Professional Services Agreement Approval Professional Engineering Services for the

2019 Water System Reliability Study









March 21, 2019

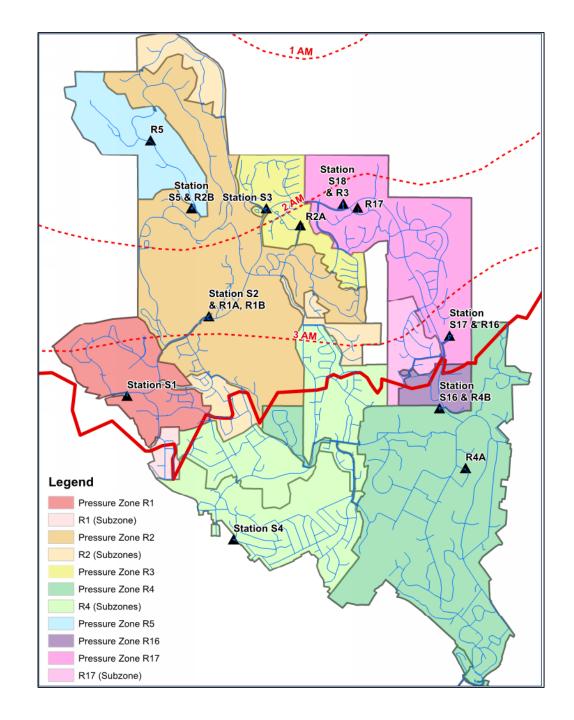
Emma Walton, Deputy Director of Engineering Resources Joe Schiavone, Deputy Director of Local Operations

Background

October 2017 Tubbs Fire

Jan-Aug 2018 B&V Evaluation of Fountaingrove
 Water System

 October 2018 RFP Released for City-wide Evaluation



The RFP Process

- Advertised on October 30, 2018
- Professional Services Agreement
- Proposals submitted November 20, 2018
 - Two Proposals Received
- B&V Selected on December 17, 2018
- B&V Fee
 - Base \$277,760
 - Optional \$126,130
 - Total \$403,890

REQUEST FOR PROPOSALS

WATER SYSTEM RELIABILITY STUDY UNDER PROFESSIONAL SERVICES AGREEMENT

Instructions

The City of Santa Rosa is seeking proposals from qualified firms to conduct a Water System Reliability Study on the City of Santa Rosa's distribution system under a Professional Services Agreement (PSA).

To be considered, the proposal and the cost proposal must be submitted by the following method by the due date:

- A PDF file via email to the contact person listed below (with cost and fee proposal in a separate PDF file), and
- Four (4) hard copies of the proposal (with cost and fee proposal in a separate sealed envelope) to:

Mark Kasraie, PE | Associate Civil Engineer City of Santa Rosa | Santa Rosa Water 69 Stony Circle | Santa Rosa, CA, 95401 (707) 543-3857 | mk.asraie@srcity.org

II. Background

The Tubbs Fire, which began Sunday October 8, 2017, spread rapidly through Sonoma County causing significant damage to the City of Santa Rosa's Fountaingrove and Coffey Park Neighborhoods. As the fire spread through the Fountaingrove area, operation of the water system was most impacted by three main factors:

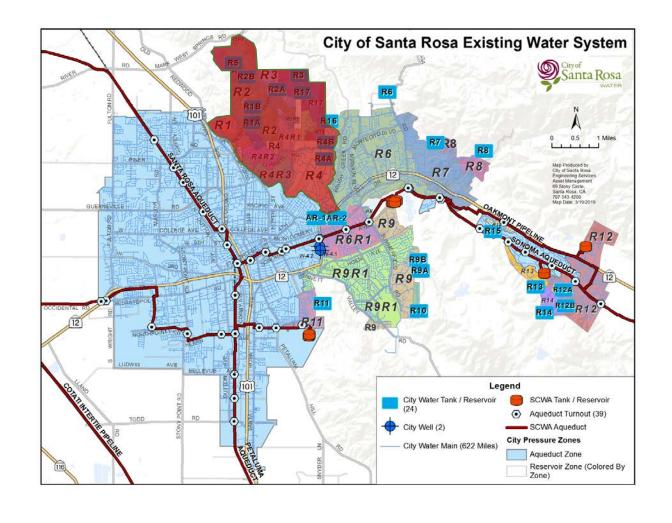
- Extreme water demand due to the destructive effects of the fire, which were many times higher than typical conditions.
- Partial loss of real-time information provided by the Supervisory Control and Data Acquisition (SCADA) system. This system provides operators the ability to monitor the system and to understand the water tank levels, system pressures, and the flow rates.
- The inability to immediately access and close openly flowing appurtenances and inability to access, assess, and operate critical facilities due to safety concerns.

To better understand how the water system responded during the event, the City contracted with Black & Veatch to perform a focused evaluation of the City's water system within the Fountaingrove area during the Tubbs Fire. See Attachment 1 for the Report: Evaluation of the Water System's Response in Fountaingrove to the October 2017 Fire.

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Base Services

- SCADA System Reliability & Redundancy
- Flow Control Opportunities
- Back-Up Power Generation
- System-Wide Fire Flow Evaluation & Recommendations
- System Reliability Opportunities
- Off-Line Storage
- Prioritized Recommendations and Costs
- Proctor Heights Evaluation (Proctor Tanks)



Optional Services

- Fire Department Coordination
- Redundant Communication Studies
- Coffey Park Investigation
- Fire Damage Probability
- Water Quality/Water Age Impact Evaluations
- Presentation to Governing Boards

Proctor Tanks History

• 1989 and 1994 Master Plans Identified

need for Aqueduct Storage

January 2004 Board Adopted MND and

Authorized Project

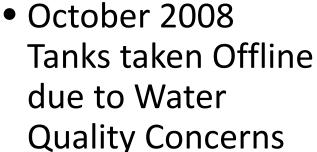
April 2006 Board Awarded Contract

(Base Bid \$6,320,110)

February 2008 Tanks brought Online

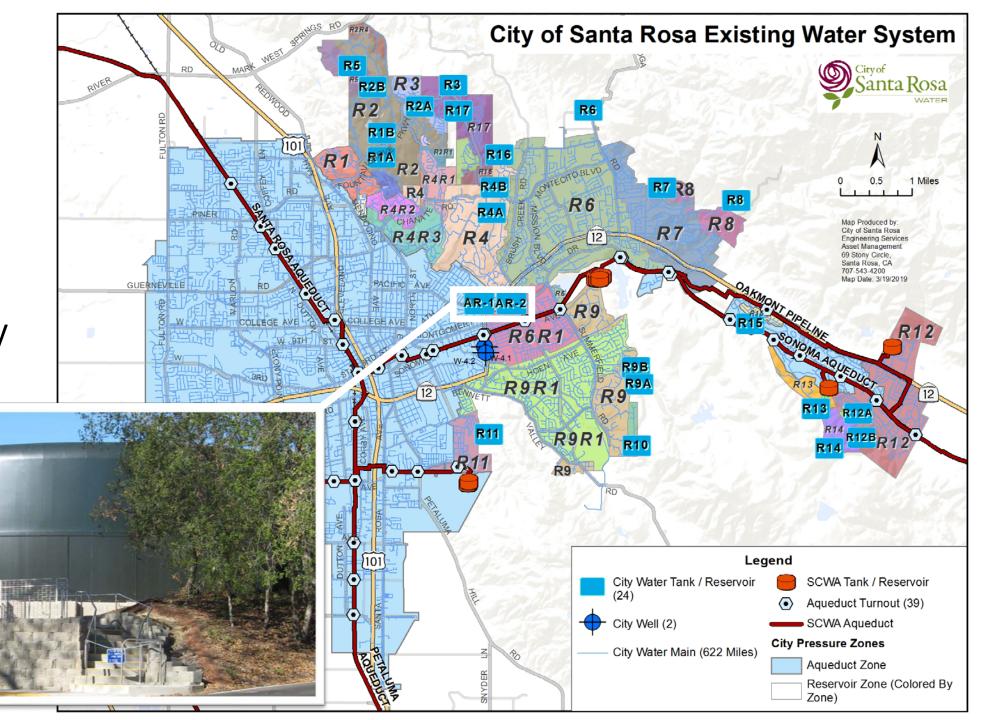
(Final Cost \$6,750,113)





Proctor Tanks

- 2.6 MG each
- Provide Drinking
 Water during
 Interruption of
 Aqueduct Supply

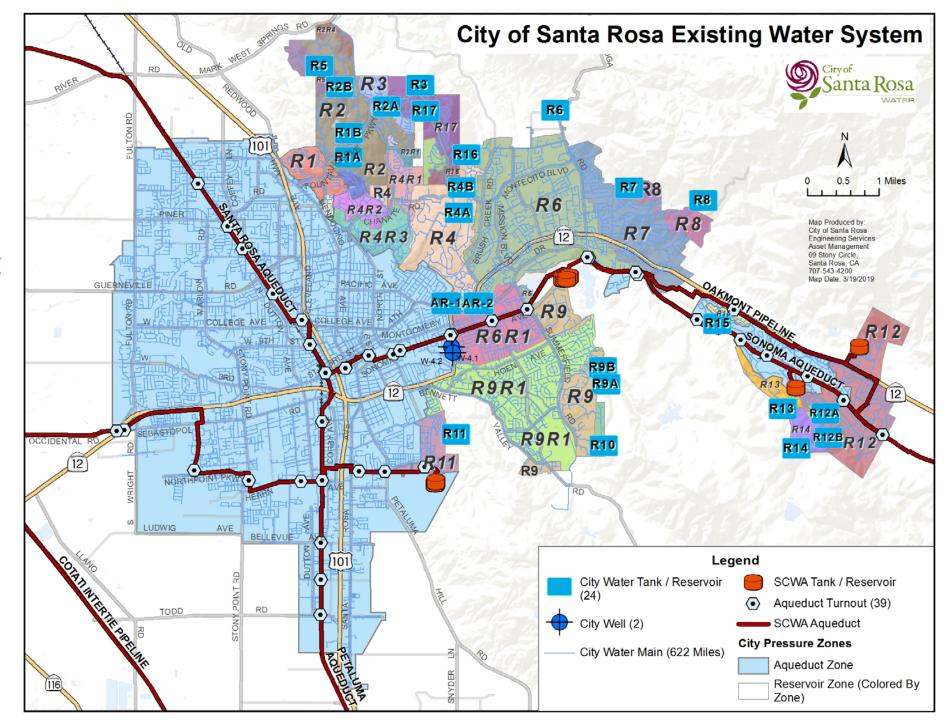


City Storage

- 24 Reservoirs
- 23.1 MG Hillside
- 5.2 MG Aqueduct

SCWA Storage

- 8 Reservoirs
- 61.5 MG =24.6 MG for City'sAqueduct Zone



Emergency Storage Needs – 2014 Master Plan

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24.6 MG SCWA Storage
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+ 8.8 MG City's Emergency Wells

= 33.4 MG Emergency Supply in Aqueduct Zone

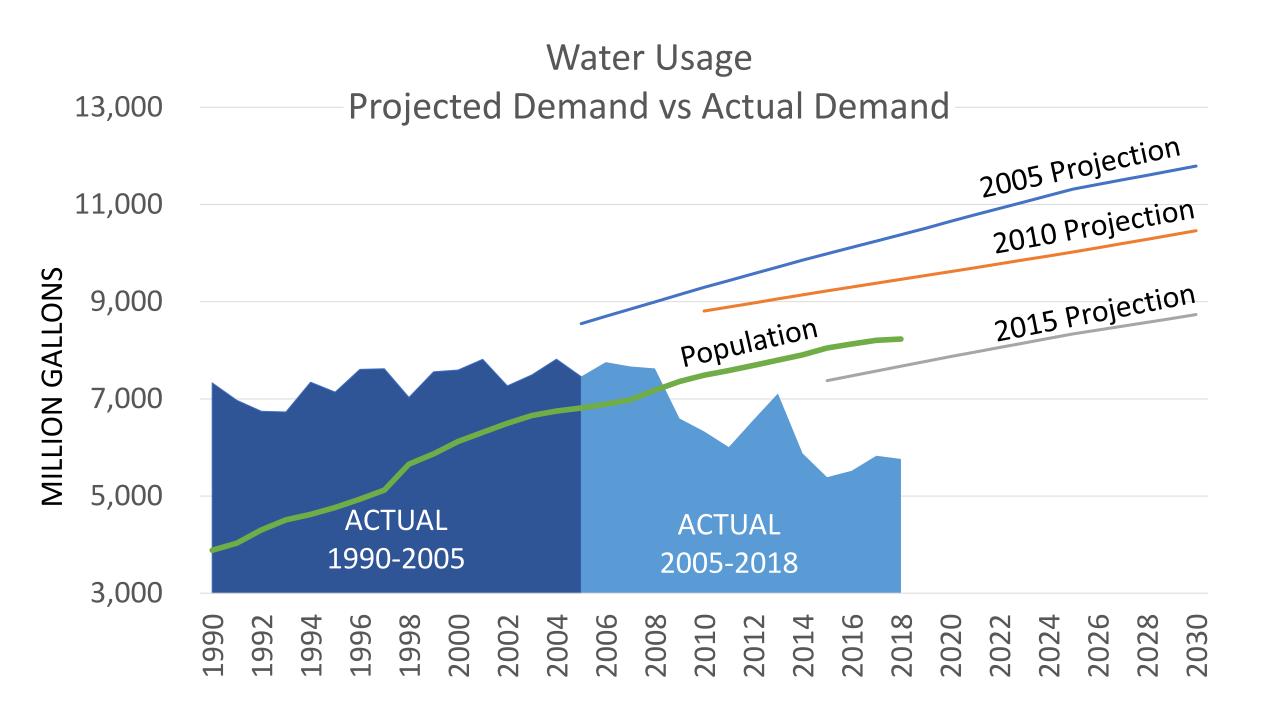
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32.0 MG Needed Currently (+1.4 MG Surplus)
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36.5 MG Needed at Buildout (-3.1 MG Deficit)

5.2 MG Proctor Tanks

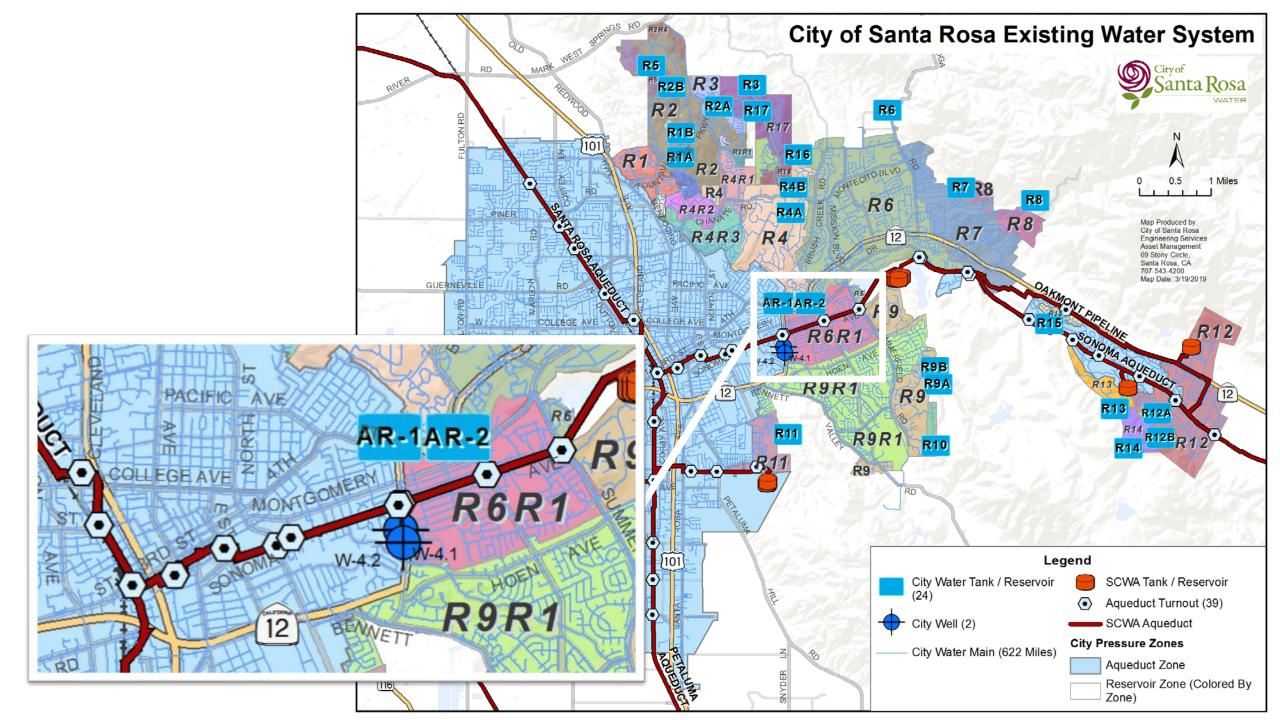
Emergency Storage Needs – What Changed?

- 1989, 1994, 2006, 2014 Master Plan Assumptions
- Actual Water Demand and Projections Decreased



Emergency Storage Needs – What Changed?

- 1989, 1994, 2006, 2014 Master Plan Assumptions
- Actual Water Demand and Projections Decreased
- City Added a Pressure Zone (R6R1)



Emergency Storage Needs – What Changed?

- 1989, 1994, 2006, 2014 Master Plan Assumptions
- Actual Water Demand and Projections Decreased
- City Added a Pressure Zone
- City Developed additional Storage in Hillside Zones
- City Developed additional Groundwater Supply
- SCWA Developed additional Storage

A Balanced Approach

- Fire Flow
- Storage
- Water Quality
- Operational Efficiency
- Seismic Resiliency
- System Redundancy
- Groundwater Supply
- Regional Efforts



Recommendation

It is recommended by the Water Department that the Board of Public Utilities, by motion, approve a Professional Services Agreement with Black and Veatch to provide professional engineering services for the 2019 Water System Reliability Study in the amount not to exceed \$403,890.00.





