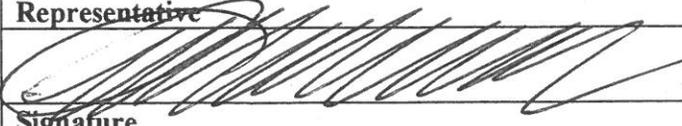


**Arizona Water Protection Fund  
Application Cover Page  
FY 2019**

<b>Title of Project:</b> GVID Canal Improvement Project Phase 1											
<b>Type of Project:</b> <input checked="" type="checkbox"/> Capital or Other <input type="checkbox"/> Water Conservation <input type="checkbox"/> Research	<b>Stream Type:</b> <input checked="" type="checkbox"/> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral										
<b>Your level of commitment to maintenance of project benefits and capital improvements:</b> <input type="checkbox"/> < 5 years <input type="checkbox"/> 5-10 years <input type="checkbox"/> 11-15 years <input checked="" type="checkbox"/> 16-20 years											
<b>Applicant Information:</b> Name/Organization: Gila Valley Irrigation District Address 1: 2586 W US Hwy 70 Address 2: City: Thatcher State: Arizona ZIP Code: 85552 Phone: 928-428-4189 Fax: Tax ID No.: <span style="background-color: black; color: black;">XXXXXXXXXX</span>											
<b>Inside an AMA:</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <b>If yes, which AMA:</b> <input type="checkbox"/> Phoenix <input type="checkbox"/> Tucson <input type="checkbox"/> Prescott <input type="checkbox"/> Pinal <input type="checkbox"/> Santa Cruz											
<b>Type of Application:</b> <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation											
<b>Contact Person:</b> Name: Justin Layton Title: Project Manager Phone: 928-965-4568 Fax: e-mail: jglayton@ylfarms.com											
<b>Any Previous AWPf Grants:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>If yes, please provide Grant #(s):</b>											
<b>Arizona Water Protection Fund Grant Amount Requested:</b>  \$ 193,212.50  If the application is funded, will the Grantee intend to request an advance: <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Matching Funds Obtained and Secured:</b> <table border="1"> <thead> <tr> <th><u>Applicant/Agency/Organization:</u></th> <th><u>Amount (\$):</u></th> </tr> </thead> <tbody> <tr> <td>1. Applicant</td> <td>11,800.00 (inkind)</td> </tr> <tr> <td>2.</td> <td></td> </tr> <tr> <td>3.</td> <td></td> </tr> <tr> <td align="right"><b>Total:</b></td> <td>11,800.00</td> </tr> </tbody> </table>	<u>Applicant/Agency/Organization:</u>	<u>Amount (\$):</u>	1. Applicant	11,800.00 (inkind)	2.		3.		<b>Total:</b>	11,800.00
<u>Applicant/Agency/Organization:</u>	<u>Amount (\$):</u>										
1. Applicant	11,800.00 (inkind)										
2.											
3.											
<b>Total:</b>	11,800.00										
Has your legal counsel or contracting authority reviewed and accepted the Grant Award Contract General Provisions? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A											
<b>Signature of the undersigned certifies understanding and compliance with all terms, conditions and specifications in the attached application. Additionally, signature certifies that all information provided by the applicant is true and accurate. The undersigned acknowledges that intentional presentation of any false or fraudulent information, or knowingly concealing a material fact regarding this application is subject to criminal penalties as provided in A.R.S. Title 13. The Arizona Water Protection Fund Commission may approve Grant Awards with modifications to scope items, methodology, schedule, final products and/or budget.</b>											
Scott Alder <b>Typed Name of Applicant or Applicant's Authorized Representative</b>	President, 928-965-1706 <b>Title and Telephone Number</b>										
 <b>Signature</b>	9/5/18 <b>Date Signed</b>										

## **2. Executive Summary:**

The Gila Valley Irrigation District (GVID) is pleased to submit this proposal for a Capital Improvement Project to the Arizona Water Protection Fund Commission for funding in the FY2019 grant cycle. The GVID is composed of 11 canal companies which administer and deliver irrigation water to farms along the Gila River in Southeastern Arizona. GVID is headquartered in the town of Thatcher, which is located in Graham County, Arizona. The GVID is seeking funding from the Arizona Water Protection Fund Grant Program to help modernize water delivery systems along two of their canals, the Union and the Smithville. The specific objective of the project is to implement improvements at 60 cross structures and 112 lateral gates along the Union and Smithville Canals to provide improved water level control, flow control, and flow measurement. Infrastructure along these canals is effective, but it needs modernization and maintenance in order to adapt to the needs of our users and ensure water supply sustainability. Increased efficiency has been a goal of the GVID for many years. The GVID and Town of Thatcher are currently working together to improve and expand recreational opportunities for the community by developing a walking path along the canal in Thatcher. This project is currently in the coordinating and planning phase.

### **3. Project Overview:**

#### **Background**

Agriculture is a major contributor to the area's economy. Agricultural producers in the Gila Valley must rely on surface water for irrigating their crops. The management of water and land within the district to ensure agricultural sustainability is extremely crucial. Surface irrigation in the valley is made possible with a series of canals. Gravity powers the canals, which are designed to take water out of the Gila River via diversions upstream of the farm fields they irrigate. Water flows downhill in the canals at a consistent grade, roughly parallel to the river at an elevation somewhat above that of the river. The canals irrigate fields between them and the river, with any excess or "tail" water returning to the river. However, water flow in the Upper Gila River is very erratic. Spring snow melt in the mountains and monsoon rains in the late summer months normally feed the river, but drought can occur at any time of year and can last for long periods. Pumps along the river corridor augment river water in canals during times of low flows. Currently, 20,000 acres are actively farmed in the Gila Valley. The Arizona Water Rights Settlement has had a huge impact on farming in the district. With strict water allocations, farmers must continually search for ways to efficiently produce crops and stay within their water allocation. A few farms in the valley have installed drip irrigation systems for conservation and efficiency, however, drip systems come at a high price and present a different set of problems and needed inputs. The majority of the farms in the valley must rely on surface/flood irrigation. The purpose of this project is to modernize the irrigation take out delivery systems. Diversions and both head and lateral gates along the canals are antiquated and in need of modernization.

#### **Goals and Objectives**

The goal of this project is to modernize the delivery system on the canals and increase on-farm efficiency to provide multiple water-use efficiency benefits. The specific objective of the project is to implement improvements at 60 cross structures and 112 lateral gates along the Union and Smithville Canals to provide improved water level control, flow control, and flow measurement. The Union and Smithville Canals are a large component of the canal delivery systems in the Gila Valley. Modernization of these canals delivery systems is a good starting point that will allow for future canal automation projects and on farm water conservation projects, which will increase water quality and quantity in the Gila River and conserve water for fish, wildlife and downstream users. The project will improve the Gila Valley Irrigation District's operational efficiency and available flows at turnouts for on-farm deliveries, increasing the efficiency of individual irrigators, and conserving water for downstream users

#### **Statement of Problems/Causes**

Infrastructure along all 11 canals that make up GVID are in various states of antiquation. While the current cross and lateral gates may work to get water to delivery ditches and fields, existing infrastructure is not efficient. Flow measurement can be difficult to obtain and gates are not consistent along the canals. Maintenance funds for the canals are not sufficient (especially considering monsoon/winter rain clean-up/repair work) to install new, modern infrastructure. Current climate pressures and the need to deliver each farm a measured amount of water with a

scarce resource is of vast importance. Differently designed, more efficient and modernized gates that could be equipped with a telemetry component for automation or to provide real-time flow measurements in the future is almost a necessity in our current situation. The future introduction of systems based on information technology for monitoring and controlling canal operations is optimal to improve water management not only at the operational level but also at the farm level. As the farmers are the end-users, when new technology is applied, they need to be educated during implementation of the improvements planned and informed of the anticipated benefits which they may gain. Upgrading existing canal system operations needs to be done in stages as a rehabilitation program. It can be done in stages, per canal, in areas which are easily and economically assessable for improvement. Information technology can be brought to an existing water resource project after restoration of the existing control structures, canal sizing, canal lining and other related command area development activities are completed.

### **Statement of Solutions**

Improving the operation of the canal system will provide a more accurate and equitable distribution of water, reduce water use through eliminating waste, enable better service to water users, enable more efficient management of the water delivery system, reduce maintenance, and decrease flood damage. Accurate flow measurement at irrigation canal check gates, and turnouts will make it possible for water managers to better match supply and demand, thereby

reducing water use and enabling delivery of the optimum amount of water

to farms. The installation will stabilize and more precisely control flows in the canal, improve water use efficiency in the irrigation system, and prevent loss from canal overtopping and other ditch delivery systems.

### **Statement of Project Years of Benefit**

We believe the benefits from this project will exceed 20 years and provide direct benefit to the Gila Watershed. Benefits will include but are not limited to: fish, wildlife and down stream water users.

#### **4. Project Location & Environmental Contaminant Form**

This project will take place along the Union and Smithville Canals which are located along the Gila River in Graham County, Arizona. The Gila Valley Irrigation District (GVID) located along the Gila River in Southeast Arizona, was organized in 1923, and is comprised of 11 canal companies. The canal companies operating within the district are Brown, Curtis, Dodge-Nevada, Fort Thomas, Graham, Colvin-Jones, Highline, Montezuma, San Jose, Smithville, and Union. Portions of the Brown and Montezuma are lined, the remainder are as they were in 1923, open dirt ditches. The GVID canal system stretches 35 miles along the Gila River through the cities and towns of Solomon, Safford, Thatcher, Pima, and Fort Thomas.

**Project Location & Environmental Contaminant Information  
FY 2019**

<b>Project Location Information</b>			
1. County: <u>Graham</u>	2. Section(s): _____	3. Township: _____	4. Range: _____
<p>5. Watershed: <u>Middle Gila- Safford Basin</u></p> <p>6. 8 or 10 Digit Hydrologic Unit Code (HUC): <u>1504000507</u></p> <p>7. Name of USGS Topographic Map where project area is located: <u>24,000 - Pima, Thatcher, Safford Topos.</u></p> <p>8. State Legislative District: <u>14</u></p> <p>(Information available at: <a href="http://azredistricting.org/districtlocator/">http://azredistricting.org/districtlocator/</a>)</p> <p>9. Land ownership of project area: <u>all projects located on lands owned by Gila Valley Irrigation District</u></p> <p>10. Current land use of project area: <u>Agriculture</u></p> <p>11. Size of project area (in acres): <u>&lt;1.5 DIRECT</u></p> <p>12. Stream Name: <u>Gila River</u></p> <p>13. Length of stream through project area: <u>11 miles</u></p> <p>14. Miles of stream benefited: <u>&gt;11 miles</u></p> <p>15. Acres of riparian habitat: <u>NA</u> acres will be:</p> <p style="margin-left: 400px;"> <input type="checkbox"/> Enhanced  <input type="checkbox"/> Maintained  <input type="checkbox"/> Restored  <input type="checkbox"/> Created         </p>			
<p>16. General description and/or delineation for the area of impact of the project within the watershed. The <u>Union Canal</u> is over 11 miles long and delivers water to over 11,000 acres. The <u>Smithville Canal</u> is over 9 miles long and services almost 4,000 acres.</p> <p>17. Provide directions to the project site from the nearest city or town. List any special access requirements: <u>The Union Canal and associated proposed projects is located south of the towns of Safford, Thatcher and Pima. The Smithville Canal is located in Pima and continues on to the west.</u></p>			
<b>Environmental Contaminant Location Information</b>			
<p>1. Does your project site contain known environmental contaminants? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If yes, please identify the contaminant(s) and enclose data about the location and levels of contaminants: _____</p> <p>2. Are there known environmental contaminants in the project vicinity? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If yes, please identify the contaminant(s) and enclose data about the location and levels of contaminants: _____</p> <p>3. Are you asking for Arizona Water Protection Fund monies to identify whether or not environmental contaminants are present? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/></p>			

→ please see page 13 for Township/Range & Section!

## **5, Scope of Work**

### **Task 1: Permits, Authorizations, Clearance & Agreements**

**Task Description:** The Grantee must obtain and submit to the Project Manager all permits, authorizations, clearances and agreements, and perform any consultations necessary to complete the tasks listed in this Scope of Work. These **may** include but are not limited to:

- State Preservation Office (SHPO) clearance
- National Environmental Policy Act (NEPA) compliance
- Endangered Species Act Section 7 consultation with US Fish and Wildlife Service
- Access agreement(s) between Grantee and Landowner(s)
- Contracts with contractors performing tasks
- Clean Water Act Section 401 Certification from Arizona Department of Environmental Quality
- Clean Water Act Section 404 Permit from Army Corp of Engineers

**Task Purpose:** To comply with all local, state and federal permit requirements, environmental laws and obtain legal access to project area as applicable.

**Deliverable Description:** Copies of all approved permits, authorizations, clearances and agreements.

**Deliverable Due Date:** June 1, 2019

**In-kind Cost:** \$1,050.00

**Reimbursable Cost:** \$0

### **Task 2: Implement Gate Upgrade/Replacement Plan on Smithville Canal**

**Task Description:** Contractor will remove all deteriorating lateral and cross gates on Smithville Canal, and replace with new modern, efficient gates.

**Task Purpose:** Improve the operation of the canal system to provide a more accurate and equitable distribution of water, reduce water use, enable better service to water users, enable more efficient management of the water delivery system, reduce maintenance, and decrease flood damage.

**Deliverable Description:**

**Deliverable Due Date:** June 1, 2020

**In-kind Cost:** \$1,750.00

**Reimbursable Cost:** \$46,287.50

### **Task 3: Implement Gate Upgrade/Replacement Plan on Union Canal**

**Task Description:** Contractor will remove all deteriorating lateral and cross gates on Union Canal, and replace with new modern, efficient gates.

**Task Purpose:** Improve the operation of the canal system to provide a more accurate and equitable distribution of water, reduce water use, enable better service to water users, enable more efficient management of the water delivery system, reduce maintenance, and decrease flood damage.

**Deliverable Description:**

**Deliverable Due Date:** June 1, 2020

**In-kind Cost:** \$3,750.00

**Reimbursable Cost:** \$144,562.50

**Task 4: Implement Outreach & Education Plan**

**Task Description:** Grantee will engage the public, local community, and all water users along the Gila Watershed, GVID will conduct a multi-faceted education and outreach program that may include, but is not limited to:

- Local Media Campaign that reaches out to local community
- Presentations at local events and meetings

**Task Purpose:** To create an awareness of the GVID efforts to improve the quality and quantity of water in the Gila River, and to educate Gila River water users on the importance of water conservation.

**Deliverable Description:** Grantee will provide copies of all media campaign materials, photos, power-point presentations, etc.

**Deliverable Due Date:** October 31, 2020

**In-kind Cost:** \$1,750.00

**Reimbursable Cost:** \$1,925.00

**Task 5: Final Report**

**Task Description:** GVID shall prepare and submit a comprehensive final report consistent with Arizona Water Protection Fund policies and guidelines. This report will include, but is not limited to:

- 1) A summary of project activities
- 2) A discussion of successes and challenges faced
- 3) A conclusion that includes project outcomes

**Task Purpose:** To document whether project objectives were efficiently and effectively executed. This report shall include a summary of each objective outlined within this application, as well as a budgetary summary.

**Deliverable Description:** The final report will summarize all methods uses, the outcomes of tasks, evaluation of project goals and objectives, project photos, and evaluation of project success.

**Deliverable Due Date:** December 31, 2020

**In-kind Cost:** \$3,500

**Reimbursable Cost:** \$ 437.50

**6. Detailed Budget:**

<b>Task 1: Permits, Authorizations, Clearances, and Agreements</b>					
Description	Unit Cost	Qty.	Total	GVID	AZ WPF
<b>I. Direct Labor Costs</b>					
Project Manager - Gila Valley Irrigation District (In-Kind)	\$ 35.00	30	\$ 1,050.00	\$ 1,050.00	\$0.00
<b>II. Outside Service Costs</b>					
<b>Outside Expenses Total</b>					
<b>III. Other Direct Costs</b>					
<b>Direct Expenses Subtotal</b>					
<b>IV. Capital Outlay &amp; Equipment Costs</b>					
<b>Capital Outlay &amp; Equipment Subtotal</b>					
<b>TASK SUBTOTAL</b>					
<b>V. Administrative Costs</b>					
Administrative Costs (5%)					
<b>Administrative Subtotal</b>					
<b>TASK SUBTOTAL</b>			<b>\$ 1,050.00</b>	<b>\$ 1,050.00</b>	<b>\$0.00</b>

<b>Task 2: Implement Gate Upgrade/Replacement Plan on Smithville Canal</b>					
Description	Unit Cost	Qty.	Total	Gila Valley Irrigation District	Arizona Water Protection
<b>I. Direct Labor Costs</b>					
Project Manager - Gila Valley Irrigation District	\$ 35.00	150	\$ 5,250.00	\$ 1,750.00	\$ 3,500.00
<b>Direct Expenses Total</b>			<b>\$ 5,250.00</b>	<b>\$ 1,750.00</b>	<b>\$ 3,500.00</b>
<b>II. Outside Service Costs</b>					
Contract Labor -gate removal & replacement, includes labor & gates	\$1,000.00	40	\$ 40,000.00		\$ 40,000.00
<b>Outside Expenses Total</b>			<b>\$ 40,000.00</b>		<b>\$ 40,000.00</b>
<b>III. Other Direct Costs</b>					
<b>Direct Expenses Subtotal</b>					
<b>IV. Capital Outlay &amp; Equipment Costs</b>					
Machinery Fuel		1	\$ 250.00		\$ 250.00
Vehicle Fuel		1	\$ 250.00		\$ 250.00
<b>Capital Outlay &amp; Equipment Subtotal</b>			<b>\$ 500.00</b>		<b>\$ 500.00</b>
<b>TASK SUBTOTAL</b>			<b>\$ 45,750.00</b>		<b>\$ 44,000.00</b>
<b>V. Administrative Costs</b>					
Administrative Costs (5%)					
<b>Administrative Subtotal</b>		1	\$ 2,287.50		\$ 2,287.50
<b>TASK SUBTOTAL</b>			<b>\$ 48,037.50</b>	<b>\$1,750.00</b>	<b>\$ 46,287.50</b>

<b>Task 3: Implement Gate Upgrade/Replacement Plan on Union Canal</b>					
Description	Unit Cost	Qty.	Total	Gila Valley Irrigation District	Arizona Water Protection Fund
<b>I. Direct Labor Costs</b>					
Project Manager - Gila Valley Irrigation District	\$ 35.00	250	\$ 8,750.00	\$ 3,750.00	\$ 5,000.00
<b>Direct Expenses Total</b>			<b>\$ 8,750.00</b>	<b>\$ 3,750.00</b>	<b>\$ 5,000.00</b>
<b>II. Outside Service Costs</b>					
Contract Labor - Gate removal & replacement,includes labor & gates	\$1,000.00	132	\$ 132,000.00		\$132,000.00
<b>Outside Expenses Total</b>			<b>\$ 132,000.00</b>		<b>\$132,000.00</b>
<b>III. Other Direct Costs</b>					

<b>Direct Expenses Subtotal</b>					
<b>IV. Capital Outlay &amp; Equipment Costs</b>					
Machinery Fuel		1	\$ 250.00		\$ 250.00
Vehicle Fuel		1	\$ 250.00		\$ 250.00
<b>Capital Outlay &amp; Equipment Subtotal</b>			\$ 500.00		\$ 500.00
<b>TASK SUBTOTAL</b>			\$ 141,250.00		\$137,500.00
<b>V. Administrative Costs</b>					
Administrative Costs (5%)			\$ 7,062.50		\$ 7,062.50
<b>Administrative Subtotal</b>			\$ 7,062.50		\$ 7,062.50
<b>TASK SUBTOTAL</b>			\$ 148,312.50	\$3,750.00	\$144,562.50

<b>Task 4: Implement Outreach &amp; Education Plan</b>					
Description	Unit Cost	Qty.	Total	Gila Valley Irrigation District	Arizona Water Protection Fund
<b>I. Direct Labor Costs</b>					
Project Manager - Gila Valley Irrigation District (In-kind)	\$ 35.00	100	\$ 3,500.00	\$ 1,750.00	\$ 1,750.00
<b>Direct Expenses Total</b>			\$ 3,500.00	\$ 1,750.00	\$ 1,750.00
<b>II. Outside Service Costs</b>					
<b>Outside Expenses Total</b>					
<b>III. Other Direct Costs</b>					
<b>Direct Expenses Subtotal</b>					
<b>IV. Capital Outlay &amp; Equipment Costs</b>					
<b>Capital Outlay &amp; Equipment Subtotal</b>					
<b>TASK SUBTOTAL</b>			\$ 3,500.00		\$ 3,500.00
<b>V. Administrative Costs</b>					
Administrative Costs (5%)			\$ 175.00		\$ 175.00
<b>Administrative Subtotal</b>					
<b>TASK SUBTOTAL</b>			\$ 3,675.00	\$1,750.00	\$ 1,925.00

<b>Task 5: Final Report</b>					
Description	Unit Cost	Qty.	Total	Gila Valley Irrigation District	Arizona Water Protection Fund
<b>I. Direct Labor Costs</b>					
Project Manager - Gila Valley Irrigation District (In-kind)	\$ 35.00	100	\$ 3,500.00	\$ 3,500.00	
<b>Direct Expenses Total</b>					
<b>II. Outside Service Costs</b>					
<b>Outside Expenses Total</b>					
<b>III. Other Direct Costs</b>					
Postage, Printing, etc.		1	\$ 250.00		\$ 250.00
<b>Direct Expenses Subtotal</b>					
<b>IV. Capital Outlay &amp; Equipment Costs</b>					
<b>Capital Outlay &amp; Equipment Subtotal</b>					
<b>TASK SUBTOTAL</b>					
<b>V. Administrative Costs</b>					
Administrative Costs (5%)			\$ 187.50		\$ 187.50
<b>Administrative Subtotal</b>					
<b>TASK SUBTOTAL</b>			\$ 3,937.50	\$ 3,500.00	\$ 437.50

<b>Total Arizona Water Protection Fund Request:</b>		<b>\$193,212.50</b>
<b>InKind Project Match:</b>	<b>\$</b>	<b>11,800.00</b>
<b>Total Project Budget:</b>	<b>\$</b>	<b>205,012.50</b>

**7. Match/In-kind Funds -**

All Match for this project is being provided by the GVID as in-kind service. GVID will provide in-kind service to assist with project management and oversight.

**8. Maps & Schematics** - This project will take place along the Union and Smithville Canals which are located along the Gila River in Graham County, Arizona. The Gila Valley Irrigation District (GVID) located along the Gila River in Southeast Arizona, was organized in 1923, and is comprised of 11 canal companies. The canal companies operating within the district are Brown, Curtis, Dodge-Nevada, Fort Thomas, Graham, Colvin-Jones, Highline, Montezuma, San Jose, Smithville, and Union. Portions of the Brown and Montezuma are lined, the remainder are as they were in 1923, open dirt ditches. The GVID canal system stretches 35 miles along the Gila River through the cities and towns of Solomon, Safford, Thatcher, Pima, and Fort Thomas.

**Arizona Watershed Map FY  
2019**



**Title of Project:** GVID Canal Improvement Project Phase 1

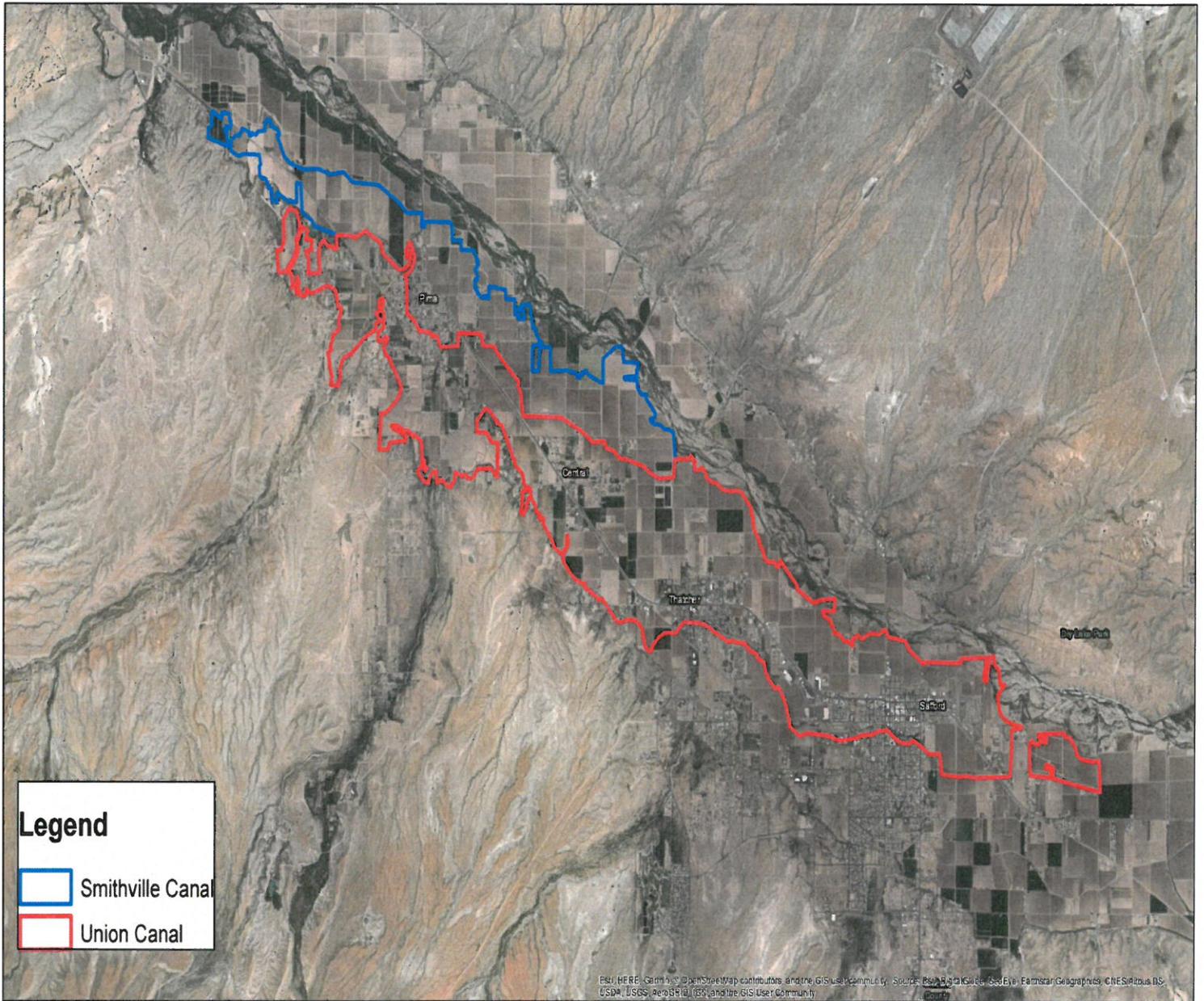
**Location** Smithville: T6S R25E Sec: 27,28,29,19,30 and T6SR24E Sec 24,13,14,15,10 UTM (approx. midpoint of canal): NAD 83 Zone: 12S Easting: 610321 Northing: 3639593

**(Locatio** Union Canal: T7S R26E Sec 14,15,16,17,18 T7S R25E Sec 12,13,2,3,4 T6S R25E Sec(s): 33,32,31,30 T6S R24E Sec(s): 23,24,25 UTM: (approximate midpoint of canal) NAD 83 Zone: 12S Easting: 613909 Northing: 3635212

Smithville: T6S R25E Sec: 27,28,29,19,30 and T6SR24E Sec 24,13,14,15,10 UTM (approx. midpoint of canal): NAD 83 Zone: 12S Easting: 610321 Northing: 3639593

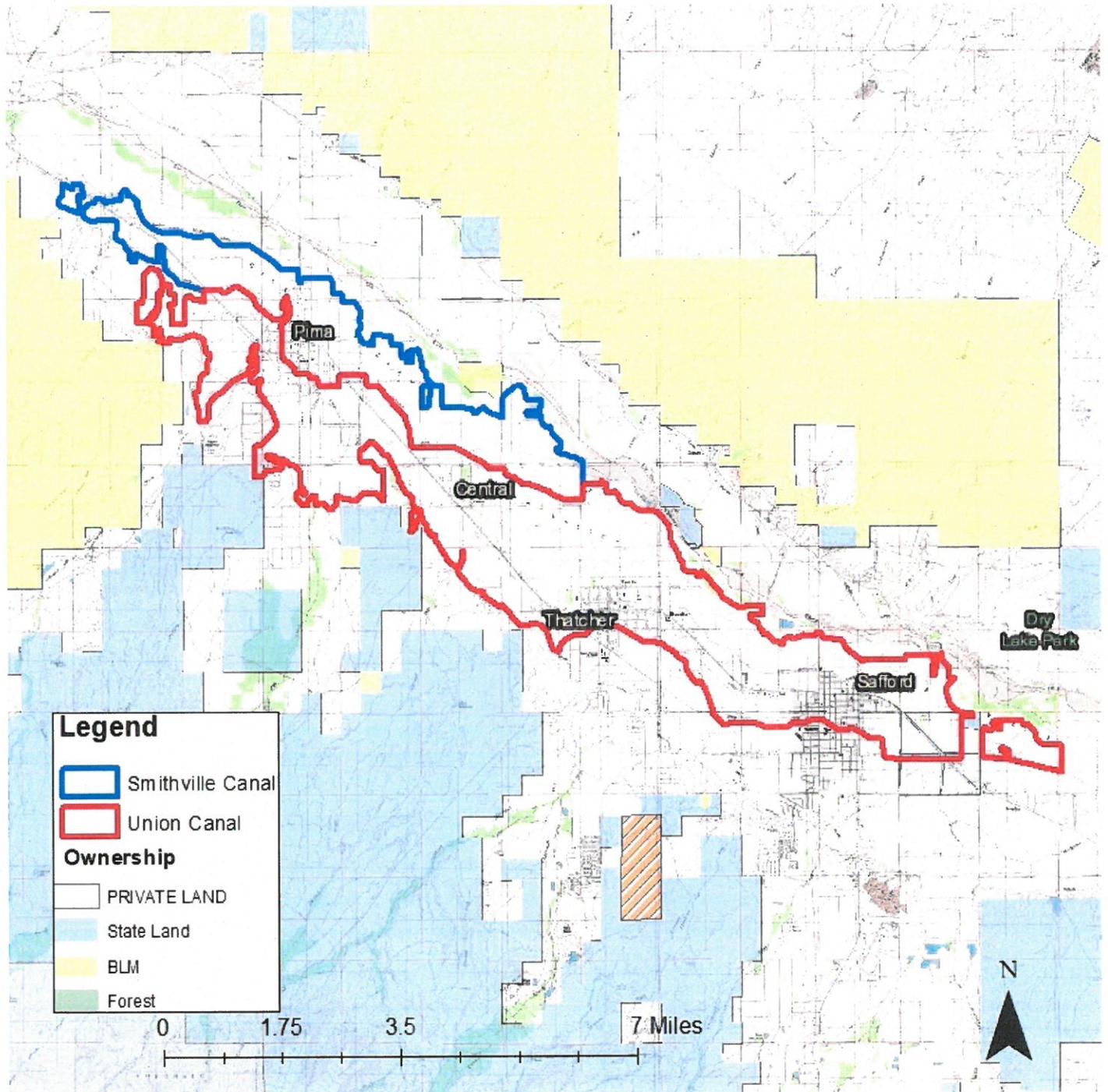
Union Canal: T7S R26E Sec 14,15,16,17,18 T7S R25E Sec 12,13,2,3,4 T6S R25E Sec(s): 33,32,31,30 T6S R24E Sec(s): 23,24,25 UTM: (approximate midpoint of canal) NAD 83 Zone: 12S Easting: 613909 Northing: 3635212

# Project Location Map



### Project Location Ownership

The Gila Valley Irrigation District owns the property along the canals and an easement for access.



6. Project Schematics - Preliminary Schematics taken from US Bureau of Reclamation Manual  
<https://www.usbr.gov/tsc/techreferences/mands/manuals.html>

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SMALL CANAL STRUCTURES

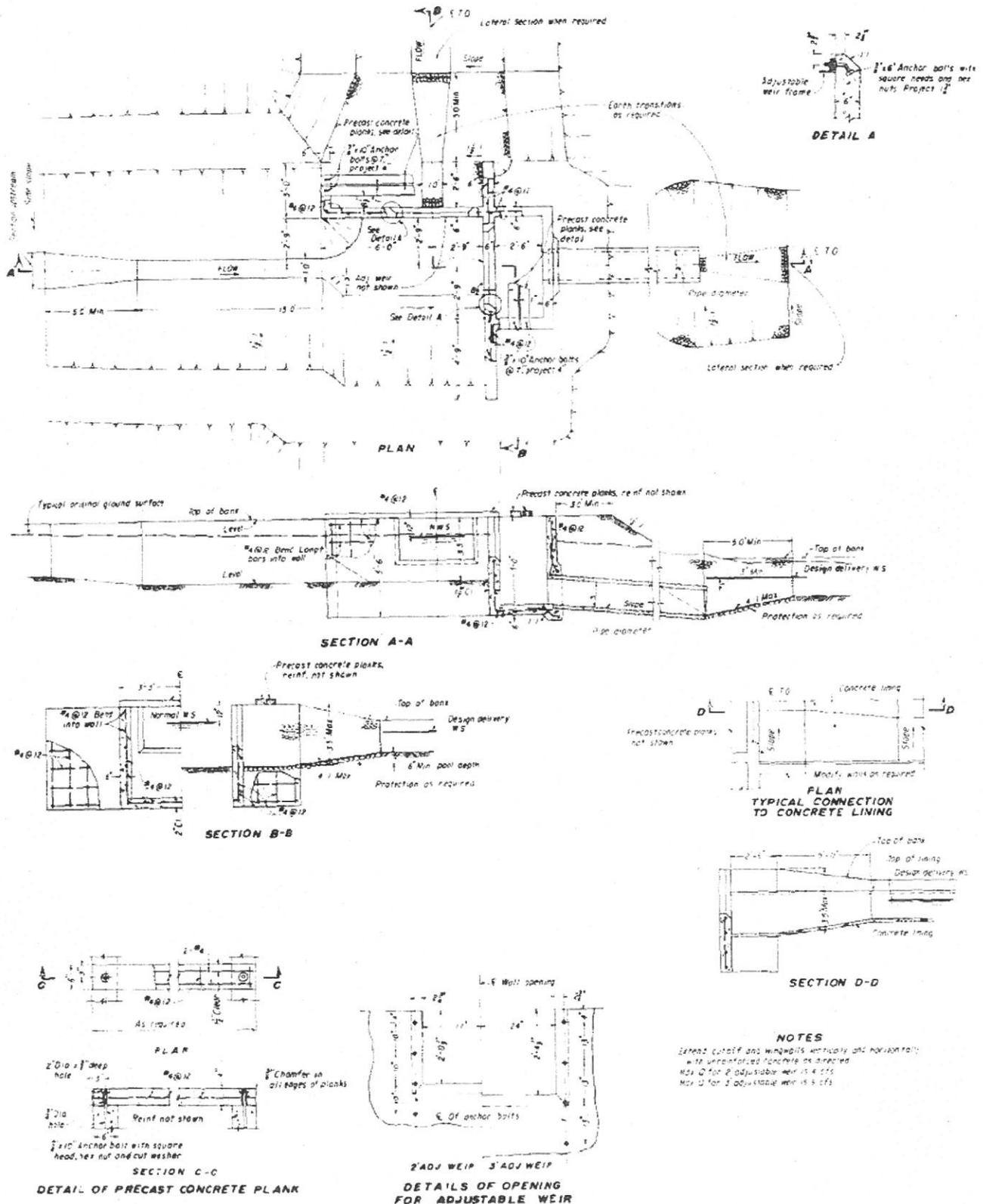


Figure 3-35. Division structure. 103-D-1219

## STATE HISTORIC PRESERVATION OFFICE Review Form

In accordance with the State Historic Preservation Act (SHPO), A.R.S. 41-861 *et seq.*, effective July 24, 1982, each State agency must consider the potential of activities or projects to impact significant cultural resources. Also, each State agency is required to consult with the State Historic Preservation Officer with regard to those activities or projects that may impact cultural resources. Therefore, it is understood that **recipients of state funds are required to comply with this law** throughout the project period. All projects that affect the ground-surface that are funded by AWPf require SHPO clearance, **including those on private and federal lands.**

The State Historic Preservation Office (SHPO) must review each grant application recommended for funding in order to determine the effect, if any, a proposed project may have on archaeological or cultural resources. To assist the SHPO in this review, the following information **MUST** be submitted with each application for funding assistance:

- A completed copy of this form, and
- A United States Geological Survey (USGS) 7.5 minute map
- A copy of the cultural resources survey report if a survey of the property has been conducted, and
- A copy of any comments of the land managing agency/landowner (i.e., state, federal, county, municipal) on potential impacts of the project on historic properties.

NOTE: If a federal agency is involved, the agency must consult with SHPO pursuant to the National Historic Preservation Act (NHPA); a state agency must consult with SHPO pursuant to the State Historic Preservation Act (SHPA),

**OR**

- A copy of SHPO comments if the survey report has already been reviewed by SHPO.

**Please answer the following questions:**

1. Grant Program: AZ Water Protection Fund
2. Project Title: Gila Valley Irrigation District - Union & Smithville Modernization
3. Applicant Name and Address: Gila Valley Irrigation District 2586 W US HWY 70  
THATCHER AZ 85552
4. Current Land Owner/Manager(s): Gila Valley Irrigation District
5. Project Location, including Township, Range, Section: please see attached maps & locations
6. Total Project Area in Acres (or total miles if trail): ≈ 15
7. Does the proposed project have the potential to disturb the surface and/or subsurface of the ground?  
 YES     NO
8. Please provide a brief description of the proposed project and specifically identify any surface or subsurface impacts that are expected: The grant application is to modernize canal infrastructure (cross & lateral gates). Construction will not exceed the footprint of existing infrastructure.
9. Describe the condition of the current ground surface within the entire project boundary area (for example, is the ground in a natural undisturbed condition, or has it been bladed, paved, graded, etc.). Estimate  
The area within the application is an existing canal system & related support infrastructure such as roads, gates & ditches.

horizontal and vertical extent of existing disturbance. Also, attach photographs of project area to document condition: The cross and lateral gates that will be replaced in the proposed project are currently in use. — Photos attached

10. Are there any known prehistoric and/or historic archaeological sites in or near the project area?  YES  
 NO unknown - canals were built prior to 1920

11. Has the project area been previously surveyed for cultural resources by a qualified archaeologist?  YES  
 NO  UNKNOWN

**If YES, submit a copy of the survey report. Please attach any comments on the survey report made by the managing agency and/or SHPO**

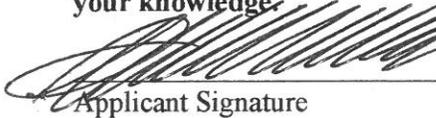
12. Are there any buildings or structures (including mines, bridges, dams, canals, etc.), which are 50-years or older in or adjacent to the project area?  YES  NO BOTH CANALS

**If YES, complete an Arizona Historic Property Inventory Form for each building or structure, attach it to this form and submit it with your application. ATTACHED**

13. Is your project area within or near a historic district?  YES  NO  UNKNOWN

**If YES, name of the district:**

**Please sign on the line below certifying all information provided for this application is accurate to the best of your knowledge.**

 Applicant Signature      9/5/18 /Date      Scott Alder Applicant Printed Name

**FOR SHPO USE ONLY**

**SHPO Finding:**

- Funding this project will not affect historic properties.
- Survey necessary – further GRANTS/SHPO consultation required (*grant funds will not be released until consultation has been completed*)
- Cultural resources present – further GRANTS/SHPO consultation required (*grant funds will not be released until consultation has been completed*)

**SHPO Comments:**

For State Historic Preservation Office:

Date:

SMITHVILLE CANAL

**STATE OF ARIZONA  
HISTORIC PROPERTY INVENTORY FORM**

Please type or print clearly. Fill out each applicable space accurately and with as much information as is known about the property.

**PROPERTY IDENTIFICATION**

For properties identified through survey: Site No.      Survey Area:     

Historic Names (enter the name(s), if any that best reflect the property's historic importance): SMITHVILLE CANAL  
2586 W US HWY 70

Address: THATCHER AZ 85552 T6S R25E Sec 27, 28, 29, 19, 30,  
T6S R24E Sec 24, 13, 14, 15 & 16

City or Town:       Vicinity County: GILAH Tax Parcel No.:     

Township:      Range:      Section:      Quarters:      Acreage:     

Block:      Lot(s):      Plat (Addition):      Year of plat (addition):     

UTM Reference - Zone: 12S Easting: 610321 Northing: 3639593 (approx midpoint)  
NAD 83

USGS 7.5' quadrangle map: PIMA & EDEN

ARCHITECT:       not determined  known Source:     

BUILDER:       not determined  known Source:     

CONSTRUCTION DATE: 1920's  known  estimated Source: GILA VALLEY IRRIG. DISTRICT  
DECREE MAPS

**STRUCTURAL CONDITION**

- Good (well maintained; no serious problems apparent)
- Fair (some problems apparent) Describe:
- Poor (major problems; imminent threat) Describe:
- Ruin/Uninhabitable

**USES/FUNCTIONS**

Describe how the property has been used over time, beginning with the original use: irrigation of farm fields

Sources: GVID  
Smithville Canal Co.

**PHOTO INFORMATION**

Date of photo: 8/15/18  
View Direction (looking towards): N, S, E, W

Attach a recent photograph of property in this space. Additional photographs may be appended.

Photos attached of typical cross & interval gates along w/ canal aspect.

**SIGNIFICANCE**

To be eligible for the National Register, a property must represent an important part of the history or architecture of an area. The significance of a property is evaluated within its historic context, which are those patterns, themes, or trends in history by which a property occurred or gained importance. Describe the historic and architectural contexts of the property that may make it worthy of preservation.

A. HISTORIC EVENTS/TRENDS – Describe any historic events/trends associated with the property: Unk

B. PERSONS – List and describe persons with an important association with the building: Unk

C. ARCHITECTURE – Style: \_\_\_\_\_  no style

Stories: \_\_\_\_\_  Basement/ Roof Form: \_\_\_\_\_

Describe other character-defining features of its massing, size and scale: \_\_\_\_\_

**INTEGRITY**

To be eligible for the National Register, a property must have integrity (i.e. it must be able to visually convey its importance). The outline below lists some important aspects of integrity. Fill in the blanks with as detailed a description of the property as possible.

Location -  Original Site  Moved: Date: \_\_\_\_\_ Original Site: \_\_\_\_\_

**DESIGN**

Describe alterations from the original design, including dates: Unk

**MATERIALS**

Describe the materials used in the following elements of the property: DIRT CANAL

Walls (structure): \_\_\_\_\_

Walls (sheathing): \_\_\_\_\_

Windows: \_\_\_\_\_

Roof: \_\_\_\_\_

Foundation: \_\_\_\_\_

**SETTING**

Describe the natural and/or built environment around the property: Town (Pima), rural, agrarian

How has the environment changed since the property was constructed? Unk

**WORKMANSHIP**

Describe the distinctive elements, if any, of craftsmanship or method of construction: Unk

**NATIONAL REGISTER STATUS (if listed, check the appropriate box)** NOT LISTED

Individually Listed;  Contributor;  Non-contributor to \_\_\_\_\_ Historic District

Date Listed: \_\_\_\_\_  Determined eligible by Keeper of National Register (date: \_\_\_\_\_)

**RECOMMENDATIONS ON NATIONAL REGISTER ELIGIBILITY (opinion of SHPO staff or survey consultant)**

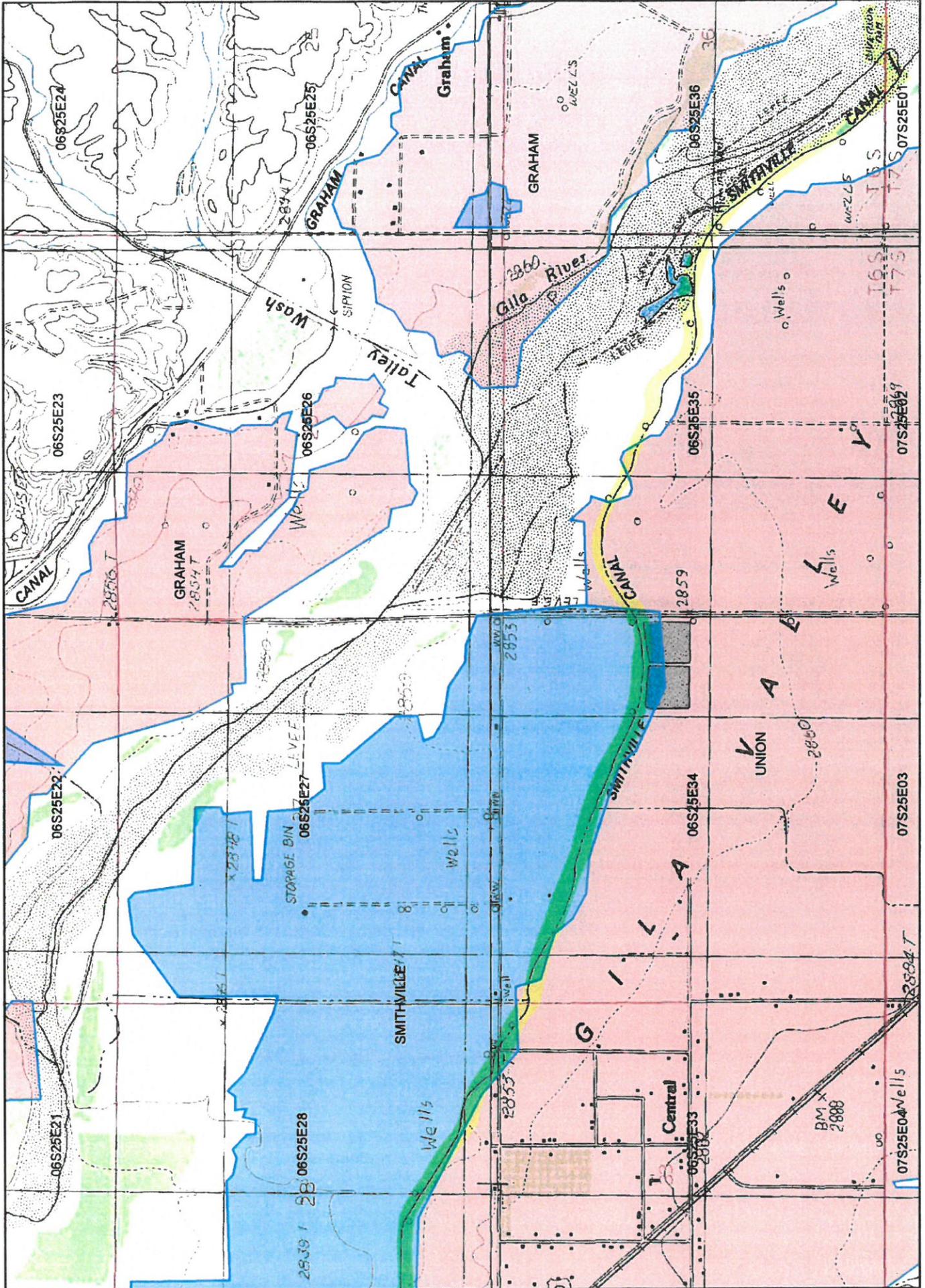
Property  is  is not eligible individually.

Property  is  is not eligible as a contributor to a listed or potential historic district.

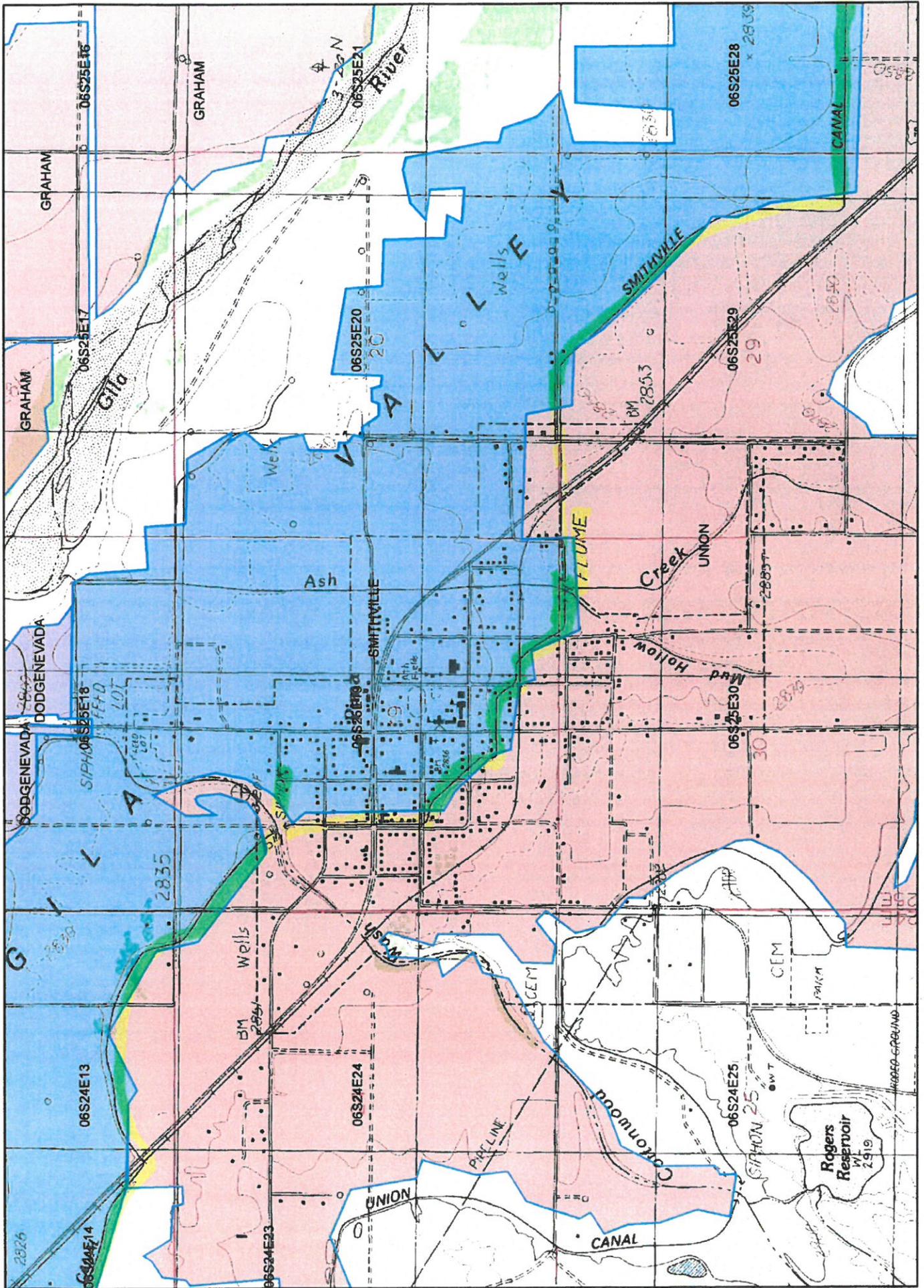
More information needed to evaluate.

If not considered eligible, state reason: \_\_\_\_\_

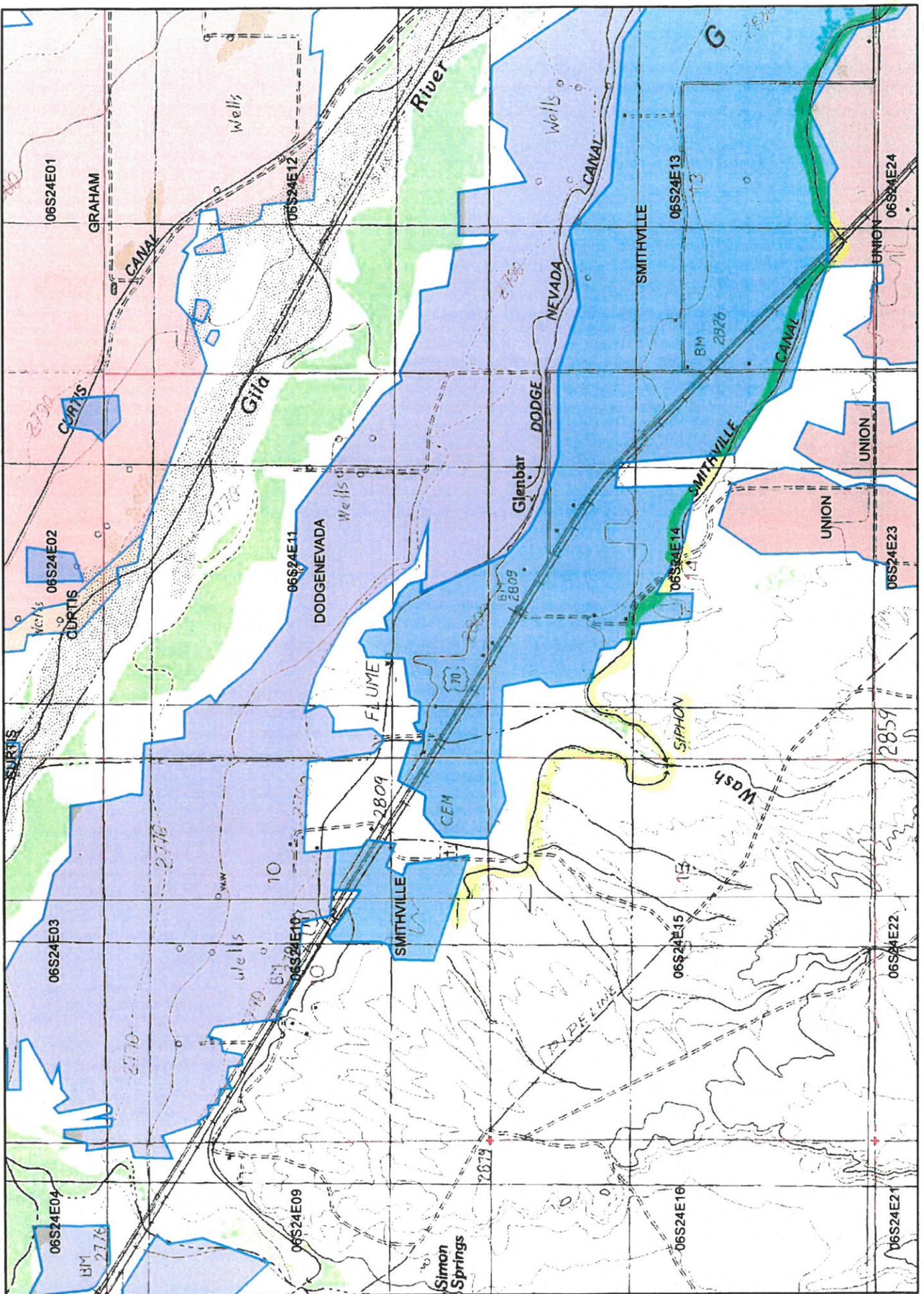
SMITHVILLE CANAL



SMITHVILLE CANAL



SMITHVILLE CANAL



UNION CANAL

**STATE OF ARIZONA  
HISTORIC PROPERTY INVENTORY FORM**

Please type or print clearly. Fill out each applicable space accurately and with as much information as is known about the property.

**PROPERTY IDENTIFICATION**

For properties identified through survey: Site No. \_\_\_\_\_ Survey Area: \_\_\_\_\_

Historic Names (enter the name(s), if any that best reflect the property's historic importance): UNION CANAL

Address: 2526 W US HWY 70  
HATCHER AZ 85552  
City or Town: PIMA  Vicinity County: SAHARA Tax Parcel No.: \_\_\_\_\_  
T7SR26E Sec 14, 15, 16, 17, 18,  
T7SR26E Sec 13, 12, 2, 3, 4,  
T6SR25E Sec 33, 32, 31, 30  
T6SR24E Sec 25, 24, 23

Township: \_\_\_\_\_ Range: \_\_\_\_\_ Section: \_\_\_\_\_ Quarters: \_\_\_\_\_ Acreage: \_\_\_\_\_

Block: \_\_\_\_\_ Lot(s): \_\_\_\_\_ Plat (Addition): \_\_\_\_\_ Year of plat (addition): \_\_\_\_\_

UTM Reference - Zone: 12S Easting: 613909 Northing: 3635212  
NAD 83

USGS 7.5' quadrangle map: SAFFORD, THATCHER, & PIMA

ARCHITECT: \_\_\_\_\_  not determined  known Source: \_\_\_\_\_

BUILDER: \_\_\_\_\_  not determined  known Source: \_\_\_\_\_

CONSTRUCTION DATE: 1920's  known  estimated Source: GILA VALLEY IRRIG. DISTRICT DECREE MAPS

**STRUCTURAL CONDITION**

- Good (well maintained; no serious problems apparent)
- Fair (some problems apparent) Describe: \_\_\_\_\_
- Poor (major problems; imminent threat) Describe: \_\_\_\_\_
- Ruin/Uninhabitable

**USES/FUNCTIONS**

Describe how the property has been used over time, beginning with the original use: irrigation of farm fields  
Sources: GVID  
UNION CANAL CO.

**PHOTO INFORMATION**

Date of photo: 8/15/14  
View Direction (looking towards): N, S, E, W

Attach a recent photograph of property in this space. Additional photographs may be appended.  
  
photos attached of typical cross & lateral gates along w/ canal aspect

**SIGNIFICANCE**

To be eligible for the National Register, a property must represent an important part of the history or architecture of an area. The significance of a property is evaluated within its historic context, which are those patterns, themes, or trends in history by which a property occurred or gained importance. Describe the historic and architectural contexts of the property that may make it worthy of preservation.

A. HISTORIC EVENTS/TRENDS – Describe any historic events/trends associated with the property: unk

B. PERSONS – List and describe persons with an important association with the building: unk

C. ARCHITECTURE – Style: \_\_\_\_\_  no style

Stories: \_\_\_\_\_  Basement Roof Form: \_\_\_\_\_

Describe other character-defining features of its massing, size and scale: \_\_\_\_\_

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Location -  Original Site  Moved: Date: \_\_\_\_\_ Original Site: \_\_\_\_\_

**DESIGN**

Describe alterations from the original design, including dates: unk

**MATERIALS**

Describe the materials used in the following elements of the property: DIRT CANAL

Walls (structure): \_\_\_\_\_

Walls (sheathing): \_\_\_\_\_

Windows: \_\_\_\_\_

Roof: \_\_\_\_\_

Foundation: \_\_\_\_\_

**SETTING**

Describe the natural and/or built environment around the property: rural, towns (Thatcher/Pima), agrarian

How has the environment changed since the property was constructed? unk

**WORKMANSHIP**

Describe the distinctive elements, if any, of craftsmanship or method of construction: na

**NATIONAL REGISTER STATUS (if listed, check the appropriate box) NOT LISTED**

Individually Listed;  Contributor;  Non-contributor to \_\_\_\_\_ Historic District

Date Listed: \_\_\_\_\_  Determined eligible by Keeper of National Register (date: \_\_\_\_\_)

**RECOMMENDATIONS ON NATIONAL REGISTER ELIGIBILITY (opinion of SHPO staff or survey consultant)**

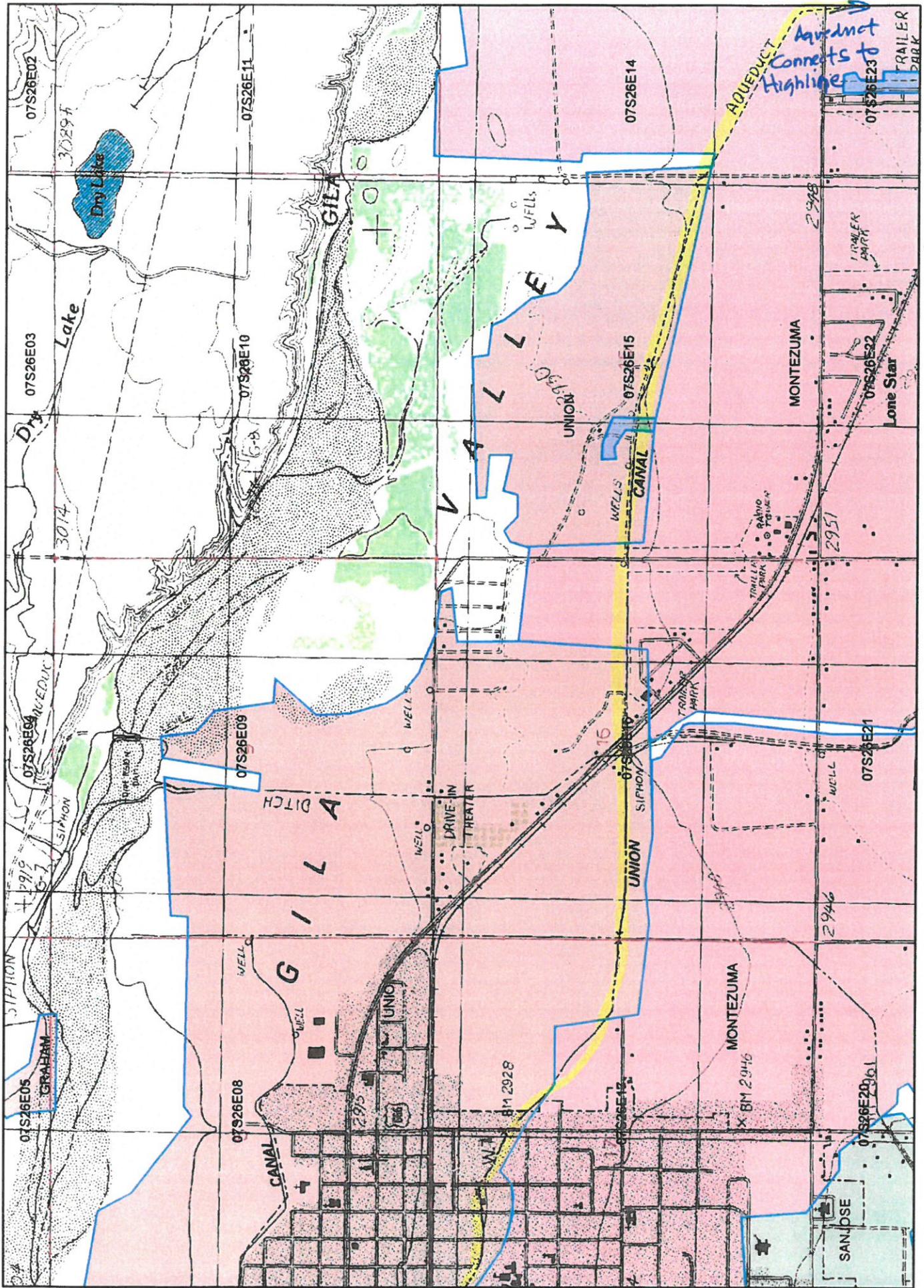
Property  is  is not eligible individually.

Property  is  is not eligible as a contributor to a listed or potential historic district.

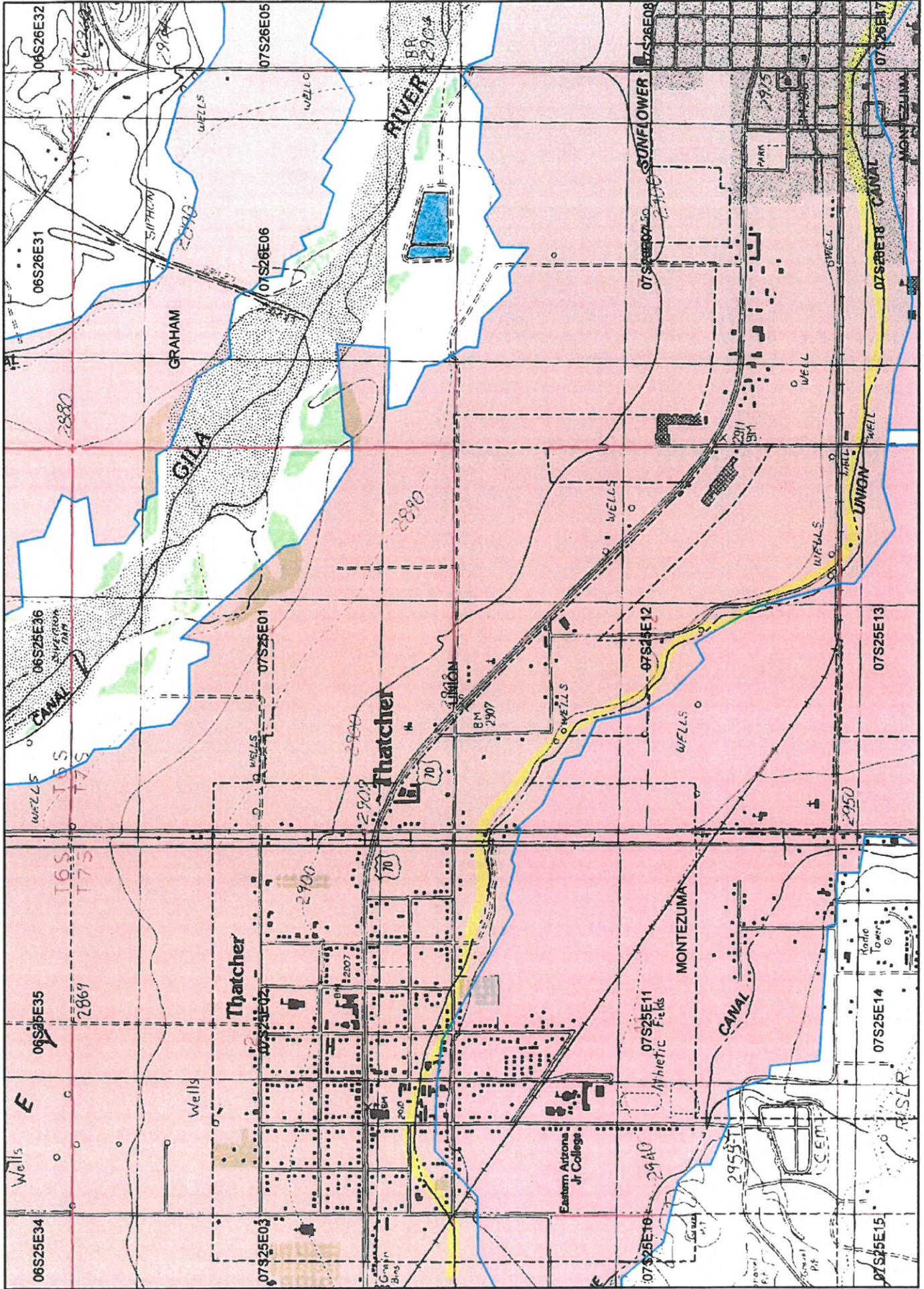
More information needed to evaluate.

If not considered eligible, state reason: \_\_\_\_\_

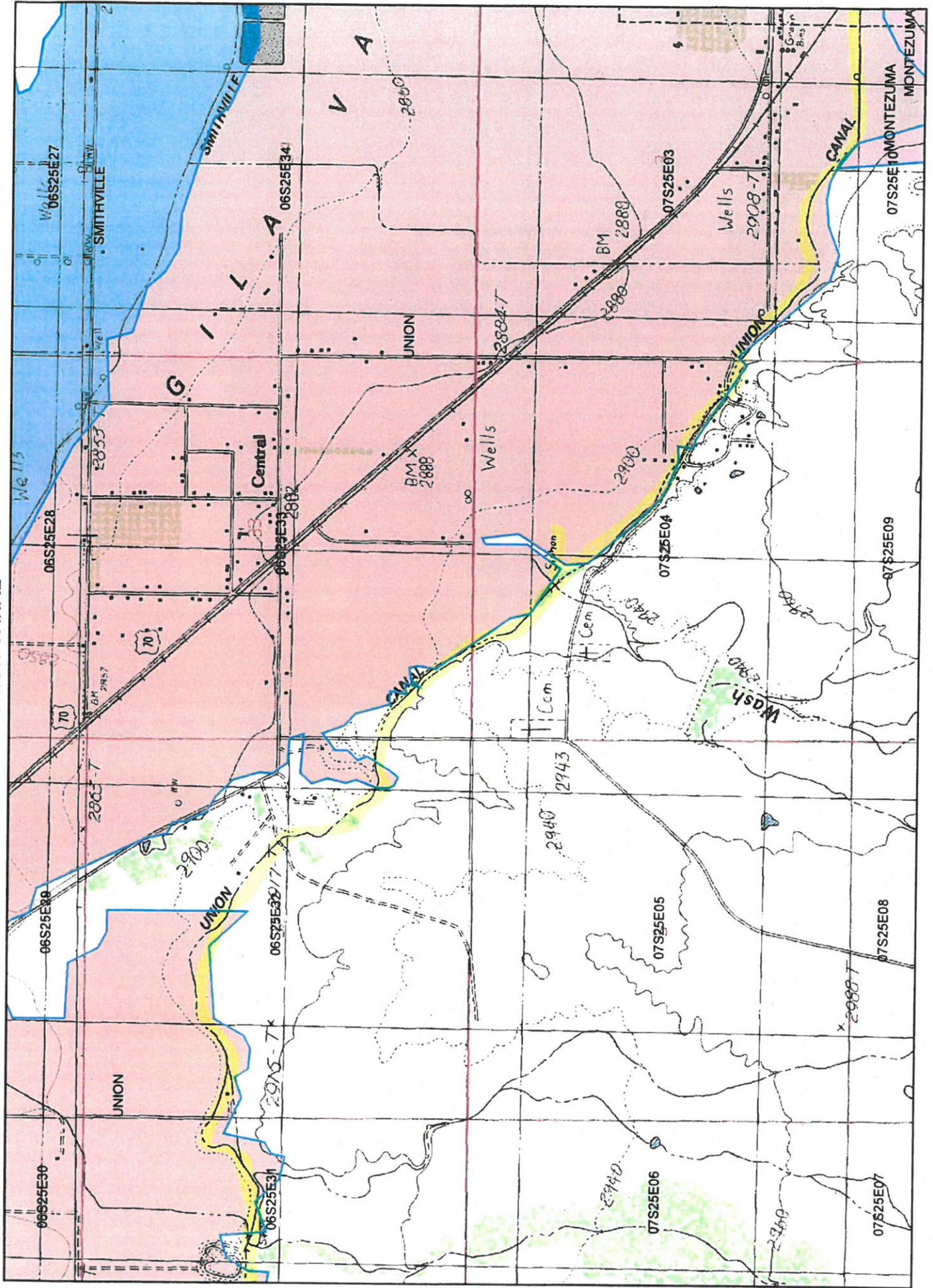
UNION CANAL



UNION CANAL

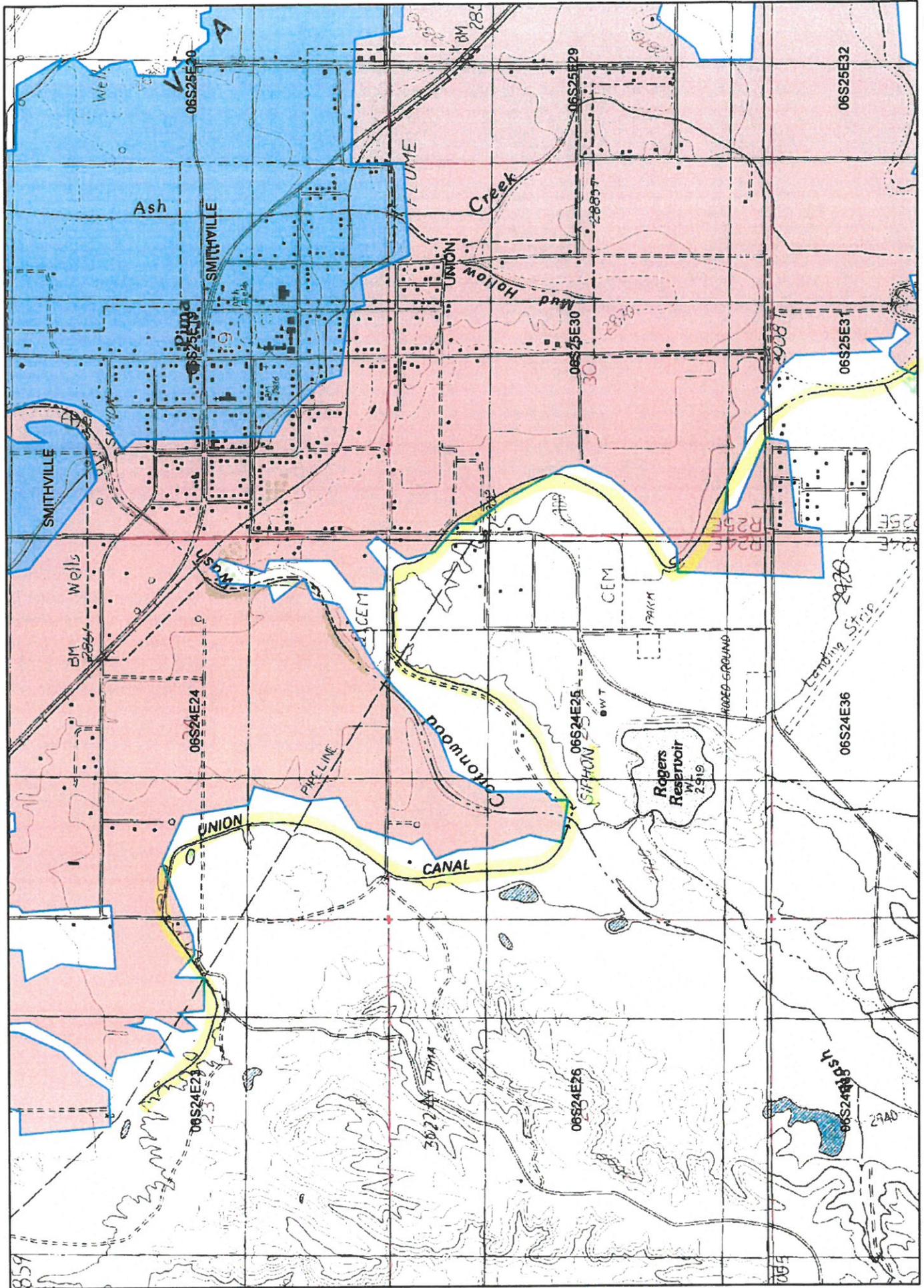


UNION CANAL



Scale: 1:24,000

UNION CANAL



**Key Personnel**

Scott Alder of the Gila Valley Irrigation District will assist the project manager with oversight and coordination of the project.

Justin Layton will serve as project manager for the duration of the project. The project manager will provide project oversight and ensure that project tasks and deliverables are completed in an accurate and timely manner.

Sam Daley, President of the Union Canal, will provide assistance to the GVID with project coordination

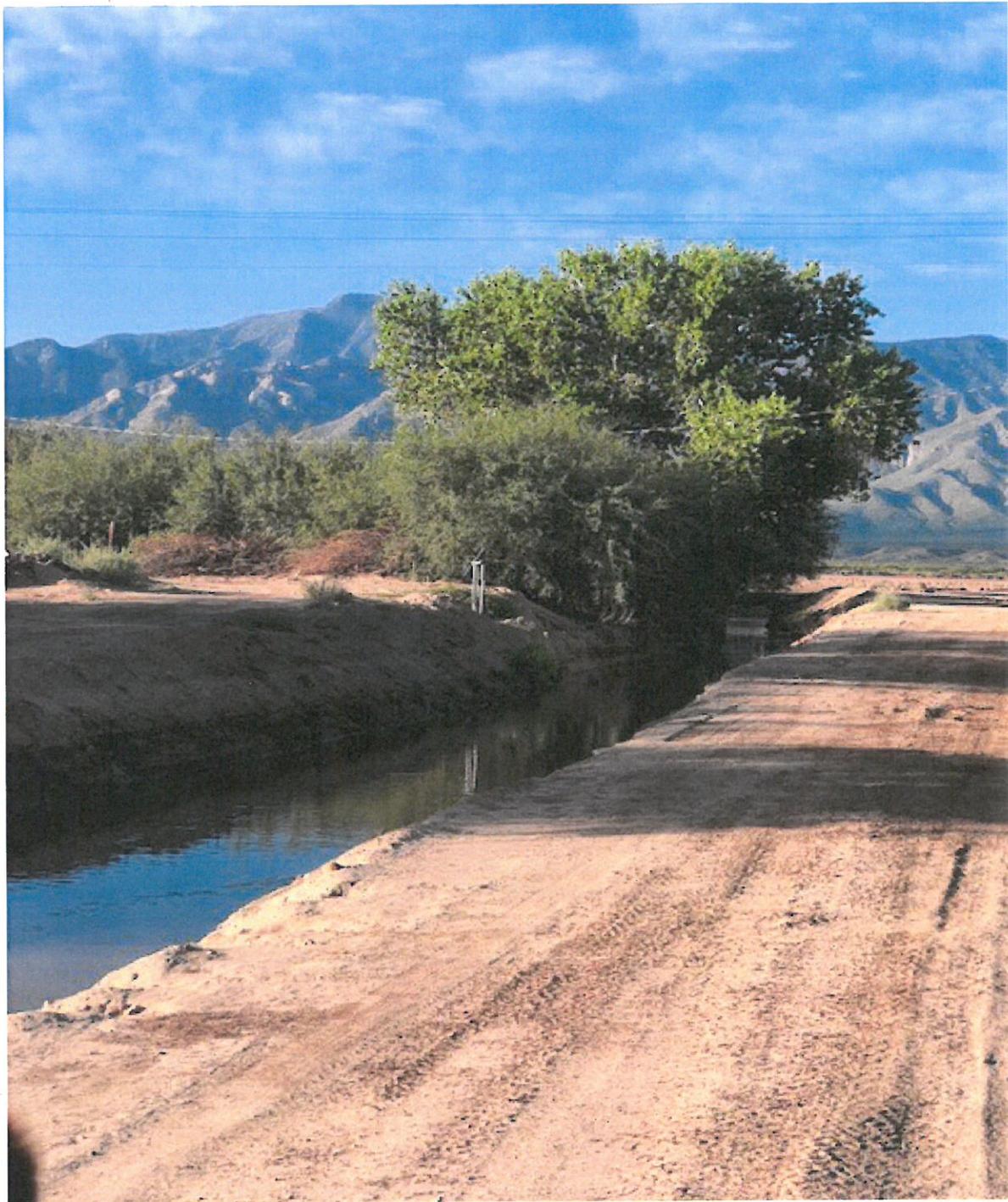
Amy Herbert with the Gila Valley Natural Resource Conservation District will provide administrative assistance for the project. The administrative assistant will assist with grant tracking and reporting.



TYPICAL CROSS GATE (facing North)



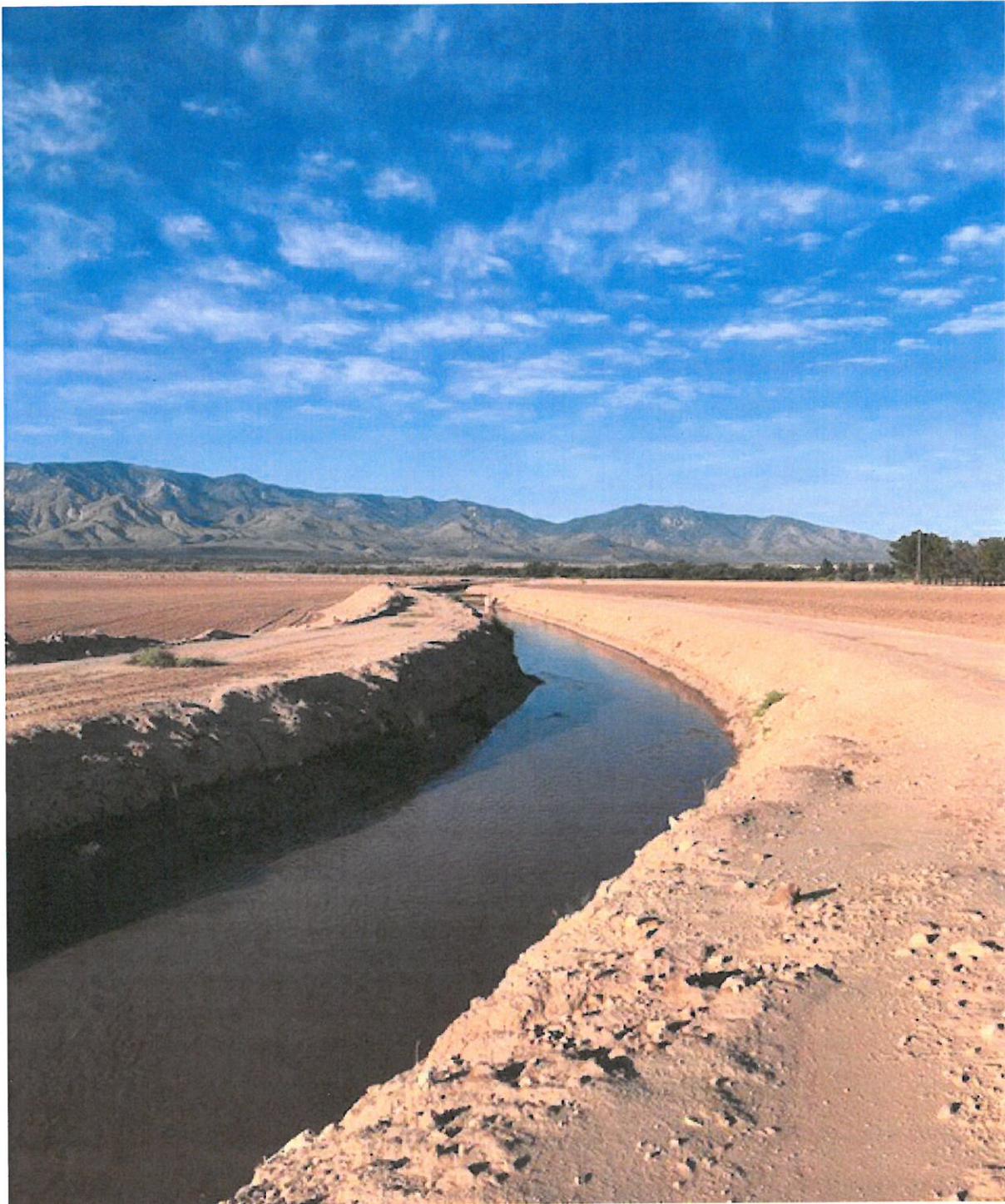
TYPICAL LATERAL GATE (good condition)  
facing EAST



CANAL ASPECT (UNION CANAL) South



TYPICAL ASPECT (UNION CANAL) facing South



TYPICAL CANAL (south)



**GILA VALLEY NATURAL  
RESOURCE CONSERVATION DISTRICT**

267 N. 8<sup>th</sup> Ave; Suite B- Safford, AZ 85546

Ph: (928) 428-5537 Ext 3593

amy.herbert@az.nacdnet.net

September 3, 2018

Arizona Water Protection Fund Commission  
1110 West Washington Street, Suite 310  
Phoenix, AZ 85007

To Whom it May Concern:

The Gila Valley Natural Resource Conservation District's (NRCD) mission is to provide local leadership and education to ensure the wise use of all natural resources within the district. We are entrusted to develop comprehensive programs and plans that conserve, and improve the quality of natural resources.

The Gila Valley NRCD fully supports the Gila Valley Irrigation District's grant application to replace aged gates along the Smithville and Union Canal. We feel that this project is a positive step towards modernizing the canal's delivery system to conserve water for downstream users and habitat along the river.

We ask for you to consider funding this application.

Sincerely,

Chairman  
Gila Valley NRCD

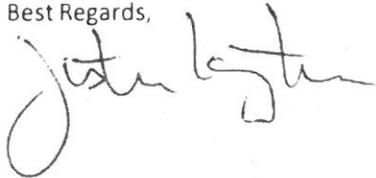
To Whom it May Concern:

It is my pleasure to write on behalf of Graham County Farm Bureau. We fully support Gila Valley Irrigation District's proposal for a System Optimization Review and modernization improvements on the Union and Smithville Canals. GVID has managed a deteriorating canal system as best they could, but now recognize the need for a total system review in order to become more efficient and effective in distributing water to our county farmers and other water users. On their individual farms, these growers have utilized some of the most advanced technologies and practices available to them, it is their desire to carry that same drive for staying modern to the canal systems.

Looking ahead, agriculture, and more specifically the delivery of water, has to prepare for such things as an ongoing drought and a limited supply of ground water. Improving the irrigation district in physical structure and implementing methods for more accurate record keeping are vital to the success of rural life in Graham County.

Again, I give my full support to Gila Valley Irrigation District in pursuing a System Optimization Review as they begin the process to make much needed improvements to remain a successful and vital role here in our county.

Best Regards,

A handwritten signature in black ink, appearing to read "Justin Layton". The signature is written in a cursive style with a large initial "J" and a long, sweeping underline.

Justin Layton

Secretary, Graham County Farm Bureau





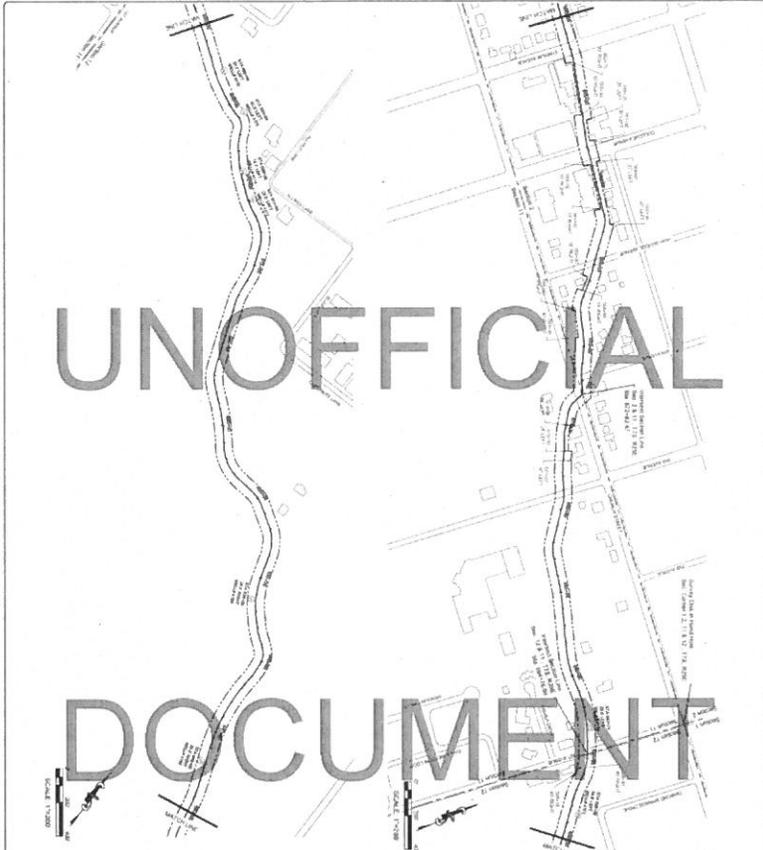








# UNOFFICIAL DOCUMENT



**NON-PHYSICAL DIMENSIONS**

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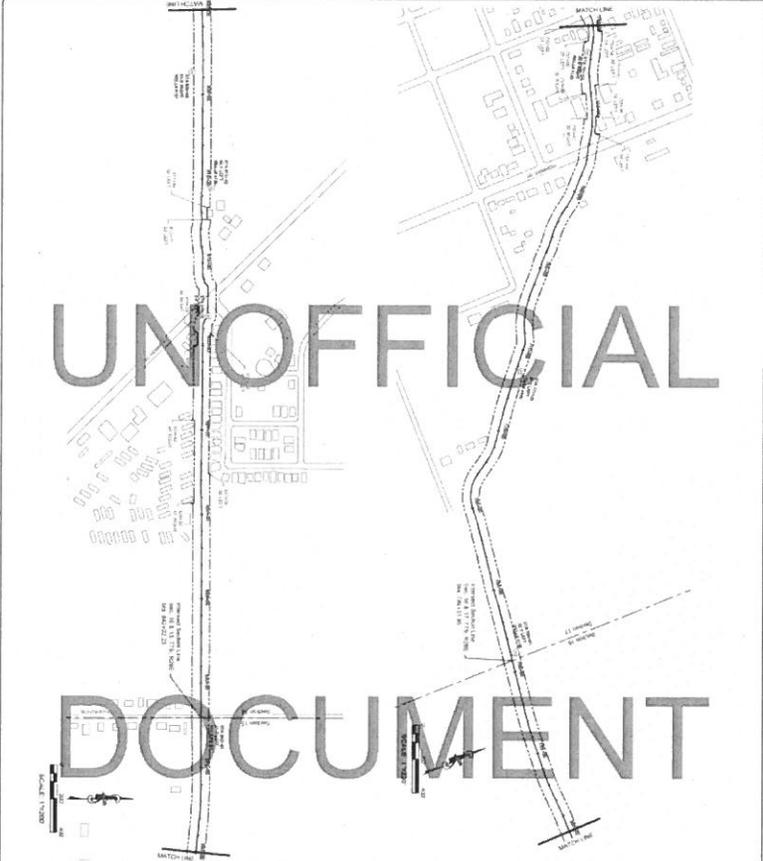
**RECORD OF SURVEY**  
**UNION CANAL**

**Bowman CONSULTING**

7



# UNOFFICIAL DOCUMENT



**UNION CANAL EASEMENT - CHANNEL**

THE FOLLOWING TABLE CONTAINS THE DATA FOR THE CHANNEL EASEMENT.

STATION	CHORD BEARING	CHORD DISTANCE	CURVE DATA	CHORD BEARING	CHORD DISTANCE	CURVE DATA
1+00.00	S 89° 59' 54" W	100.00	0.00	S 89° 59' 54" W	100.00	0.00
1+100.00	S 89° 59' 54" W	100.00	0.00	S 89° 59' 54" W	100.00	0.00
1+200.00	S 89° 59' 54" W	100.00	0.00	S 89° 59' 54" W	100.00	0.00
1+300.00	S 89° 59' 54" W	100.00	0.00	S 89° 59' 54" W	100.00	0.00
1+400.00	S 89° 59' 54" W	100.00	0.00	S 89° 59' 54" W	100.00	0.00
1+500.00	S 89° 59' 54" W	100.00	0.00	S 89° 59' 54" W	100.00	0.00
1+600.00	S 89° 59' 54" W	100.00	0.00	S 89° 59' 54" W	100.00	0.00
1+700.00	S 89° 59' 54" W	100.00	0.00	S 89° 59' 54" W	100.00	0.00
1+800.00	S 89° 59' 54" W	100.00	0.00	S 89° 59' 54" W	100.00	0.00
1+900.00	S 89° 59' 54" W	100.00	0.00	S 89° 59' 54" W	100.00	0.00
2+000.00	S 89° 59' 54" W	100.00	0.00	S 89° 59' 54" W	100.00	0.00

SHEET NO. <b>9</b>		<b>RECORD OF SURVEY</b> <b>UNION CANAL</b> <small>ALL MEASUREMENTS IN FEET AND DECIMALS THEREOF</small>	Bowman Consulting Group, Inc. 505 E. 4th St. Suite 200 Phoenix, AZ 85004 Phone: (602) 425-3888 Fax: (602) 425-3889 <a href="http://www.bowmanconsulting.com">www.bowmanconsulting.com</a> & bowmanaz.com
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# UNOFFICIAL DOCUMENT



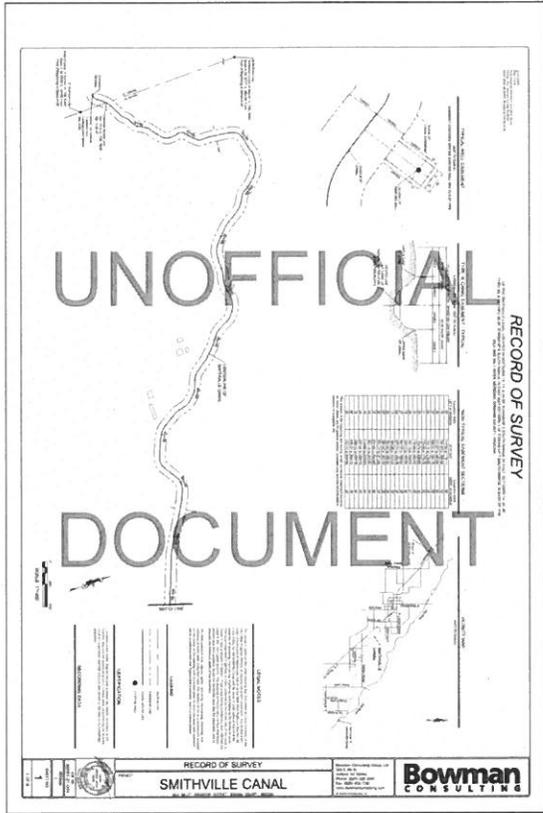
THESE COORDINATES REPRESENT THE POINTS SHOWN ON THE PLAN.

STATION	N	S	E	W
0+00	1000.00	1000.00	0.00	0.00
0+10	1000.00	1000.00	0.00	0.00
0+20	1000.00	1000.00	0.00	0.00
0+30	1000.00	1000.00	0.00	0.00
0+40	1000.00	1000.00	0.00	0.00
0+50	1000.00	1000.00	0.00	0.00
0+60	1000.00	1000.00	0.00	0.00
0+70	1000.00	1000.00	0.00	0.00
0+80	1000.00	1000.00	0.00	0.00
0+90	1000.00	1000.00	0.00	0.00
1+00	1000.00	1000.00	0.00	0.00

ENCLOSURE NUMBER TOTAL 1000

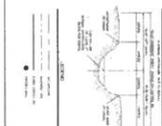
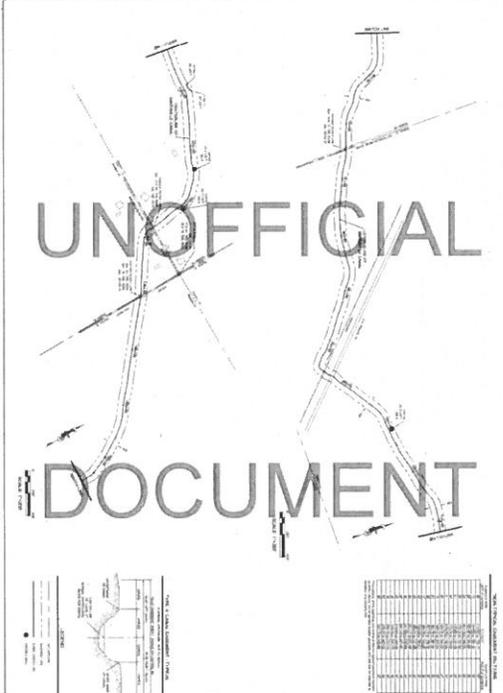
STATION	ENCLOSURE NUMBER
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0+10	1000
0+20	1000
0+30	1000
0+40	1000
0+50	1000
0+60	1000
0+70	1000
0+80	1000
0+90	1000
1+00	1000

DRAWING NO. <b>10</b>	PROJECT <b>UNION CANAL</b>	RECORD OF SURVEY	Bowman CONSULTING
		UNION CANAL	



UNOFFICIAL

DOCUMENT

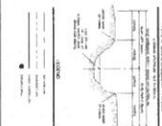
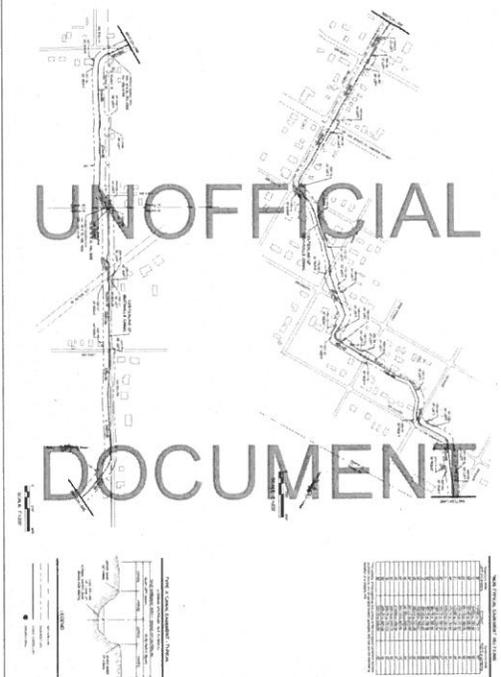


STATION	CHORD BEARING	CHORD DISTANCE	CHORD AREA
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RECORD OF SURVEY  
SMITHVILLE CANAL  
Bowman CONSULTING

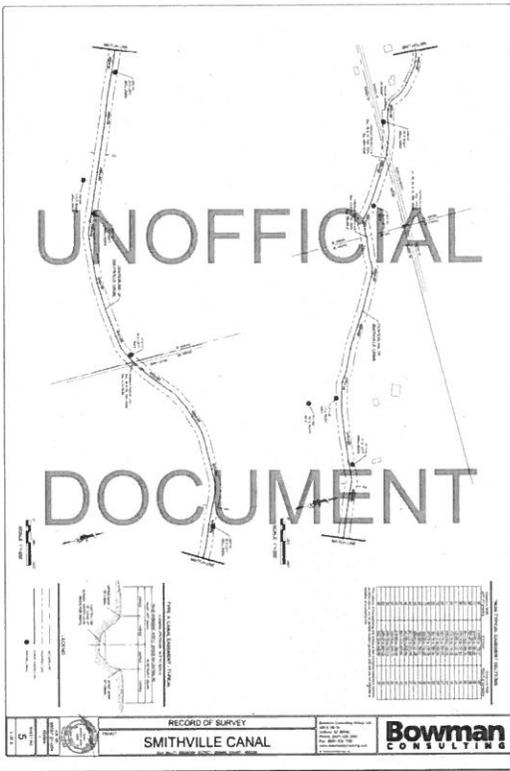
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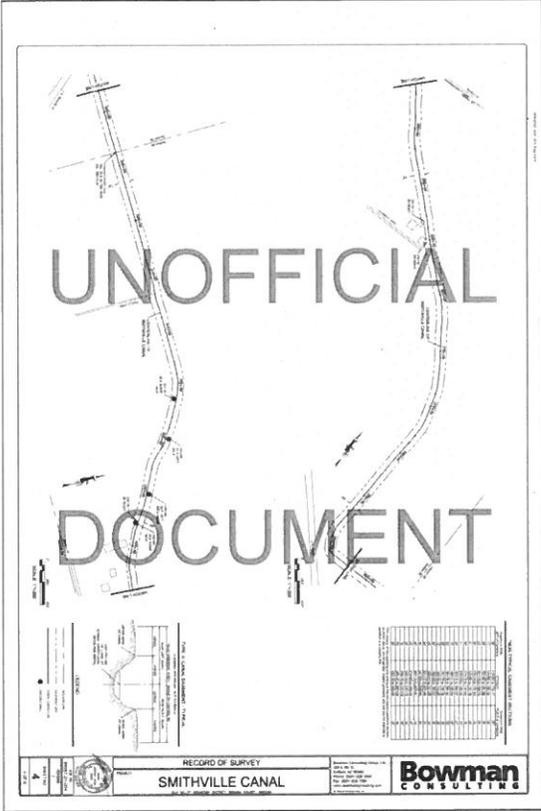


Station	Area	Notes
1+00	100.00	
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3+00	300.00	
4+00	400.00	
5+00	500.00	
6+00	600.00	
7+00	700.00	
8+00	800.00	
9+00	900.00	
10+00	1000.00	

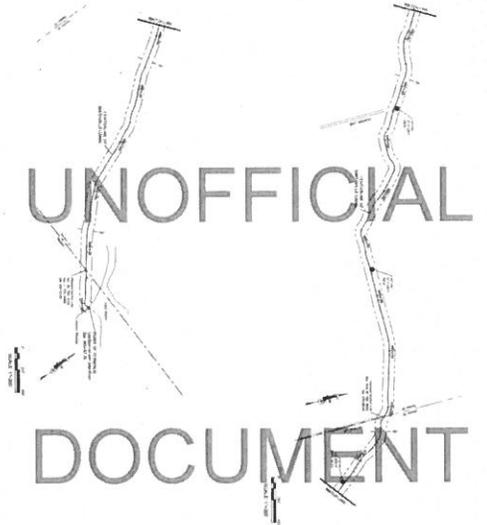
UNOFFICIAL  
DOCUMENT



RECORD OF SURVEY  
SMITHVILLE CANAL  
Bowman CONSULTING



UNOFFICIAL  
DOCUMENT



STATION	BEARING	DISTANCE	REMARKS
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RECORD OF SURVEY  
**SMITHVILLE CANAL**  
Bowman CONSULTING