

Final Project Completion Report

Project Name and Number: **Transmission/Distribution Stabilization Study, #4060**

Description: Over the past 15 years, JWCD has significantly changed its sources of supply with the addition of several new water sources including the Bingham Canyon WTP, Southwest Groundwater Treatment Plant, many underground wells, and Central Water Project inflows. The objective of this project was to complete a multi-year study characterizing the chemical and physical processes that occur when these different source waters blend in the District's transmission/distribution system and to develop a written water quality parameter framework for successful blending, operating, monitoring, and optimization of the District's water network.

District Project Manager: **David McLean**

Engineer:	Confluence Engineering Group	Design Status: 100%
Original Engineering Contract Amount:		\$274,946
Final Engineering Contract Amount:		\$274,946
Completion Schedule:		
Notice to Proceed:		November 2017
Final Completion:		October 2021

Summary of Change Orders:		
	Description	Amount
1	None	
	Total Change Order Amount:	\$0

Final Project Completion Report

DRINKING WATER TRANSMISSION AND DISTRIBUTION
SYSTEM STABILIZATION STUDY

for the

JORDAN VALLEY WATER CONSERVANCY DISTRICT

West Jordan, Utah

FINAL REPORT

Submitted October 2021



JORDAN VALLEY WATER
CONSERVANCY DISTRICT

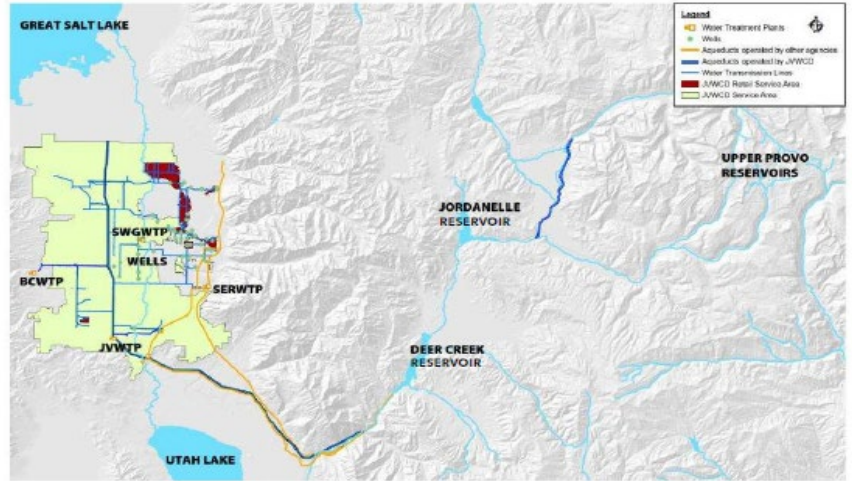


Figure 1-1 JMWCD's major sources and service area (map supplied by JWCD)

Completed multi-year study

JMWCD major sources and service map

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Transmission and Distribution System Stabilization Study
Jordan Valley Water Conservancy District

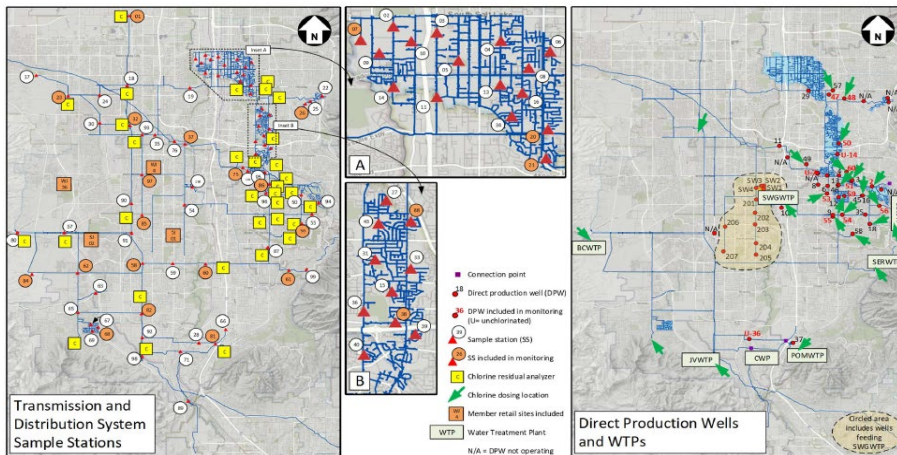


Figure ES-1 Sources and system locations monitored during the WQMP

Sources and system locations monitored during the study

Table ES-4 Treatment and process control changes needed to meet framework
 (shown in conjunction with treatment already practiced at each facility, per Table 2-2)

Treatment Process / Chemical	Facility / Source										
	JV WTP	SER WTP	SW GWTP	BC WTP	POM WTP	LC WTP	CWP Wells	DACR WTP	DPWs w/ Cl ₂	DPWs No Cl ₂	
pH Increase/Control	ADD	ADD	✓*	ADD	✓*	✓*	ADD?	✓*	-	-	
DIC and Ca Increase	-	ADD	-	-	-	✓†	-	-	-	-	
Chlorination	✓*	✓*	✓	✓*	✓*	✓*	✓*	✓*	✓*	ADD	

Notes:

- Add** Expected need to add a new treatment process or chemical to meet framework recommendations
- *** May only require process control optimization of existing treatment to meet framework recommendations
- ✓** Treatment capability is currently included at the facility/source indicated
- Treatment change is not anticipated
- †** The ability to add carbon dioxide and lime is currently available

Recommended improvements based upon the study



Given that the treatment improvements recommended to meet the water quality framework have significant capital, O&M requirements, and cost implications, JWCD should conduct additional activities to further define the concepts and finalize design criteria to support their eventual implementation. A detailed roadmap of the key next steps for JWCD to pursue was developed and organized along four key categories, as follows:

- pH Adjustment/Corrosion Control
- Optimize Chlorine Residuals
- Assess Legacy Deposit Occurrence and Behavior
- Improvements at SERWTP

In addition to treatment improvements, enhancements to JWCD’s monitoring program are also recommended. JWCD should consider implementation of an event-based monitoring plan (EBMP) that can provide insight into the occurrence, locations, and specific causes of destabilization events and metals/biofilm releases. JWCD should also collect data on pipe deposits to understand accumulation trends within its system.

Report Summary