

This presentation premiered at WaterSmart Innovations

watersmartinnovations.com





watersmart|2021
INNOVATIONS



Making Water Conservation A Way of Life

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AQUATRAX Background



- Based at Irvine, California
- Wealth of expertise working with hundreds of Utilities
- Both AMI meters and Non-AMI meters are supported
- Services
 - Annual AWWA Water Audit Validation as per SB555
- Products
 - Trackle - Utility Portal, Customer portal/apps
 - WorkTrax – Asset checklist tracking and budget planning
 - MeterTrax- Meter Reading App via Optical Char Recognition
 - AssetTrax – Asset Management

<https://www.youtube.com/watch?v=A-eoY3zP-BY>

Private and Confidential

Overview



Vision

Aquatrax's vision is to be planet's most water conservation-centric company; to build technologically innovative and inspiring products that transforms the Water Information Management



Mission

Next generation Cloud based Water Loss Tracking and Compliance Management Platform that will help water utilities to track water use effectively, reduce non-revenue water, and be compliant with state laws

Trackle utilizes Smart Water Networks to Manage Pressure and Flow for Reduction of Water Loss, Pipe Breaks, and electricity savings.



Q3' 19

INCEPTION & TECHNOLOGY BUILDOUT

Q4' 19

Proof-of-Concept

- MVP ready
- Utility Analytics & Customer Portal
- IOS & Android App Launch
- Selected by Isle TAG

Q1' 20

Customer Launch

- Working with hundreds of utilites
- Selected for AWWA Conference on Water Loss Session

Q2' 20

Product & Market Expansion

- Selected by Water Research Foundation
- Selected by Microsoft for Startups
- WorkTrax App
- MeterTrax App



Trackle

- Next generation Cloud based Water Loss Tracking and Compliance Management Platform that will help water utilities and its customers to track water use effectively, reduce non-revenue water, and be compliant with state laws
- Trackle utilizes Smart Water Networks to Manage Pressure and Flow for Reduction of Water Loss, Pipe Breaks, and electricity savings.

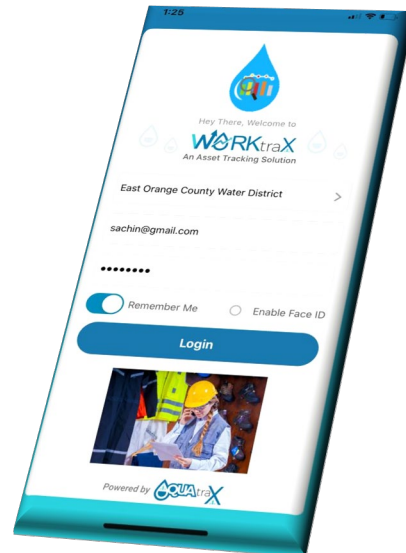
Utility Facing



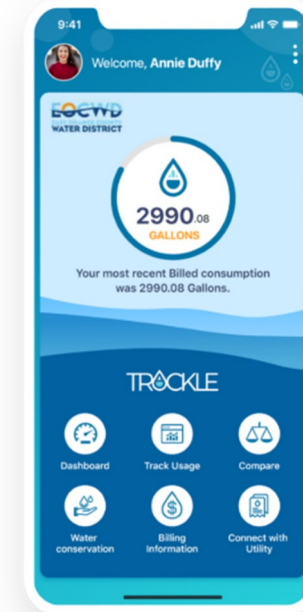
Customer Facing



Utility Facing



Customer Facing



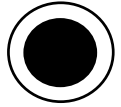
WorkTrax

- WorkTrax simplifies utilities record keeping by enabling staff to use their electronic devices to perform vehicle inspections quickly and efficiently
- Managing the program has been made easy as staff is able to look at reports and see if certain vehicles are having more issues than others allowing them to track costs and anticipate vehicle replacement.

The image displays five sequential screenshots of the WorkTrax mobile application interface, illustrating the workflow for conducting a 'Small Generator Inspection'.

- Screenshot 1 (Home Screen):** Shows the user's profile (Annie Duffy) and a list of inspection categories: VEHICLE (8 inspections), PRE-TRIP (Create Inspection), SMALL GENERATOR (3 inspections), LARGE GENERATOR (Create Inspection), and JOHN DEERE TRACTOR (5 inspections). The bottom of the screen features the 'Powered by AQUATrax' logo.
- Screenshot 2 (Inspection List):** Displays a list of recent inspections under the 'Small Generator Inspection' header. Each entry includes the date, time, and the inspector's name (e.g., Willard Jast, Zoey Dach, Chance Conroy, Alexander Hane).
- Screenshot 3 (User Details):** Shows the 'User Details' section for a specific inspection. It includes fields for Date (March 27, 2019), Time (8:00 AM), and Inspected by (Amit Sharma). A 'Save & Continue' button is at the bottom.
- Screenshot 4 (Generator Details):** Displays the 'Generator Details' section. It includes dropdown menus for Generator Make, Year, and Model, and text input fields for Hour Meter Start Read, Hour Meter End Read, Start Time (1725), and End Time (2400).
- Screenshot 5 (Oil Details):** Shows the 'Oil Details' section. It includes dropdown menus for Oil Level (Medium), Oil Replaced Date, Date of Last Oil Change (March 27, 2019), Fuel Replaced Date, and Date of Last Fueling. 'Back' and 'Save' buttons are at the bottom.

END-TO-END SOLUTION



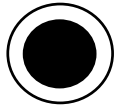
Compatibility

Ability to Integrate with any utility systems



Artificial Intelligence

Utilizing Smart Water Networks to Manage Pressure and Flow for Reduction of Water Loss and Pipe Breaks



Multi Tenant SaaS Cloud Architecture

Easily scalable to thousands of Utilities using Microsoft Azure cloud



Quick Implementations

Pre-Integrated APIs and Highly Scalable Cloud platform helps in very short 6-8 weeks implementations



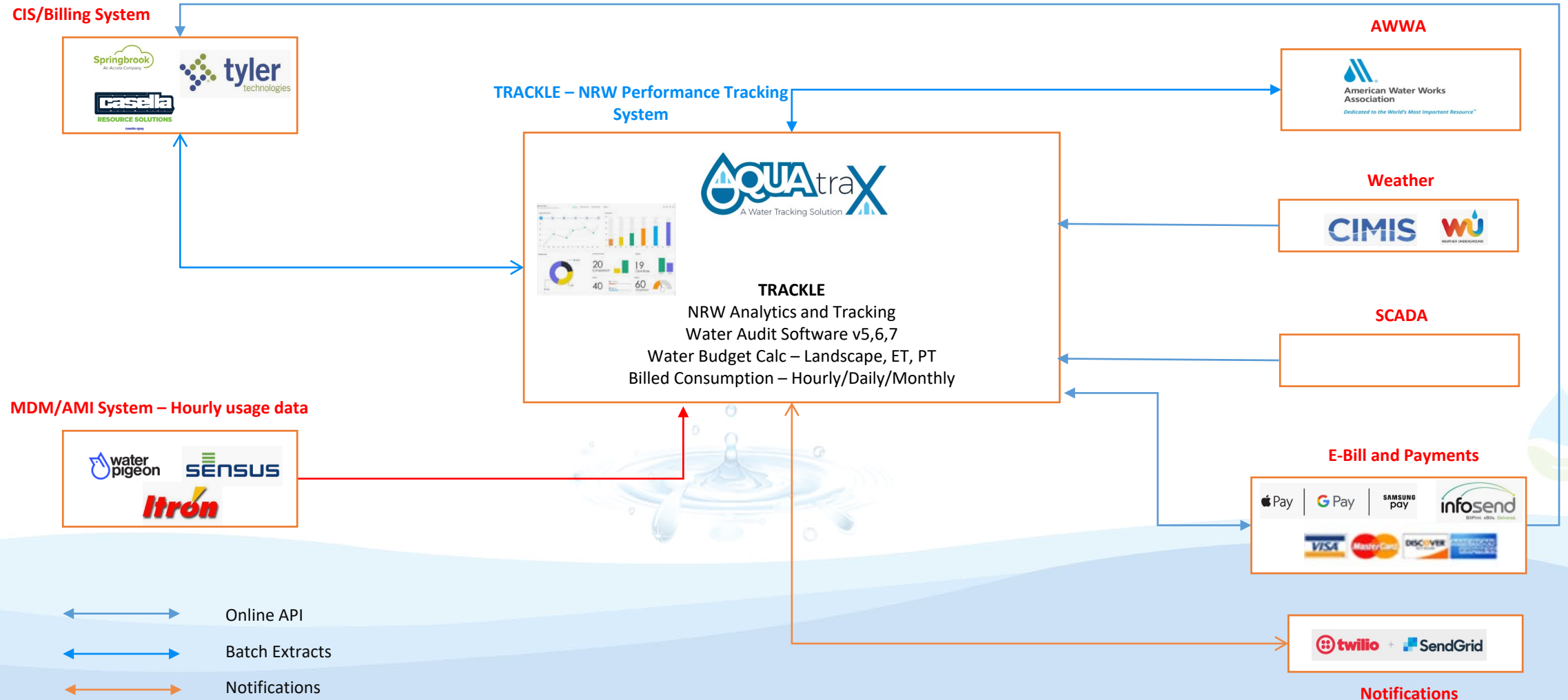
Compliance Management

Online Integrated Water Audit



Systems Integration – Utility & Vendors

Data Extract, Transform and Load (ETL) across enterprise – pressure, leaks, meter calibrations



Next Gen - Water Info. Mgmt & Tracking Platform



- DMA, Alarms from AMI meters
- Internet of Things IoT Remote connect, disconnect shut off valve
- Reports to State- Year over Year , Month over Month segment consumption

- Waste Water Analytics and KPIs
- Influent/Effluent flow MGD, pH, BOD5, TSS, NH3, weather , kWh, statistics

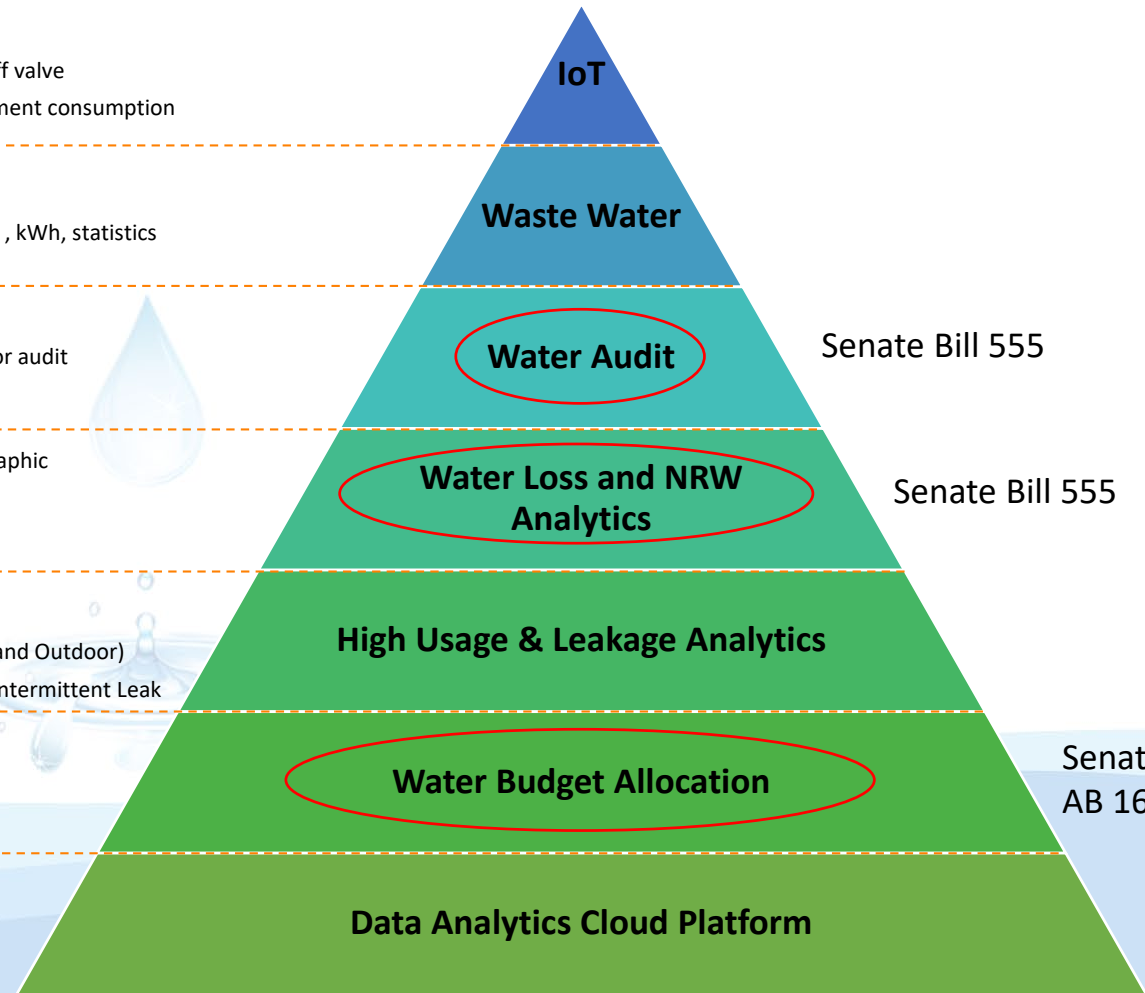
- AWWA online software for Water Audit v7
- AMI and Billing data – real time and more accurate data for audit
- Water Loss Reports

- Comparisons based on similar cohorts, climatic and geographic
- Performance Indicators Trends, Co-relations
- Volumetric, Costs, KPIs trends

- Display customers with High Usage (> allocation)
- Aggregate data at Utility level (Usage Vs Budget – Indoor and Outdoor)
- Leakage Analytics based on AMI data – Continuous Leak, Intermittent Leak

- Daily Budget calculation – Indoor and Outdoor
- Landscape coefficient , aerial landscape data
- CIMIS ET, Weather underground PT data
- Summary, Top Customers, Segments, Dashboard

- Azure – Virtual Machine, Data Architecture
- Data Adapters - CIS, Billing, MDM, Weather
- Big Data, Artificial Intel, Machine Learning



IoT – Internet Of Things
 MGD – Million Gallons per day
 BOD5 – Biological Oxygen Demand
 pH – Potential of Hydrogen
 TSS – Total suspended solids
 NH3 – Ammonia
 ET – Evaporation Transpiration
 PT – Precipitation
 MDM – Meter Data Management
 AMI – Advanced Metering Infrastructure
 CIMIS – California Irrigation Management Information System

Capabilities



TRÖCKLE
Water intelligence like never before!

UTILITY CAPABILITIES

- Track Water Loss (SB 555)
- Online AWWA Water Audit
- Daily Water Budget (SB 606)
- Non-Revenue Water Analytics
- Usage and Leakage Analytics
- WorkTrax – Track Operations
- MeterTrax
- AssetTrax
- Smart Water Networks
- Conservation Goals Water Coins

CUSTOMER CAPABILITIES

- Track Usage
- View and Pay Bill
- Alerts and Notifications
- Compare Water Use

BENEFITS

- SB 555, SB 606/ AB 1668 Compliance
- Accurate Water Loss and Budget Data
- Reduced Operational Cost
- Reduce Non-Revenue Water Loss
- Interactive Customer Engagement
- Promote Conservation

"Making Conservation A Way of Life"

Available on

Download on the **App Store** | GET IT ON **Google Play**

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Utility Facing



Customer Details

Customer Info Account Details Meter Details Property Details

EARNED COINS: 500
Add more bonus reward coins

Select Account D5413056

Customer Info

Customer Name Meghan Roob	Account Number D5413056	Status Active
Phone Number (650) 722-3940	Home Number (650) 722-3068	Email Address Meghan_roob@gmail.com

WATER USAGE SCORE

Nice work

April 4 - May 6, 2019



ALERTS

Total 5 alerts

April 4 - May 6, 2019

No Leak Alert
 5 High Usage Alerts

WATER USAGE, ALLOCATION AND LEAKS

Daily Weekly Monthly 10 Jan 2018 - 30 Jan 2018



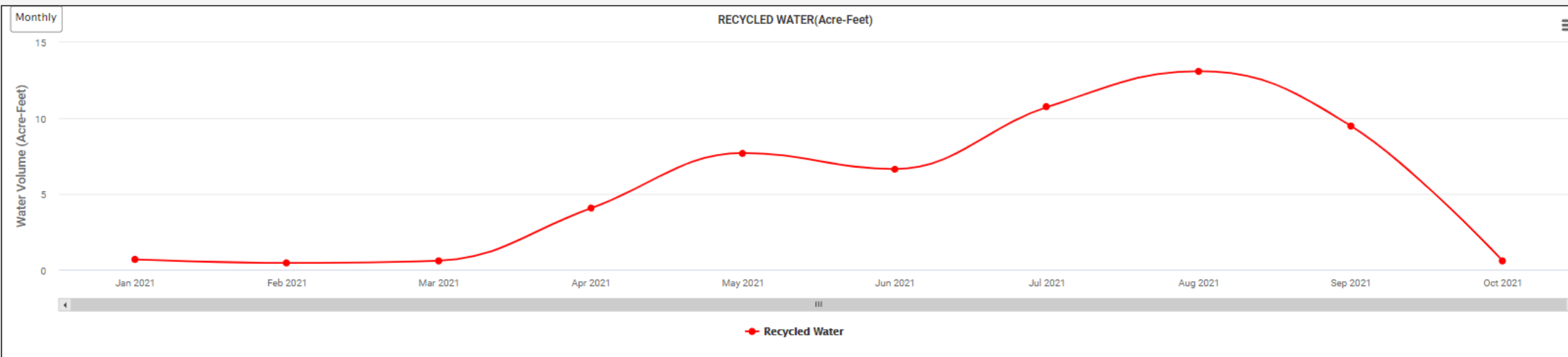
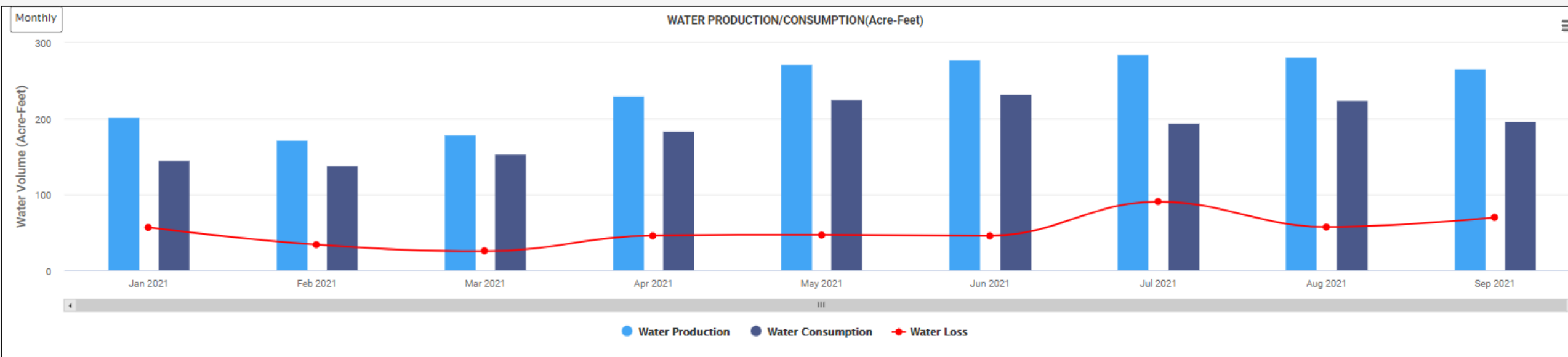
Management Dashboard

Unit of Measurement:

Acre-Feet

Enable Data Labels ☐

2021



Water Loss Analytics

Trackle Dashboard

Trackle BI

Track Water Loss SB 555

Water Budget SB 606

Non-Revenue Water Analytics

AWWA Water Audit

Waste Water Analytics

Predictive Analytics

MyTrackle - Customer 360

Worktrax

Water Loss Analytics

Unit of Measurement: ☐ Gallons ☒ CCF ☐ Acre-Feet

1/1/2020



12/31/2020



Filter

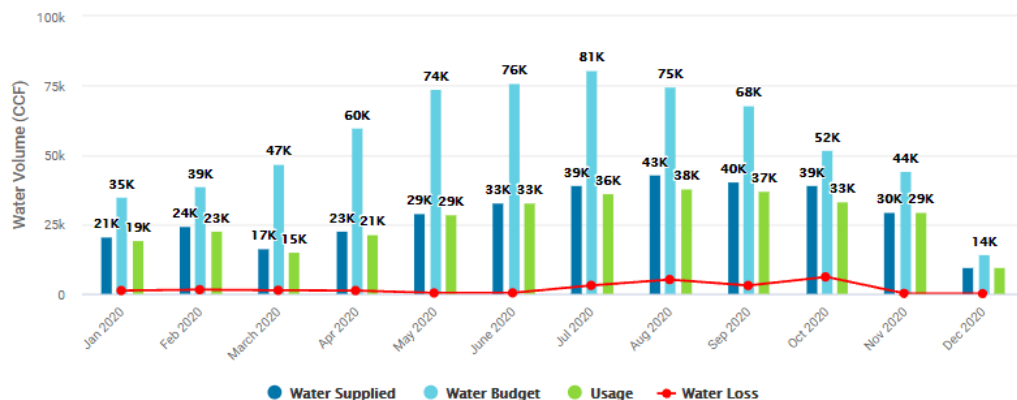
Daily

Weekly

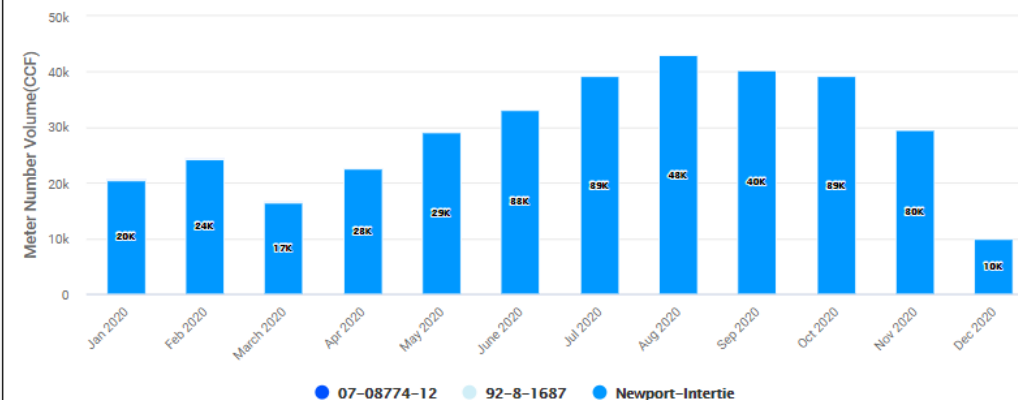
Monthly

2020

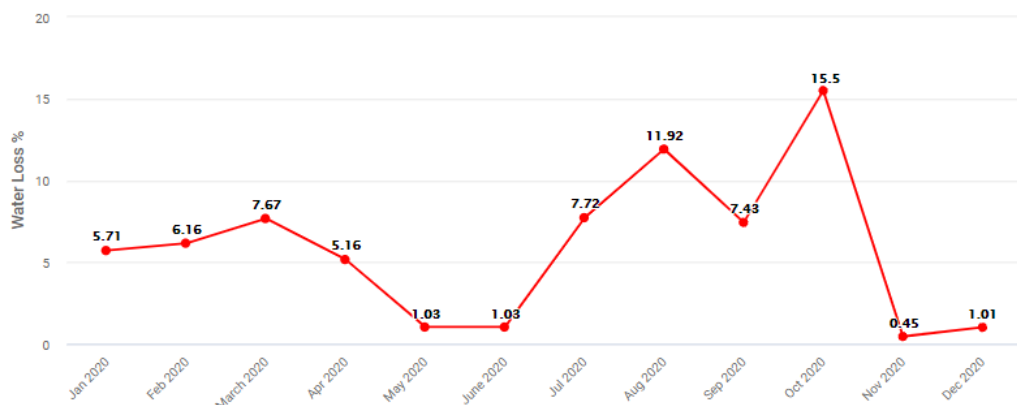
WATER SUPPLIED, WATER BUDGET, USAGE & WATER LOSS (CCF)



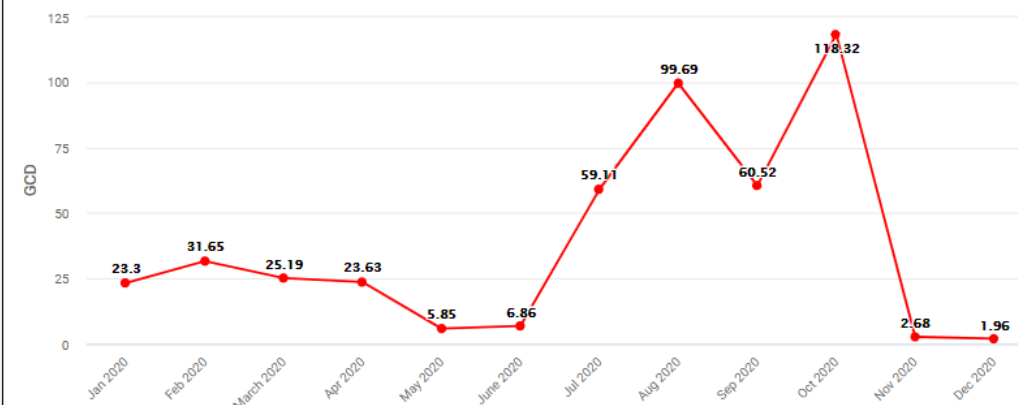
WATER SUPPLIED BY METER NUMBER (CCF)



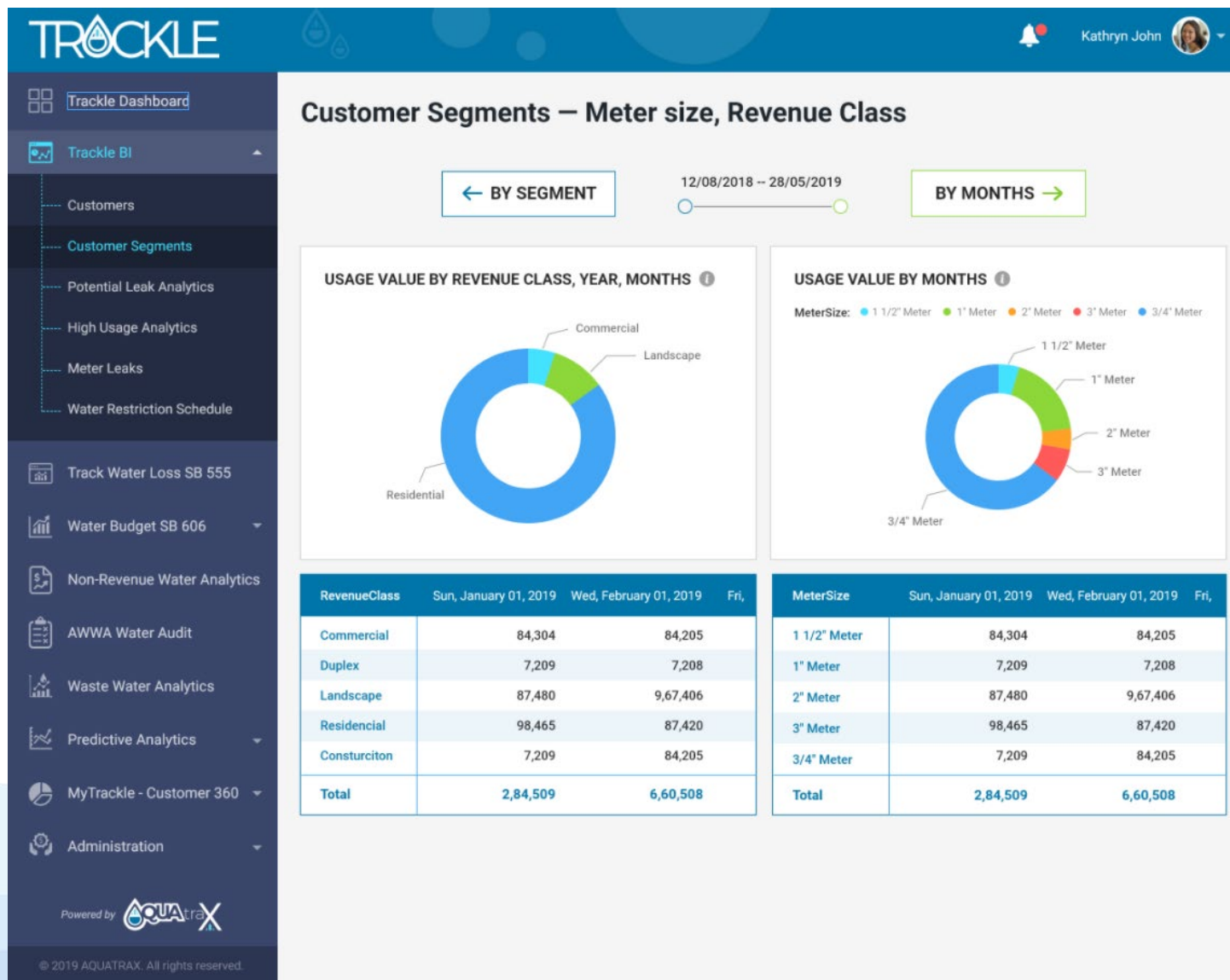
WATER LOSS PERCENTAGE



WATER LOSS GCD



Conservation Analytics



Conservation Analytics

Customer Segment

Segment: Water Treatment

Measurement: Acre-Feet

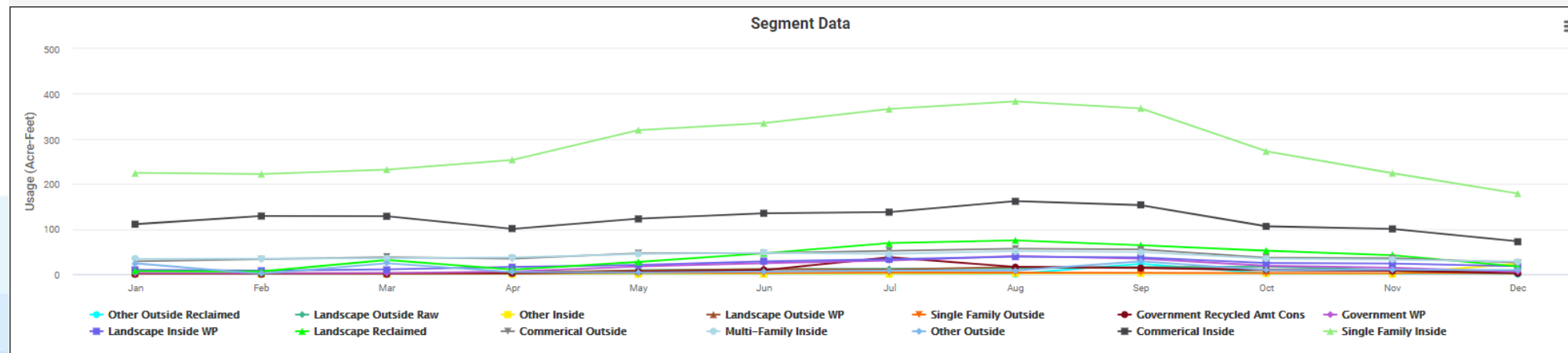
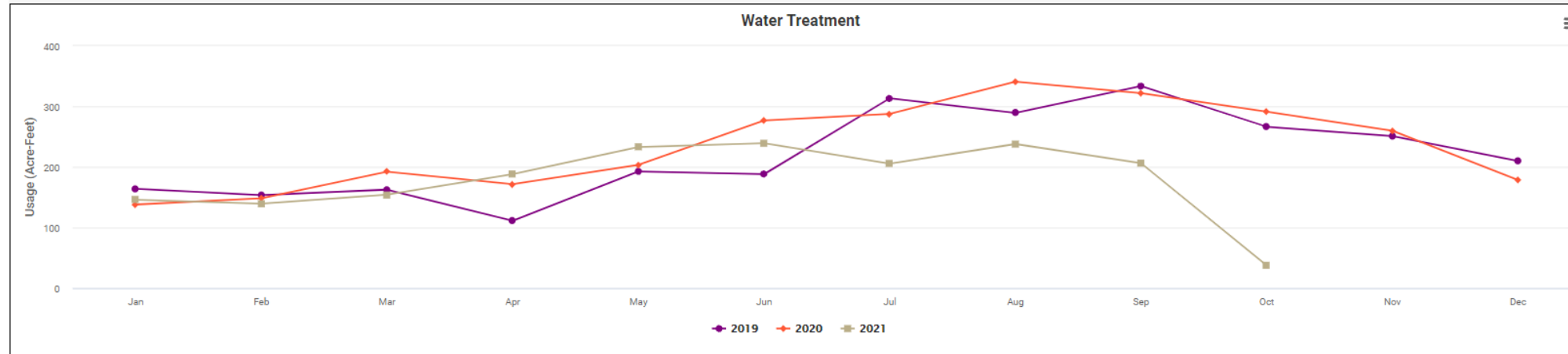
Enable Data Labels ☐

All

Usage From Date: mm/dd/yyyy

Usage To Date: mm/dd/yyyy

Filter



Integrated Water Audit Data



To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

Volume from own sources:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="0"/>	<input type="text" value="217.55"/>	acre-ft/yr
Water imported:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="0"/>	<input type="text" value="549"/>	acre-ft/yr
Water exported:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	acre-ft/yr

			pct:			Value:
<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="radio"/>	<input type="radio"/>	<input type="text" value="0"/>
<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="radio"/>	<input type="radio"/>	<input type="text" value="0"/>
<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="n/a"/>	<input type="text" value="0"/>	<input type="radio"/>	<input type="radio"/>	<input type="text" value="0"/>

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: acre-ft/yr

AUTHORIZED CONSUMPTION

Billed metered:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="0"/>	<input type="text" value="717.91"/>	acre-ft/yr
Billed unmetered:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	acre-ft/yr
Unbilled metered:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="0"/>	<input type="text" value="48.65"/>	acre-ft/yr
Unbilled unmetered:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	acre-ft/yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: acre-ft/yr

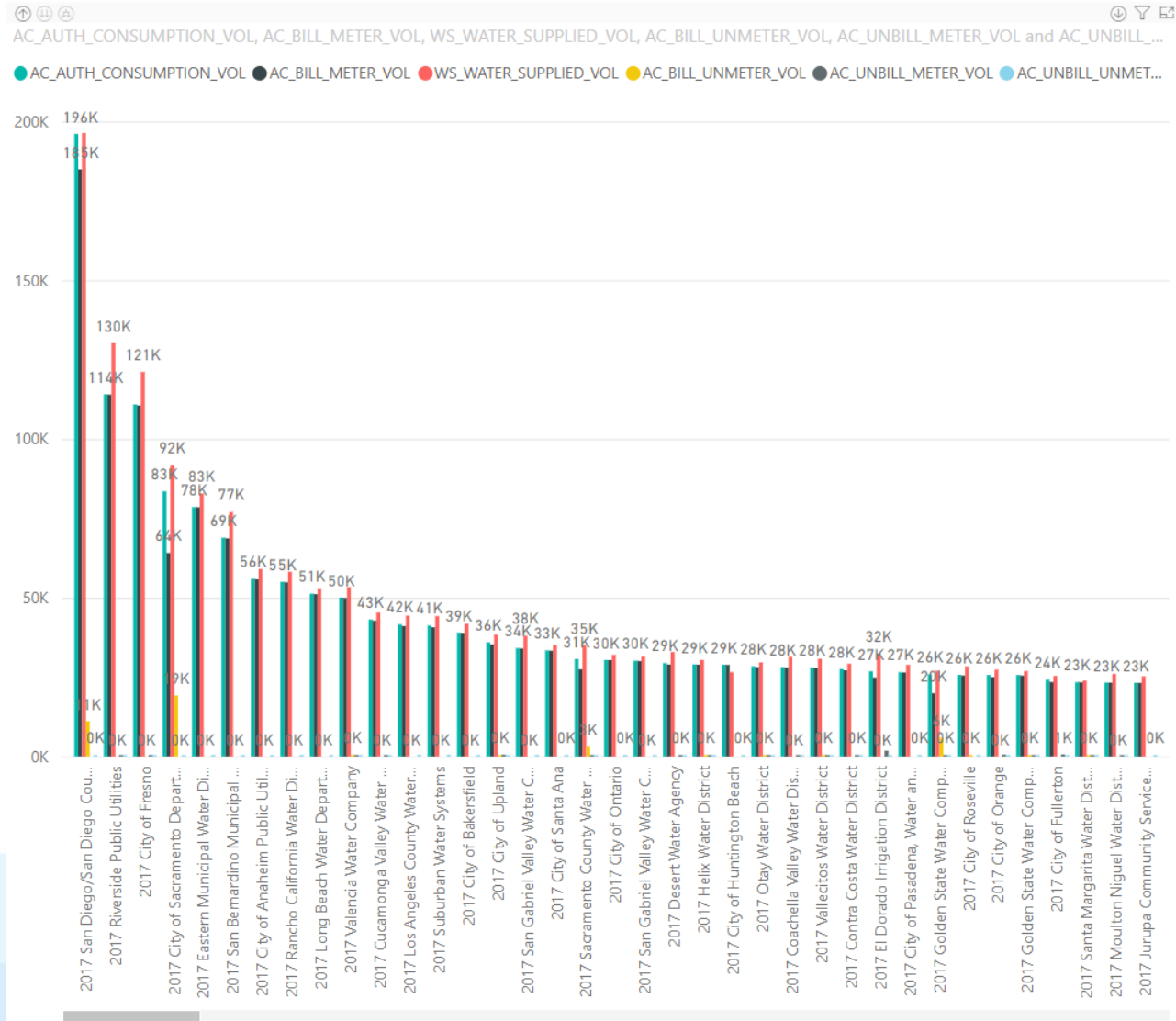
Click here: for help using option buttons below

			pct:			Value:
<input type="text" value="1.25"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="text" value="0"/>			

Use buttons to select percentage of water supplied

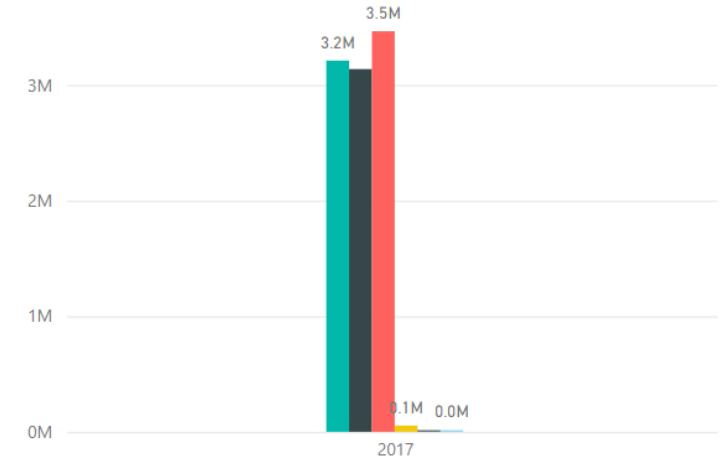
OR Value

Non Revenue Water Analytics



AC_AUTH_CONSUMPTION_VOL, AC_BILL_METER_VOL, WS_WATER_SUPPLIED_VO...

● AC_AUTH_C... ● AC_BILL_MET... ● WS_WATER... ● AC_BILL_UN... ● AC_UNBILL...



270.24K

NRW_NON_REVENUE_WATER_VOL

Water Budget Setup

Water Budget Settings

CIMIS Attributes

Conversion Factor
.62

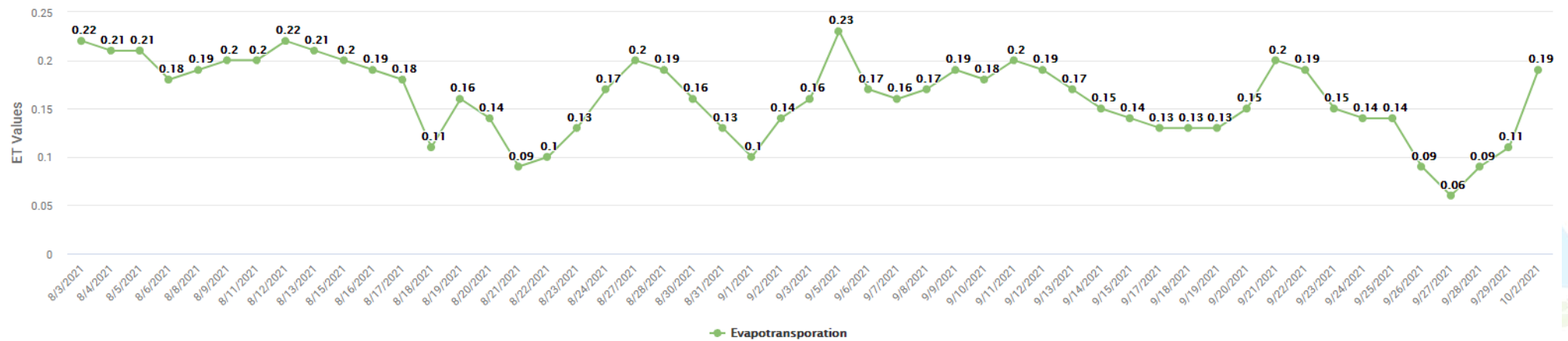
ETAF
.85

[Edit Attributes](#)

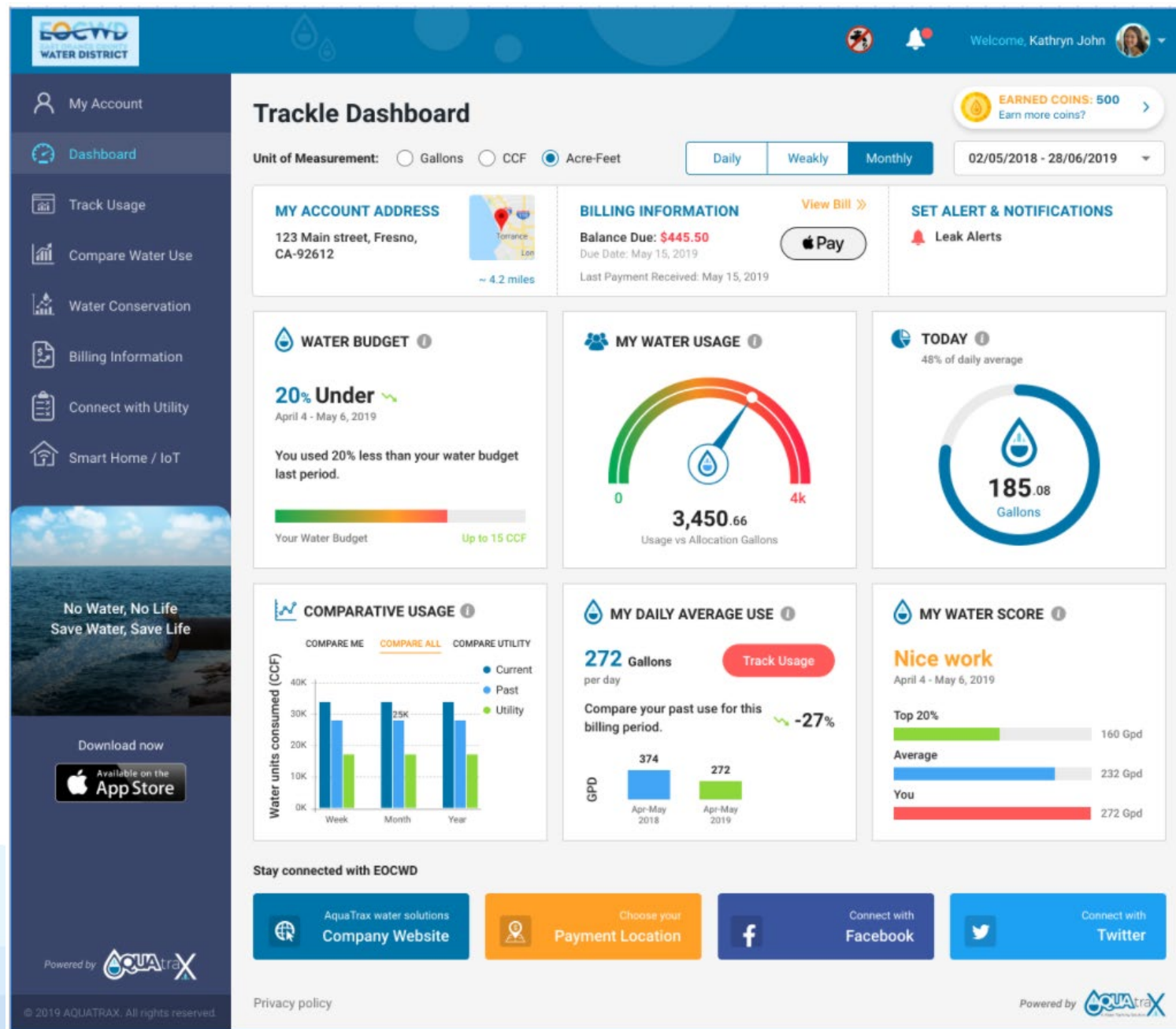
Zip Code/Weather Station

75

Daily CIMIS Attributes



Customer Facing



Dashboard

Account Details

Track Usage

Compare Water Use

View and Pay Bill

Connect with Agency

World's Most Precious Resource
Save Water, Save Life.

Usage

View CCF

View Gallon

View \$

Meter Number

33416459

Date: MM/DD/YYYY

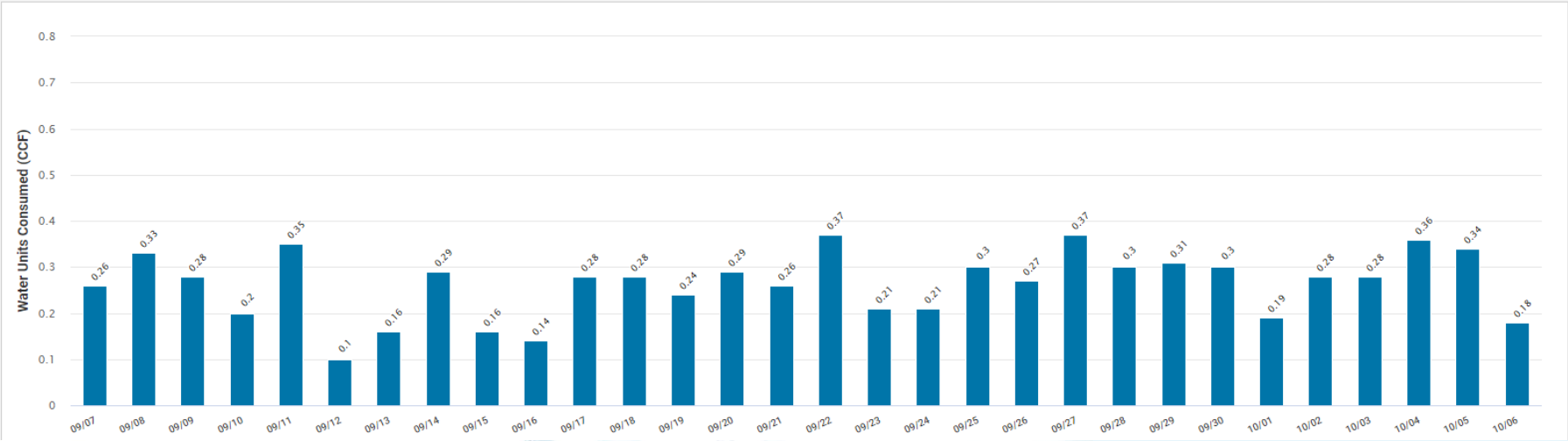
Usage Notification

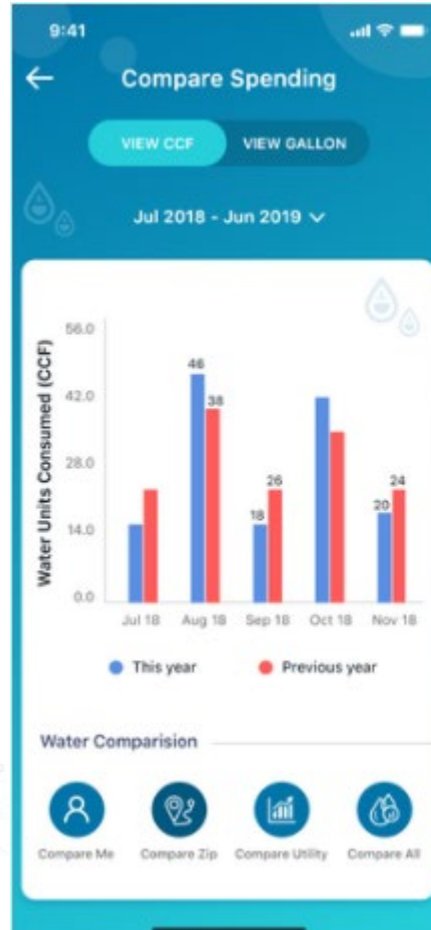
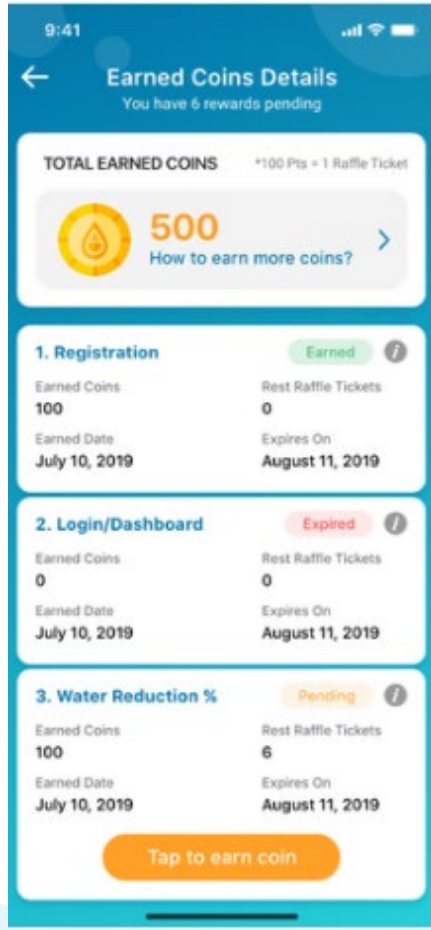
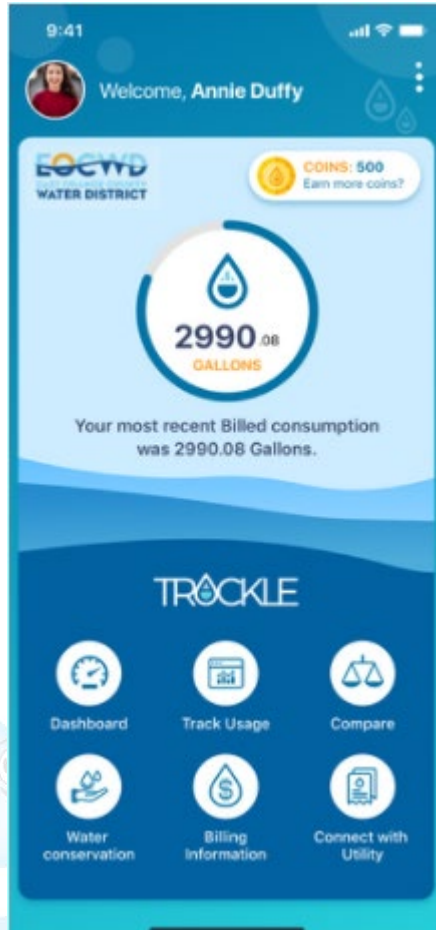
Hourly

Daily

Monthly

Billing Cycle





9:41

Utility Bill

Total water bill this period

\$329.30
Due date: March 27, 2019 12 Days Left

Account Information

Meter Number	Account Balance
40345678	\$602.50
Billing Period From	Billing Period From
July 10, 2019	August 11, 2019
Previous Meter Reading	Current Meter Reading
1802	2059
Total Water Usage	
39.0 HCF	

Payment Details

Consumption charge	\$136.50
Water service charge	\$84.30
Capital project charge	\$108.50
Total Dueable Amount	\$329.30

Case Study



Integrated Dashboard

Total(G1+G2)▼

Minute

Hourly

Daily

8/1/2020

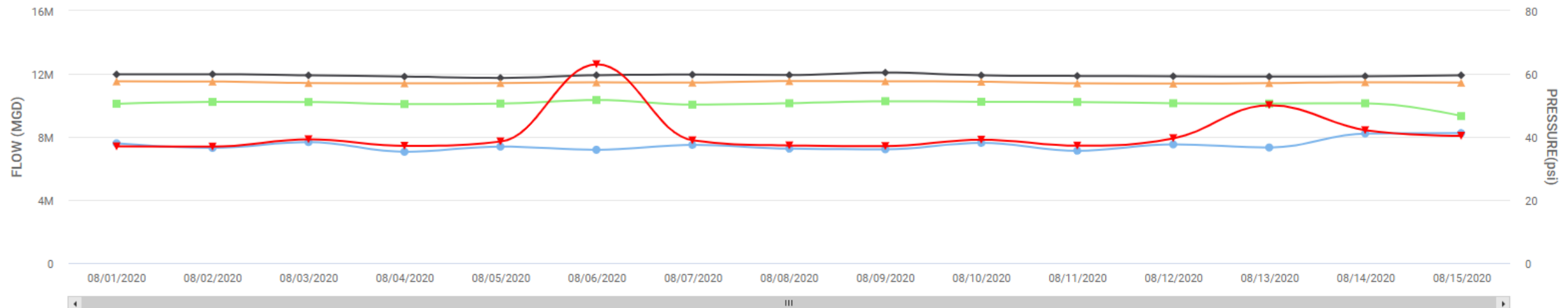


8/15/2020

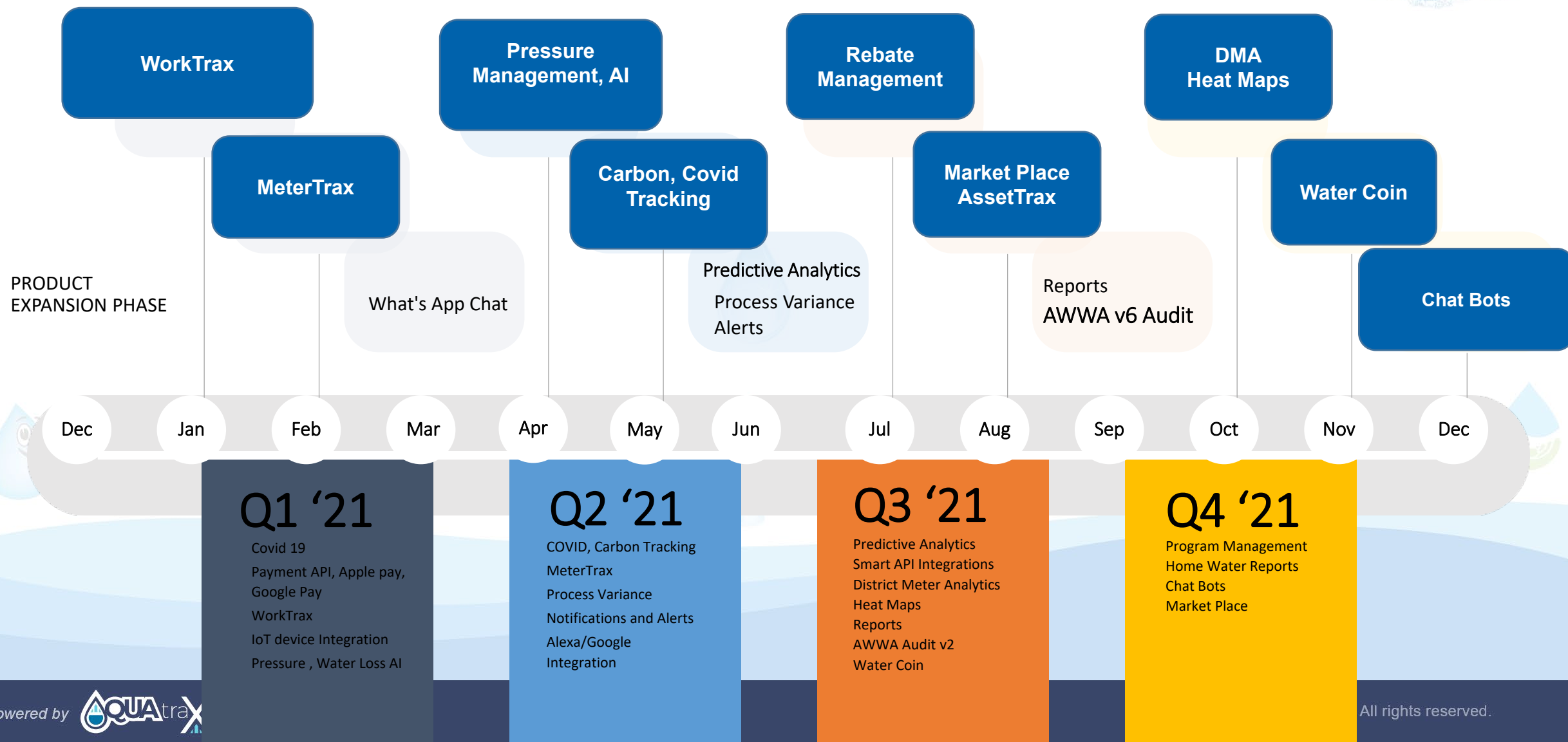


Filter

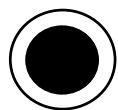
Mueller Pressure Sensors, Neptune AMI Consumption and SCADA (Flow and Pressure) Data



Product Expansion Plan



Summary



Complete Water 360 Integrated Platform

We are the only solution in the market that can track water use at this depth and allows for built-in capability to monitor compliance with new conservation standards



Powerful and Flexible Technology

With the ability to integrate with any SCADA, AMI Meter, Billing, CIS, Outage, Work Order, GIS and Payment systems we can position ourselves into a wide variety of Utilities including Power, Solar, Gas. Highly Scalable and Multi Tenant Support





Thank You



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Problem

Continued aging water infrastructure and water losses, recurring droughts and urbanization drives technological solution to reduce water loss, increase revenue & operational efficiencies and decrease cost of operations.

51,688

Water agencies in USA with over 100 Million Connections

\$62 Billion

Total Water Utility Annual Revenue for 2018

\$2.8 Billion

Estimated \$2.8 Billion in lost utility revenue every year
14-18% Daily Water Loss

\$1 Trillion

Estimated \$1 trillion required in the next 25 years to address water infrastructure



The **global market** is witnessing a significant growth, which is driven by government policies, energy conservation, and utilities urge to enhance distribution efficiency.

Water Utilities Unmet Needs



Lack of Smart Water Network to control **Water losses** and pipe breaks

Lack of **Accurate** and Personalized **Water Budget Allocation**

Manual **Water Audit**

Lack of Proactive **Water Loss, Water Use Analytics, Leak Alerts and Demand Forecast**

No Powerful Data Visualizations and **Actionable Intelligence**

Currently there is no solution which provides water 360 integrated, connected and multi tenant cloud based mobile platform

Client Testimonials



"AQUATRAX work products are incredible – it's fun to think that I got to see the beginning of all of this!"

"AquaTrax has disrupted the way we currently do things, by taking us from a remote village to Manhattan!"

Lisa Ohlund

General Manager, EOCWD

"I am not aware of any other platform that has the built-in capability to monitor compliance with new conservation standards."

"If your agency is considering a new platform there is an opportunity for you to learn more about AquaTrax."

Joe Berg

Director of Water Use Efficiency at MWDOC

TRACKLE Product Implementation Approach

