

City of Ironwood  
213 S. Marquette St  
Ironwood, MI 49938



**IRONWOOD**  
MICHIGAN | *Find Your North*

Phone: (906)932-5050  
Fax: (906)932-0263  
www.cityofironwood.org

**CITY OF IRONWOOD**

**REQUEST FOR PROPOSALS**

**ENGINEERING SERVICES FOR  
WATER PUMP STATION  
AND  
IRON/MANGANESE WATER  
FILTRATION**

**AUGUST 2019**

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## **REQUEST FOR PROPOSAL FOR THE DEVELOPMENT OF AN PRELIMINARY ENGINEERING FEESABILITY REPORT AND FUNDING APPLICATION**

The City of Ironwood, Michigan is soliciting proposals from Engineering Consulting Firms for the Development of a Preliminary Engineering report and the preparation and submittal of funding applications to USDA Rural Development.

### **PROJECT BACKGROUND**

The City of Ironwood water system serves a residential population of approximately 5,200 and also provides water service to Hurley, Wisconsin (Population 1,400). Ironwood's water system dates to the early 1900s when mining companies initiated the search for a water supply to serve the bustling mining town. Today, the system consists of:

- Three gravel pack wells at Big Spring well field
- Three gravel pack wells, a 140,000 gallon clear well reservoir and Booster Pumping Station at Spring Creek well field
- Mt. Zion 2.5 million gallon reservoir
- 150,000 gallon elevated reservoir and booster station in the Jessievile area.
- Approximately 65 miles of watermain.

Water pumped from the Big Spring well field is piped approximately three miles east to the Spring Creek location. The Spring Creek wells and the water main from Big Springs well field discharge to a 140,000 gallon clear well adjacent to the existing pumping station. From the clear well reservoir, water is pumped through two 16-inch water main(s), three miles south to the City of Ironwood. As it enters the city, water is either supplied directly to the distribution system or stored in the 2.5 million-gallon Mt. Zion reservoir. The Jessievile booster station and 150,000 elevated gallon reservoir, supply water to a separate zone at the southeast corner of the City.

Ironwood's water system is controlled and monitored by a SCADA system comprised of a central control panel located at the pump station and individual remote transmitters at each of the wells, reservoirs, and Memorial Building. A radio system is used to communicate between the remote locations and central control panel.

### **PROJECT DESCRIPTION**

This preliminary engineering report and feasibility study shall evaluate, provide options and develop engineering cost estimates for work associated with the replacement of the existing booster pumping station at Spring Creek as well as identifying water quality improvement options for the removal of iron and manganese from the six municipal wells. The report shall also evaluate the need to replace the existing water main piping in the area of the wellfields and provide requisite cost estimates. The existing booster pump station building shall also be evaluated to determine how to best integrate it into a new facility or to use it for other purposes. This is a historical building that will remain on the site and will need to be considered in the overall development of the site.

It is anticipated that a number of different scenarios will need to be developed in order to identify the “best” option for the long-term operations and maintenance of the facility. The water quality improvement options may range from improving limited treatment to the development of an iron and manganese removal system. The options, at a minimum, shall include integrating filtration into the existing pumping facility as well as fully rebuilding the existing pumping facility and including a filtration system into the new facility. The report shall also include any other recommendations to improve efficiencies of operation at the well field(s) and also water quality improvement alternatives.

In addition to the engineering analysis the study shall identify all potential funding and grant options for this project.

The proposal shall also include a cost to prepare and submit a full USDA Rural Development funding application for this project based on the direction of the Ironwood City Commission after they have reviewed and considered the options identified in the report.

The preliminary report shall look at all aspects of pumping operations, including but not limited to the following:

1. Evaluate options and alternatives to replace the existing booster pump facility.
2. Identify all options associated with Iron & Manganese removal.
3. Evaluate options to construct Iron and Manganese filtration with the existing facility.
4. Evaluate options to include Iron and Manganese filtration with the construction of a new booster pumping station.
5. Incorporating the historic buildings (pump house and old historic house) into all options.
6. Creating increased reliability and redundancy.
7. Determining the best configuration, number of and location for the pumping facility. Current pumping pressure is approximately 250 psi.
8. Incorporating variable frequency (VFD) drives into the pumping operations.
9. Evaluating the need and benefit for adding additional clear well capacity and possible redundancy of clear wells at the pump station. Current clear well capacity is 140,000 gallons.
10. Include the replacement/addition of a new flow meter with all options.
11. Include new office space/restroom for the pump station operator into all options.
12. Include security into all options.
13. Include SCADA system monitoring and any necessary software/hardware/monitoring points into all options.
14. Analyze existing chlorination process and include alternatives, with the various Options available.
15. As part of the evaluation of water treatment alternatives it will be necessary to consider how to handle waste discharge as no municipal sewer system is available.
16. Review all alternatives with MDEQ to insure permit ability.
17. The integrity of the existing piping in the pump station (including and in the basement) needs to be evaluated.

18. Provide “concept” site plan drawings for all alternatives provided.

Identify possible funding sources and prepare and submit complete funding application.

## **SCOPE OF WORK**

The Engineering/consulting Engineer shall work closely with the City Staff and the MDEQ to:

- Evaluate options for iron and manganese removal.
- Evaluate alternatives for pump station updates or replacement.
- Evaluate alternatives for well field optimization.
- Make a recommendation on the selected alternative;
- Prepare preliminary design alternatives as necessary to clearly identify options;
- Develop an Engineer's opinion of probably cost for completing the work.
- Evaluate options and feasibility for treatment
- Evaluate, identify, and submit funding application(s) to USDA Rural Development (if authorized by the Ironwood City Commission)
- Feasibility reports shall be reviewed with City staff at a minimum; initial meeting, 25%, 75%, and 100% completion.
- Complete cost estimate shall be providing for all alternatives.
- Final feasibility reports shall be required to be signed by a Michigan Licensed Professional Engineer.

## **PROPOSAL REQUIREMENTS**

Proposals submitted for this project shall include:

- Brief Description of the Consulting Engineer Firm and contact information of key project members to be assigned to this project.
- Detailed work plan and scope of work, including a list and description of all required tasks and key deadlines. List anticipated deliverables and assumptions used in development of the tasks as well as assistance expected from the City;
- Project schedule showing key project milestones and deliverables;
- Provide five (5) Municipal References of similar projects.
- In a separate envelope from the proposal provide a not-to-exceed (NTE) cost for completing this work. The NTE shall be clearly marked & separated into two categories. One category for the development of the preliminary engineering report and a second category for the preparation and submittal of a USDA Rural Development funding application for this project.

## **PROPOSAL SCHEDULE & SUBMITTAL**

The following schedule is anticipated for awarding this project. If a change in this schedule becomes necessary, all recipients of the RFP will be notified.

RFP Issued	Friday, August 30, 2019
Proposal Due (4:00 PM CST)	Friday, September 27, 2019
Review Proposals	Friday, October 4, 2019
Interview Candidate Finalist(s)	Monday, October 14, 2019
Contract Approval by the City Commission	Monday, October 28, 2019
Preliminary Engineering Report- Feasibility Complete	Engineer to Define timelines in the Proposal

Eight (8) copies of the proposal are required. All questions shall be addressed to:

Mr. Bob Tervonen  
City of Ironwood  
213 S. Marquette St.  
Ironwood, MI 49938

## **SELECTION CRITERIA**

All proposals received in accordance with the above instructions will be evaluated by a review Committee and ranked based on the following criteria:

- Experience and qualifications of the Engineer/Consulting Engineer
- Work Plan and understanding of the project;
- Ability to complete the work on time;
- Understanding of Water Pumping Stations and Water Filtration facilities.
- Understanding of the Michigan USDA Rural Development application process.
- Cost to complete the project. (The Proposals will be initially ranked based upon the firm's qualifications and experience). After ranking the firms, the cost proposals will be reviewed and incorporated into the selection process.

For any questions relating to the RFP contact Mr. Bob Tervonen (906)932-5050 ext. 111.

## **PROPOSAL TERMS AND CONDITIONS**

The City will not pay for any costs incurred by the Engineer/Consulting Engineer in preparing or submitting the proposal. The City reserves the right to modify or cancel, in part or in its entirety, this RFP. The City reserves the right to reject any or all proposals, to waive defects or informalities, and to offer to contract with any firm in response to any RFP. This RFP does not constitute any form of offer to contract.



429 River Lane • PO Box 27 Amasa, MI 49903 • Ph (906) 822-7889 • Fax -7977

Client: City of Ironwood  
 Project: WSSN3420  
 Date Received: 7/16/2019

WWA Job #: 84004  
 Sample Matrix: Drinking water  
 Date Reported: 8/4/2019

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**Sample Number | ID | Description | Date/Time Sampled**


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**84004-001 | Well 104 | 7/15/2019 9:05:00 AM**

Test	Result	Flags	Units	Date/Time	Method	MDL	SQL	Analyst
Iron (dw)	97	J	ug/L	7/31/2019 19:21	200.7	44	100	SB
Manganese (dw)	1.2	J	ug/L	7/31/2019 19:21	200.7	0.83	2.0	SB

**84004-002 | Well 204 | 7/15/2019 9:15:00 AM**

Test	Result	Flags	Units	Date/Time	Method	MDL	SQL	Analyst
Iron (dw)	150		ug/L	7/31/2019 19:28	200.7	44	100	SB
Manganese (dw)	310		ug/L	7/31/2019 19:28	200.7	0.83	2.0	SB

**84004-003 | Well 203 | 7/15/2019 9:25:00 AM**

Test	Result	Flags	Units	Date/Time	Method	MDL	SQL	Analyst
Iron (dw)	310		ug/L	7/31/2019 19:33	200.7	44	100	SB
Manganese (dw)	370		ug/L	7/31/2019 19:33	200.7	0.83	2.0	SB

**84004-004 | Well 202 | 7/15/2019 9:35:00 AM**

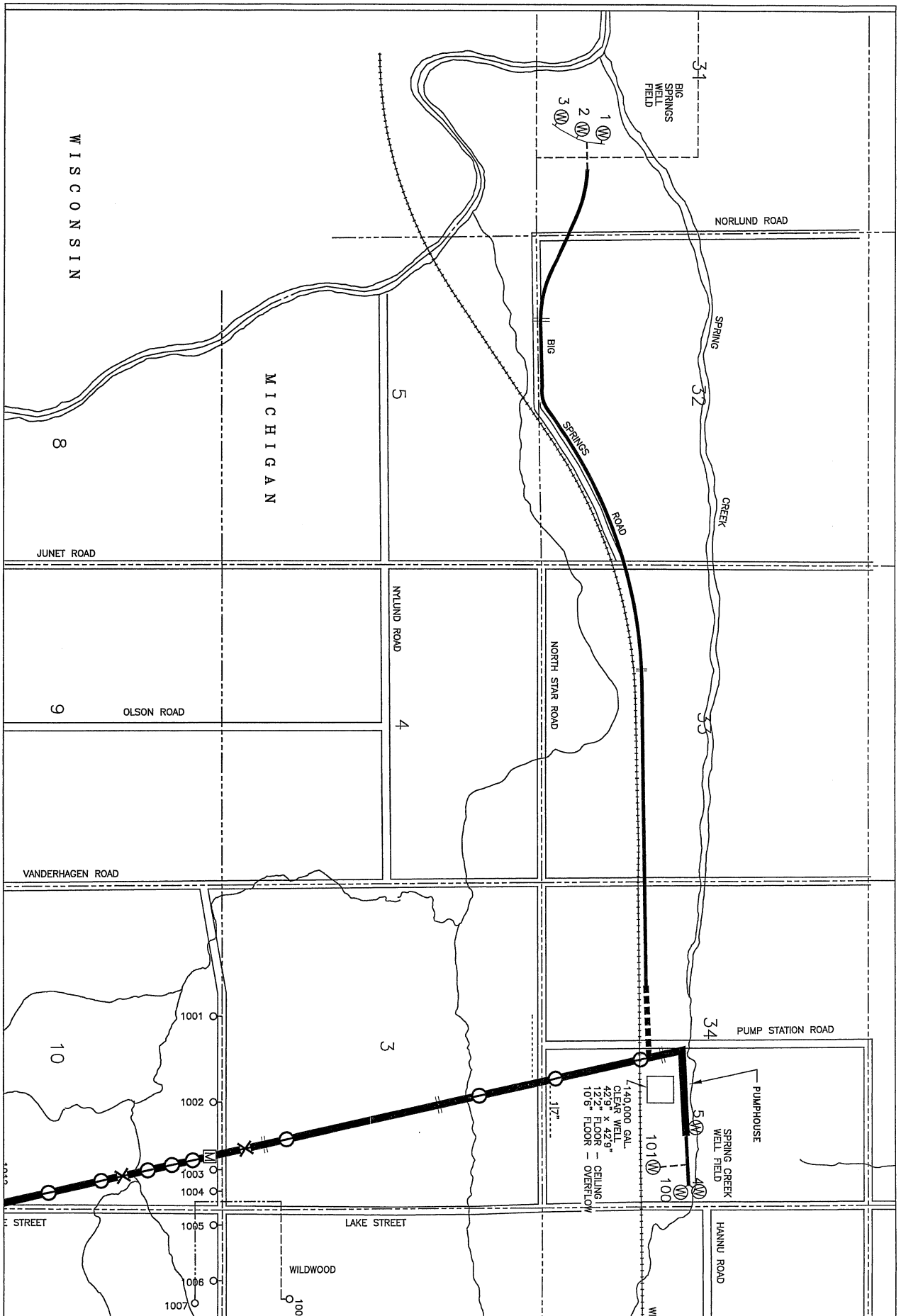
Test	Result	Flags	Units	Date/Time	Method	MDL	SQL	Analyst
Iron (dw)	410		ug/L	7/31/2019 19:38	200.7	44	100	SB
Manganese (dw)	450		ug/L	7/31/2019 19:38	200.7	0.83	2.0	SB

**84004-005 | Well 201 | 7/15/2019 9:45:00 AM**

Test	Result	Flags	Units	Date/Time	Method	MDL	SQL	Analyst
Iron (dw)	230		ug/L	7/31/2019 19:43	200.7	44	100	SB
Manganese (dw)	520		ug/L	7/31/2019 19:43	200.7	0.83	2.0	SB

**84004-006 | Pump Station | 7/15/2019 9:55:00 AM**

Test	Result	Flags	Units	Date/Time	Method	MDL	SQL	Analyst
Iron (dw)	170		ug/L	7/31/2019 19:48	200.7	44	100	SB
Manganese (dw)	280		ug/L	7/31/2019 19:48	200.7	0.83	2.0	SB



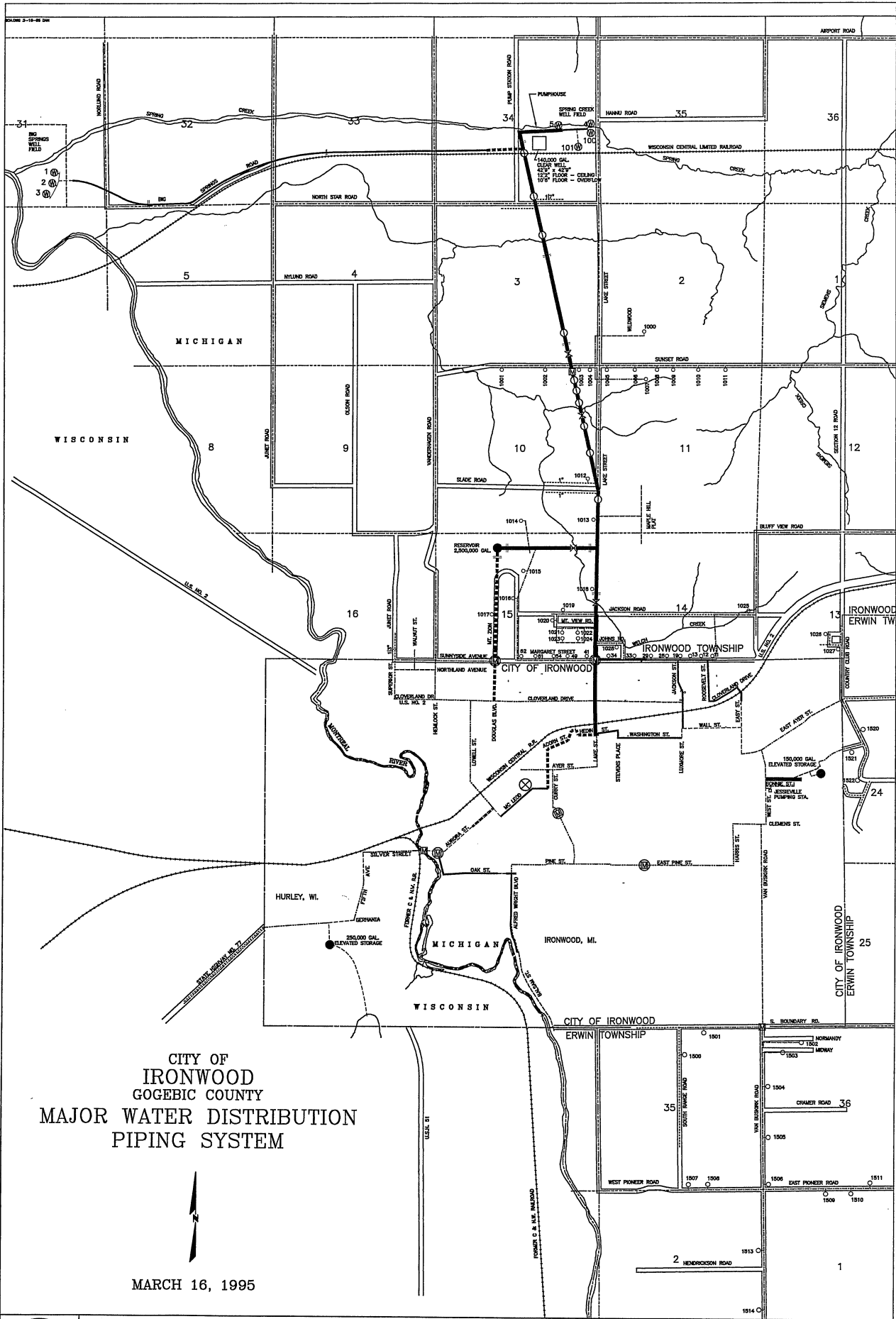
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TITLE: CITY OF IRONWOOD  
 WELLFIELDS

REVISION:	A	DRAWN BY:	J. ALDINEN	DRAWING NO.	S-1
DATE:	8/29/2019	APPROVAL BY:	S. ERICKSON		





CITY OF  
IRONWOOD  
GOGEBIC COUNTY  
MAJOR WATER DISTRIBUTION  
PIPING SYSTEM

MARCH 16, 1995



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TITLE: CITY OF IRONWOOD  
DISTRIBUTION PIPING

REVISION: A	DRAWN BY: J. ALDINEN	DRAWING NO. S-2
DATE: 8/29/2019	APPROVAL BY: S. ERICKSON	