces	Industry standard Encoder protocol, ASCII output for compatibility with all AMR / AMI systems
Data Storage	Alarms and consumption values
Protection class	IP 68
Operating performance	In the temperature range of 45 to 85 °F, meter consumption measurement is accurate to ±1.5% over the normal flow range (reference: approved test bench, ISO9001 certified.

TECHNICAL DATA DISPLAY

	1.5" AND 2"
Display	LCD, 8-digit Visual resolution in US Gallons to 0.1 and Ft3 to 0.01
Units	Flow and volume (GPM, gal, Ft3)
Values Displayed	Volume - flow - reverse flow - water temperatures - display test - error and alarm status - battery lifetime

APPROVAL

	1.5" AND 2"
NSF	Complies with NSF / ANSI Standard 61, Annex F/G
AWWA	Meets or exceeds applicable sections of the AWWA / ANSI C715 Standards
FCC	Complies with FCC part 15 B

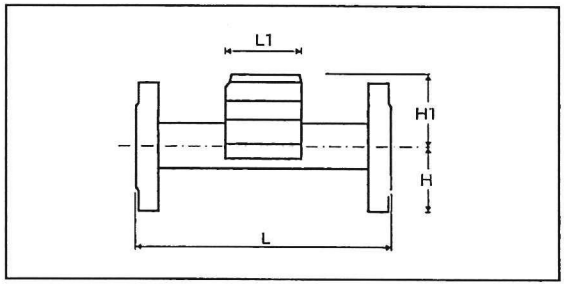
MATERIAL

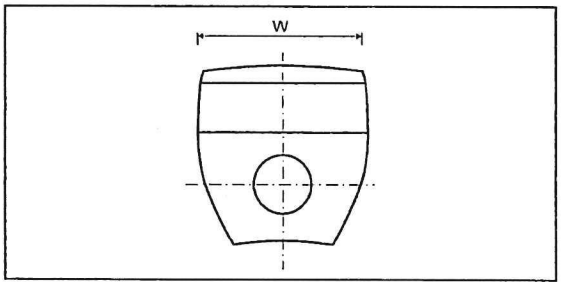
	1.5" AND 2"
Measuring Pipe	Stainless Steel
Register Housing	Engineered Polymer
Transducers	Composite
Reflectors	Stainless steel

SOLID STATE METER (SSM)

Sizes 1 ½" & 2"

DIMENSIONS

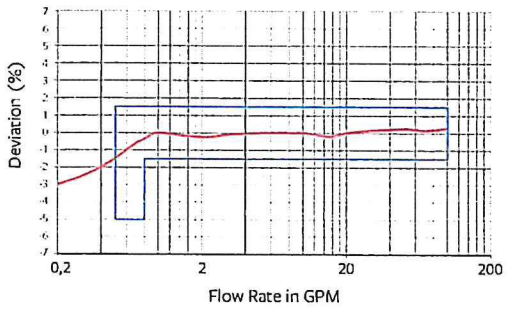




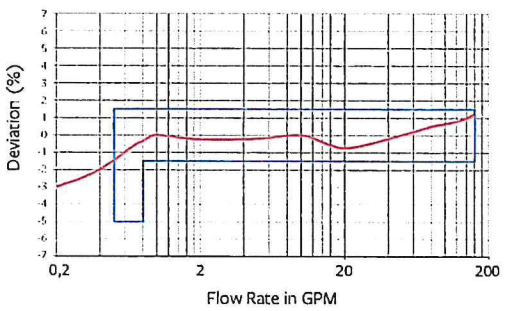
SIZE			1.5"	2" L
Lay Length	L	Inch	13"	17"
Register Length	L1	Inch	3.5"	3.5"
Register Width	W	Inch	3.75"	3.75"
Height to Center of Pipe	H1	Inch	2"	2.5"
Height to Center of Pipe	H1	Inch	3.3"	3.3"
Net Weight		Lb.	14.1	19.2

TYPICAL FLOW CHARTS

Typical Flow Chart 1 ½" Mueller SSM



Typical Flow Chart 2" Mueller SSM



TECHNICAL DATA

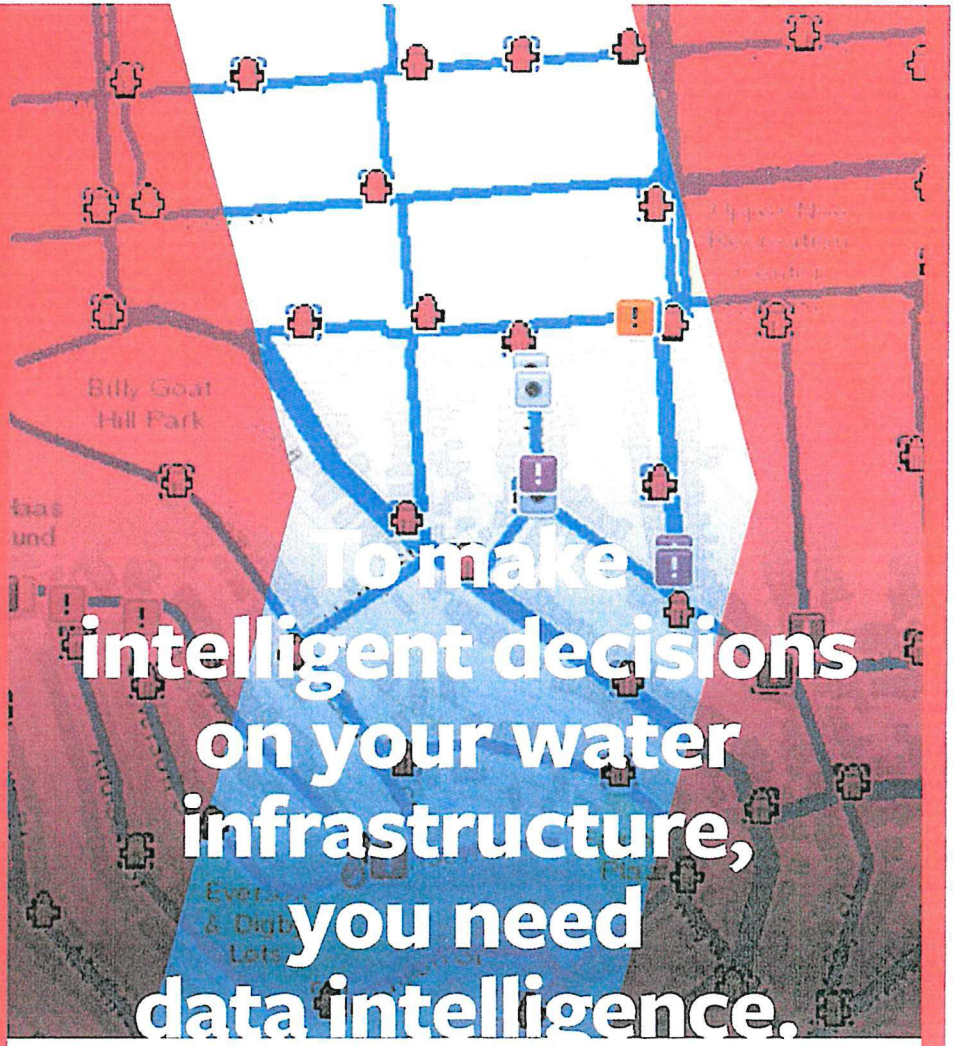
SIZE			1.5"	2" L
Lay Length	L	Inch	13"	17"
Operating Flow Range		GPM	0.8 - 100	0.8 - 160
Low Flow Range		GPM	0.5 - 0.8	0.55 - 0.8
Operating Range accuracy		%	±1.5	±1.5
Low Flow Range accuracy		%	-5 / ±1.5	-5 / ±1.5
Pressure Loss			3.5 psi at 70 GPM	3.6 psi at 110 GPM

INTELLIGENT INSIGHT INTO YOUR WATER SYSTEM

The Sentryx™ Water Intelligence platform provides utilities with unique insights into the health of the distribution system. Using Mueller® fire hydrants as a communications backbone and battery powered state-of-the-art sensors, utilities will be able to understand how their distribution system is performing like never before. The Sentryx™ software will record and display important data from water sensing technology including pressure, flow, leak, chlorine and pH. Leveraging over 160 years of industry experience and state-of-the-art machine learning technology, your data will be transformed into insights that can be used to make critical decisions about your operations and maintenance programs.

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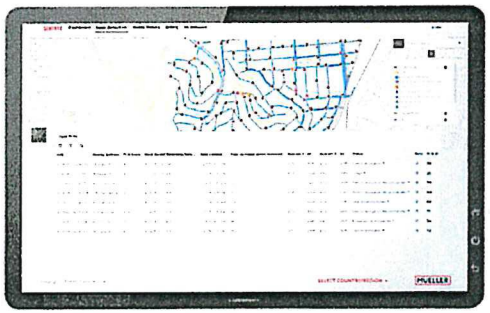
Introducing Sentryx™ Water Intelligence

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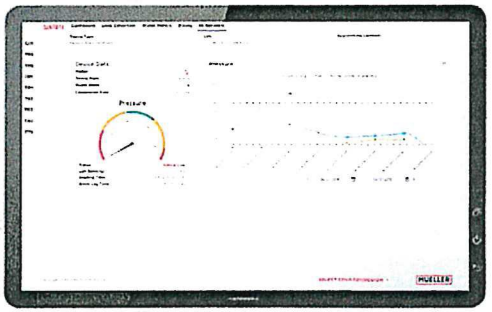
Welcome to an advanced technology platform that will change the way your utility will look at your water and its infrastructure system. Sentryx™ Water Intelligence is a unique hub of information that helps with analytical and strategic decisions, as well as day-to-day water distribution and utility operation. Together, information and data is true power. Data is easily obtained via any access point along the pipe including sensors, meters, hydrants, valves and more. Using Mueller® products such as the Centurion® fire hydrants, Jones® fire hydrants, Hydro-Guard® smart flushing systems, remote disconnect meters and EchoShore®-DX leak detection, utilities can gain unique insights into the health of their water system which is not available anywhere else in the market. Mueller fire hydrants are used to house communications equipment, eliminating the need for expensive infrastructure installed on the property of other utilities. Sentryx™ Water Intelligence is the technology you need to be proactively in control of your water management system to increase the life of your infrastructure and lower future capital cost.

	SENTRYX™ WATER INTELLIGENCE	LEADING COMPETITORS
Usage	√	√
Leaks	√	√
Pressure	√	
Chlorine Levels	√	
ph Levels	√	
Temperature	√	

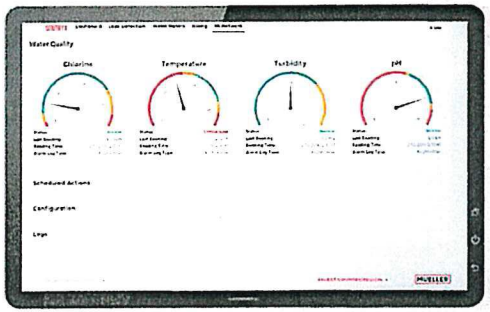
Sentryx™ Water Intelligence outperforms all others. It's the one platform for all the data intelligence you need including water quality, leak detection, pressure, increased security and much more.



Leak Detection



Pressure Monitoring



Water Quality



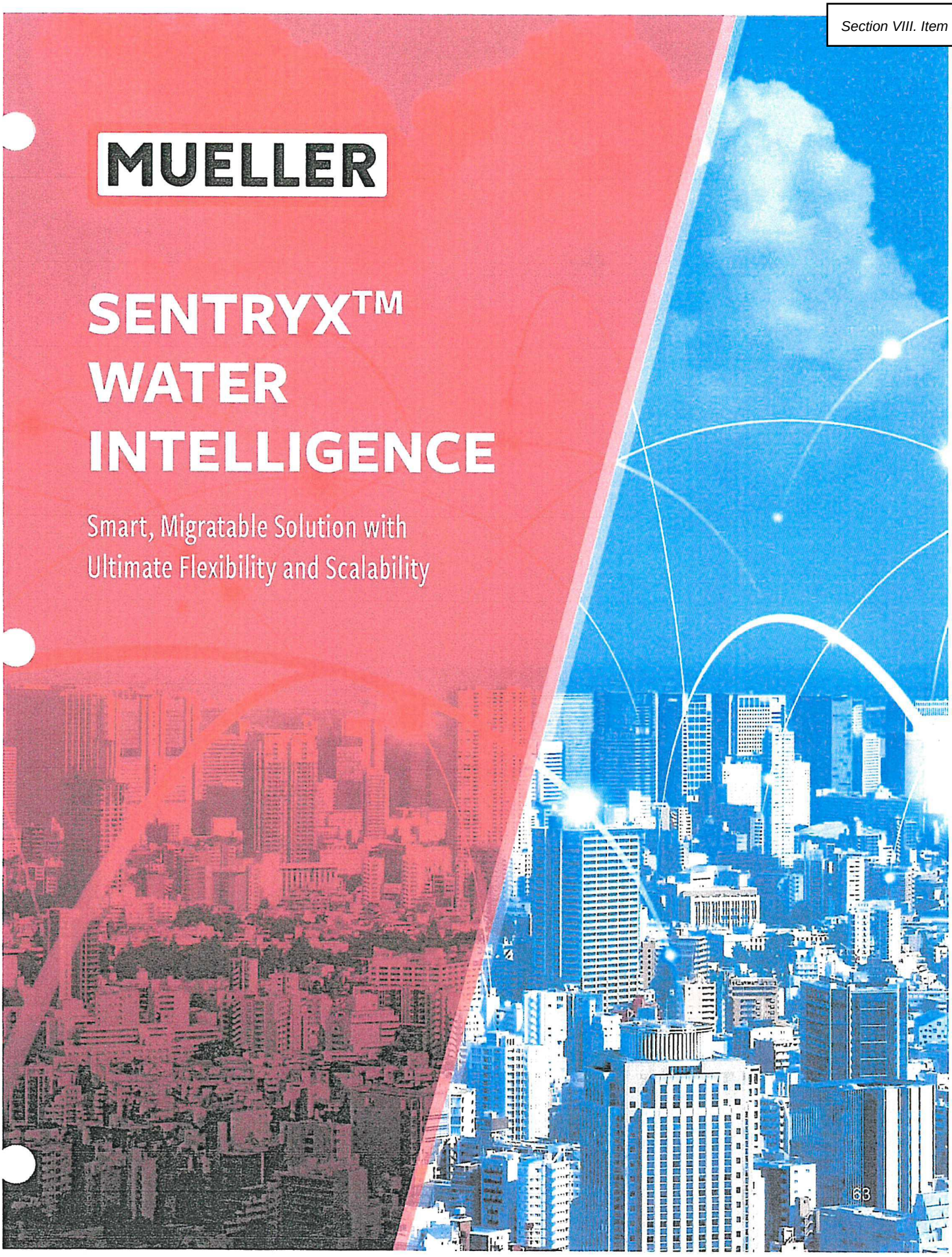
Water Meters

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MUELLER

SENTRYX™ WATER INTELLIGENCE

Smart, Migratable Solution with
Ultimate Flexibility and Scalability

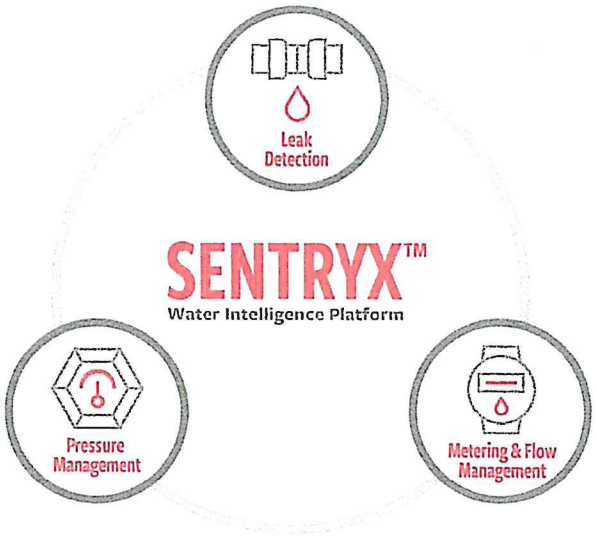


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SENTRYX™ WATER INTELLIGENCE PLATFORM AS A DIGITAL WATER NETWORK ENABLER

Understanding what digital transformation means to your utility in terms of which challenges to address and which initiatives to prioritize are a good starting point. When talking to water utilities, some of their biggest threats are:

- Cyberthreats: How can we enhance and monitor security to protect utilities and homeowners' data?
- Health of the water system: How can we analyze, compare site level consumption data, and observe trends to make data-driven decisions?
- Increasing operational cost, decreasing efficiency: How can we improve the distribution of information within the utility and make information easier to access?



WHAT IS SENTRYX™ WATER INTELLIGENCE

Sentryx Water Intelligence is a digital services platform for water utilities to monitor, operate and monetize water distribution networks.

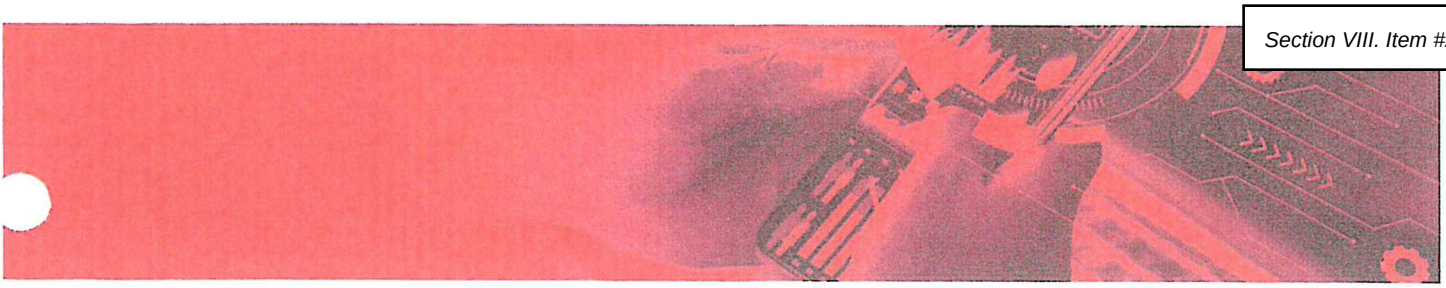
WHY SENTRYX™

Easy: All your water network data integrated into one secure platform with intuitive dashboards

Customer Centric: Improve network visibility to prevent and manage issues before customer impact

Sustainable: Realize a resilient and more sustainable utility through platform insights and efficient operations

Dynamic Implementation: Bundle or independent services for metering, pressure monitoring and leak detection



SENTRYX™ USE CASES

Water Utility Business Challenges	How Sentryx Platform can help
Fragmented Data Silos, Multiple Software Applications	Utilities can get more efficient by having a single system to sign into, instead of having to switch between multiple systems. Analysis can be performed using different types of real-time sources, allowing utilities to see the whole picture and make informed decisions.
Manual meter reading and billing inaccuracy lead to operational inefficiency and lower customer satisfaction	By removing intermediaries such as manual truck rolls and data entry, accurate meter data is available near real-time which decreases billing errors. Sentryx algorithms can help accelerate the meter to cash cycle by reducing the time difference between water consumption and revenue generation.
Managing scalability and integration when supply network evolves	The Sentryx platform is customizable to a single user level; flexible and scalable on a module level. A water utility can effortlessly add more water meter data points to its water metering module without having to reconfigure the entire platform architecture.
Evolving landscape of cyber threat	Data security is our top priority. Mueller has implemented stringent security measures to provide end-to-end protection on the user interface, and critical field devices and to utility IT data systems. Additionally, leading companies in cyber-security such as Amazon Web Services serves as an added protection of the utility and homeowner's data.

ROUND-THE-CLOCK SUPPORT

Mueller Network Operations Center (NOC) provides supervision 24/7 to help monitor, manage and report on utilities' water infrastructure.

Sentryx contracts include service level agreements with NOC support, customizable to utility's needs. An alternative option to license its proprietary technology for utilities that wish to self-monitor is also available.

Four tiers of support are available:



- Phone support
- Live Monitoring
- Quality Assurance
- Engineering Support



This smart, migratable solution gives utilities the ultimate flexibility and scalability and allows advanced capabilities to be integrated to fixed networks or drive-by solutions, without replacing the entire system.

Are you ready to accelerate your network operational efficiency and billing accuracy? Call 1.800.423.1323 or visit marketing.muellerwp.com/sentryx-metering

For more information about Mueller or to view our full line of water products, please visit muellersystems.com or call Mueller customer service at 1.800.423.1323.

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Why Dropcountr?

Unlock the Full Value of Your AMI Investment

Hourly water data is the key to unlocking a stronger relationship with your customers.

With hourly water data, customers receive leak alerts and more closely monitor and understand how they use water.

This means more satisfied customers, and fewer high bill complaints for your customer service team.

A Customer Portal That Your Customers Will Actually Use

Mobile device use has surpassed computers, and your customers use native mobile apps from the Apple App Store and Google Play more than 90% of the time.

Dropcountr offers a true native mobile application (iOS and Android), but is also available via web browser.

Industry-Leading User Adoption and Conservation

With our consumer-centric mobile and web applications, and monthly marketing outreach campaigns, Dropcountr is the industry leader in both user adoption (over 30%) and conservation (9% on average).

No Customer Left Behind

Dropcountr is the only customer engagement platform that is ADA compliant, and is available in both English and Spanish.

Dropcountr Base Platform

CUSTOMER ENGAGEMENT & SELF-SERVICE

Dropcountr is a cloud-based customer engagement and analytics software platform for water utilities and their customers.

HOME and BUSINESS are free mobile and web apps for your customers. CLEAR is an analytics and communication dashboard for utility staff.

HOME

- iOS and Android mobile apps
- Responsive web browser experience
- Water use displayed in annual, monthly, daily, hourly intervals
- Anonymous comparison to similar homes (social norming)
- Comparison to a budget or mandate
- Multiple users per service address
- Multiple service addresses per user
- Multiple meters per service address
- Leak, budget, and emergency alerts
- Mobile push notifications
- Emails
- Curated water tips and utility rebates
- Facilitated electronic bill payment
- Dedicated Dropcountr support

BUSINESS

- Standard HOME features but with a user interface designed for non-residential accounts
- Water use is compared to similar business categories

CLEAR Utility

- Customer and meter data for all service accounts
- Customizable index and map views
- Filters to target customer groups for specific communications
- Draw shape on map to isolate accounts for review and targeted communication
- Email all service accounts or a targeted group
- Send mobile push notifications to all enabled or targeted accounts
- Export data to Microsoft Excel
- View account water use, messaging, customer service call and resolution history
- Mirrored view of customer's HOME account for customer support
- Edit or create conservation tips and current utility rebates

*Optional Irrigation Detection & Demand and Text Messaging modules are available.

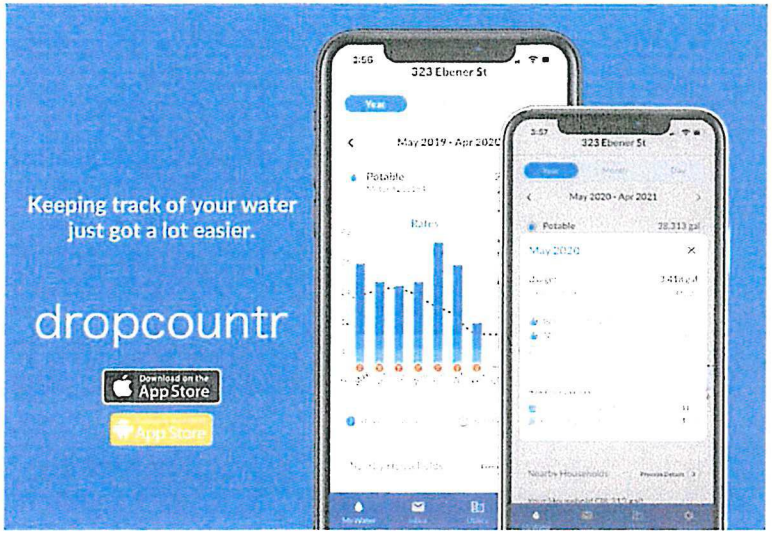
HOME & BUSINESS

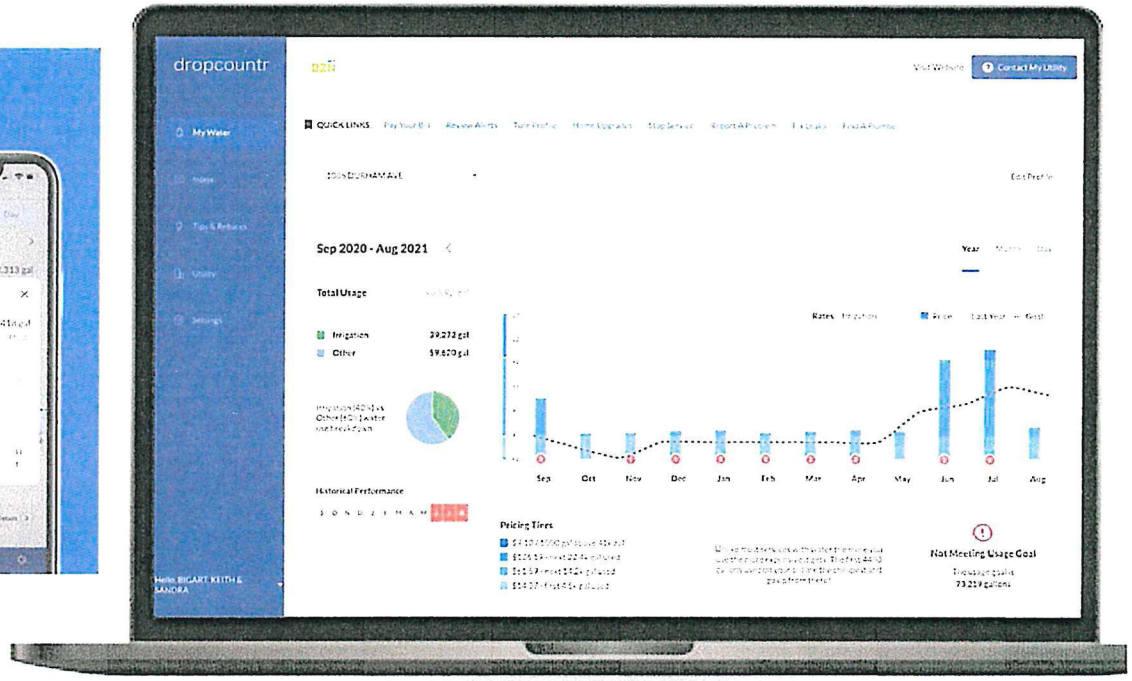
FOR RESIDENTIAL AND COMMERCIAL CUSTOMERS

Dropcountr HOME is designed to increase residential customer Water IQ. Customer account information, water use, important alerts, and electronic bill payment are all conveniently accessed on a smartphone or computer. Dropcountr HOME is intuitive, powerful, and provides timely information to empower the utility customer.

Dropcountr BUSINESS offers the same features as HOME, but with an interface and experience better suited for commercial customers.

Both HOME and BUSINESS are available as mobile iOS & Android apps, and on any internet-connected computer or smartphone,





Increase Customer Water IQ

HOME & BUSINESS

Dropcountr HOME & BUSINESS are designed to first inform and educate your customers, and then empower them to manage their water use and increase self-service.

Reduce customer service call volume

Customers who have access to their information, and understand their water use are less likely to call utility staff with questions or to dispute a bill.

Stronger customer relationships for uncertain times

Rates will increase and pipes will break. Strengthen the utility-customer relationship ahead of these events, by providing customers with a free and convenient monitoring tool.

Leak alerts

Dropcountr leak detection algorithms trigger alerts to customer mobile devices and email, and are flagged for utility staff in CLEAR.

Monthly Water Use Reports

Automated monthly water use emails supplement HOME & BUSINESS on mobile and web. This monthly summary reminds users to check their account, and presents an opportunity to deliver timely and relevant utility announcements or messages.

Information Inclusivity

All customers are entitled to information that increases their Water IQ. Dropcountr is available in Spanish, and is the only water customer portal that is ADA compliant - on both mobile and web.

- Why is my bill so high?
- How much water do i use?
- How does that compare to last month?
- Do I use more than I should?
- How can I prevent leaks and water damage?
- ¿Tiene información en Español?

Rates and Tiers

Rate tiers can be confusing and lead to customer service calls. Dropcountr presents rate tiers and pricing in a simple and intuitive format.

★★★★★

RickEsq, 05/04/2021

Great app

This app was a lifesaver. We have a vacation property and not always there. A couple of busted sprinklers made this app indispensable. Probably saved us hund more

Targets & Social Norming

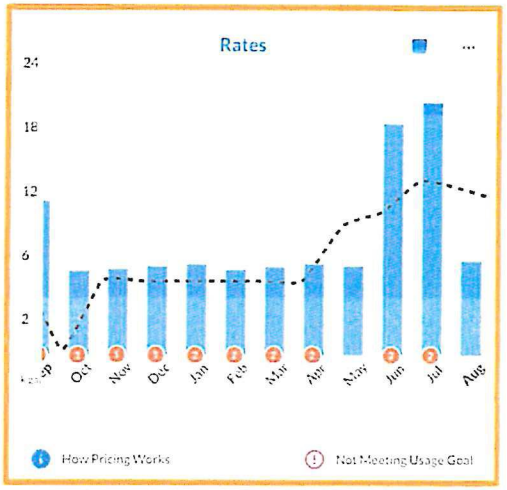
CUSTOMER ENGAGEMENT & SELF-SERVICE

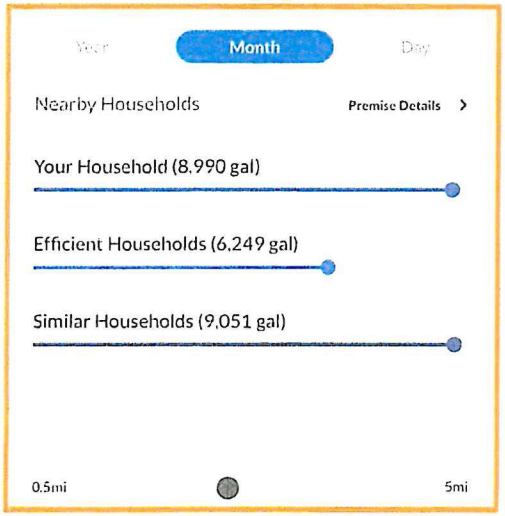
Water Use Targets

We all benefit from setting a budget on certain items. Whether it's to conserve something in short supply or to avoid overspending, a target to track against our progress can help.

For each customer account, Dropcountr develops and presents a water budget, which is then compared to actual use. Our water budgeting algorithm accounts for account type, family or business size, irrigation profile, and local climate factors.

Does your state or region have water supply or demand challenges? During a drought in California, Dropcountr adjusted our budgeting algorithm to target the conservation mandate for each customer account.





Social Norming (comparing water use to similar customer accounts)

In recent years, the field of behavioral science has shown that social norms-based comparisons can change perspectives and alter behaviors.

Dropcountr leverages this social norming concept via an anonymous comparison to similar households located close by.

Our social norming algorithm prioritizes certain criteria for comparison (e.g. household occupancy, lot size, irrigation) to ensure a fair and equitable comparison.

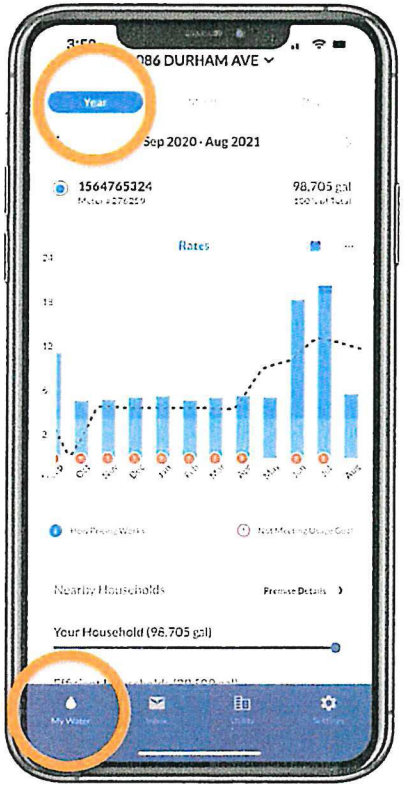
This comparison provides important context to the water use information presented in HOME & BUSINESS, and guides customers to improve their water use efficiency.

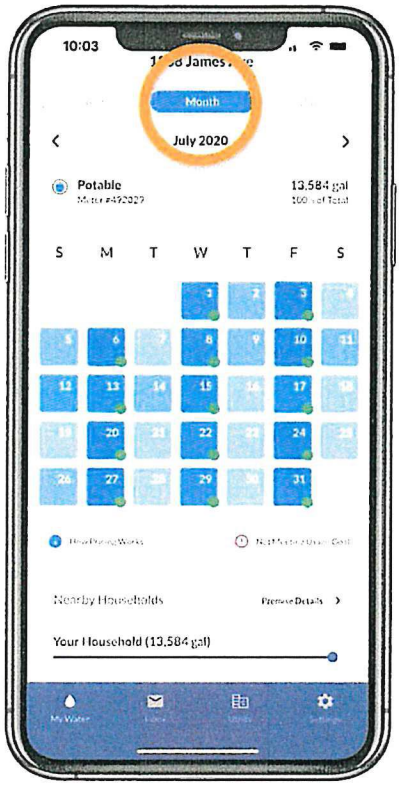
My Water Use

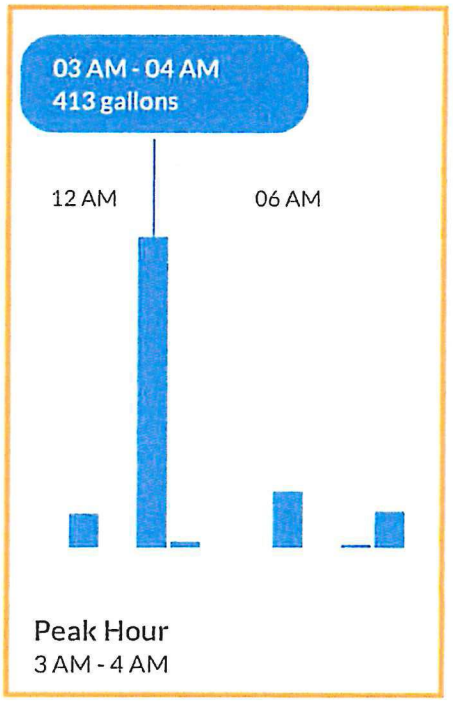
CUSTOMER ENGAGEMENT & SELF-SERVICE

Dropcountr HOME and BUSINESS users can view and better understand their water use by the YEAR, MONTH, DAY, and HOUR.

Select between multiple meters or review a second service address. Understand how water use relates to a bill with rate tier and pricing details.







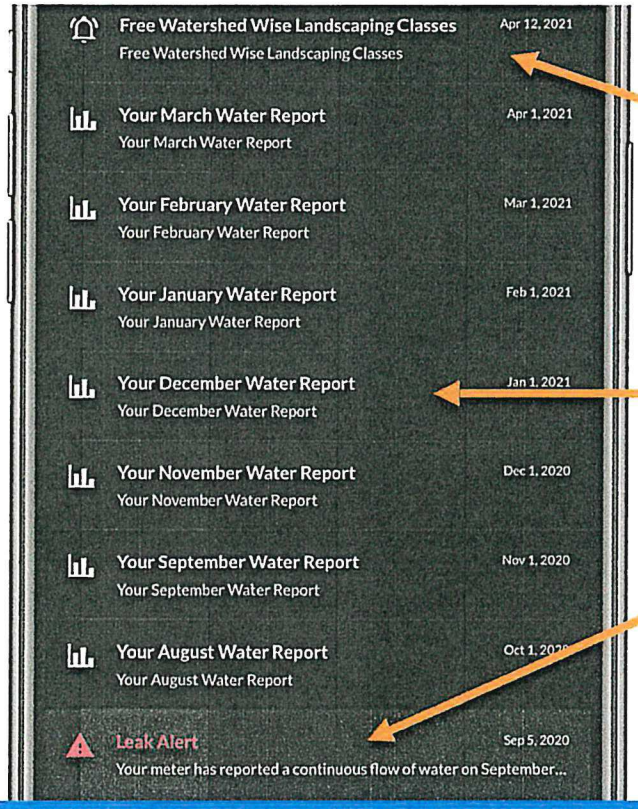
User Inbox

CUSTOMER ENGAGEMENT & SELF-SERVICE

Dropcountr HOME and BUSINESS users can store and manage all received messages and alerts in their Inbox.

Monthly water reports, rate change announcements, service outage alerts, boil water advisories, leak alerts, budget overages, and more.





Utility rebates and offers

Free automated monthly water reports

Leak alerts and other emergency notifications

Flexible Notifications

CUSTOMER ENGAGEMENT & SELF-SERVICE

Automated Notifications

Leak alerts and budget overages are sent automatically.

A free monthly water use report is also sent via email.

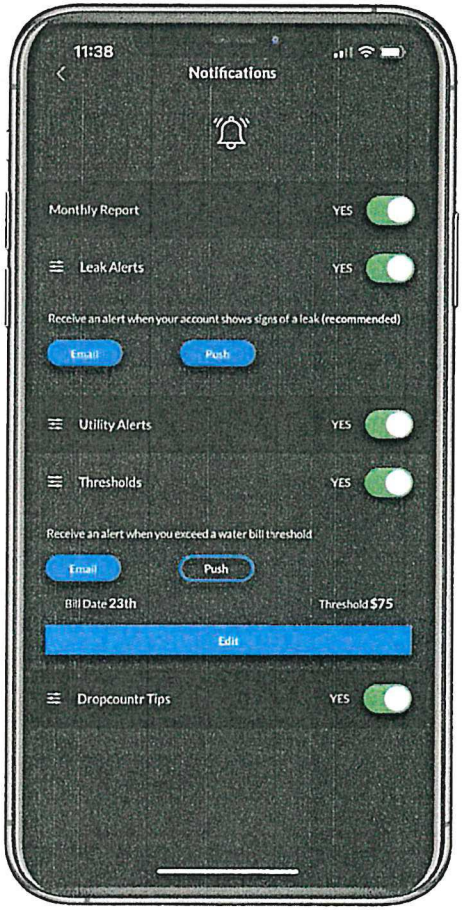
Timely Announcements

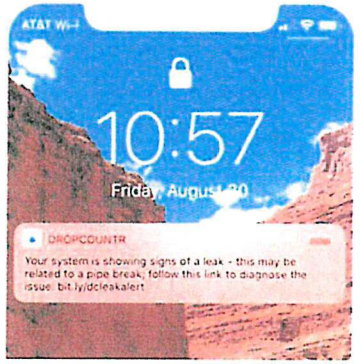
Utility staff can also send messages and notifications regarding rate changes, rebate opportunities, boil water advisories, service alerts, and more.

User-defined Message Preferences

Customers select how to receive messages in each category.

Choose one, or a combination of mobile push message app, email, text message.





LEAK ALERT VIA PUSH MESSAGE



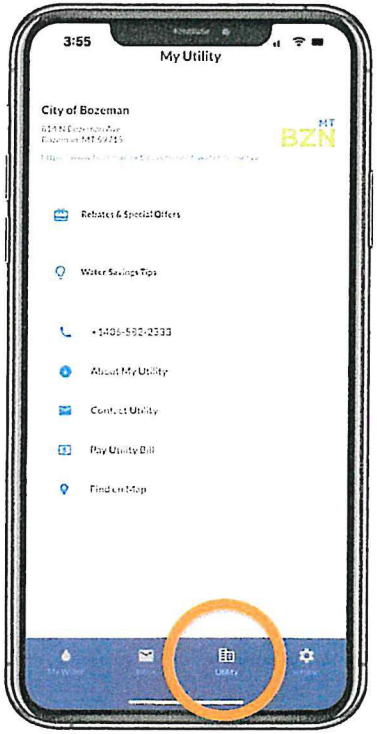
SERVICE OUTAGE NOTIFICATION

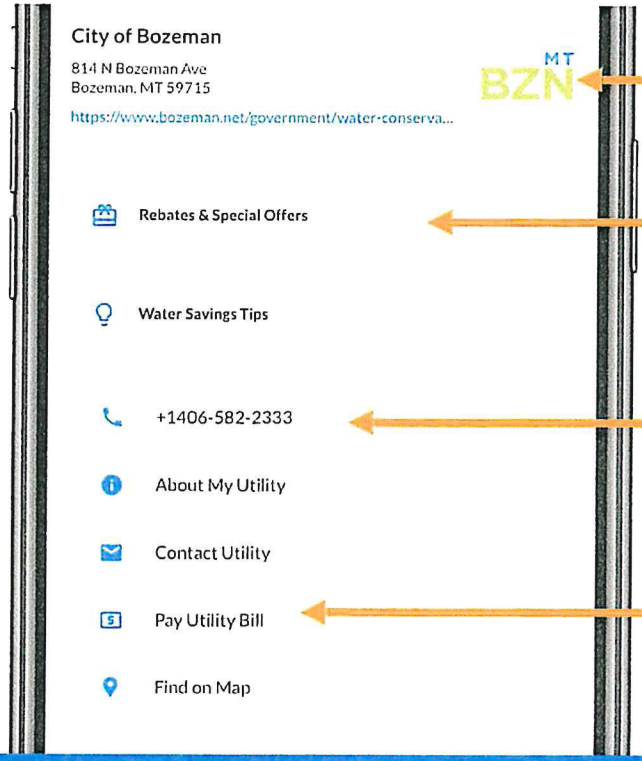
Utility Branding

CUSTOMER ENGAGEMENT & SELF-SERVICE

Dropcountr HOME and BUSINESS provide a utility-branded customer experience.

This dedicated screen provides customer access to utility contact information, one-tap connections to customer service via phone or email, while a direct link to bill payment increases electronic billing use and lowers bill delinquency rates.





Utility branding and contact info

Convenient access to curated rebates and tips

One-tap call or email for customer convenience

Increase electronic bill payment with easy access via Dropcountr

Why Native Mobile Apps Matter

CUSTOMER ENGAGEMENT & SELF-SERVICE

Companies across all industries - banks, insurance, airlines, social media - use native mobile apps to connect with and provide information to their customers.

Today's consumer prefers the convenience and portability of a smartphone over desktop and laptop computer, and picks up their device more than 150 times each day.

Dropcountr is the only customer portal to offer a native mobile app for iOS and Android in the Apple App Store and Google Play. And our industry-leading user adoption, engagement, and conservation metrics are the result.

Why native mobile apps?

- Familiar download: If you've downloaded apps from Facebook, Google Maps, or your bank - you can download the Dropcountr app
- Customer preference: over 90% of mobile device time is spent using native apps
- Account security: protected by device passcode and FaceID
- Accessibility: information and key notifications in your pocket

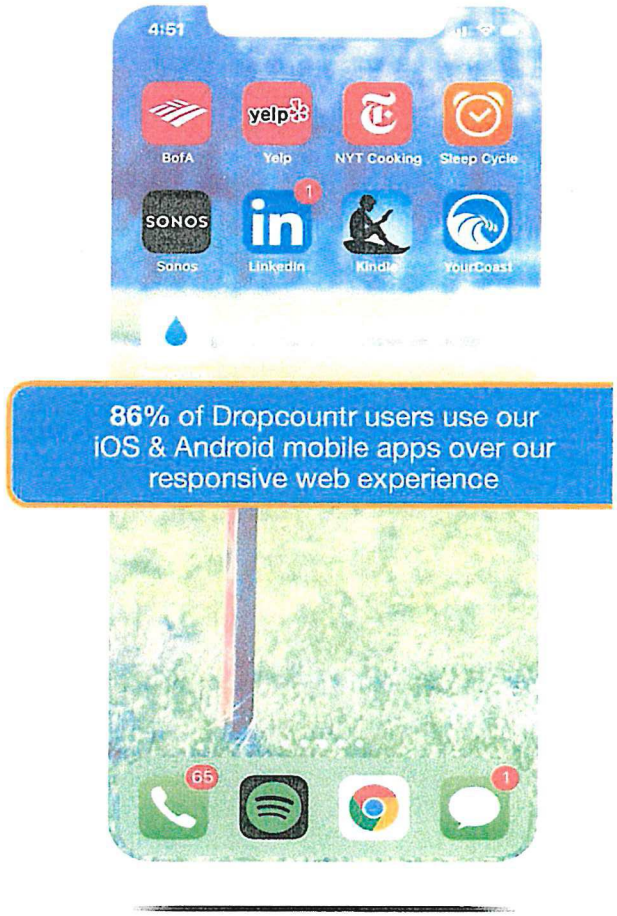
What about customers without a smartphone?

Dropcountr also offers the same information and experience on the web - accessible via any web browser on a customer desktop or laptop computer.

Confused by terminology?

Other customer portals claim to have a mobile app. How can you be sure?

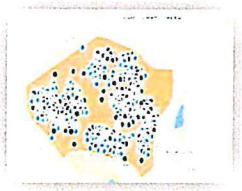
Check your favorite App Store - you'll find Dropcountr there, and so will your customers.



CLEAR - Utility Staff Dashboard

CLEAR ANALYTICS & COMMUNICATION

Dropcountr CLEAR is an analytics and communication dashboard for utility staff to access and visualize customer and water use data.



Utility staff use Dropcountr CLEAR to:

- Understand customer behavior and trends
- Send targeted group and personal messaging
- Automate real time alerts for leaks and system outages
- Equip staff with powerful analytics



Customer + Service Area Segmentation
Segment your customers and service area based on events such as boil water advisories, system outages, hydrant flushing etc.



Group Messaging
Send messages to groups of customers via emails, SMS, or in-app push notifications. Monthly electronic usage reports and analytics are sent to all customers. **Email, SMS, and push notifications are part of our base services.**

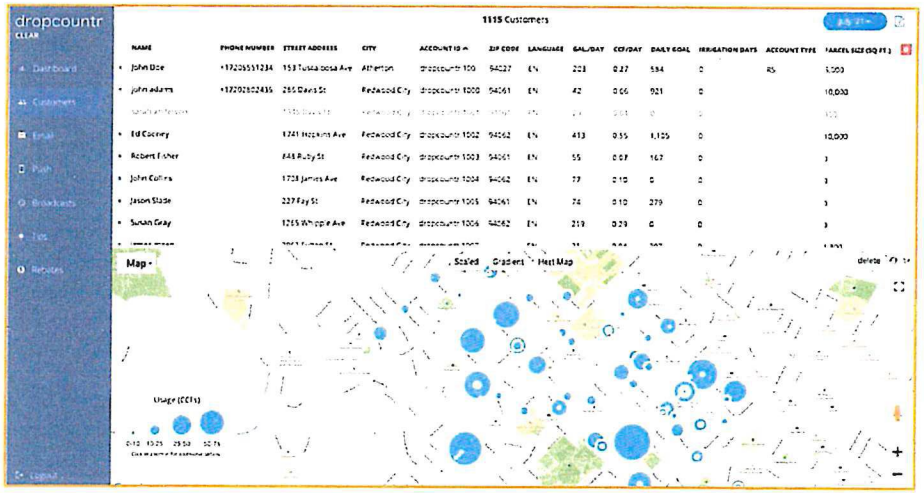


Personalized Messaging
Customize your message to meet the needs of your customer. Leak alerts can be automated and customized to your needs.



Christina Perez
Water Management Specialist, Folsom, CA

"I've used Dropcountr on a daily basis for the past 3 years and found it to be a critical tool in assisting our residential and commercial customers with early leak detection and conservation goals."

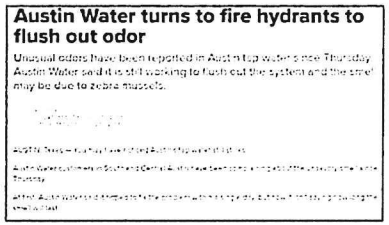


CLEAR - Common Use Cases

CLEAR COMMUNICATION TO YOUR CUSTOMERS

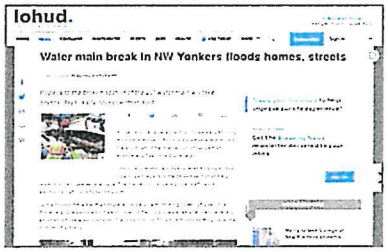
Use CLEAR to communicate quickly and digitally with your customers - capturing their attention with a message on their smartphone and email.

Eliminate expensive mailers and door hangers, reduce truck rolls and staff time. Use CLEAR to message the right customers at the right time.



Hydrant Flushing

Giving customers a heads up, neighborhood-by-neighborhood, week-by-week (as opposed to hoping customers see it on the news) is a good practice in keeping residents informed and reducing customer service call volume.



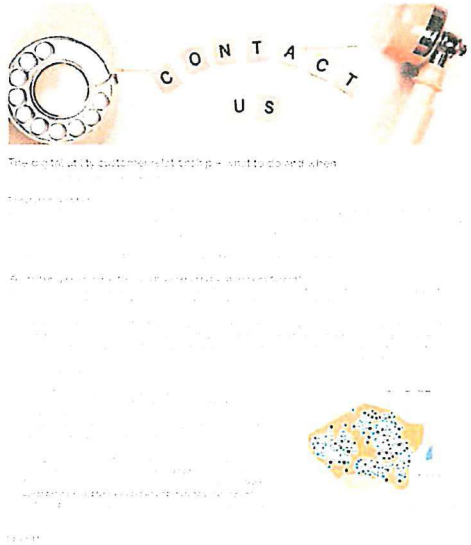
Pipe Breaks

A broken main can lead to a drop in pressure in a specific neighborhood - leading to customer service calls and complaints. Using the DRAW tool, staff can target affected customers on a map and send a message with details and contact information.



Boil Alerts

It's important to *over-communicate* in the event of a boil alert – it's not enough to hope they see the news on social media or on TV. With CLEAR, staff can send a message directly to the customer's device - letting customers know what to do, what to expect, and a timeline to be mindful of.



Hydrant Flushing

Dedham Westwood Water District, New England
Read the case study at www.bit.ly/dropdwwd

Irrigation Detection & Demand

OPTIONAL MODULE

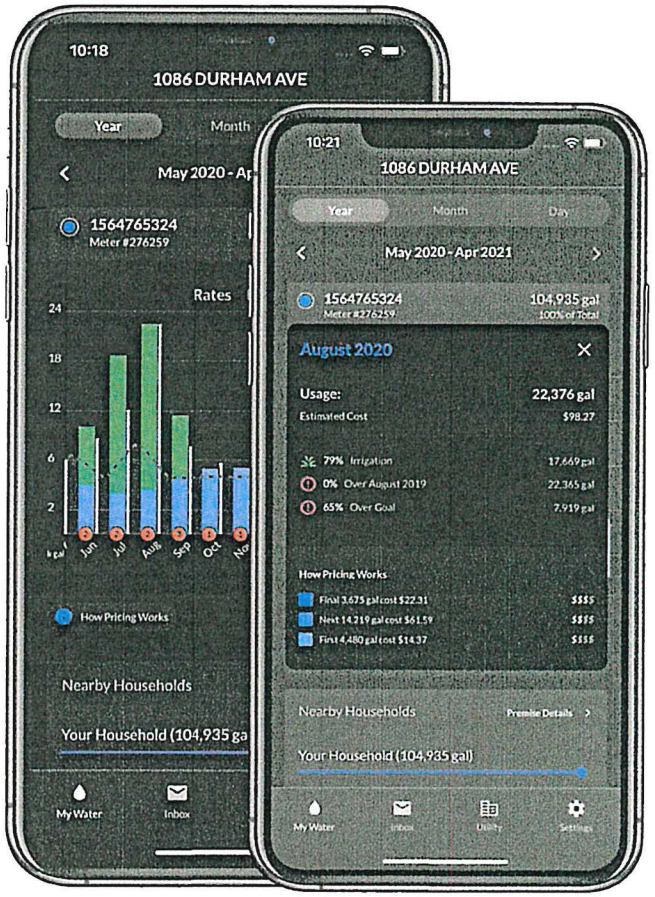
Our proprietary machine learning algorithm disaggregates irrigation water use for comparison to calculated irrigation demand for each customer account.

Features

- Machine learning identifies irrigation events and volume
- Demand function leverages local precipitation and climate data
- Rich irrigation dataset and analytics for utility staff

Benefits

- Eliminate customer blindspots on irrigation schedule and volume
- Improve customer relations and increased satisfaction
- Elevated customer Water IQ reduces service calls
- Focused and effective irrigation messaging to target customers



dropcountr