

# CHAPTER 1 - GENERAL INFORMATION

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### **A. Project Description**

#### **1. Purpose of Facilities Plan**

The City of Airway Heights presently discharges sanitary flow to the City of Spokane’s wastewater system through the West Plains Interceptor. The recently completed Comprehensive Sewer Plan recommended that the City continue to pursue dedicated wastewater treatment capacity to serve this rapidly growing area. The area of interest includes the City of Airway Heights, a portion of unincorporated Spokane County referred to as the “West Plains”, Fairchild Air Force Base (FAFB), and the Airway Heights Correctional Center (AHCC).

The purpose of this Facilities Plan is to describe and investigate the current and future sewage-handling infrastructure of the collection system, treatment alternatives and, if needed, review siting for a new wastewater treatment facility and provide recommendations for a proposed treatment system for the City of Airway Heights to serve present and projected future needs.

This plan is required in order to determine the recommended course of action for wastewater treatment facility siting and processes. The City of Airway Heights retained Century West Engineering Corporation, in association with Esvelt Environmental Engineering, in July 2003 to prepare this Wastewater Facilities Plan. The scope of the engineering agreement can be summarized as follows:

Meet with regulatory agencies to confirm effluent requirements and discuss possible future requirements and treatment alternatives.

Map present and future service areas, and provide population and flow projections.

Review plant records for flows and organic loads for evaluation of alternatives.

Analyze the existing treatment capacity, contracted at the Spokane Riverside Park Reclamation Facility (RPWRF), and project future treatment requirements for City of Airway Heights and potential partners.

Develop treatment and disposal alternatives, and provide estimated probable construction and O & M costs for ranking of alternatives.

Provide a flow diagram and general site layout plan for the selected alternative.

Estimate sludge volumes and evaluate sludge handling alternatives.

Provide total estimated probable cost for the recommended improvements and financing alternatives.

Prepare preliminary facilities plan and submit to the City of Airway Heights, WSDOE, and other agencies for review and comment.

Make revisions to preliminary plan and submit final plan for approval.

This Facilities Plan generally follows the format specified in the WSDOE's State Revolving Fund (SRF) Facility Plan Checklist. The format has been modified as required to fit the scope of the Engineering Services agreement between the City of Airway Heights and Century West Engineering, and also to conform to the requirements of WAC 173-240-060.

## **2. Background Information/Previous Studies**

The existing wastewater collection system was constructed in 1995. Prior to 1995, the City did not have a sewage collection system and all homes/businesses had septic tanks or small on-site treatment systems.

In recent years, evaluations have been conducted on both the collection system and wastewater treatment service area, along with recommendations for improvements. These reports and studies include:

- Engineering Report – Sanitary Sewerage System, December 1988 by Wyatt-Jaykim Engineers.
- Engineering Report – Preliminary Design Brief for South Side Sewer Collection System System, July 1995, by Wyatt Engineering Inc.
- City of Airway Heights, Collection System Evaluation, July, 1995.
- City of Airway Heights, Comprehensive Plan, March, 1998.
- City of Airway Heights, Comprehensive Water Plan, by Century West Engineering Corporation, May 2002.
- City of Airway Heights, Comprehensive Sewer Plan, by Century West Engineering Corporation, May 2003.

Additional reference materials are summarized in Appendix D, Bibliography.

### **3. Approvals Required**

This Wastewater Facility Plan must be adopted by the City of Airway Heights City Council and reviewed and approved by the Washington State Department of Ecology, Eastern Regional Office, and by the Washington State Department of Health, Eastern Regional Office prior to implementation of the project.

#### **B. Project Location**

The City of Airway Heights is located in Spokane County, approximately 8 miles west of the City of Spokane along Highway 2. The City's location is illustrated on the area map at Figure 1-1.

The City of Airway Heights Wastewater Steering Committee has identified several candidate sites for the location of a Wastewater Treatment Facility to serve the city's sanitary sewer needs. The site preferred by the Committee is located in the E ½ of the SE ¼ of Section 26, Township 25 North, Range 41 East, Willamette Meridian on Parcel #15264.0016. The parcel is generally bounded by McFarlane Road on the south, Russell Street on the east, 21<sup>st</sup> Avenue on the north, and Lawson Street on the west. A boundary survey of this parcel is found at Auditor's File No. 8909070186 (Survey Book 44, page 14). The vicinity map at Figure 1-2 illustrates the location of the preferred site.

The City of Airway Heights City Hall is located at 1208 S. Lundstrom Street, Airway Heights, WA. The City of Airway Heights Public Works Department is located at 2028 S. Russell Street, Airway Heights, WA. See the vicinity map at Figure 1-2.

The City of Spokane Riverside Park Water Reclamation Facility (RPWRF - formerly known as the Spokane Advanced Wastewater Treatment Plant, or SAWTP) is located at 4401 Aubrey L. White Parkway, in the northwesterly portion of the City of Spokane. See the area map at Figure 1-1.

The City of Airway Heights currently discharges its domestic wastewater, and the wastewater from the Airway Heights Correction Facility (Washington Department of Corrections), to the Spokane RPWRF, through an interceptor sewer system owned by the City of Spokane, serving the “West Plains” area.

### **C. Service Area**

**Service Area:** The City of Airway Heights' current service area consists of a combination of residential, commercial, industrial, and institutional customers within the incorporated city limits of Airway Heights, Washington, and includes the Airway Heights Correction Facility.

The existing service boundary contains approximately 3,200 acres and coincides with the current corporate boundary. The existing service area is shown at Figure 1-3. For the purposes of this plan, the service area can be generally subdivided into two major sub-areas. These sub-areas consist of the primarily residential development north of SR 2, and the industrial and commercial development south of SR 2. These areas are generally described as follows:

*Development South of SR 2:* This area is generally defined by SR 2 to the north, Hayford Road to the east, Craig Road to the west, and McFarlane Road to the south. Due to development restrictions imposed by Fairchild Air Force Base, zoning of this area will only allow for industrial and commercial business development in the future. The area has seen substantial growth over the last decade as industrial and commercial businesses have located here.

*Development North of SR 2:* SR 2 to the south, Craig Road to the west, Hayford Road to the east, and Sixth Avenue to the north define this area. The City has designated this area's zone primarily as residential and commercial, with the exceptions of the Airway Heights Corrections Center at the north end of Garfield Road and the Kalispel tribal casino at Hayford and Sprague.

Figure 1-4 shows the approximate boundary of area that is currently served by the City's sewer collection system. Some property within this area is still in the process of being connected to the system. All properties outside of this boundary still use on-site septic systems.

Figure 1-5 shows the approximate boundaries of the basins considered in calculating potential ERU's for sanitary flows at full build-out. This figure is based in part on the “Preliminary Design Brief for South Side Sewer Collection System System” (July 1995, by Wyatt Engineering Inc.) and the City's Zoning Map (Figure 1-6).

### **D. Level of Treatment Required**

The City of Airway Heights is discharging flows into the West Plains Interceptor, in accordance with the Interlocal Agreement between the City of Airway Heights and the City of Spokane (Appendix A).

Treatment requirements are covered under the terms of the City of Spokane's NPDES Permit (NPDES Waste Discharge Permit No. WA-002447-3, issued by the State of Washington Department of Ecology (DOE) to City of Spokane). This permit became effective April 1, 2000 and expires March 29, 2005.

The City of Spokane Advanced Wastewater Treatment Plant, recently renamed the Riverside Park Water Reclamation Facility (RPWRF), is located at 4401 Aubrey L. White Parkway, in the northwesterly portion of the City of Spokane.

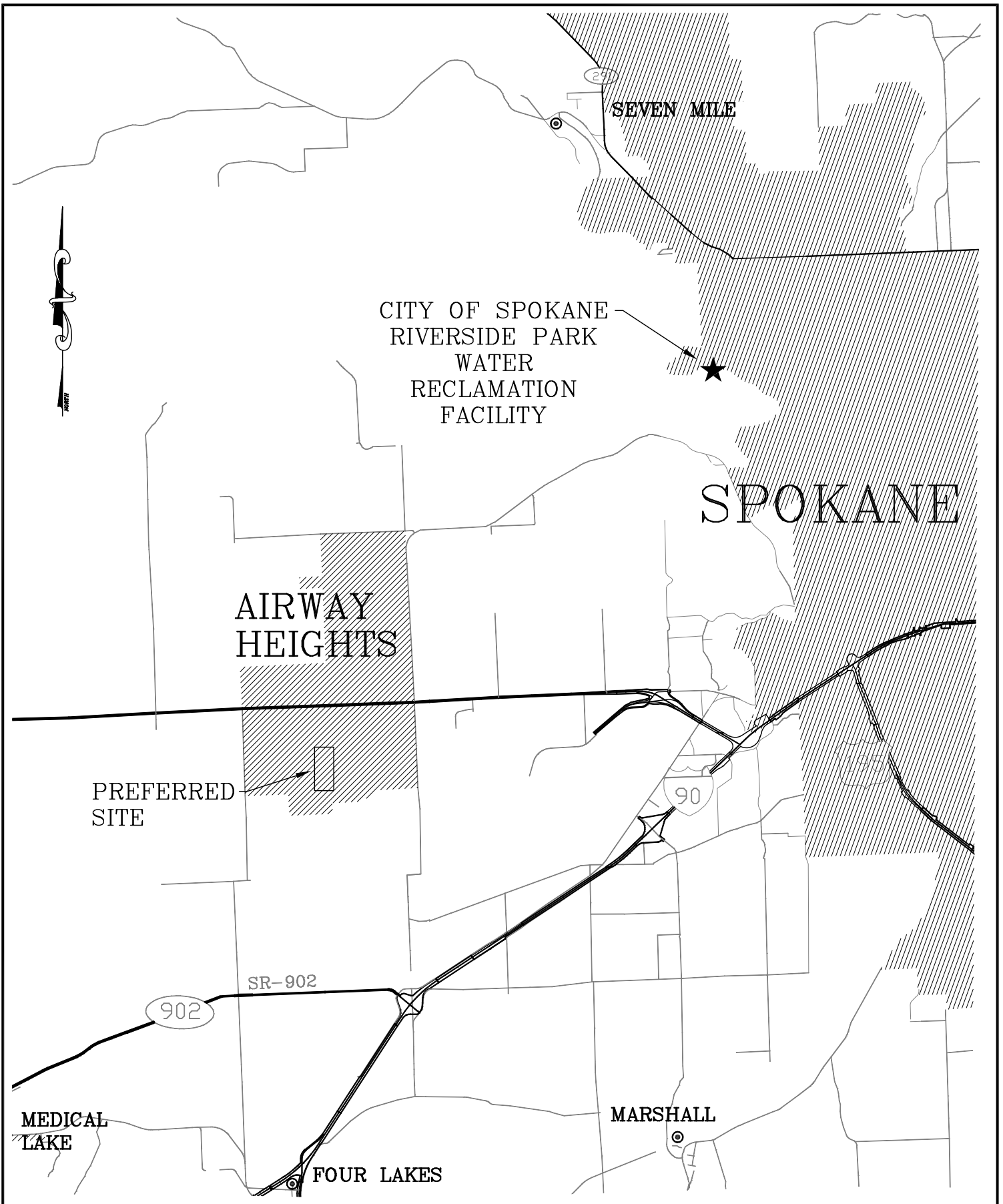
Under the terms of the Interlocal Agreement, the City of Airway Heights has adopted a Pretreatment Program that is at least equal to that of the City of Spokane (CAHMC Section 13.06.919A - Appendix B.1), and has established categorical pretreatment standards.

If the City of Airway Heights develops its own treatment facilities, it is anticipated that the discharge will be required to meet requirements for discharge to the selected discharge point, surface water, groundwater or for other reuse. Anticipated regulatory requirements for discharge are noted in Chapter 4. A permit for this scenario is expected to incorporate the effluent design criteria for the recommended discharge. Summary of recommended discharge criteria is listed in Table 4-10 of this plan.

## TABLE 1 – 1. ABBREVIATIONS

BNR	Biological Nutrient Removal
BOD <sub>5</sub> or BOD	Biochemical Oxygen Demand (5-day)
CCWF	Centennial Clean Water Fund
CFR	Code of Federal Regulations
COD	Chemical Oxygen Demand
CWEC	Century West Engineering Corporation
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
DOE	Washington State Department of Ecology
DOH	Washington State Department of Health
EEE	Esvelt Environmental Engineering
ERU	Equivalent Residential Unit (245 gallons per day)
GMA	Growth Management Act
GPD	Gallons Per Day
GPM	Gallons Per Minute
HR	Hour
I/A	Innovative/Alternative
I/I	Inflow/Infiltration
LBS	Pounds
LFT	Linear Feet
MG/L	Milligrams Per Liter
MGD	Million Gallons Per Day
MSL	Mean Sea Level
NPDES	National Pollutant Discharge Elimination System
NOAA	National Oceanic and Atmospheric Administration
NTU	Nephelometric Turbidity Units
O <sub>2</sub>	Oxygen
O & M or O&M	Operation and Maintenance
PPD	Pounds Per Day
RAS	Return Activated Sludge
RCW	Revised Code of Washington
RPWRF	Riverside Park Water Reclamation Facility
SEPA	State Environmental Policy Act
SERP	State Environmental Review Process
SIU	Significant Industrial User
SO	Sewer Overflow
SRF	State Revolving Fund
SS	Suspended Solids
STEP	Small Town Environment Program
STP	Sewage Treatment Plant
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
UV	Ultraviolet

WAC	Washington Administrative Code
WAS	Waste Activated Sludge
WQMP	Water Quality Management Plan
WWTF	Wastewater Treatment Facility



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CHCKD BY: EP

DRWN BY: WLH

SCALE: NTS

PROJECT NO: 30423.021.01

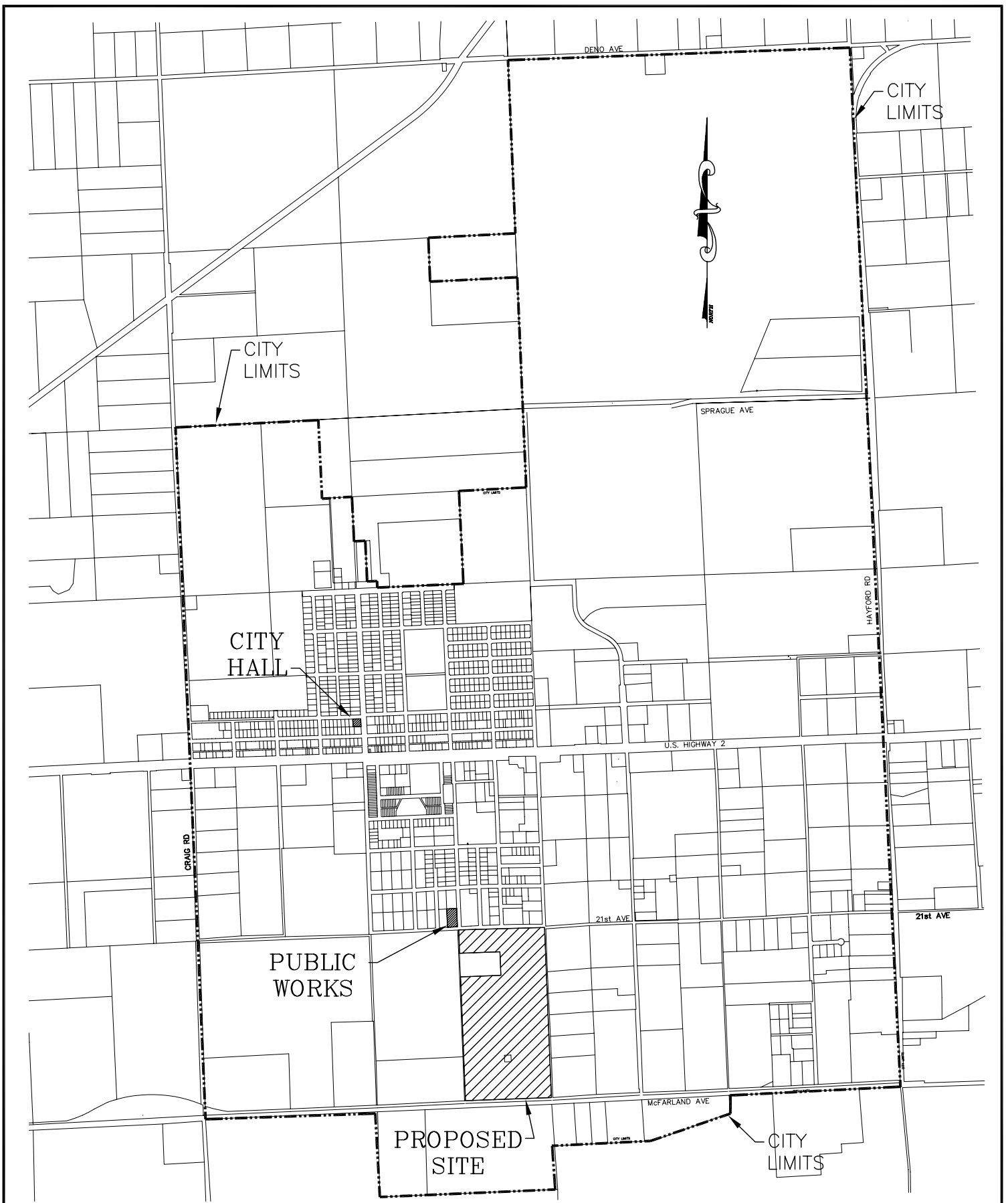
**CITY OF AIRWAY HEIGHTS  
FUTURE WELL SERVICES  
AREA MAP**

**CENTURY WEST**  
ENGINEERING CORPORATION  
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Spokane, WA 99212  
509-838-3810 phone • 509-624-0355 fax

DATE: 10/04/04

FIGURE: 1-1





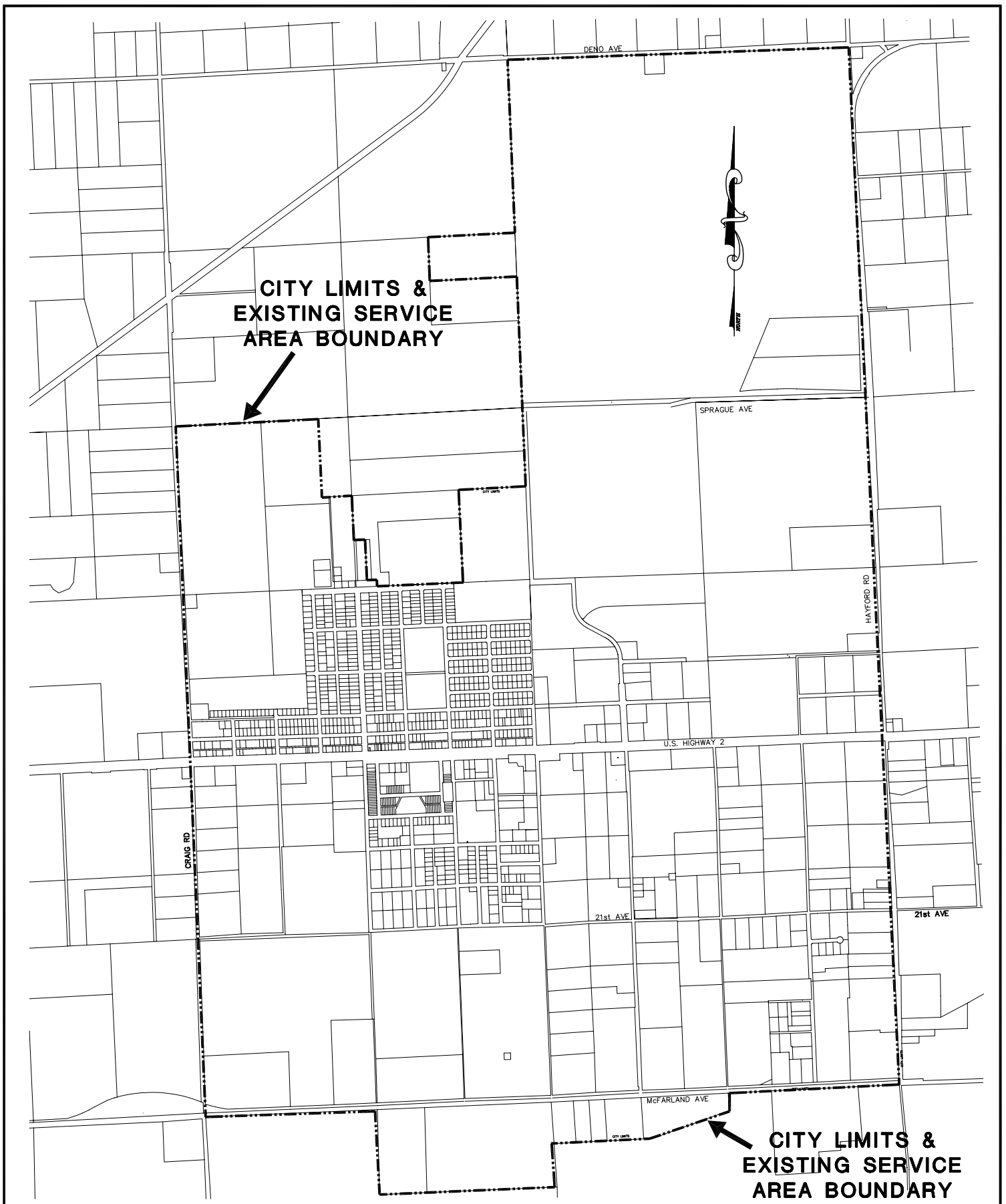
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PROJECT NO: 30423.021.01

**CITY OF AIRWAY HEIGHTS  
WASTEWATER COLLECTION  
VICINITY MAP**


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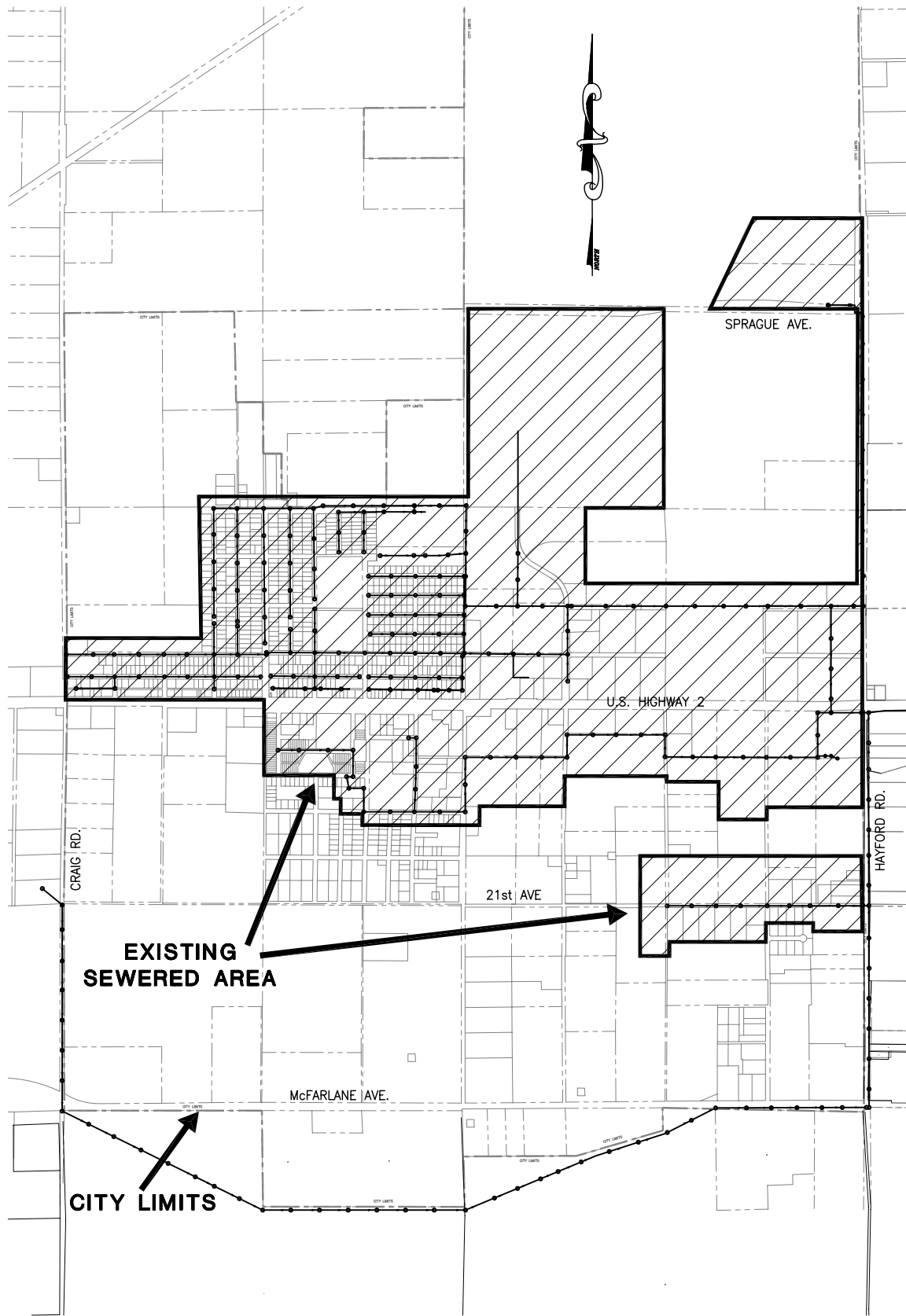


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**CITY OF AIRWAY HEIGHTS**  
**WASTEWATER COLLECTION**  
**EXISTING SERVICE AREA MAP**


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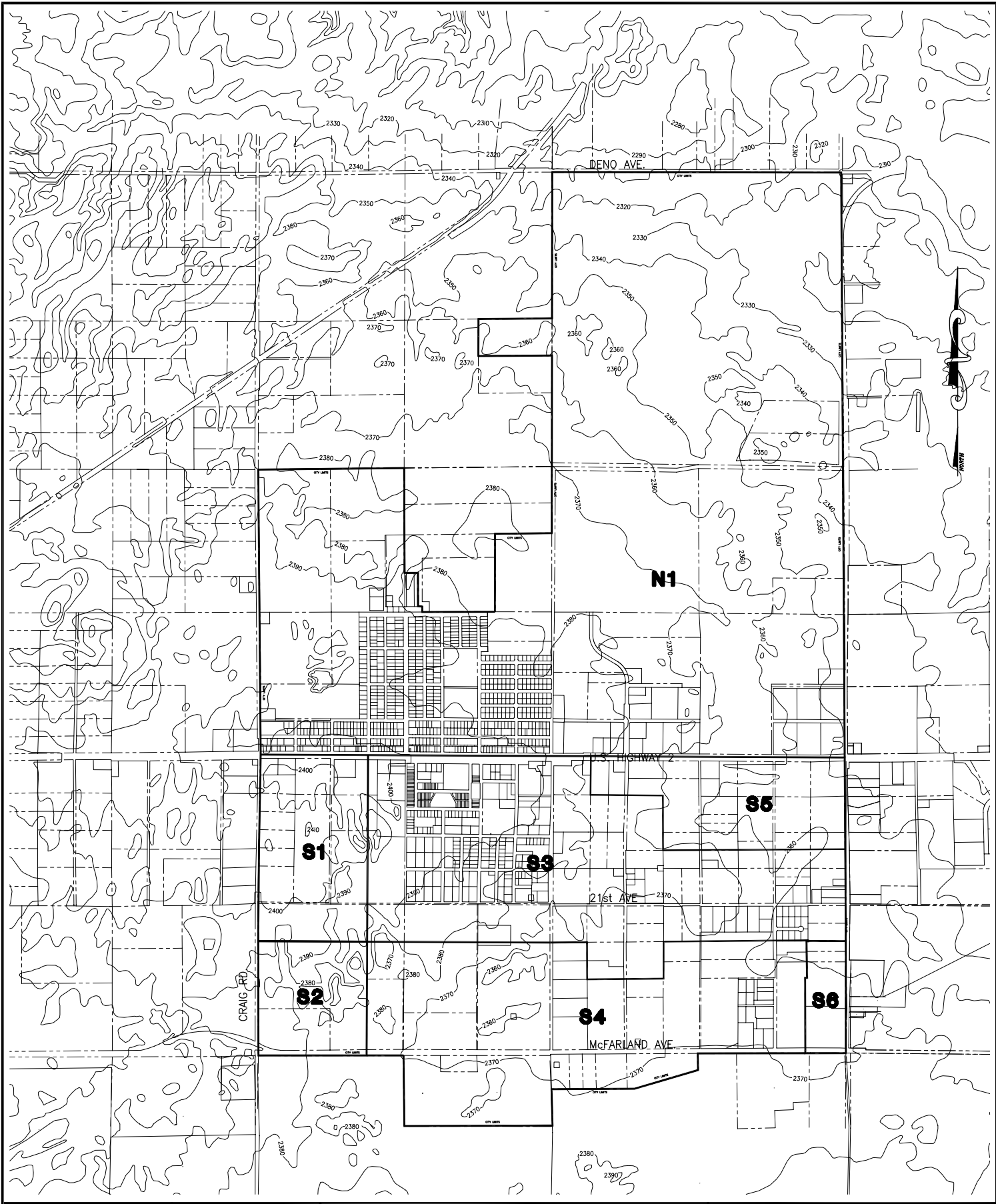
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**CITY OF AIRWAY HEIGHTS  
EXISTING SEWERED PROPERTIES**



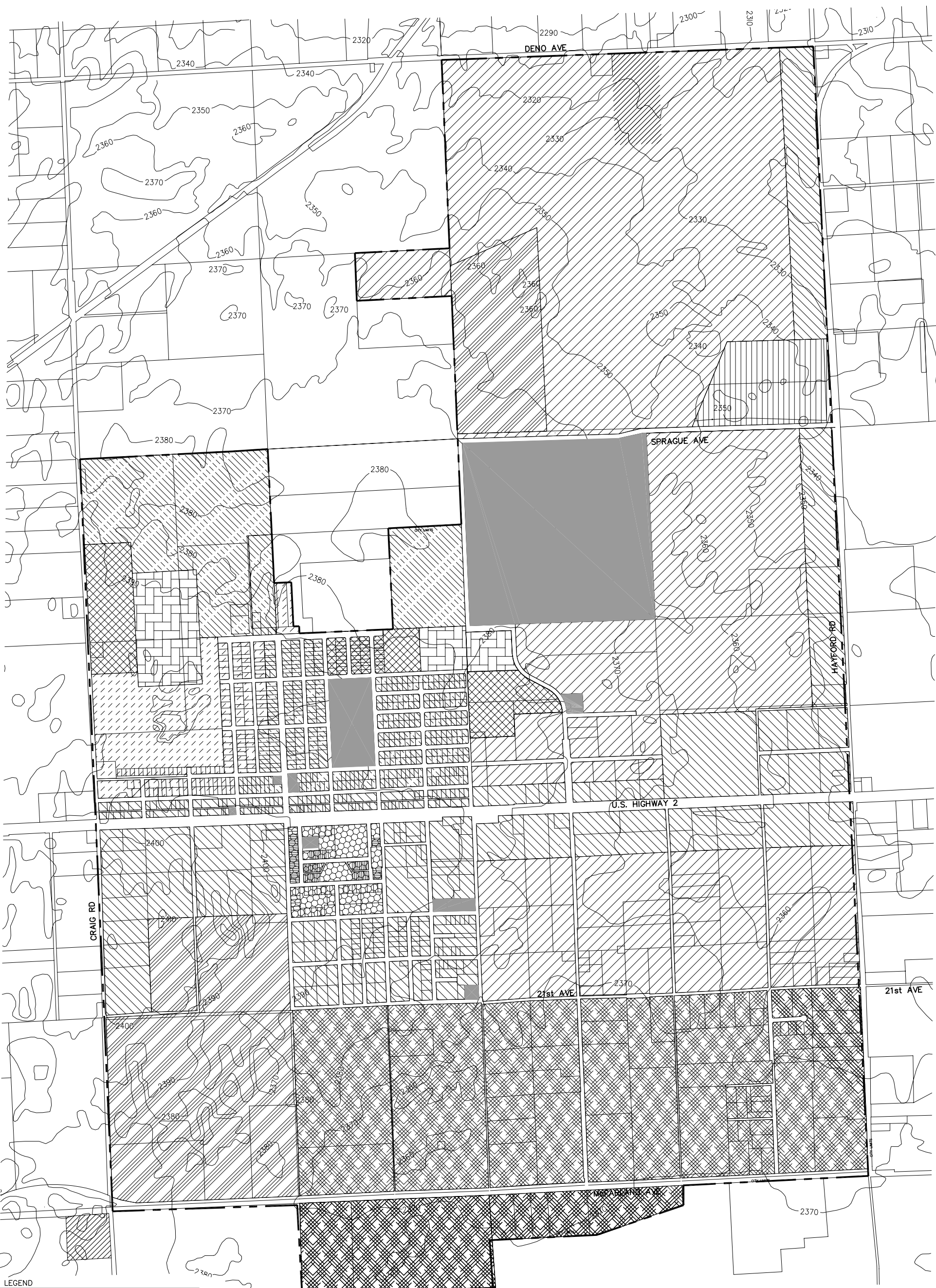


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**CITY OF AIRWAY HEIGHTS  
ERU SUB-AREA MAP**


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DATE: 5/14/04	FIGURE: 1-5
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LEGEND

	R-1		I-1		C-2
	R-2		I-2		TRIBAL
	R-3		C-1		MINING
			PUBLIC		RM

DESIGNED BY: EP	SCALE:
DRAWN BY: WLH	NTS
CHECKED BY: EP	
PROJECT NO: 30423.021.01	

**CITY OF AIRWAY HEIGHTS  
ZONING**

SOURCE  
ZONING BASED CITY COMPREHENSIVE PLAN  
DATED 1998.

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