Water Operations

Santa Rosa WATER

OUR FUTURE IN EVERY DROP

Outline

- History
- Duties
- Rules and Regulations
- Organization
  - Assets maintained
  - USO’s
  - Crew Responsibilities
  - Standby
- Work done to assist others
- Highlights
- Challenges

Santa Rosa WATER

OUR FUTURE IN EVERY DROP

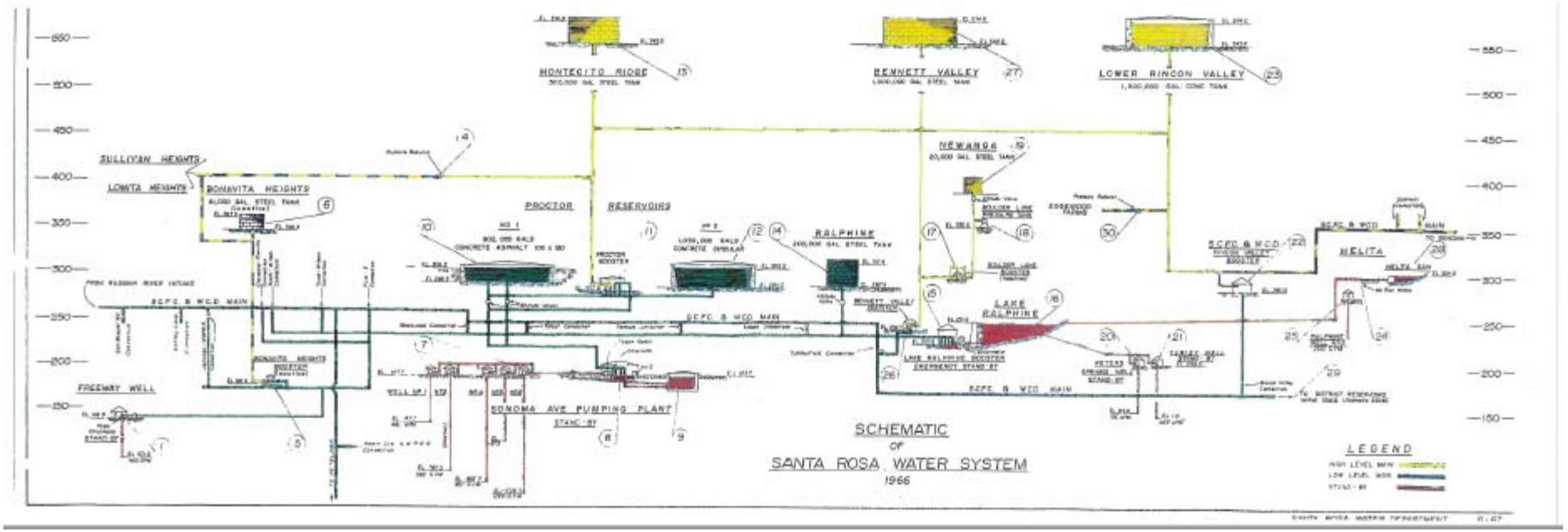
Santa Rosa Water History

- Prior to 1947, the City of Santa Rosa had two separate water systems
- In 1947 the two systems were combined to operate as one system.
  - BPU established.
  - Water rates established.
  - Department reorganized
- The source of water supply until 1959 continued to be from springs, wells, and impounded surface water.
  - Lake Ralphine
  - Carley and Peter Springs Wells
  - Farmer Lane Wells
  - 1957 Freeway Well

Santa Rosa WATER

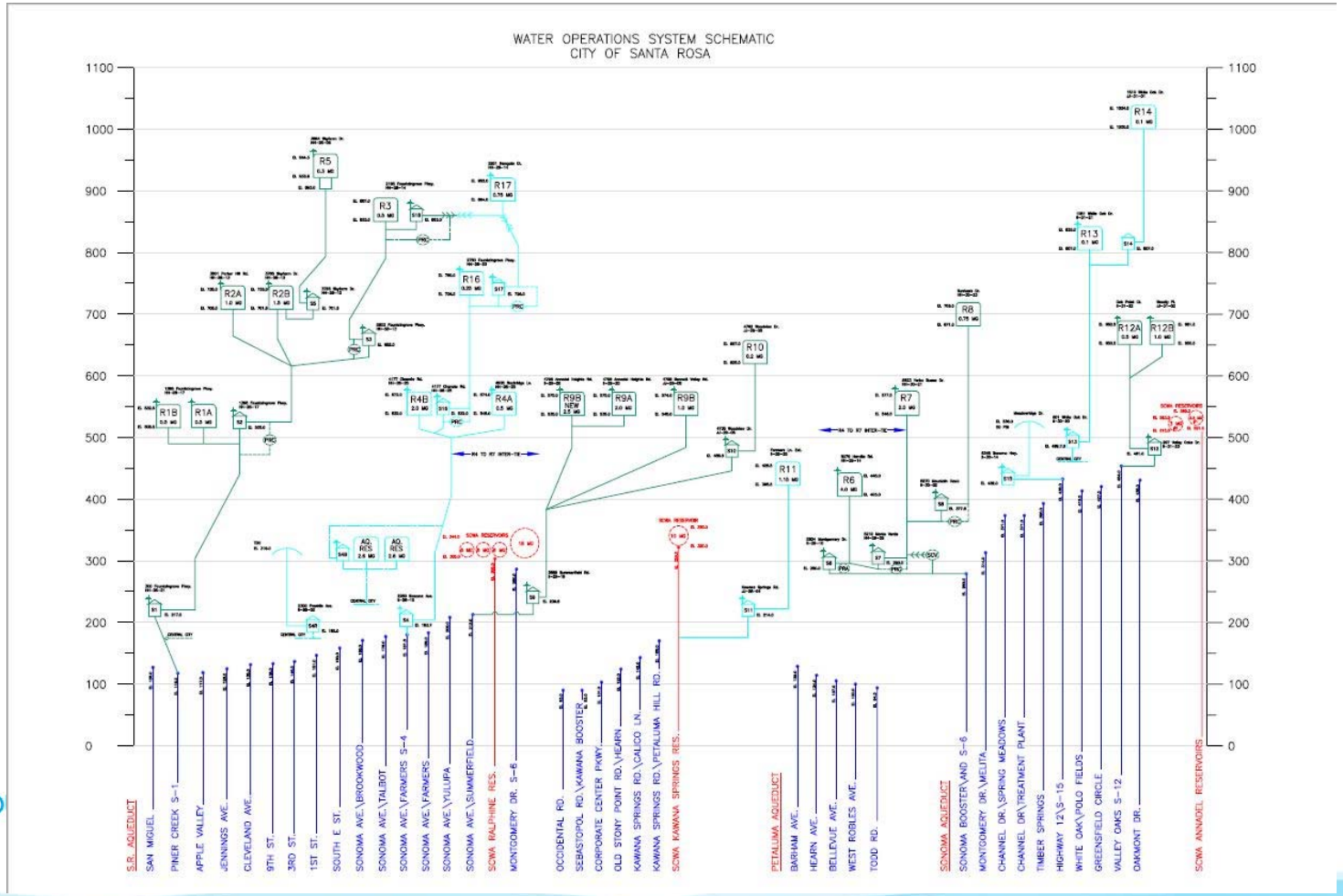
OUR FUTURE IN EVERY DROP

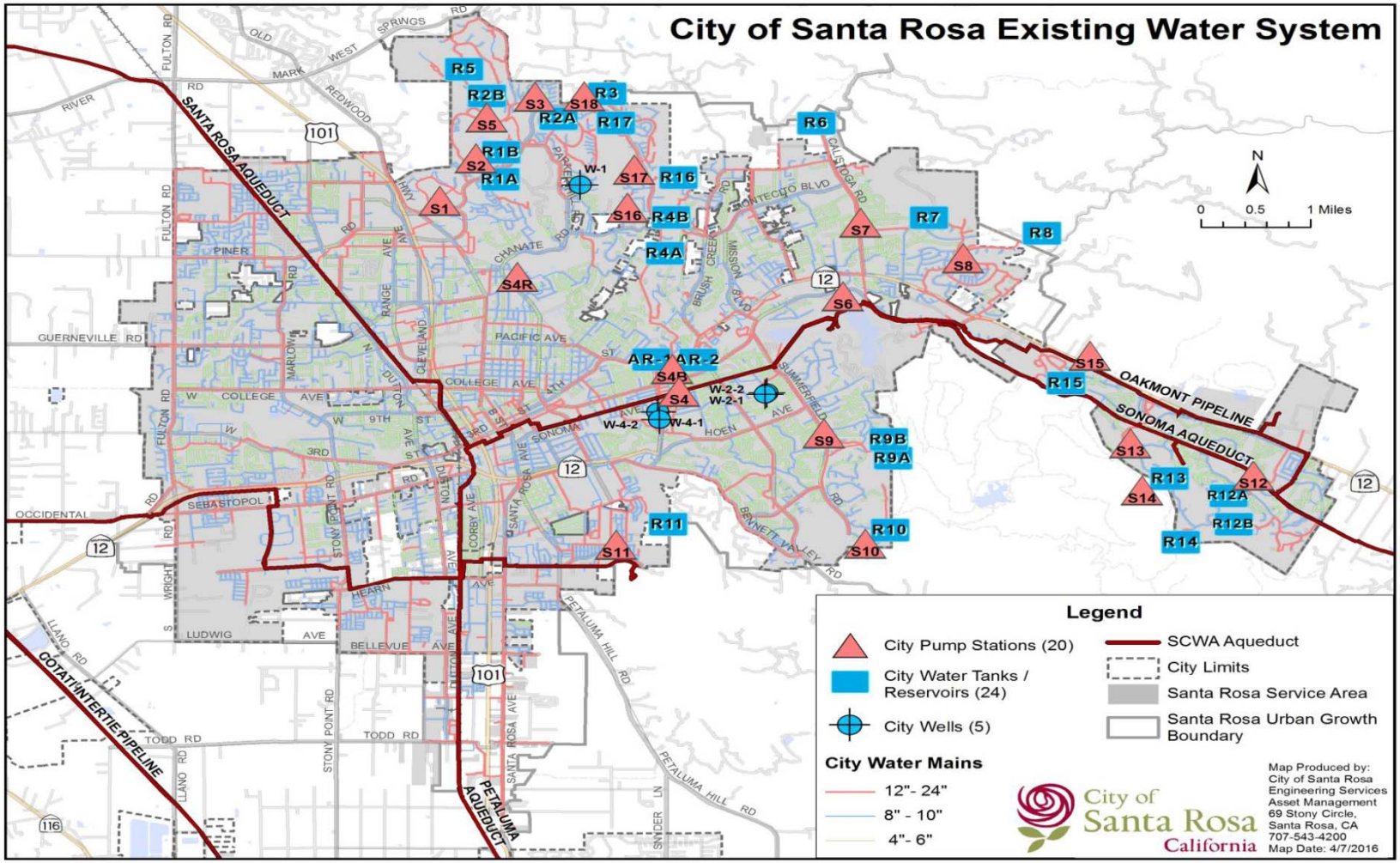
- 1959 City connected to the SCWA aqueduct.
  - Six water tanks, three pump stations, fourteen SCWA connections.
  - Water production facilities put in standby mode



OUR FUTURE IN EVERY DROP

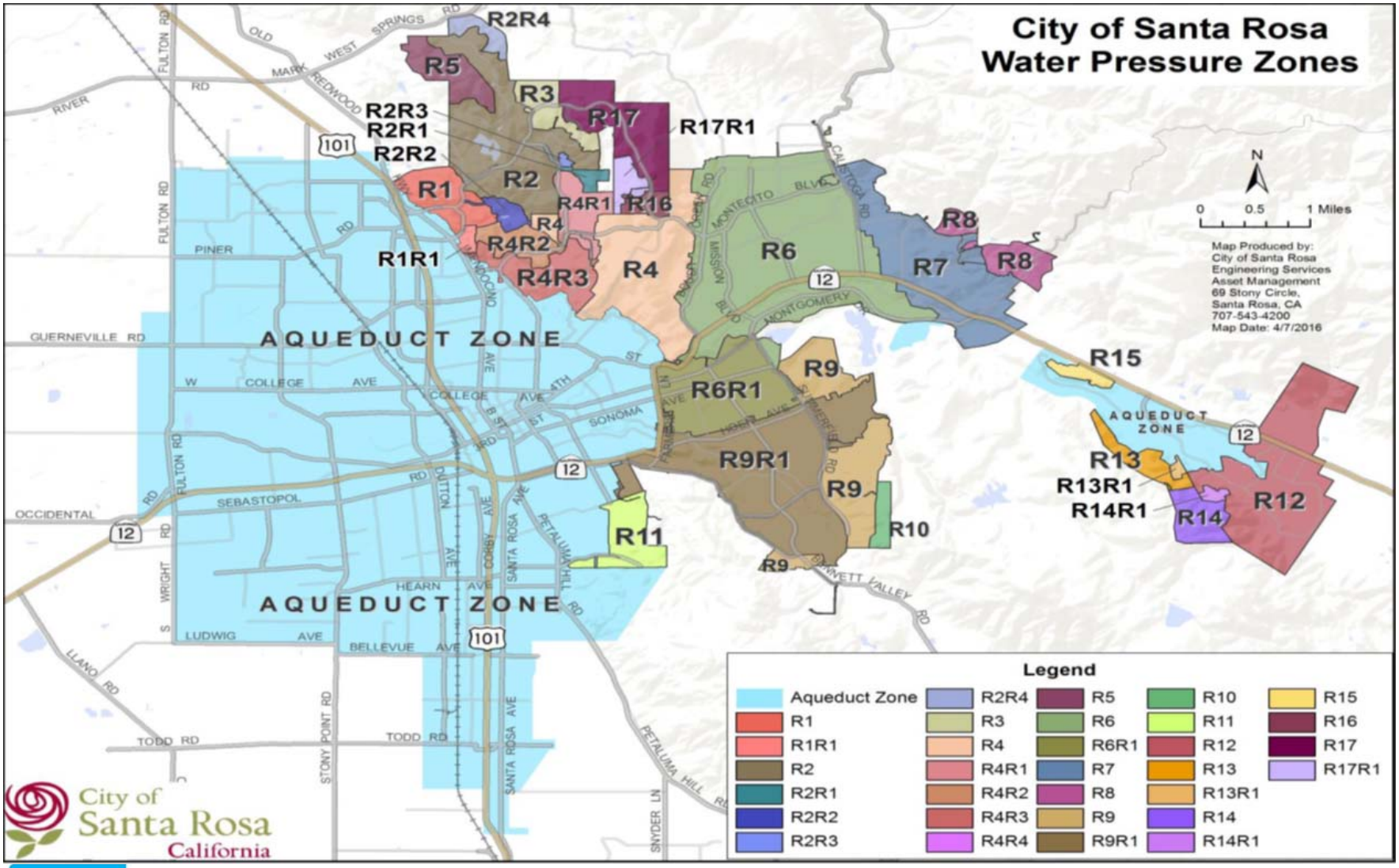
- Present Day
  - Certified by SWRCB - D5 Water Distribution System
  - 59 physical connections
  - 39 pressure reducing valves and 16 check valves.
  - 24 water tanks and 20 pump stations
  - 2005 Farmers Lane Wells were changed from emergency to active production status





Santa Rosa WATER

OUR FUTURE IN EVERY DROP



Santa Rosa WATER

OUR FUTURE IN EVERY DROP

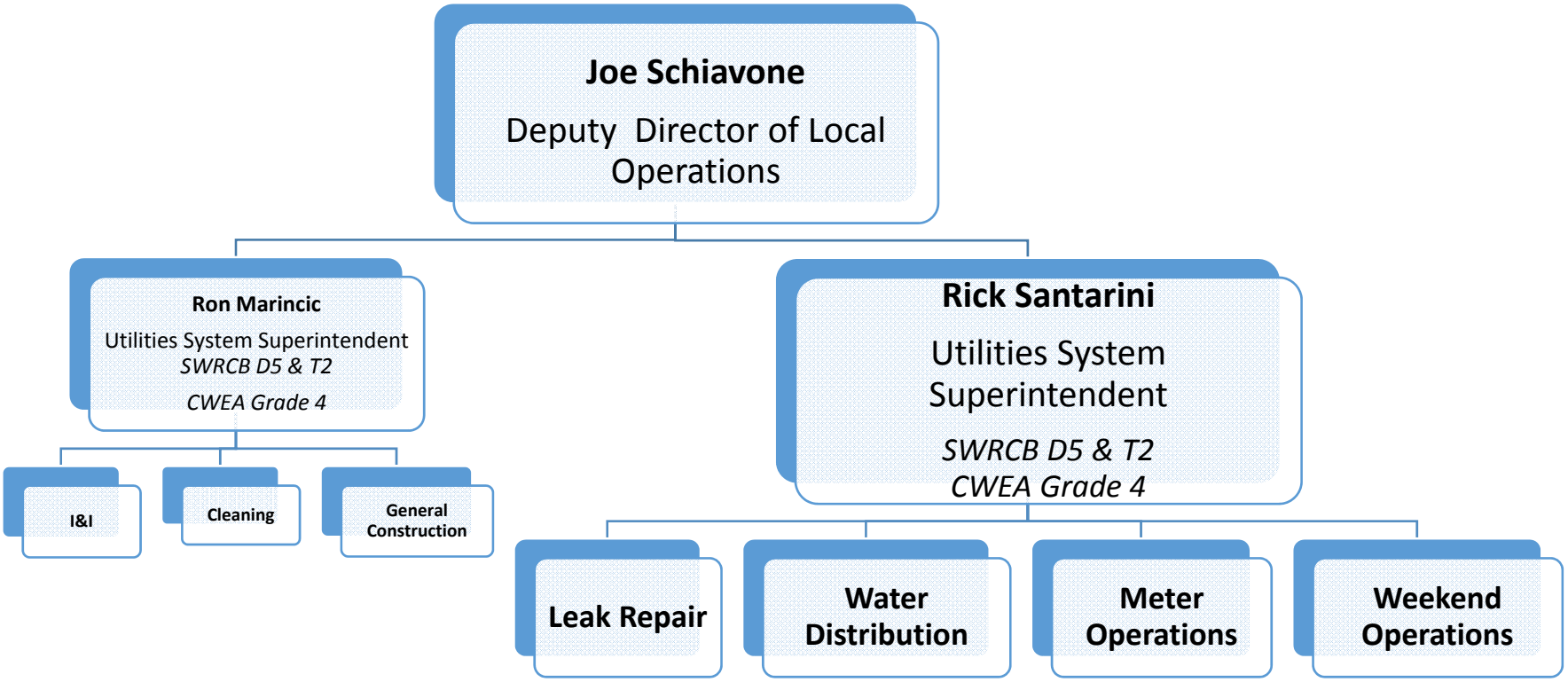
Duties

- **Water Operations Maintenance**
  - Customer Service
  - Water Main and Service Leak Repairs
  - Water Leak Detection
  - Water Meter O&M
  - Fire Hydrant O&M
  - Water Valve O&M
  - Water Booster Pump Station O&M
  - Water Storage Tank O&M
  - Well Water Treatment Plant
  - Gathering Information for CIP
  - USA's

Rules and Regulations

- Safe Drinking Water Act through the State Water Resources Control Board.
- Title 22 / Title 17
  - Domestic Water
  - Recycled Water
- National Pollutant Discharge Elimination System (NPDES) program that regulates:
  - Potable water discharges into the Storm Drainage System.
- General Waste Discharge Requirements (WDR)
  - CalEMA notification for unscheduled potable water discharges (water main breaks/hydrant knockdowns)
  - BMP's for scheduled potable water discharges
- SR Fire Department and State of California Hazmat Regulations pertaining to fuel tanks
- Underground Service Alert (USA) regulations
- Occupational Safety & Health Administration (OSHA) standards and regulations
- Bay Area Air Quality Management District (BAAQMD)
  - California Air Resources Board (CARB)

Water & Wastewater Operations

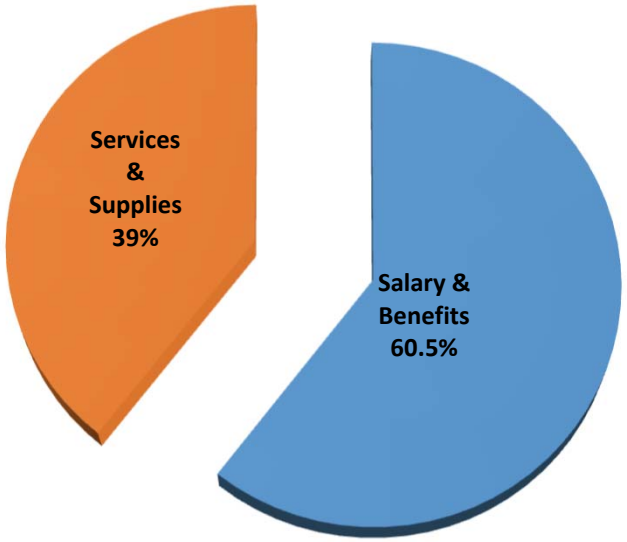


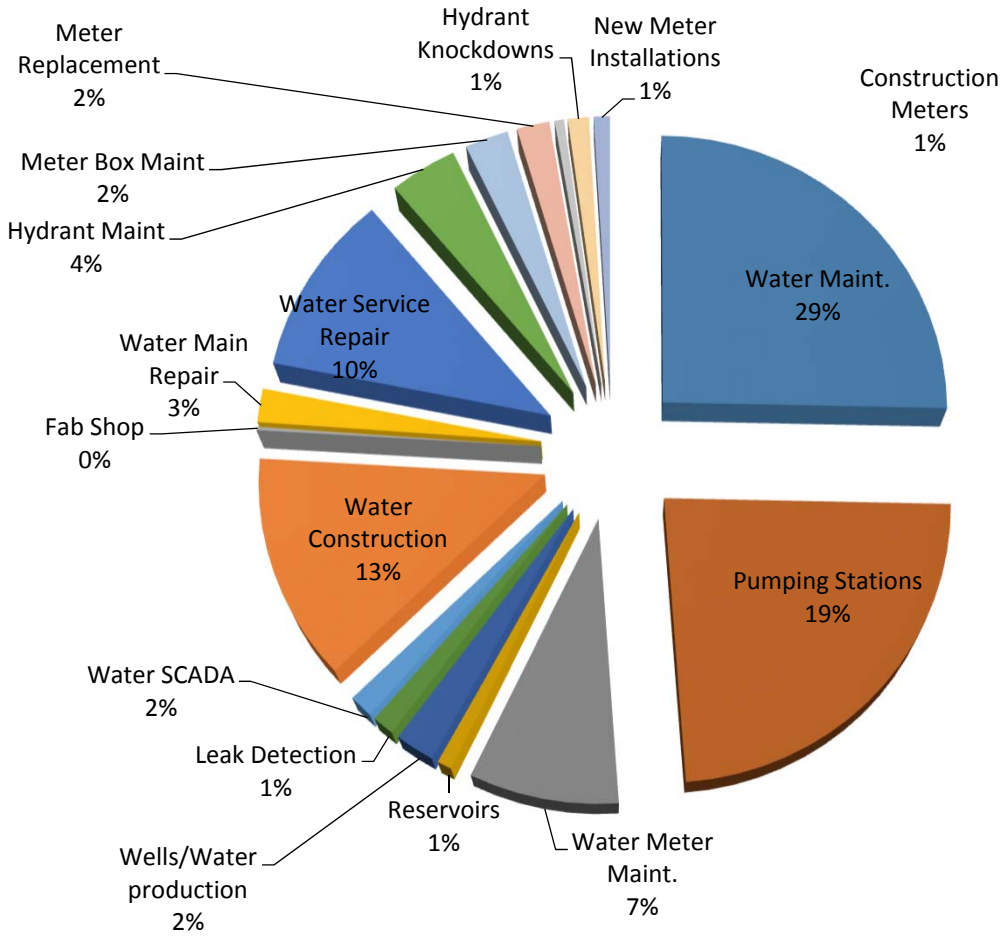
- All Sections supervised by a Utility System Supervisor required to possess a SWRCB D3 and CWEA Grade 2

Santa Rosa WATER

OUR FUTURE IN EVERY DROP

Water O&M Budgets - $7,326,793





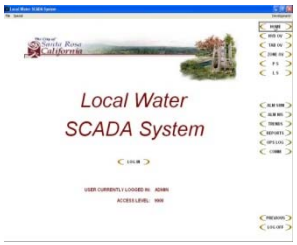
Santa Rosa WATER

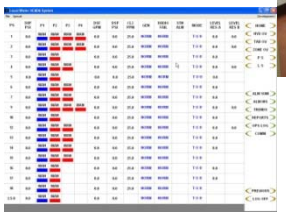
OUR FUTURE IN EVERY DROP

Water Assets

- 20 Booster Pump Stations
  - 57 Pumps & Motors
- 24 Water Storage Tanks
- 19 Stationary Backup Generators
- 2 Production Wells
- 1 Treatment Facility
- 3 Emergency Wells
- Water SCADA
- Mobile Equipment
  - 2 Mobile Generators
  - 1 Mobile Light Trailer
  - 4 Mobile Pumpers
  - Mobile Emergency Pipe Trailer
- 523 Hydraulic valves
  - 112 Pressure Regulating
  - 28 Pressure Relief
  - 373 Air & Vac
- 10,000 + Valves

- 54,000 + Water Meters
- Construction Meters
- 40,000 + Services
- 6959 Public Fire Hydrants
- 620 Miles of Water Main





Santa Rosa WATER

OUR FUTURE IN EVERY DROP

Wastewater Collections Assets

- 17 Sewer Lift Stations
  - 46 Pumps & Motors
  - 6.5 Miles of Force Main
- 13 Generators
- Wastewater SCADA
- Mobile Equipment
  - 1 Mobile Generator
  - 2 Mobile Pumpers
  - 1 Generator Load Bank

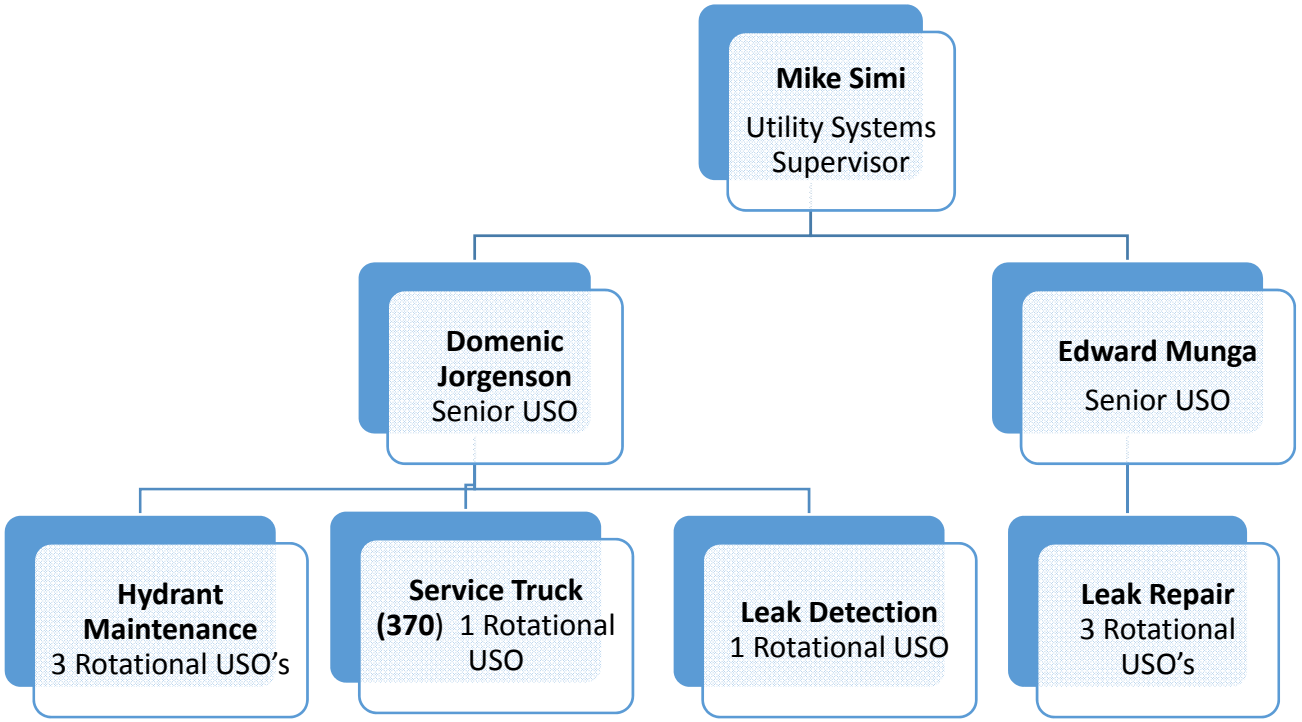
Santa Rosa WATER

OUR FUTURE IN EVERY DROP

Utilities System Operators

- Required Certificates and Licenses
  - SWRCB Distribution 1
  - CWEA Collections Maintenance 1
  - CDMV Class A with Tanker endorsement
- USO I & II's rotate yearly to different crews
- Senior USO's & Supervisors/Managers have Hazwoper certification
- Confined Space Trained
- Competent Person Trained
- Traffic Safety Trained
- 1st Aid & CPR Trained

Leak Repair Crew



Santa Rosa WATER

OUR FUTURE IN EVERY DROP

Leak Repair

- Water Service Leak Repairs
- Water Valve Leak Repairs
- Leak Detection
- Fire Hydrant Maintenance
- Fire Hydrant Knockdown Repairs
- Fire Hydrant Flow Test
- Customer Service Calls (Water, Sewer & Urban Reuse)
- USA's (Water, Sewer & Urban Reuse)
- Survey Information for CIP Design

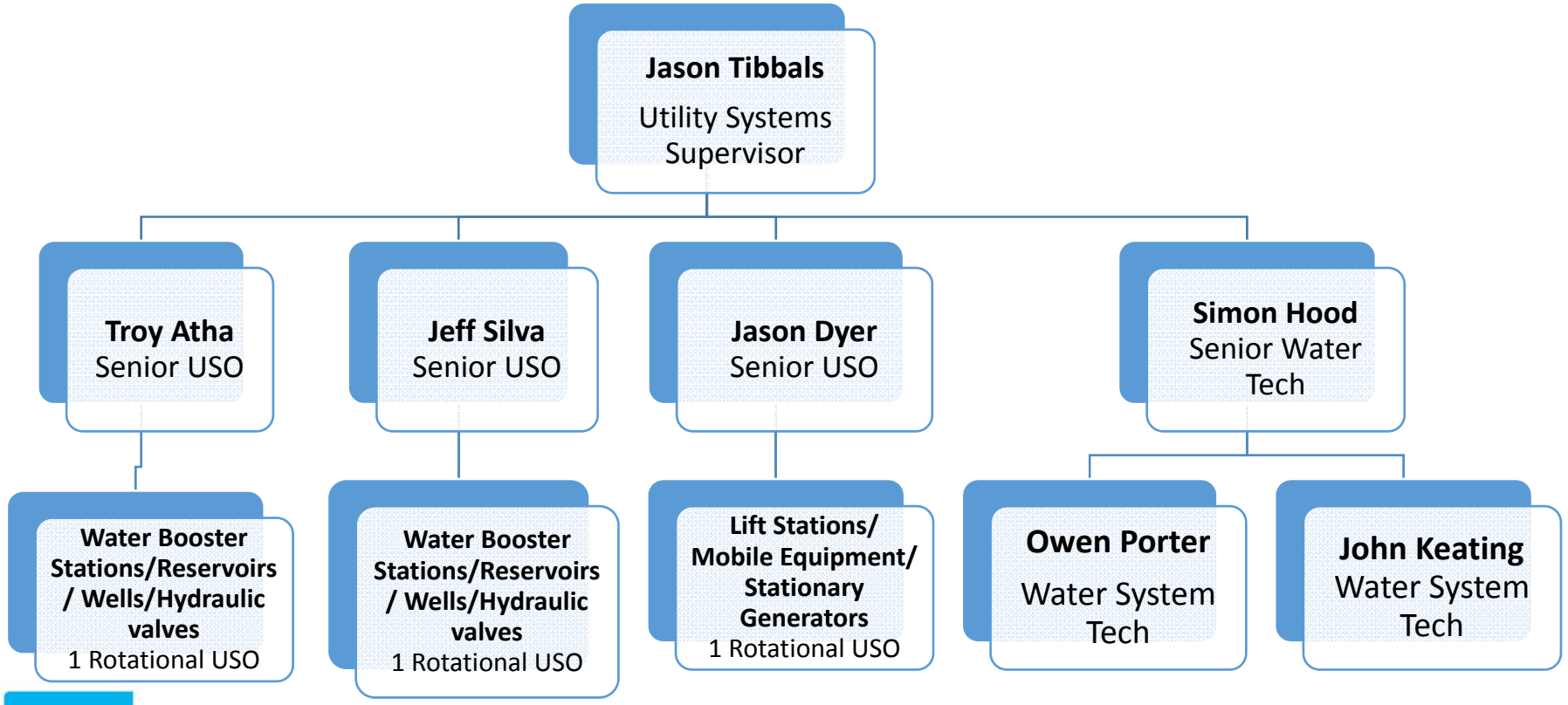









Water Distribution Crew



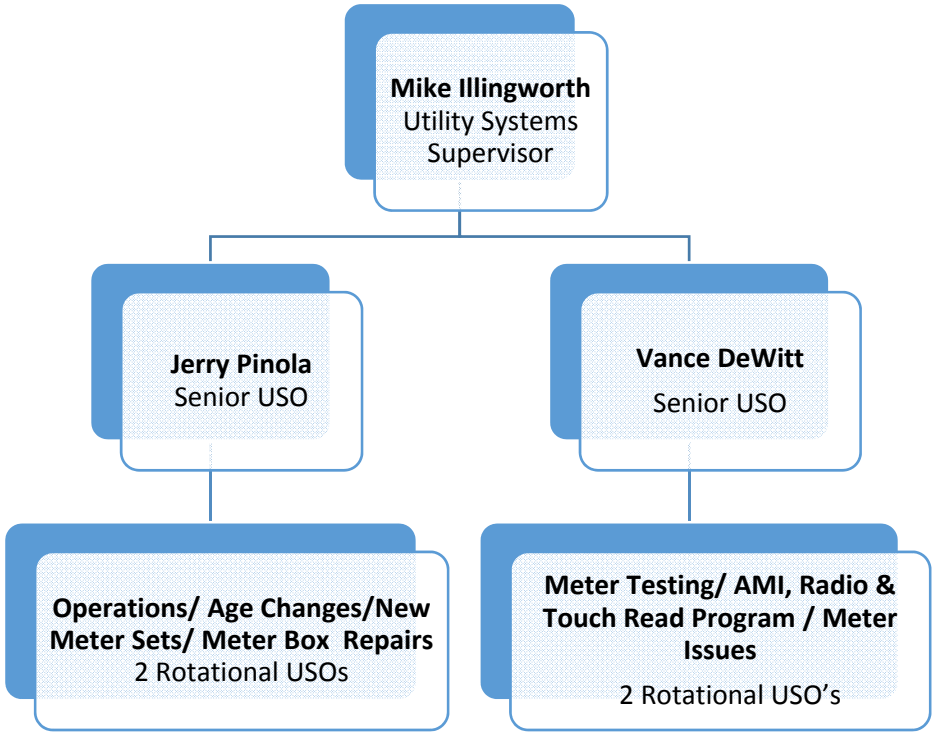
Santa Rosa WATER

OUR FUTURE IN EVERY DROP

Water Distribution

- Mechanical, Electrical & Instrumentation Maintenance
  - Lift Stations
  - Water Booster Pump Stations
  - Production Wells
  - Water Treatment Facility
  - Emergency Wells
  - Water Storage Tanks
  - Stationary & Mobile Generators
- Water SCADA
- Lift Station SCADA
- Hydraulic Valve Maintenance
  - Pressure reducing valves off SCWA Aqueduct
  - Pressure reducing valves within the water distribution system
  - Pressure Relief Valves
  - Air and vacuum relief valves

Meter Operations Crew

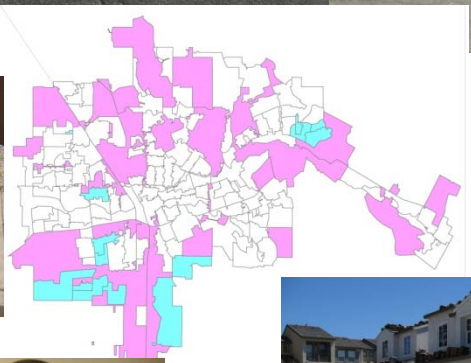


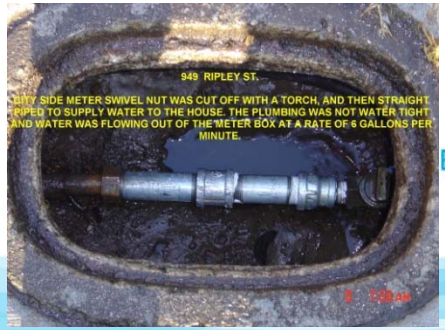
Santa Rosa WATER

OUR FUTURE IN EVERY DROP

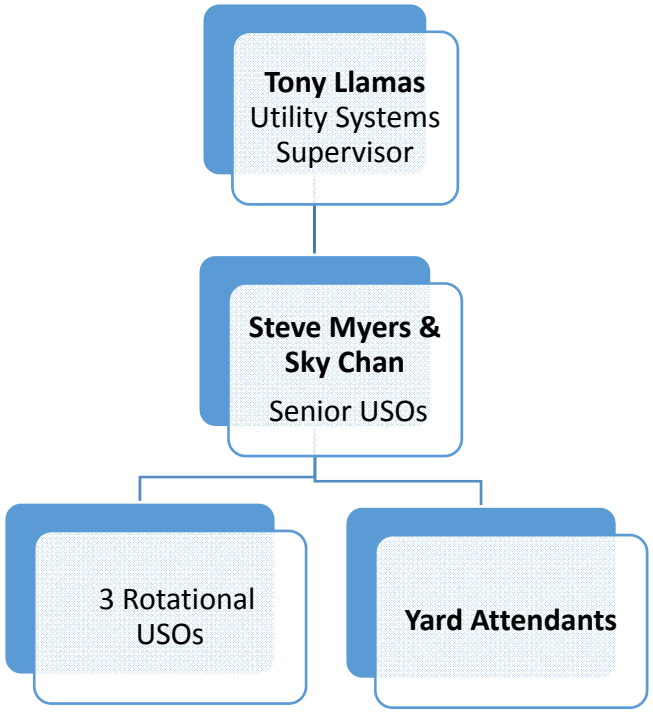
Meter Operations

- Scope of Responsibility
  - 54,051 + water meters / curb stops
  - 180 temporary Construction meters
  - 26,000 + meter boxes
  - AMR/AMI
  - 4 data loggers
- Meter Age Change replacements
- New Meter Sets
- Install Construction Meters for Contractors
- Meter Box Repairs / Replacements
- Meter Testing
  - 2” and below on the Test Bench
  - 3” and above Field Test
- Curb Stop repairs
- Data log customer use complaints
- Resolve issues reported by Meter Specialists





Weekend Operations Crew



Santa Rosa WATER

OUR FUTURE IN EVERY DROP

Weekend Operations

Allows Santa Rosa Water to provide 9 hr/ day, 7 days a week coverage

•Weekday Operations Responsibilities

- Assisting with leak repairs
- Leak Detection
- Urban Reuse Water maintenance/repairs
- Manhole repairs for I&I
- Assisting with sewer repairs
- UFO Maintenance
- Pond 2 and Utilities site maintenance
- Special projects

• Weekend responsibilities include responding to all Santa Rosa Water calls & emergencies on Saturdays & Sundays

- Customer service calls
- Water Station / Sewer Lift Station alarms
- Projects on weekends that lessen the impact on Businesses and the Public
- Hydrant knockdowns and water main breaks
- Emergency meter work
- Sewer back-ups and overflows
- Contractor work
- Start water service for new customers

Santa Rosa WATER

OUR FUTURE IN EVERY DROP

After Hours Standby

Utility System Operators rotate on a weekly basis to handle all after hours calls pertaining to Local Operations , thereby providing 24/7 coverage to serve our customers.

- Customer service calls
- Water/Sewer Lift Station alarms
- Hydrant knockdowns and water main breaks
- Water Service Leaks
- Sewer back-ups and overflows

Work done by our team for other Departments and Sections

- Assist other partners in Subregional System upon request
  - Cotati with Leak Detection / CCTV inspections/ Flow Monitoring assistance/Manhole entries
  - SCWA with hydro-vacuum assistance
- Weekend Operations many times on weekend responds & handles other Divisions/ Departments problems when the Yard Attendant can not get a response from the appropriate personnel
- Assist Public Works CIP Teams
  - Potholing
  - Lateral Locations
  - Design required surveys
- Assist Subregional Section
  - LTP with pipe repairs
  - Biosolids
  - Geyser Operations
  - Reclamation

Other Highlights of Water Operations

- We been utilizing industry trenchless technology for more cost-effective ways to repair or replace infrastructure. Pulling water services.
- Water services are being replaced with HDPE instead of copper.
- Increased use of Hydro-excavation.
- As part of our ongoing pump efficiency program, Water Distribution continues to work with PG&E and SR Water Energy & Sustainability staff to evaluate all our pumping facilities.
- Crews located and replaced 60 leaking water services through our Leak Detection program in 2016. These are leaks that can go undetected for long periods of time before they surface and are called in by the public. This program ultimately contributes to lowering the amount of unaccounted water used in the water distribution system and is a positive contribution toward this department's water conservation efforts.
- Utilizing Best Management Practices (BMP) for our disposal of potable and excavation water to environmentally protect the storm water/creek system.
- More crews are utilizing the paperless work order system/USA's.
- In 2016 Well production at Farmers Lane Well Treatment Plant was 399.804 MG (1227 ac/ft), representing 7.24% of the water used in 2016

How our work benefits and / or serves the rate payer.

- By making sure the rate payers receive safe, economical dependable and reliable drinking water, along with adequate fire flow protection.
- By making sure we meet all our water Regulatory Requirements

This is accomplished thru the Goals of Our Section to:

- Develop and maintain a well trained, well equipped, informed, knowledgeable staff.
- Provide efficient and cost effective services.
- Maintain our high level of customer service and quality.

Our Continuing and Future Challenges in Local Water

- Addressing our aging infrastructure
- Limited revenue leading to constrained budgets
- Limited budgets to keep up with technology changes in the industry
- Past staffing reductions
- Improving staff skills and training to keep ahead of industry changes
- Addressing environmental impacts and health & safety issues
- Training and providing opportunity to staff for an efficient Succession Plan with limited Training budgets
- Retaining the current staff and recruiting additional qualified staff to address the future
- Addressing and mitigating the effects of volatile and rising energy costs
- Addressing ever changing government regulations, laws and fees

Questions?

Santa Rosa WATER

OUR FUTURE IN EVERY DROP