CASE STUDY: MODERNIZATION OF THE WALKER RIVER IRRIGATION DISTRICT

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ABSTRACT

The Irrigation Training and Research Center (ITRC) and Walker River Irrigation District (WRID) collaborated on the modernization of WRID with support from the Bureau of Reclamation, U.S. Department of Interior in Carson City, Nevada. This paper presents an update to the USCID case study that was presented in 2014 on the initial proposed plan for improving water gauges throughout WRID. There has been phased implementation of the initial proposed plan as well as modification and expansion of that plan. The initial scope of work for system improvements was developed by ITRC in 2009 following field investigations and engineering analyses of existing WRID infrastructure and operational procedures. The initial plan identified twenty primary sites for water gauge improvement and provided strategic engineering recommendations for new hardware, control equipment, and flow measurement devices for the sites, as well as water management strategies and integration of a new SCADA system for the entire district. Additionally, the plan prioritized the order of engineering implementation and automation recommendations and provided planning-level cost estimates. Over the following eight years, ITRC has assisted WRID in organizing implementation, including site-specific designs as well as updating hardware and control equipment recommendations to align with current technology. To date, twelve of the original twenty sites have been implemented. Twenty additional sites have been identified, fourteen of which have already been implemented. Additionally, up to six buffer reservoir sites located throughout the district are currently being developed.

INTRODUCTION

The recommendations in this paper are guided by successful experiences with many other irrigation districts in the western US in the transformation of old, manually-operated canal systems into modern projects operated with high levels of water delivery service and a clear accounting of water diversions. A successful irrigation modernization program must maintain an appropriate balance of technical upgrades and management sustainability. In the case of WRID, the motivation for irrigation modernization is the need for robust and cost-effective measurement and control of flows diverted from the Walker River. These flows are measured and automatically maintained locally. They are

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monitored and can be managed remotely by a Supervisory Control and Data Acquisition (SCADA) system.

Figure 1 shows a location map of completed and proposed system upgrades as well as proposed reservoir sites in the Walker River Basin.

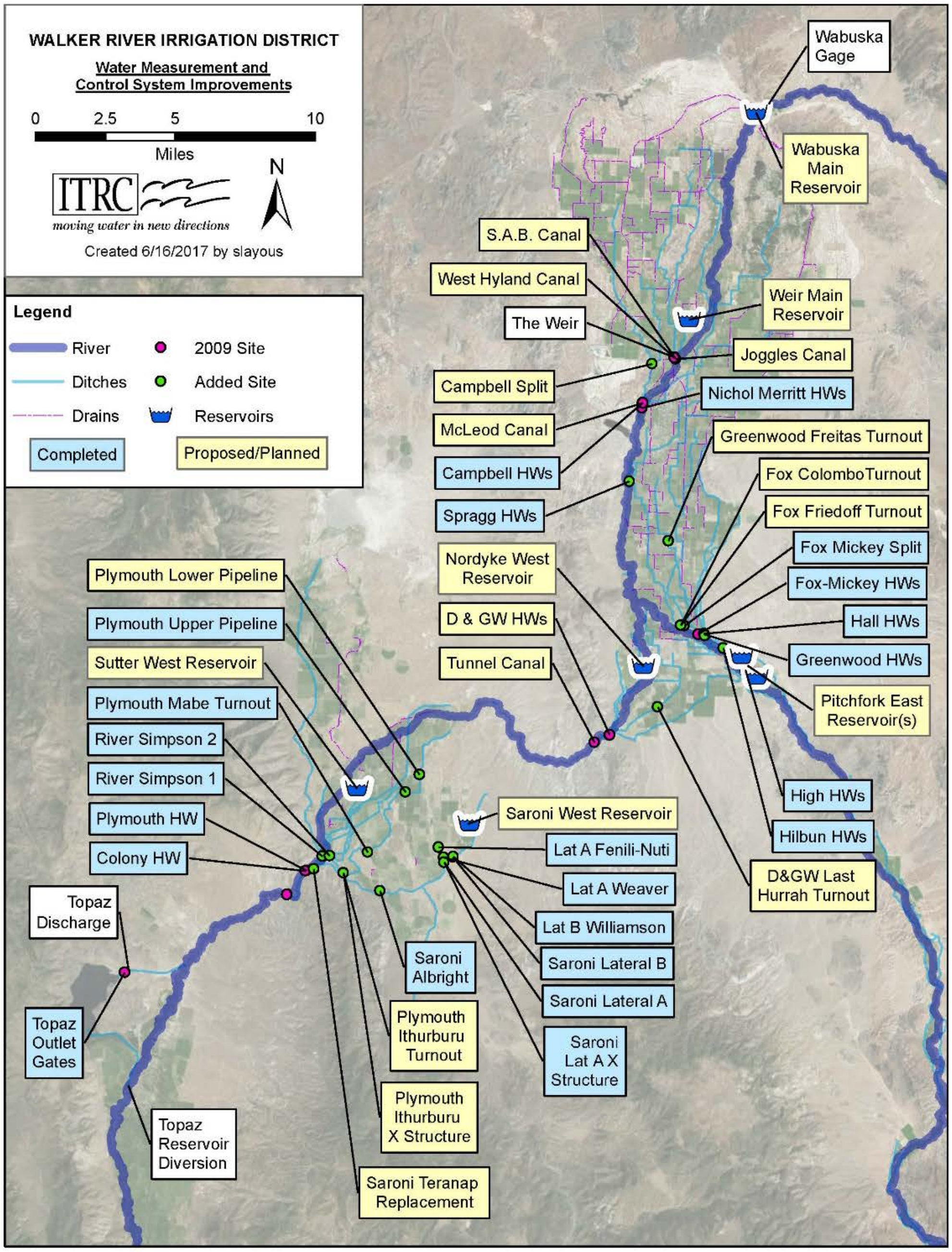

Figure 1. Irrigation facilities and USGS hydrologic monitoring stations in the Walker River Basin

Project Objectives

The initial project was designed to implement automated flow control to produce better flow rate and volume measurement of water deliveries as well as provide remote monitoring and control of the water deliveries.

In addition, the district-wide automation and SCADA system established in the initial project formed the backbone for subsequent monitoring and automation sites. The project also included upgrading check structures in the Saroni Canal with improved water level control structures to keep turnout deliveries constant.

The initial project has been expanded to include:

- Additional automated flow control sites
- Flow measurement sites
- Additional water level control structures in the canals to allow more constant turnout deliveries
- Sediment control structures to reduce movement of sand and sediments from river into canal systems
- Conversion to pipelines for reduced seepage, maintenance, liability, etc.
- Reservoirs throughout the district to increase flexibility, reduce spills out of the district, provide short-term storage, reduce peak flows, and improve groundwater recharge (currently in planning phase)

Review of Original (pre-Modernization) Water Operations

WRID operates five divisions covering approximately 80,000 acres in Nevada and California. There are approximately 50 sub-systems using irrigation water supplied in part by WRID including community ditch systems.

WRID pre-modernization system operations were characterized as follows:

- The headworks of a typical canal usually consists of one or two wooden slide gates with manually-operated steel lifting mechanisms (with hand wheels). One or two separate sets of slide gates were installed in some sites – with the downstream one (if it existed) operating as flow control. The canals had various types of spill structures; if located upstream of a Parshall flume, the structures maintained a desired flow rate in the canal through manual adjustments to the spill settings.
- Push-up diversion dams were built across the Walker River with large native rocks and streambed materials at the diversion points. This maintained a minimum hydraulic head across the canal headworks when river levels were low.
- The diversion channels at a canal headworks typically had a continuous return flow structure (of various designs) that served somewhat to keep water levels constant at the flow control gates by returning a portion of the diverted flow. Some sites used Danaidean gates (shown in Figure 2) for upstream water level control.
- The main conveyance canals had flashboard check structures of varying designs for maintaining canal water levels for turnouts.

Figure 2. Danaidean gate in WRID

Water orders are filled as follows:

1. Ditchtenders take water orders from customers. Some water orders come straight to the WRID office.
2. Ditchtenders turn in water cards every day at 11 a.m. The summary reports of daily allocations (same as the delivered volume) are based on the compiled information from all the water cards.
3. A daily water schedule is allocated to all canal systems and direct turnouts according to the determined natural base flow by the water master. A scheduling meeting is held every afternoon (at 1:00 p.m.) with the water master and ditchtenders to analyze the next day's customers' water requests that are made to ditchtenders compared to the determined natural flow.

PROJECT SUMMARY

Initial Project Components

A total of twenty sites were included in the 2009 plan for WRID. The recommendations were intended to provide benefits for WRID and its customers by improving the accuracy of measured diversions from Walker River and enhancing the real-time control capabilities of water managers. The recommended system improvements would also provide a foundation for future modernization programs and improved transparency of water management in the District. Completion of final designs required some additional information such as local survey data and the preparation of drawings, in addition to an evaluation and field testing of communications options. To date, twelve of the twenty sites have been completed.

Initial Project Cost Summary

The initial Water Gauge Improvement Project cost estimate was $3.5 million (refer to Table 1). Annual additional O&M costs were estimated to be about $131,000, most of which would be for maintenance of the automation and SCADA system. It was expected that the district would enter into a service agreement with an appropriate integration firm for periodic, semi-annual and annual checkups of the automation and SCADA system.

Table 1. WRID system improvements cost estimate summary overview

Component	Sub-Total Cost†	Annualized Capital Costs	Annual O&M Costs
Project Design, Engineering and Administration	$568,000	$49,000	-
Site Preparation, Surveying, and Civil Works	$313,000	$22,000	-
Canal Measurement and Control Upgrades (17 Automated Site With SCADA and Base Station)	$2,475,000	$233,000	$129,000
Canal Water Level Control Upgrades with Long-Crested Weirs (3 New Structures)	$96,000	$6,000	$2,000
Total	**$3,452,000**	**$310,000**	**$131,000**

† Includes Mobilization (5%) and Engineering & Project Management (15%), plus Contingency (25%)

Expanded Project Components

As the initial plan has been implemented, updates have been made to the original designs to reflect updated knowledge and additional requirements. Approximately twenty additional sites and projects have also been added to the original twenty sites, with fourteen of the twenty completed to date. A summary of the sites is given in Table 2.

Additionally, six reservoir sites for buffer storage are currently under development for the district. These sites will provide many benefits, including:

- Buffer storage to the district during the irrigation season
- A more constant flow rate to meet downstream legal flow requirements in the river (legal requirement shown as red dotted line in Figure 3)
- Short-term storage during storms to reduce peak flows and silt loads in the water (see Figure 4)
- Recharge to the groundwater basins (see Figure 5)

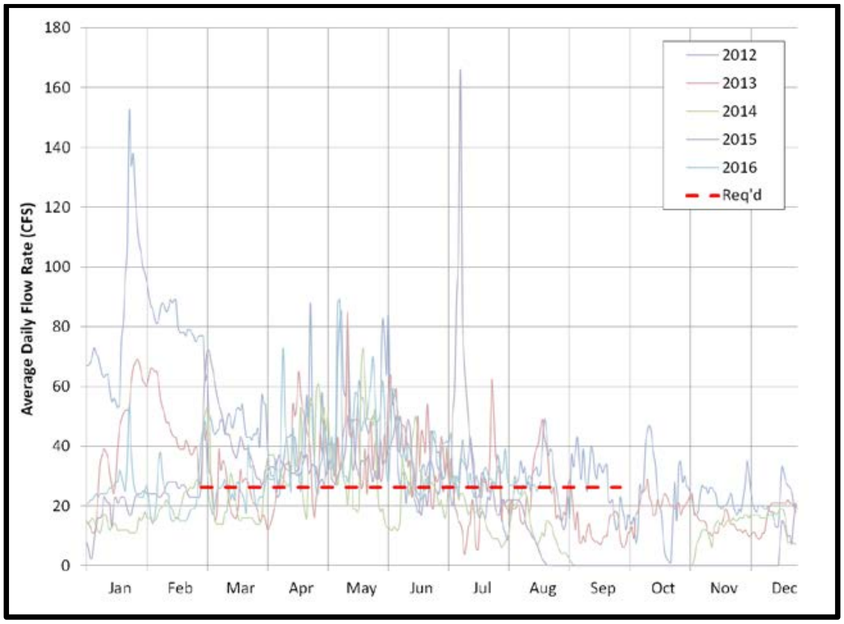

Figure 3. Average daily flow data from the Wabuska Gage for 2012 to 8/2016 (data from USGS)

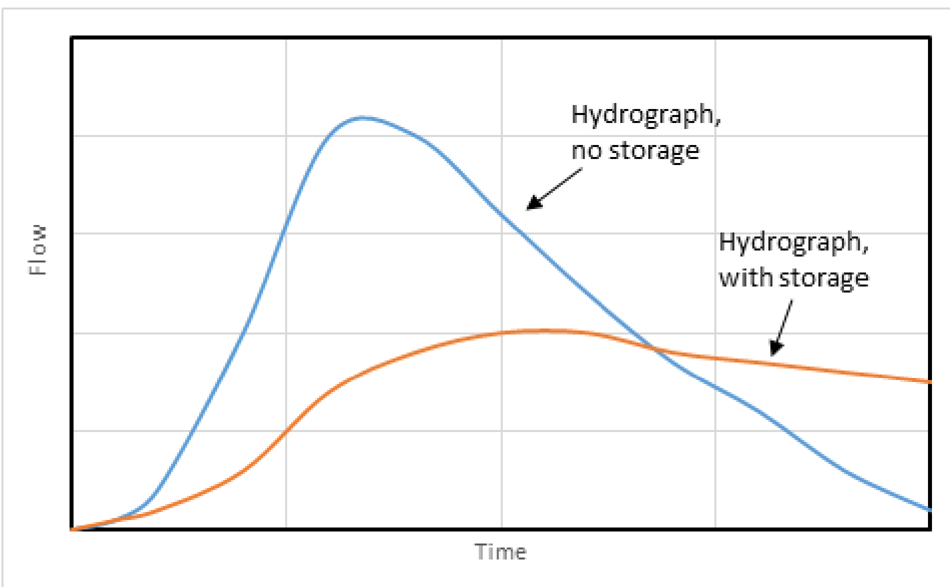

Figure 4. Conceptual comparison of district outflow without storage versus with storage

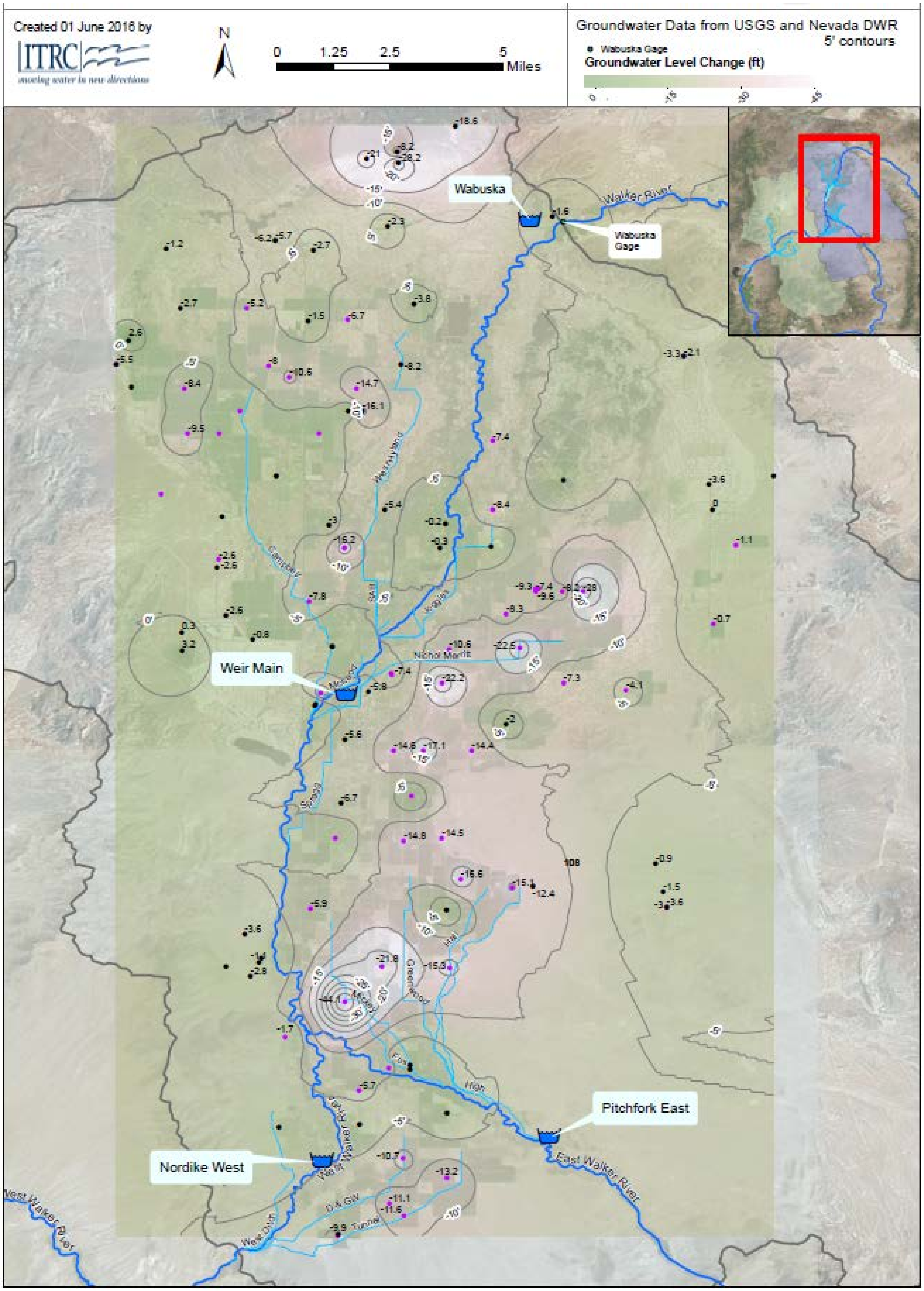

Figure 5. Change in groundwater level between spring 2012 and spring 2014

Table 2. Summary of WRID’s improvement structures

	NAME	Complete	Max Flow (CFS)	Typ Flow (CFS)	Flume	Flap Gate	Gate(s)	LCW	Cross Regulator	Sediment Wall	Settling Basin	Pipeline
1	Saroni HW	√	110	45	√	√	2					
2	Colony HW	√	140	60	√		2					
3	Plymouth HW	√	55	30	√	√	1					
4	Tunnel HWs		75		√	√	1					
5	D&GW HWs		25		√	√	1					
6	Fox-Mickey HWs	√	140	75	√	√	2			√	√	
7	High HWs	√	25	18	√	√	1					
	G&H		130	75		√				√	√	
8	Greenwood HWs	√	70	40	√		2					
9	Hall HWs	√	60	35	√		2					
10	Campbell HWs	√	110	60	√		2					
11	McLeod HWs		10		√		1					
12	Nichol Merritt HWs	√	100	60	√		2					
13	Joggles HWs		65		√		1					
14	SAB HWs		40		√		1					
15	W Hyland HWs		50		√		1					
16	Topaz Outlet Gates	√					8					
17	Bridgeport Reservoir						6					
18	Saroni Albright	√		40				45′				
19	Saroni Wellington			50				60′				
20	Saroni @ Lateral A	√							√			
21	Spragg HWs	√	35	15	√	√	1			√	√	
22	Lateral A Weaver	√	5	3	√							
23	Lateral A Fenili	√	10	4	√							
24	Lateral A Nuti	√	10	7	√							
25	Saroni Lateral B Williamson	√	10	4			1					
26	Saroni Lateral A	√	25	15	√							
27	Saroni Lateral B	√	25	18	√		1					
28	River Simpson 1	√	60	34	√	√	2					
	River Simpson 2	√	45	25				50′				
29	Upper Fulstone Ditch	√	12	7	√		1					
30	FIM Turnout	√	5	2	√		1					
	Fox Mickey Split											
31	Mickey Turnout	√	45	28	√		1					
32	Fox Turnout	√	90	45	√			110′				
33	Campbell Split		110				2					
34	Plymouth Ithurburu Turnout		3.5		√							
35	Plymouth @ Ithurburu TO		-	-					√			
36	Plymouth Upper Pipeline	√	35		√							√
37	Plymouth Lower Pipeline		35		√							√
38	Saroni Teranap Replacement		110									√
39	D&GW Last Hurrah		8	6	√							
40	Fox Friedoff Turnout		8	4	√							

TECHNICAL SCOPE OF WORK

Headworks Package

The following section specifies an example "package" of the components that were part of the upgrades for each canal headworks. Two examples are shown in Figures 6 and 7. These major components included:

1. Self-contained motorized slide gate(s) in a district-standard configuration
2. Replogle flume (built from concrete) to replace the existing Parshall flume(s)
3. SCADA Remote Terminal Unit (RTU) for automatic control of the slide gate(s) and communication with the office base station in Yerington
4. Various modifications to the existing spill structures (depending on site conditions)

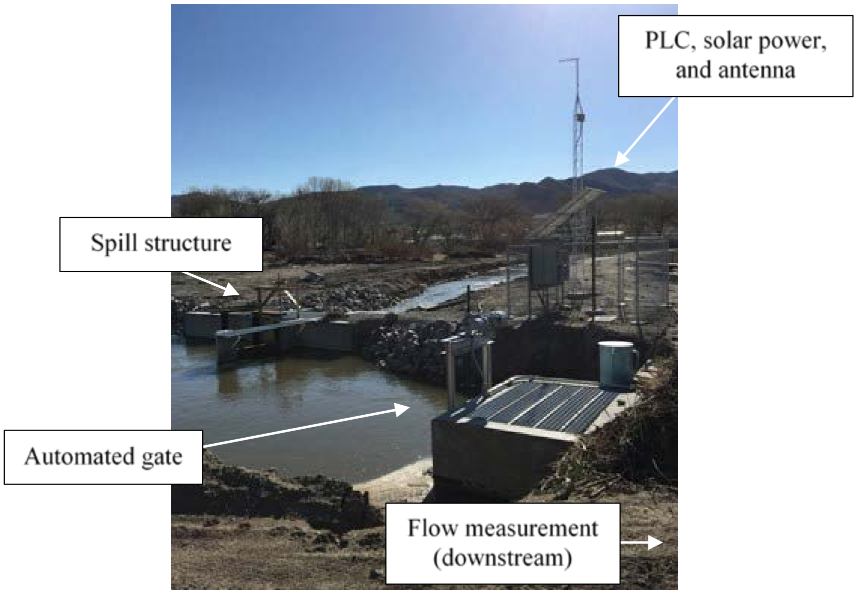

Figure 6. Example package site (automated gate, flow measurement weir, SCADA, and spill structure) on Spragg Canal

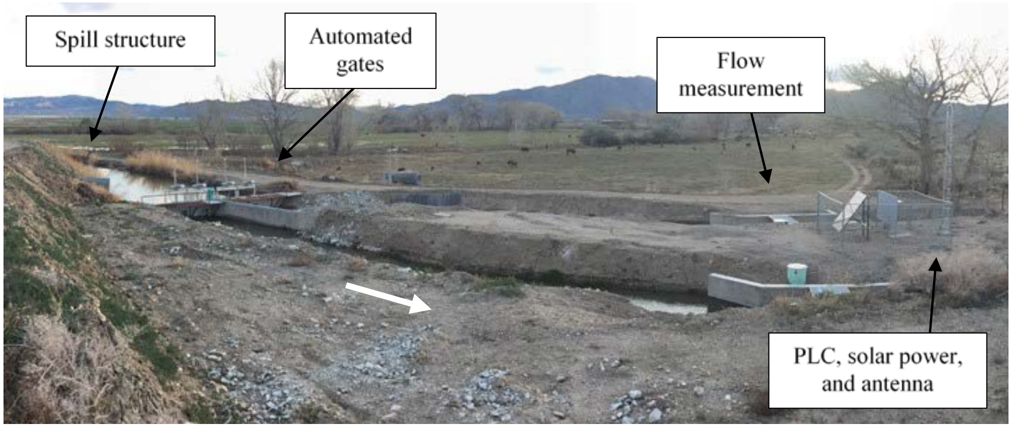

Figure 7. Example package site (automated gate, flow measurement weir, SCADA, and spill structure) on Greenwood and Hall Canals. This site is one canal that splits into two canals at this location.

Overview of Water Management Strategies

Implementation of the water gauge improvement projects created new management capabilities for water managers in WRID. The key strategies include the following:

- Control of diversions based on maintaining a constant target flow rate from canal headworks along the Walker River to match ordered demand for each canal system. Each canal headworks is equipped with new automated flow control gates and control systems for this purpose.
- One person in the office can observe flows at key points throughout the service area; eventually, information from storage reservoirs will also be available. This central water manager makes decisions on a more frequent basis as part of a real-time and coordinated approach to water distribution throughout WRID's points This involves the new automated hardware at the canal headworks, but also more significantly, active, real-time management of the system.
- Existing flashboard check structures were evaluated and prioritized for upgrading with long-crested weirs. The improved canal water level control at turnouts means that large changes in canal flow no longer affect the system's capability to provide steady and measureable water deliveries. Operators have the ability to run lower or higher canal flows in order to meet irrigation demands while keeping more constant turnout flow rates.
- The start of each canal is equipped with an upgraded water measurement device to be used in the new automated control system. Accurate measurement of canal diversions is important for proper management of scarce water resources. Knowing the actual amount of water delivered to the canals allows for a more complete understanding of the water demands in the system, and makes water records for individual accounts more precise. The flow rates and volumes of water delivered to the different canal systems is also critical information for water users in assessing and upgrading their own on-farm water management.
- New SCADA capabilities facilitate real-time remote monitoring of conditions throughout the Walker River Basin. Changes to canal flows can be made at specified times with accurate measurement of the current and historical *CFS*, as well as the delivered volume in *Acre-Feet*. The water operations and record-keeping practices have been simplified.

Automated Flow Control Gate Package. A major element in planned upgrades is the introduction of automated flow control gates at the headings of the selected canal systems. As part of this process, the existing slide gates were removed and replaced with a new headgate automation package that includes:

1. Fabricated aluminum slide gate(s) containing:
    a. Gate frame with guide rails, seals, and cross bars (self-contained)
    b. Reinforced rectangular gate leaf
    c. Stainless steel threaded shaft
2. Electric motor gate actuator (several standard sizes based on site conditions) with:
    a. Local control switches/pushbuttons
    b. Top mounting (on top of gate frame)

   c. Hand wheel for manual operation
   d. Internal gate position sensor
   e. Internal end-of-stroke limit switches
   f. Solar power
3. SCADA controller and communications

The objective was to have a **district-standard** slide gate and actuator package in WRID at all district canal headings.

The slide gate(s) require the following specifications:
- Series 8200 Fabricated Slide Gate (by Fresno Valves and Casting Inc., Selma, California) or approved equivalent
- Gate material (frame, slide and reinforcing): aluminum
- Stem material: stainless steel
- Flat back mount (secured to either a concrete headwall or angle iron)
- 3-sided J-seals (sides and top)
- Flush bottom seal

The electric motor actuator requires the following specifications:
- Rotork IQ Series or approved equivalent
- Series IQD10, multi-turn [Direct current, 24 VDC]
- Local controls (local/stop/remote)
- Internal position sensor with 4-20 mA AO or Modbus Interface Card (2-wire RS485)
- Torque switch protection and over-temperature protection
- Side-mounted hand wheel

The automation and SCADA Integrator is responsible for all the connections from the actuator to the control system and for the design and installation of the solar power system.

In order to fabricate the gates, the manufacturer requires information such as the opening width and frame height. The self-contained frame design can be mounted in place of the existing tandem wooden headgates using either anchor bolts into the existing concrete walls or anchoring to new pieces of angle iron that are mounted to the concrete walls.

Flow Measurement Upgrades with Replogle Flumes

Properly designed, constructed and maintained water measurement devices are a key component of the proposed irrigation modernization improvements in WRID. In addition, accurate flow measurement structures were required for integration with the new automated flow control gates. These structures were installed at the headworks of each canal system identified in the plan.

Before a final design decision could be made about the suitability of Replogle flumes at each of the identified locations, however, topographic survey data needed to be collected and analyzed to determine if there was enough hydraulic head available. The Replogle flume was determined to be the best device for applications in WRID (for open channel flow measurement) based on the following characteristics:

- Accurate over the entire range of flows
- Simple, easy-to-understand readings that are easily verifiable in the field
- No required manual adjustments, on-going calibration checks, or excessive maintenance
- Vandalism resistant
- SCADA compatible

Figure 8 show examples of the measurement structures installed in the district.

Figure 8. Concrete Replogle flume built in a rectangular cross-section on High Canal

The Replogle flume (e.g., broad-crested weir, ramp flume or long-throated flume) is a flow measurement device with a proven track record and thousands of successful installations in irrigation districts.

An advantage of installing new Replogle flumes in the WRID canals is that they will require minimal maintenance except for periodically checking the site to clean moss off the concrete ramp. It would also be easy to integrate these new flumes into the proposed automation and SCADA system.

The Replogle flume will provide an accurate measurement of flow rate. As with the Parshall flumes, the Replogle flume allows for rapid stabilization of flows when the gates are changed and rapid feedback to the RTU controlling the radial gates. The operator is able to monitor the flow rate from the district office and change the target flow rate, in addition to having the option of overriding the automatic function and manually controlling the gates.

ITRC Flap Gates for Automatic Spills. Spill structures were updated at a number of canal headworks sites (see Figure 9). In many of these sites there were several feet of drop in the water surface between the canal and the river where the spill was returned. In these places, the recommendation was to install an ITRC flap gate to provide a constant water level (within ±0.05 ft) while serving as an automatic continuous spill.

Figure 9. Flap gate installed in the Saroni Canal

The justification for upgrading the existing flashboard spill structures was that at the same size (i.e., the same width), the ITRC flap gate can pass significantly more water while maintaining better water level control. For example, a 4-ft wide flashboard spill would pass about 10 CFS with a depth of about 1 ft (head) on the weir, and the same weir could pass about 30 CFS, but the water depth would have to increase to 2 ft. A 4-ft wide ITRC flap gate can pass from 0 CFS to about 50 CFS with only minimal changes in the upstream water level.

There are important operational justifications for having continuous spills upstream of the automated flow control gates. The automated flow gates do not have to move as frequently if operators can always divert more water than is required for irrigation demands. Due to the short distance, it has no effect on the overall amount of water diverted from the river because the 'excess' water is immediately returned to the same reach of river. In addition, the continuous spills provide an inherent safety feature in the event there are any problems with the gate automation.

A spreadsheet design program allows users to customize the gate size and weight for the desired location. The updated design spreadsheets are available at http://www.itrc.org/reports/flapgate.htm.[4]

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[4] The design spreadsheet provides no analysis of the structural soundness or integrity of a gate or of the supporting structure.

WRID AUTOMATION AND SCADA SYSTEM

Automation and SCADA are valuable tools for enhancing water management. The automation and SCADA component of this project involved the design, deployment, calibration, documentation, and verification of industrially-hardened hardware and software for new canal control and measurement. This system can be remotely accessed in real-time from a base station computer and mobile laptops running specialized human-machine interface (HMI) software.

The new WRID automation and SCADA system has improved the reliability and flexibility of water deliveries throughout the service area. Other benefits of automation and SCADA include real-time water accounting, upgraded record-keeping capabilities for historical analysis and forecasting, and faster response times to user inputs and alarms. Future web-based reporting for water use or water quality datasets will also be facilitated by this well-designed automation and SCADA system.

The implementation of the WRID automation and SCADA system involved a series of steps:

1. Radio testing and evaluation of practical, cost-effective communication options
2. Presentation to district staff and board members of the Water Gauge Improvement Project and decisions about the scope, schedule, and budget for implementation
3. Meetings and field visits to selected sites to finalize details of the hardware requirements, along with any structural modifications involved
4. Preparation of the final Request for Proposals (RFP)
5. Hardware installation, implementation, calibration, testing, etc.
6. Field verification
7. Training and on-site service support

The use of robust equipment and software conforming to standardized specifications, along with following some basic rules and practical techniques, ensure the implementation of a properly engineered automation and SCADA system. This type of system is reliable and can be expanded into the future. The following requirements were used to design the new WRID automation and SCADA system:

- Open system architecture
- A robust high-speed data radio network
- Industry-standard hardware components with Windows-based software
- System scalability
- High system reliability with redundancy of critical systems

Figure 10 shows a screenshot from the current SCADA system. The screen shows some details on the monitoring and control on the sites.

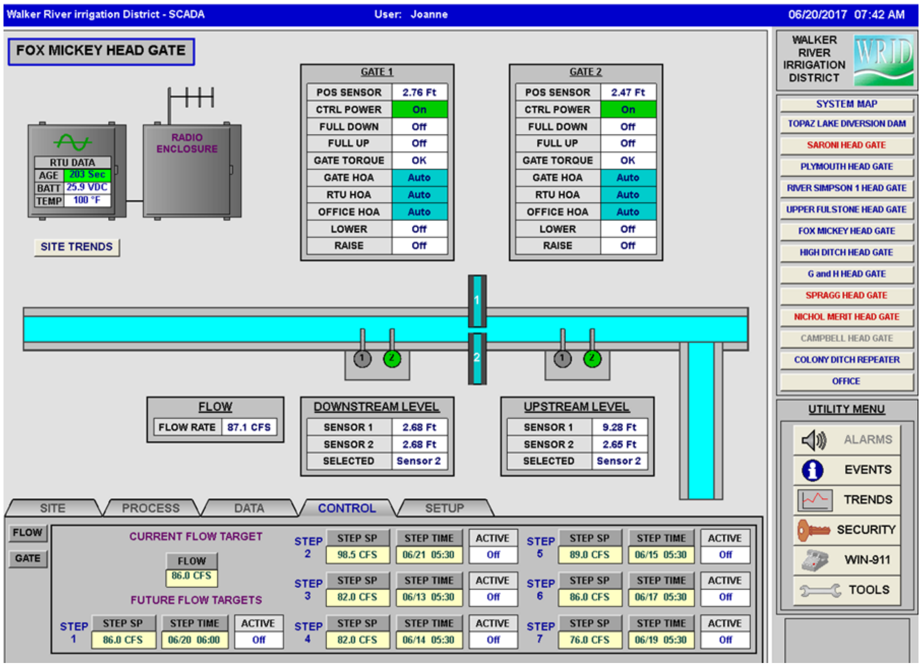

Figure 10. Example screenshot of WRID’s SCADA system

<u>Example Site at Fox Mickey Canal Headworks</u>

The location of the Fox Mickey Headworks SCADA project at the diversion from the East Fork of Walker River is shown in Figure 11. This diversion is downstream from the G&H and Hilbun Canal Diversions. The design capacity of the canal headworks is approximately 140 CFS, with an average capacity of 75 CFS.

The layout of the old existing water control and measurement infrastructure at the headworks of the Fox Mickey Canal is also shown in Figure 11. The configuration and function of the old existing structures consisted of:

1. One (1×) 40-ft (est.) diversion weir across the East Walker River
2. Two (2×) 8-ft wooden slide gates (manually operated)
3. One (1×) spill structure with a 4-ft flashboard bay and a 48-inch slide gate
4. Two (2×) 7.5-ft slide gates (left gate is wooden and right gate is steel) (manually operated)
5. One (1×) spill structure with an 18-inch slide gate
6. Two (2×) 6-ft Parshall flumes

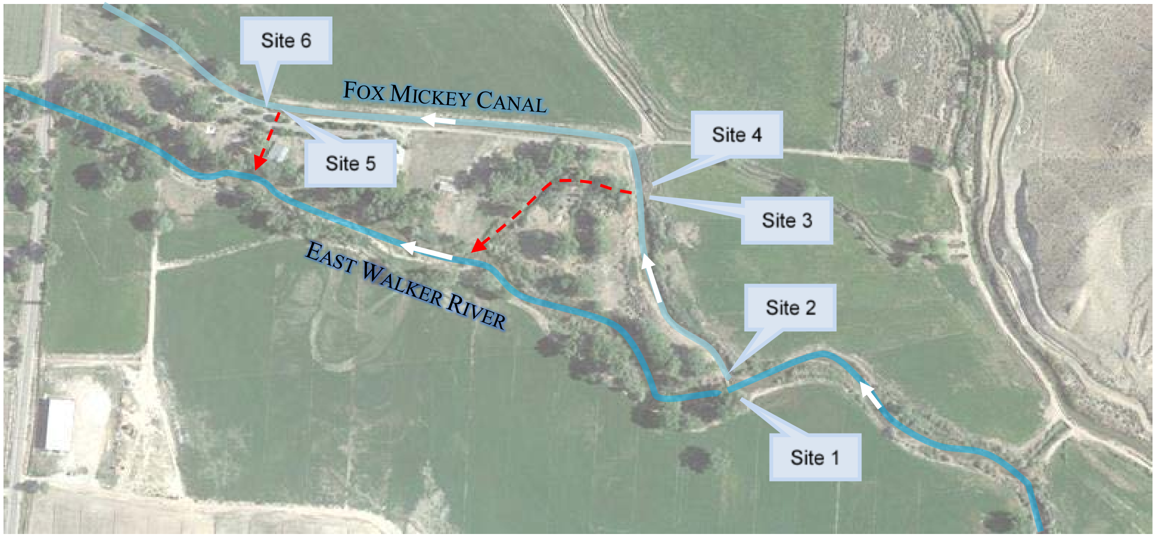

Figure 11. Layout of the existing Fox Mickey Canal diversion from the East Walker River

The modernization improvements at the Fox Mickey Headworks involved the following features, with site numbers corresponding to those shown in Figures 11 and 15:

1. Adding a new 180' long × 35' wide settling basin and 50' long sediment wall between Site 2 and Site 3 (Figure 12, "Site 2a" in Figure 15). This basin reduces the sand and silt load that enters the canal system from the river. While the sediment basin reduces sediment load throughout the canal system, it increases maintenance requirements at the sediment basin site. The Fox Mickey sediment basin filled in 2016 (the first year it was functional), requiring the district to remove the sediment to prevent the sediment from affecting upstream water levels.


Figure 12. Settling basin and sediment wall on Fox Mickey Canal

2. Installation of one ITRC flap gate in the existing open spill channel at Site 3. The flap gate was designed with a capacity for continuous spill up to approximately 25 CFS (approx. 4-ft wide and 2-ft deep).

3. Installation of one 40’ long sediment wall directly downstream of Site 3 to reduce sediment load down the canal.
4. Replacement of slide gates at Site 4 with two new automated flow control gates (72 × 48 Series 8200 Fabricated Slide Gates by Fresno Valves and Casting, shown in Figure 13) installed in a new reinforced concrete headwall structure, as well as an RTU, solar panel, and newly established communication with the district’s headquarters in Yerington, Nevada for distributed control.

Figure 13. Automated gates on Fox Mickey Canal

5. Removal of the Parshall flumes at Site 6.
6. Installation of one new Replogle flume with automated flow rate measurement that is connected to the slide gates system for automatic flow control (Figure 14). The new flow measurement structure was installed approximately 1,000’ upstream of the existing Parshall flume (“Site 6b” in Figure 15).

Figure 14. Replogle flume on Fox Mickey Canal

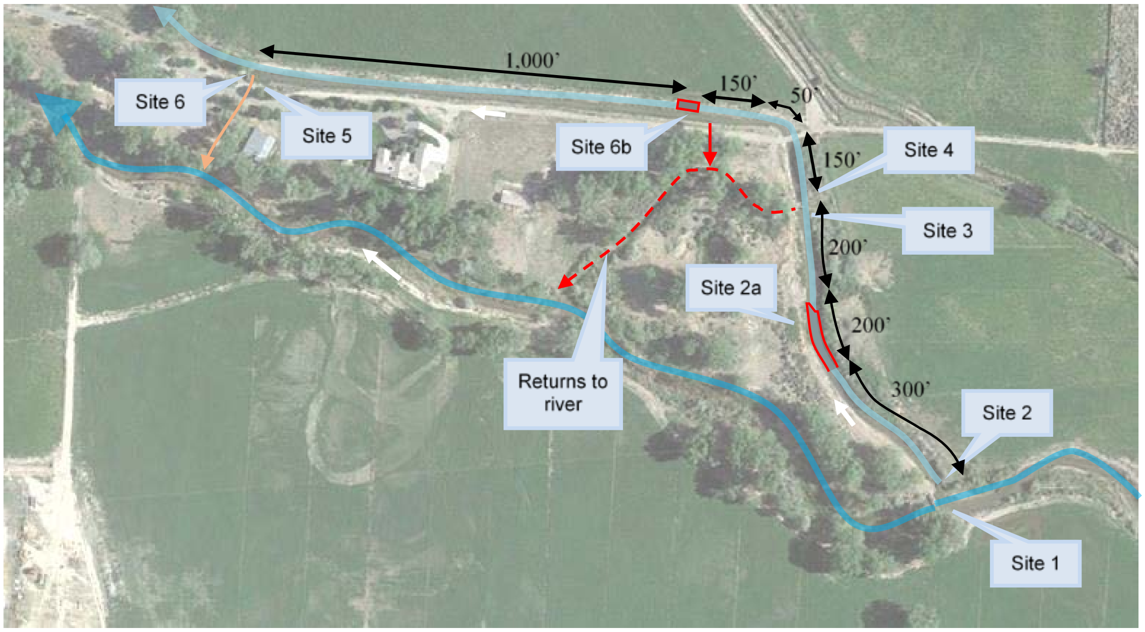

Figure 15. Layout of the proposed upgrades to the Fox Mickey Canal

7. Grading the canal from Site 6b to Site 6.
8. Flow rate target that is re-settable from the ClearSCADA HMI workstation at the headquarters office and from SCADA-equipped laptops
9. Solar-powered gates, automated control, and SCADA system (12/24 VDC)
10. Implementation by a team including:
    a. WRID: installation of the gate hardware, conduit, stilling wells, staff gauges, and concrete work
    b. Fresno Valves and Casting: provide gate hardware and electric motor drive system
    c. Integrator: automation and SCADA integration, RTU, wiring, redundant gate and water level sensors, HMI programming, radio communications
11. District-standard hardware/software
12. Flow rate (CFS) and water level data (Feet) transmitted to the base station at the WRID headquarters office every 1 minute via radio
13. On-site display of flow rate (CFS) and upstream water level (Feet), and other control parameters, in addition to local data logging and storage

<u>Automation and SCADA System Operations</u>. An overview of the new automation and SCADA system components at the Fox Mickey Canal Headworks is shown in Figure 16.

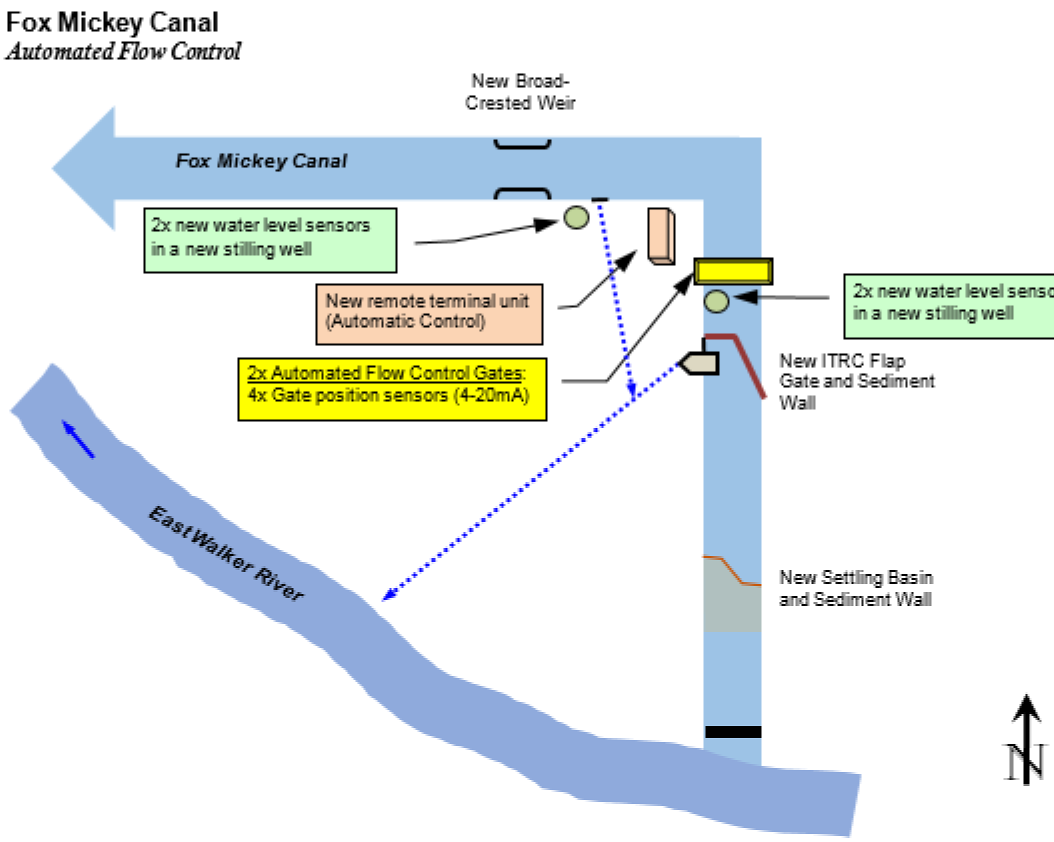

Figure 16. Schematic overview of the automation and SCADA improvements at Fox Mickey Canal

The main Remote Terminal Unit (RTU) was pre-assembled, bench-tested, and made ready for operation by the Integrator prior to delivery to WRID. Alteration, logic functions, metering, alarm, and all other control components used in the monitoring system are performed by the automation system. The "district standard" RTU consists of a stand-alone distributed control center with self-contained electronics and sensor systems including a graphical operator interface terminal. The control system consists of a SCADAPack 32/350 PLC or approved equivalent to control the timing of operation, gate alteration, control, and alarm functions, in addition to other specified equipment. A single PLC was used to control the gate.

Other components of the system included water level sensors; gate position sensors; an autodialer for emergency notification of alarm conditions (via the office HMI software); a battery backup system; and hand/off/auto selector switches and misc. electrical wiring. The water levels sensors upstream and downstream of the check structure (a total of four sensors) were provided and installed by the Integrator.

The automation and SCADA system for the Fox Mickey Headworks automated gates performs the following functions:

1. Automatically control flow based on a user-defined target flow rate
2. Remotely change the target flow rate
3. Allow remote manual control of the slide gate(s) to move to a target gate opening(s)
4. Remotely monitor system status (positions, alarms, gate status)
5. Remotely monitor water levels in the pool upstream of the slide gates in the river diversion channel
6. Remotely monitor the canal flow rate(s) measured at the Replogle flume
7. Remotely change the operation from automatic to manual (if necessary)
8. Remotely (but via a secure mode) change key controller set points
9. Remotely select which of the two redundant sensors (for every measurement) should be considered the "primary" sensor for control purposes

All construction and implementation has been completed at the Fox Mickey Canal site with all components operating accurately and efficiently.

CONCLUSION

WRID's system of remote monitoring and control has improved water delivery for growers within the district. ITRC and the district have implemented numerous new flow measurement, flow control and sediment control devices; new hardware and control equipment; as well as discussed water management strategies. There has been no compromise on quality of the engineering design, electronics, and SCADA systems, because in the long run using high-quality, off-the-shelf technology is more economical based on the published experience of ITRC. ITRC has approached the modernization strategy by using the simplest device when possible, such as long-crested weirs. Costs on some items can vary widely depending upon challenges with communications, decisions about who does the construction and gate installation work, un-anticipated structural problems, prevailing wages, etc. The district plans on continuing the modernization based on the success of the program to date.