moulton niguel water district

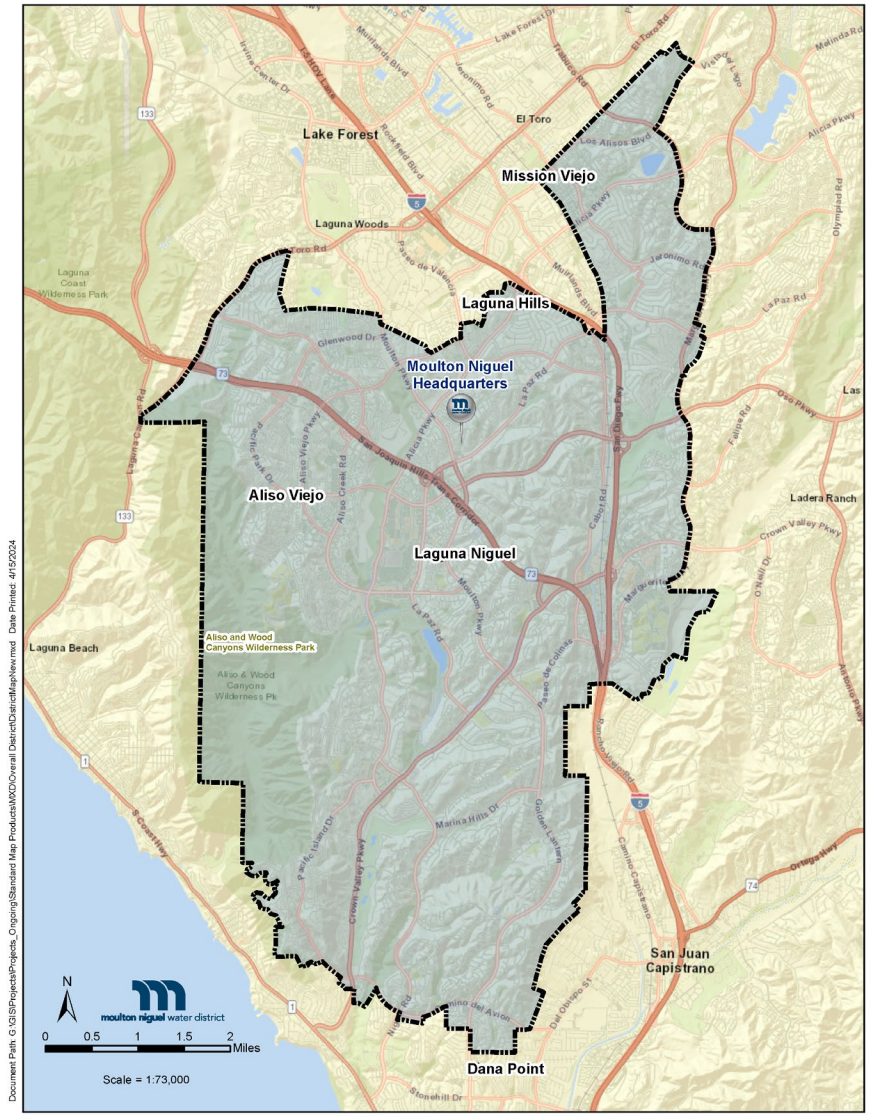
Moulton Niguel's OASIS and BLUE Initiatives:

Building Digital Infrastructure for Comprehensive Resource Management

April 22, 2026

About Moulton Niguel

- **Drinking Water, Recycled Water, and Wastewater Treatment**
- **Serve 170,000+ Customers in Six Cities in South Orange County**
- **Seven - Member Board of Directors**
- **200 Employees**
- **AAA Credit Rating from Fitch and S&P Global**
- **Top Workplace OC & USA**
- **Recognized Statewide and Nationally for Innovation, Environmental Stewardship, and Customer Service**



Building a Leading Utility Ecosystem (BLUE)

People

Clear roles, accountability, & workforce readiness

Processes

Modern workflows & decision pathways

Data

Trusted, governed, accessible information

Technology

Integrated systems that support operations

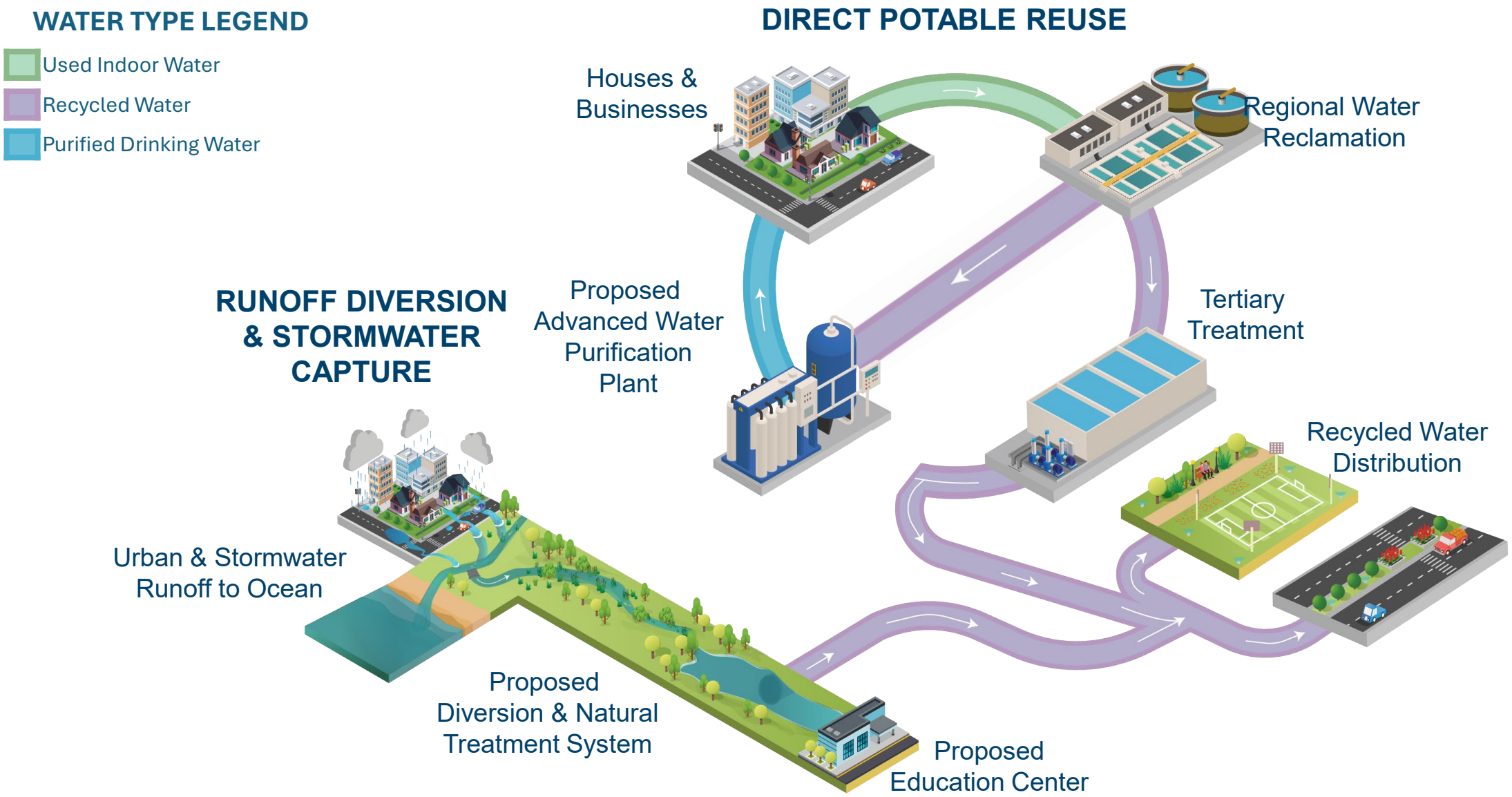
Aligned to support resilient, intelligent utility operations

moulton niguel water district

Vision & Drivers

Resource Optimization for Affordability and Reliability

DYNAMIC & INTEGRATED SYSTEM



PLANNING FOR ADAPTIVE OPERATIONS

System Dependencies

Seasonal demand

Weather & runoff

Storage availability

Water quality

Optimization Potential

- Monitoring & forecasting
- Demand & weather-informed optimization
- Dynamic routing & storage decisions
- Regulatory & water quality compliance
- System-wide operational intelligence

Digital Infrastructure

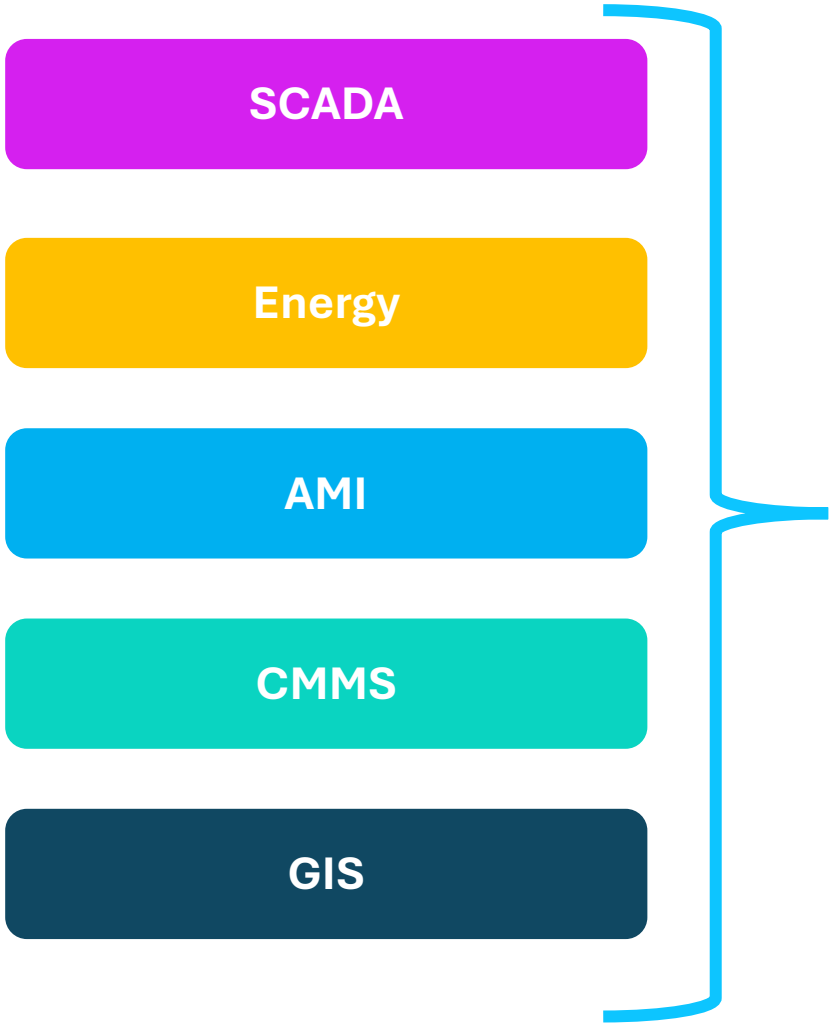
- SCADA
- Energy
- AMI
- CMMS
- GIS
- Weather & ET
- Water Quality
- Wastewater Treatment
- Regulatory Reporting
- Hydraulic Models
- Stream Flows
- Stormwater to Recycled
- Advanced WWTP - DPR

Phase 1: 2025-2028

Phase 2: 2029-2031

Phase 3: 2032-2035

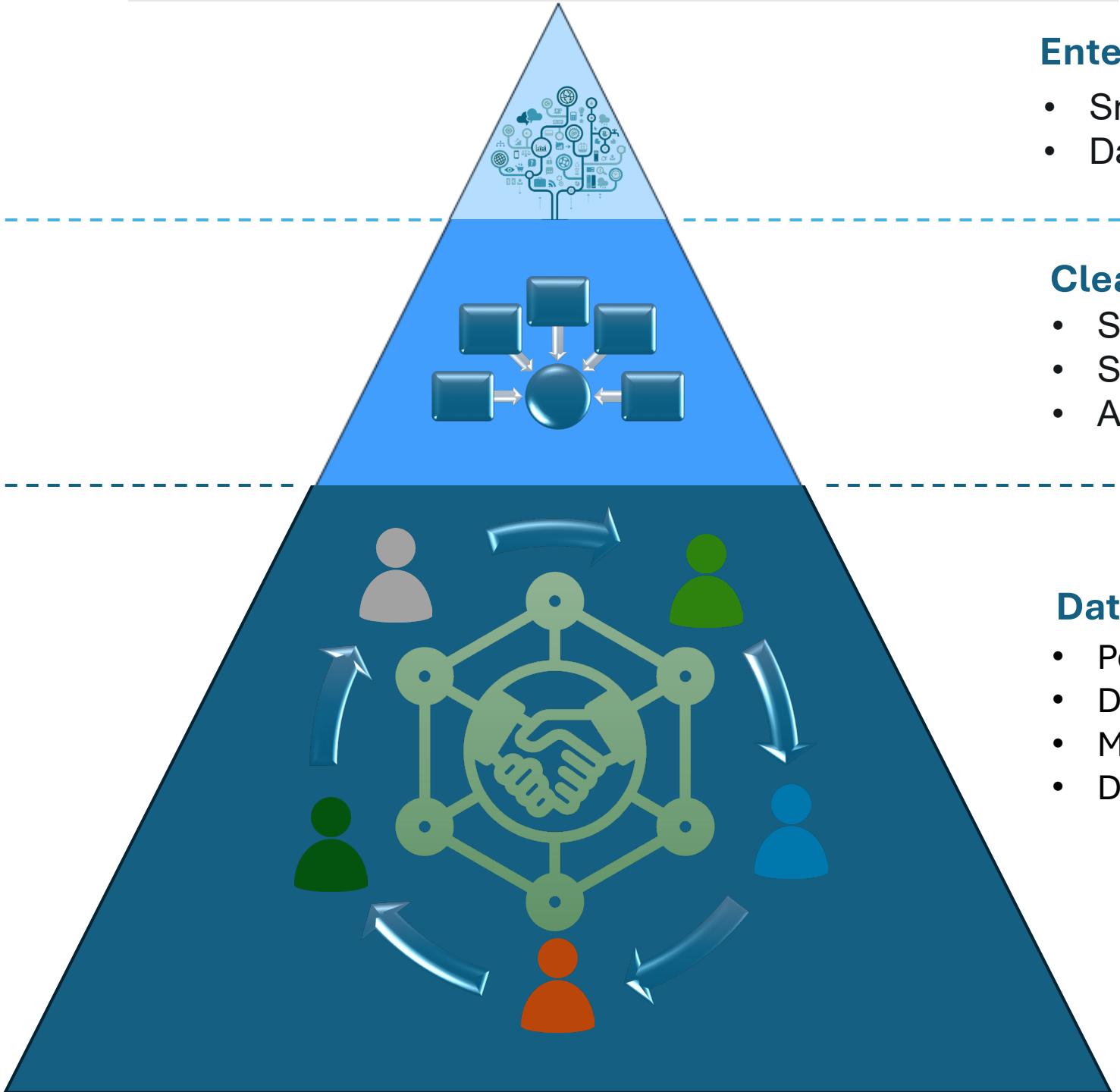
moulton niguel water district



Phase 1: 2025-2028

- Foundational Data Governance Framework
- Change Management
- Advanced Analytics
- Predictive, Data-Driven Insights

moulton niguel
water district



Enterprise Analytics Solutions

- Smart water engine + modules
- Dashboards for numerous use cases

Clean, Structured Data Core

- Syncs time series & integrates asset data
- SCADA historian for operational data
- Accessible with data science tools

Data Governance Framework

- People, process, & collaboration
- Defines standards & terms
- Manages metadata & SOPs
- Data stewardship & accountability

moulton niguel
water district

ARCADIS

xylem vue

Data Governance Framework

Advanced Analytics Platform

Smart Water Engine

SCADA Historian

- Leak Detection
- I&I Monitoring
- Energy & Maintenance
- Future Use Cases
- On-going Innovation

Time Series Data

- Weather
- Water Quality
- SCADA
- Energy
- AMI

Asset & System Data

- CMMS
- GIS
- Hydraulic Models

Data Science Tools

- Dashboards
- Reports & KPIs
- Compliance Tracking

moulton niguel water district

Water Balance - All DMAs

DRAFT

moulton niguel water district

Reset

Date | *Range*

4/1/2024 — 9/30/2024

Display | *Units*

Acre Feet (ac·ft)

DMA | *Selector*

750 Rancho/Beacon Hill

Water Cost | *Input*

$1,200.00 *per ac·ft*

Mass Balance, *by DMA*

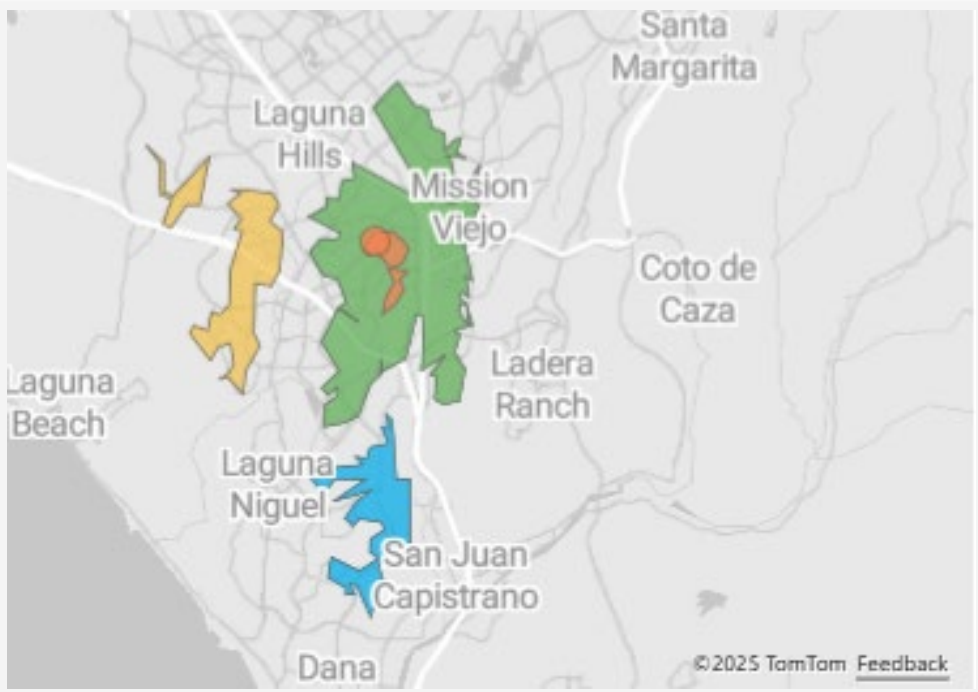
Cost of Water Loss
$30,552

Pipe Length (mi)
46

Connections
--

Pump Stations
2

Tanks
--



Mass Balance Details

DMA Inputs	768.6
Reservoir Level Change	
DMA District Ouputs	
Consumption Outputs	743.14
Operational Water Loss	0
Total Water Loss	25.46

select on card below to view more details

DMA Inputs		Res. Level Change		District Outputs		Consumption Outputs		Operational Water Use		Total Water Loss
768.6 ac·ft	−	ac·ft	−	ac·ft	−	743.14 ac·ft	−	0.0 ac·ft	=	25.46 ac·ft
▲ 8.6% Fiscal YoY		Fiscal YoY		Fiscal YoY		▲ 10.5% Fiscal YoY		- % Fiscal YoY		▼ -35.8% Fiscal YoY

Key Tasks & Timeline	2025	2026		2027		2028		2029	
	Q3/4	Q1/2	Q3/4	Q1/2	Q3/4	Q1/2	Q3/4	Q1/2	Q3/4
SCADA Historian Data Governance Framework									
Smart Water Engine Digital Leak Detection Unified Network Management (UNM) Data Science Framework PowerBI Connector Data Governance Tool Implementation Change Management									
Sewer (I&I) Monitoring Change Management Cont'd									
Energy Optimization One Water (incl. Recycled Water) Mass Balance									
On-going Use Case Deployment									