

Introduction

The provision of services, utilities, and facilities is the primary purpose of any general-or special-purpose governmental agency and is direct evidence of the taxpayer's and utility customer's dollar in action. Governments, in many ways, are like businesses, which provide goods and services in exchange for tax dollars, fees, and utility billings. Their goal should be to provide the maximum benefits given a limited revenue base. This demands proper planning and efficient utilization of funds.

Planning plays a significant role in capital expenditures programming by providing a growth framework by which potential expenditures may be evaluated. For example, an area may be projected for industrial expansion, but is lacking necessary water and sewer utilities. Should the local government wish to stimulate development in this area, it can plan for and participate in the construction of these utility systems. On the other hand, lands retained for rural uses will demand relatively little expenditure of limited revenues.

Planning can also anticipate future gas and stormwater needs which will be generated by development and propose a system for making those improvements. Other governmental agencies benefit from a plan that provides predictable growth patterns for the future. School districts can utilize planning data when forecasting student enrollments and space needs. Fire districts can utilize the plan to project future revenues and specialized equipment needs to accommodate specific types of development. It can be seen that the plan is the foundation of capital improvement programming for the City.

This element presents an overview of existing utility systems in Airway Heights as well as needs forecast over the course of this plan's 20-year horizon. As with other elements, this chapter also presents topic specific listings from the City's overall goal and policy framework.

Existing Conditions

Water System

The City of Airway Heights historically provided drinking water within the city limits, from eight City-owned and operated supply wells.¹ The City's service area is bordered on the east and south by the City of Spokane's service area, and the Fairchild AFB water system borders on the west.

In 2017, a Comprehensive Water Plan was prepared for the City of Airway Heights. The final approval of this plan was interrupted by contamination of the City's drinking water sources and discontinuation of

¹ Seven of eight wells are presently active.

the wells that provided drinking water to the system. With the discontinuation of use of the City wells a second interim agreement was reached with the City of Spokane to construct and utilize a second intertie with the City of Spokane's water system located near the intersection of McFarlane Road and Craig Road. This intertie was sized to provide 2,500 gpm of drinking water source in addition to the previous 1,500 gpm provided through the first intertie. The agreement is renewable up to 5 years. The 3,500 gpm was determined to provide sufficient capacity through agreement term. The United States Air Force is currently developing an analysis of options to mitigate the impacts that the groundwater contamination has on the City's groundwater sources. For this plan it is assumed that the final mitigation measures identified and funded by the Air Force will at a minimum provide drinking water sources equivalent to what the City had prior to discovering the contamination.

This Comprehensive Water System Plan which was based on the City's wells providing the drinking water source, contains an analysis of the existing system, current consumption levels, and the service area. It examined the future service area the City's water system was expected to cover, and using population projections, provided a forecast for future water system demand. Finally, the plan addressed discrepancies between projected demand and the City's existing capacity, suggesting necessary improvements to meet future demand. The following summarizes findings from that plan, updated with current data, as available.

Service Area

The existing water service area is limited to the area within the City limits. Since sizable portions of city land are vacant, service lines do not currently service all areas of the City. In particular, with the exception of the City's new Recreation Center, the area north of the Washington State Department of Corrections facility is currently not serviced. The existing water service area is shown in Figure 9.1.

Water Supply

It is assumed that the City will obtain all its potable water supply from groundwater resources in the future after the contamination mitigation is complete. There are five (5) wells on the south and southeast sides of the City, which were used as water sources. The total well capacity for the City of Airway Heights was 1,395 gpm, not including the capacity of well #2 (since it is currently inactive) or Parkwest well which is only available in an emergency condition. In addition, the City is connected to two interties with the City of Spokane water system capable of providing water to the City of which only one is permanent. The following describes each of these water sources:

- Well #1 and #4 – These wells are located together approximately 800 feet east of Lawson Street and 900 feet north of McFarlane Road, and are considered a well field. Both wells are drilled to a depth of approximately 200 feet and supply the City with a capacity of 395 gpm.
- Well #2 – This well is located approximately 600 feet east of Garfield Road and 600 feet north of 21st Avenue. It is 200 feet deep and pumps at a rate of 35 gpm. This well has not been utilized by the City because of its low volume along with a number of operational problems that have been experienced with this well. Testing reported in 1995 exhibited high levels of nitrate, and for this reason, the well is used for “non potable” supply.
- Well #3 – This well is located near the City maintenance shop at 21st and Russell Street. It is 148 feet deep and has a flow of approximately 60 gpm. As with Well #2, this well is not currently used due to high nitrate readings. The well will be placed back in operation as soon as a proper period of testing certifies that the well is clear of nitrates.
- Well #5 - This well is located approximately 600 feet east of Garfield Road and about 40 feet north of McFarlane Road. It is 200 feet deep and has a capacity of 65 gpm. This well is also not used unless there is an emergency condition.

- Well #7 - This well is located at the intersection of Russell Street and McFarlane Road approximately 150 feet south of McFarlane. The capacity of this well is 120 gpm. The well is used occasionally and/or when it is needed.
- Parkwest Well – This well is located approximately 2.5 miles south of the City adjacent to Craig Road. The well is 301 feet deep and has a capacity of 1,400 gpm. Due to impacts to adjacent wells when Parkwest well is pumping, the City entered into an agreement with Washington State Department of Ecology to only use this well under emergency conditions.
- Well 9 (Recovery Well) – This well was drilled in 2012 with the intent to withdraw reclaimed water from the Reclaimed Water Plant. The well is located approximately 470 feet south of the intersection of 21st Ave. and Lundstrom Street. It has a capacity of 1,000 gpm.
- City of Spokane -The City of Airway Heights receives water from the City of Spokane permanent intertie on an as-needed basis through a dual pump booster station. This source is capable of providing 1,500 gpm to the City of Airway Heights water system.

Water Distribution

The present distribution system in the City of Airway Heights is a network of four-inch (4”) through 12-inch diameter water lines. Primarily, water line materials consist of poly-vinyl chloride (PVC), asbestos-cement (A-C), ductile iron, and thin-wall steel pipe. During maintenance, the City has been using PVC as its replacement material. An existing pipe inventory is presented in Table 9.1.

Table 9.1 - Water Distribution System

Diameter	PVC	Ductile Iron	A-C	Steel	Total	Percent of Total
4”	–	–	-	2,400 lf	2,400 lf	2.7
6”	13,050 lf	–	12,000 lf	16,400 lf	41,450 lf	46.0
8”	6,400 lf	–	500 lf	–	6,900 lf	7.7
10”	4,200 lf	–	3,200 lf	–	7,400 lf	8.2
12”	27,650 lf	2,200 lf	2,000 lf	–	31,850 lf	35.4
Total	51,300 lf	2,200 lf	17,700 lf	18,800 lf	90,000 lf	100.0

Source: Airway Heights Comprehensive Water System Plan, 2017

The intertie connecting Airway Heights to the City of Spokane water system is fed from a 24-inch diameter waterline extension. This line is reduced to 12 inches in diameter at Highway 2 and Hayford Road then to eight inches (8”) in diameter as it extends into the metering vault. Once through the vault, it increases to a 12-inch diameter pipe to the booster station. A 12-inch diameter pipe extends from the booster station to the City of Airway Heights water system.

Water Demand

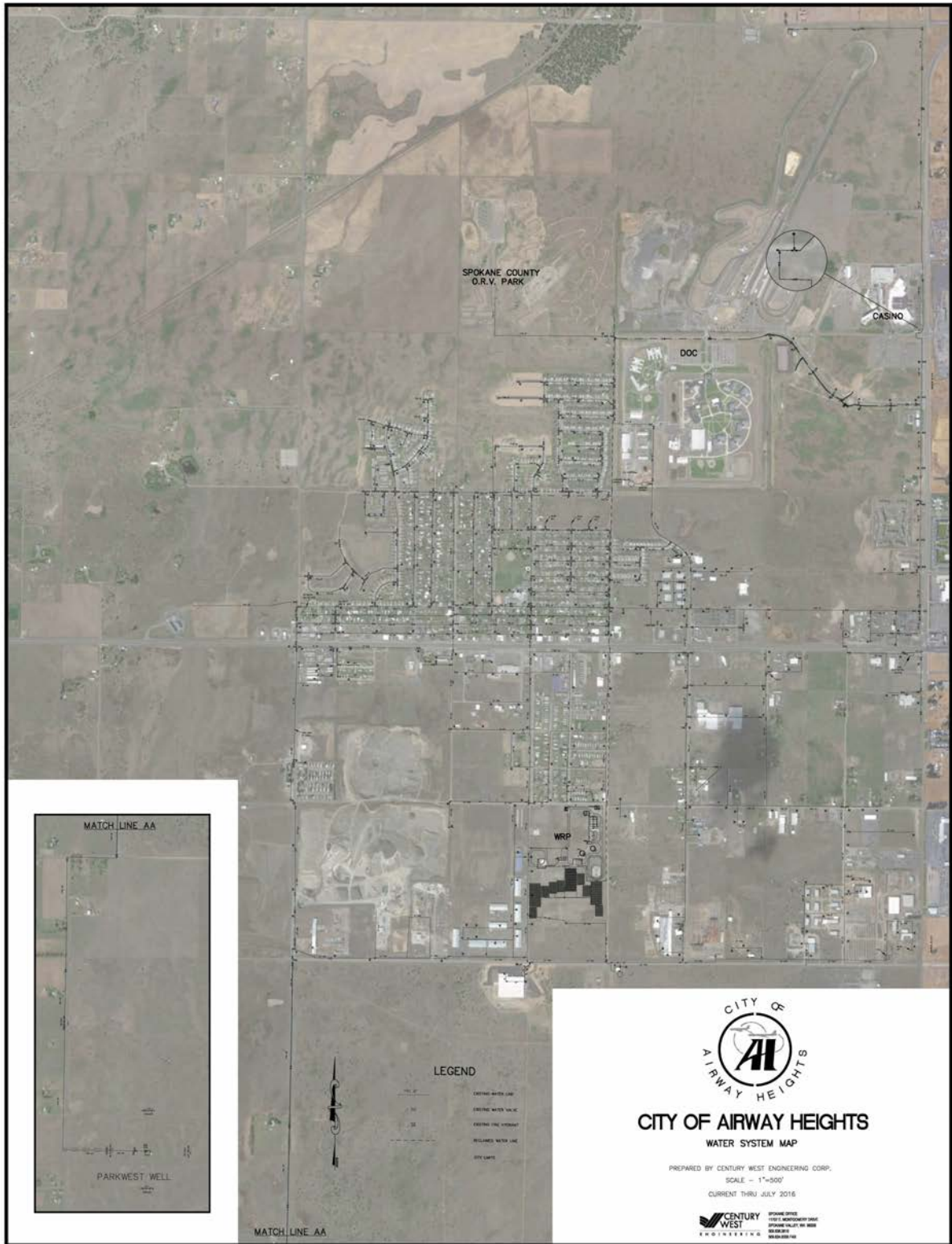
Water use in Airway Heights at the time of this plan’s development is presented in Table 9.2 below, expressed in per-capita and gallons per-minute figures.

Table 9.2 - Water Demand

	Gallons/Capita/Day	Gallons/Minute
Average Daily Demand	236	413
Maximum Daily Demand	531	929

Source: Airway Heights Comprehensive Water System Plan, 2017

Figure 9.1 - Water Service Area



Sewer System

Adequate sewer collection, treatment and disposal are necessary to ensure public health is protected and environmental damage is avoided. Two primary methods of disposal within the City of Airway Heights are centralized sanitary sewer systems and septic tanks. The sewer system currently serves the majority of the residential and commercial properties within the City, with septic systems still serving the mobile home parks and some industrial businesses south of State Highway 2. The centralized sewer collection system serves both the north and south sides of the City and includes service of the Department of Corrections Facility and developments within lands under control of the Kalispel and Spokane Tribes. All new development north and south of State Highway 2 is served by the City's sewer collection system. Areas within the City limits east of Hayford Road are served with sewer by the City of Spokane.

Sewer Collection System

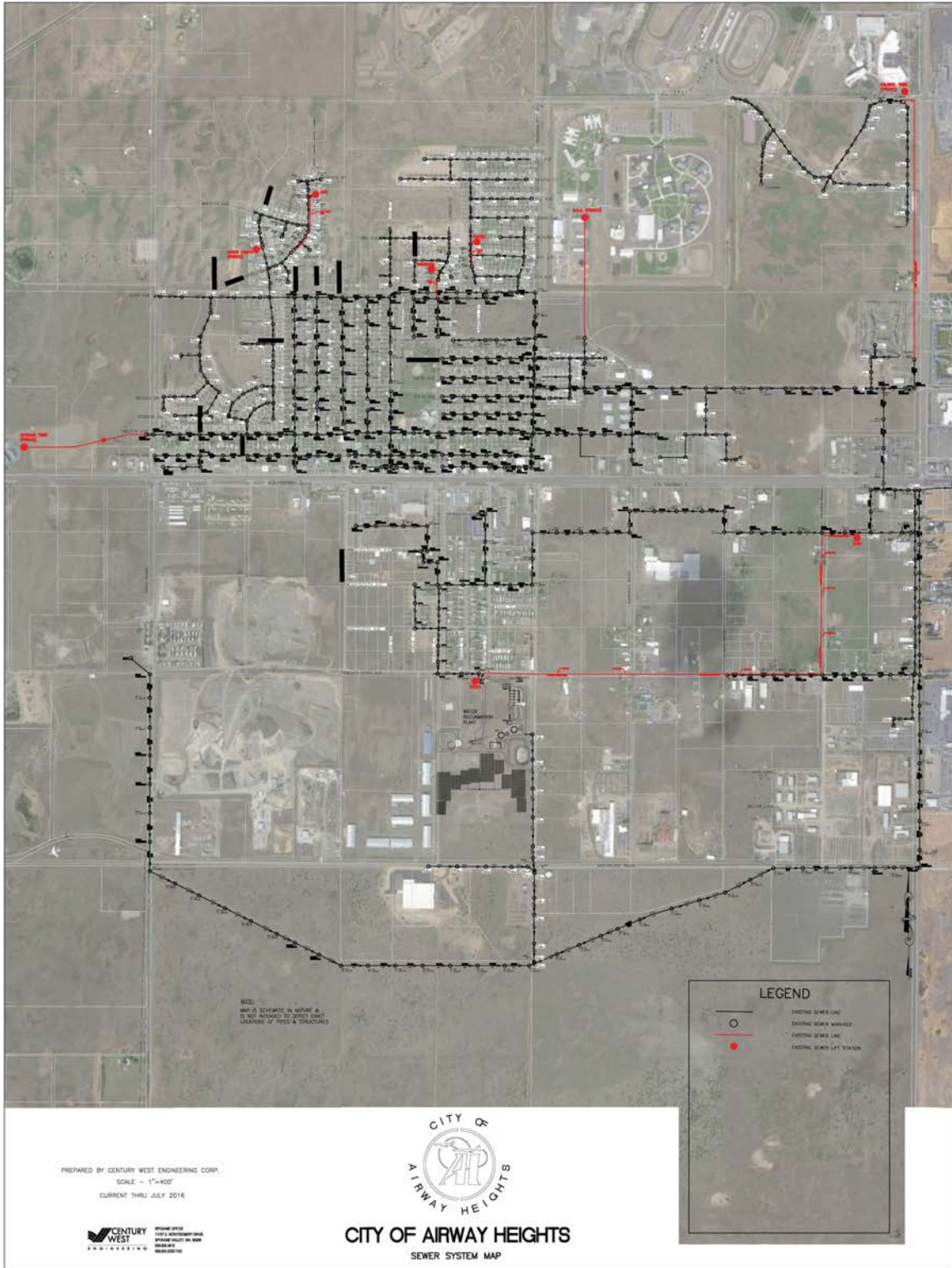
The sewer system serving Airway Heights incorporates a system of gravity and force mains, delivering wastewater to the City's wastewater treatment plant. The City also maintains an emergency overflow connection to the Spokane International Airport (SIA) trunk sewer line, which was developed by the City of Spokane to service Fairchild Air Force Base, Airway Heights, and an area to the south of Airway Heights. The trunk line connects to the City at the intersection of Highway 2 and Hayford Road, the sewer collected in this line flows to the City of Spokane Riverside Park Water Reclamation Facility. Prior to the City constructing its Water Reclamation Facility all flows from the City of Airway Heights were treated at the City of Spokane's Reclamation Facility through an agreement between the two agencies. The emergency overflow was constructed to allow flow to enter the Spokane system if the main City lift station were to fail, preventing surcharge in the City's system and potential overflows.

The sewer main that serves the north side of the City was constructed in 1991 by the Department of Corrections facility. Subsequently, the sewer collection system was extended to service other areas within the north side of the City as they developed.

Sewer Service Area

As Figure 9.2 illustrates, current service extends to areas both north and south of State Highway 2. The collection system north of State Highway 2 flows through a sewer interceptor on 10th avenue and crosses the highway west of Hayford Road then flows south to a large lift station that is south and west of the intersection of Hayford and Highway 2. This lift station pumps the sewer collected north and south of the highway to the Water Reclamation Facility through two 12" force mains shown in red in Figure 9-2. A portion of the sewer collected in an area northwest of the treatment facility flows by gravity to a second lift station near the Reclamation facility where it is pumped into the Reclamation Plant. Another small portion of the City's collection system south of McFarlane Road flows to the City of Spokane's interceptor that lies along the south side of the City and is treated at the City of Spokane's facility through an agreement between the two agencies.

Figure 9.2 - Sewer Service Area



Sewer Treatment Plant

The City manages and operates its own water reclamation plant. In 2019, the reclamation facility treated over 322 million gallons of wastewater or approximately 883,000 gallons per day on an annual daily average. This wastewater was treated to Class A plus reclaimed water standards. The reclaimed water was used for aquifer recharge and landscape irrigation for public facilities, businesses, parks and resorts. In 2019 the City put approximately 47 million gallons of reclaimed water to beneficial reuse. The reclaimed water that was not utilized through reuse was used to recharge an aquifer that has been depleted through regional over pumping. In addition to the environmental benefits the reclaimed water has through reuse and aquifer recharge the City’s wastewater was removed from the City of Spokane’s discharge to the Spokane River, which is an impaired surface water for a number of water quality parameters.

Sewer Treatment Capacity

The Airway Heights wastewater treatment plant has a design capacity of 1.00 million gallons per day (GPD) on an average annual flow basis. The plant operates under a Reclaimed Water Permit (ST0045504) issued by the Washington State Department of Ecology. The permit provides criteria that the plant must perform to. The permit also limits the flow, BOD loading, and TSS loading into the plant on a maximum monthly average. The maximum monthly average flow limitation in the permit is 1.4 million gallons per day (MGD). In 2019 the maximum monthly average occurred in April with 927,333 gallons per day flowing into the plant. On a flow basis the plant is running at approximately 66% of its permitted capacity. When the flow or other design criteria (BOD/TSS) reaches 85% of its permitted capacity the City is required to submit a planning document to address treatment of future flows.

Stormwater

The City of Airway Heights does not have a comprehensive stormwater management system servicing the City. Level of service goals for stormwater (per Countywide standards) focus on on-site specific mitigation of impacts. This means that for particular areas where stormwater may become a problem, mitigation measures are located on the site where the problem may occur. Current practices for site-specific stormwater management rely on such techniques as the usage of drainage swales to allow for stormwater to collect and then infiltrate into the ground.

Due to the relatively flat topography and the lack of surface water within the City, plus generally permeable soil conditions that allow stormwater to infiltrate rather rapidly, ponding of stormwater is not normally a problem in Airway Heights. As the City experiences further development and more of the City’s land is converted to impervious surfaces, stormwater management is likely to become more of a problem, and a stormwater management plan will need to be developed.

Solid Waste & Recycling

Solid waste collection is contracted to Waste Management of Washington, Inc. This service includes curbside collection of garbage, recycling and yard/food waste for all residents and businesses. The City will continue to work with Waste Management to provide adequate services and explore innovative waste reduction strategies.

Electricity

The provision and level of service for electricity is regulated by the Washington Utilities and Transportation Commission (UTC), which expresses the obligation to serve customers “all available...electricity...as demanded.” Inland Power and Light and Avista Utilities each provide electrical

service to different parts of the City through 115kV substations that can handle loads up to 150 megavolt amperes (MVA).

Inland Power and Light's substation is located on the south side of Deno Road, north of the Spokane County Raceway and just inside the City's northern boundary. The Avista Utilities substation is located just outside the City limits on the west side of Craig Road, north of Highway 2.

Natural Gas

The U.S. Department of Transportation and the UTC regulate the provision of natural gas service. Natural gas regulation relies on economic provision of service based on a capital investment analysis.

Natural gas is provided to Airway Heights by Avista Utilities. To ensure that customers receive adequate service, natural gas transmission and distribution systems have the ability to connect to more than one source, to route gas on different paths, and to store gas to meet peak-flow conditions. This provides flexibility for maintenance of facilities, and to ensure service to customers is maintained during abnormally low temperature conditions when demand for natural gas supplies is the greatest.

Telecommunications

Telecommunications is the transmission of information in the form of electronic signals or similar means. The Telecommunications Act of 1996 set the regulatory climate for siting telecommunications infrastructure, and at the local level, the City has implemented regulations through the Airway Heights Municipal Code (AHMC 17.28) to regulate telecommunications infrastructure in a way that befits the specific needs of the community. The City works with a number of service providers to supply a telecommunications infrastructure that offers a broad range of information and services to meet citizens' modern needs. Telecommunications services are provided by request, so future growth demands will be addressed by private providers.

Landline Telephone

CenturyLink delivers telephone services to the City of Airway Heights as regulated by the UTC. CenturyLink is also subject to various federal laws and regulations administered by the Federal Communications Commission (FCC). The service lines in the City of Airway Heights are primarily aerial, and the main feed line runs along State Route 2.

It is important to note that RCW 80.36.090 requires all telecommunications companies operating in the state to provide adequate telecommunications services on demand. Accordingly, CenturyLink will provide facilities to accommodate any future growth.

Wireless & Cellular Communications

A variety of cellular communications and wireless data service providers are available in Airway Heights, including AT&T, Verizon, T-Mobile, and Sprint. Currently, these services rely on ground-based antennae located on towers or buildings.

Cable & Satellite Television

Cable service is provided to Airway Heights by Comcast. Cable service is delivered through electronic components and cable installed on overhead lines throughout the community; some newer developments receive service through underground cables. Satellite providers include Dish and DirecTV.

Internet Service

A number of broadband Internet providers serve Airway Heights, including AT&T, CenturyLink, and Comcast Xfinity. Satellite Internet is provided through HughesNet.

Future Needs

Water System

Supply

Population forecasts indicate that based upon growth trends assigned the City by Spokane County, the 2037 population of Airway Heights will be 14,298 persons. As Table 9.3 indicates, the average daily demand is assumed as 236 gallons per day for each person. Because future demand is expected to remain relatively constant over time, per capita demand may be applied to population forecasts to project future water demand. A table of forecasted average daily demand is shown in Table 9.3, with peak daily demand expressed in Table 9.4.

Table 9.3 - Average daily demand

Year	Population	Gallons/Capita/Day	Gallons per Day
2018	9,332	2,202,352	1,662,000
2027	11,685	2,757,660	2,259,000
2037	14,298	3,374,328	2,870,000

Source: Airway Heights Comprehensive Water System Plan, 2017

Table 9.4 – Maximum (peak) daily demand

Year	Population	Gallons/Capita/Day	Gallons per Day
2018	9,332	4,955,292	4,151,000
2027	11,685	6,204,735	5,641,000
2037	14,298	7,592,238	7,168,000

Source: Airway Heights Comprehensive Water System Plan, 2017

The water system has an existing demand of 929 gallons/minute and capacity to provide 2,895 gallons/minute sustained flow.

Forecasts for the year 2037 show an average daily demand of 2,343 gpm and a peak demand of 5,272 gpm. At these levels of demand, the City can expect a shortfall of 2,300 gallons per minute at peak. Since the intertie with the Spokane water system is in place, facilities potentially exist to satisfy this demand. However, using the intertie to meet the well source deficiencies will require maximum booster station capacity. Additional supply should be obtained to provide assurance that there will be a sufficient quantity of water to service future demand. The City also provides reclaimed water to a school, a number of businesses and public facilities. The use of reclaimed water, particularly for irrigation purposes significantly reduces the demand on the domestic drinking water system to serve peak system demands. The City is aggressively pursuing conversion of some of the larger water users from use of drinking water for irrigation to use of reclaimed water. This will extend the time that the City’s current capacity can provide adequate drinking water supply to increased demand from growth. Airway Heights is also working closely with the City of Spokane and Fairchild Air Force Base to augment water supply given the

compromised nature off its municipal wells, using the City of Spokane water system intertie to supplement the City's own water.

Storage

The existing storage reservoirs provide 2,643,000 gallons of usable storage for the City water system. This storage must be capable of providing the required capacity to meet residential daily demands (equalization storage) and emergency demands (standby) and provides fire flow storage.

The projections provided in the 2017 Draft Comprehensive Water Plan have been reviewed and adjusted based on actual available storage. This evaluation indicates the existing storage capacity will be sufficient to provide the required storage through 2028. The addition of new reclaimed water users will also have a positive impact on the future needs of domestic drinking water storage requirements. The City currently has 1,000,000 gallons of storage for its reclaimed water system.

Sewer System

Ability to Meet Future Demand

As future development occurs, and the City's sewer system will be expanded to meet the needs of growth. The City has taken steps to expand its sewer collection system through its plans and actions to provide sewer service to areas both north and south of State Highway 2.

Improvements: Collection System

In order to meet the City's goal of providing complete sewer service to the entire City, the existing collection system must be expanded. Additional sewer lines must be constructed, leading to the City's treatment facility, and the City's treatment facility will need to expand its capacity.

The new lines will be located within existing road rights of way and will be designed to use gravity flow wherever possible. In low-lying areas, sewer lift stations will be required to transport wastewater to the collection system.

In 2019 the City reviewed the collection system expansions that would be needed to expand its sewer collection system south of Highway 2 to accommodate development in those areas and to determine what improvements if any to the existing collection system would be needed to accommodate the additional flows from that future development. New sewer gravity mains, lift stations and force mains were identified in Russell Street, Garfield Road, Lyons Road and McFarlane Road as future expansions to the system. Existing sewer interceptor upgrades were identified in the 10" interceptor that runs east and west parallel to Highway 2 from Russell Street to east of Hayden Road that would be needed to accommodate the additional future flows. A recent parallel sewer interceptor running north and south from State Highway 2 to the 10 Avenue interceptor constructed by the Kalispel Tribe eliminated future capacity issues in the existing interceptor that crosses Highway 2 west of Hayford Road.

Improvements: Increased Capacity

As the City begins to approach its 1.4 million GPD maximum permitted capacity in the Reclamation Plant, the City must invest in expanding its wastewater treatment capacity. There are two ways that may be possible to achieve this goal. In 1993 the City entered into an agreement with the City of Spokane for Spokane to accept and treat up to 680,000 gallons of wastewater per day. The City has had discussions with Spokane regarding the use of this capacity as a potential interim solution when the plant reaches its capacity. The first option is to negotiate a new agreement with the City of Spokane to utilize the City's capacity within the SIA trunk sewer line and the Riverside Park Reclaimed Water Facility. The second alternative is for the City of Airway Heights to expand its own Reclaimed Water Plant. While the need for additional capacity is not urgent, planning should begin soon to assure accommodations are made for additional capacity by the time they are needed. In this way, the City can avoid limits being placed upon

future development. At the time planning is required the City should evaluate both options to determine which is most beneficial to the City on a cost/funding and sewer rate basis.

Other Utilities

Non-city utility providers will experience increased demand for services as the City grows and will need to plan for new or improved facilities. As new technologies for Internet, wireless telephone, and other telecommunications systems are implemented, these improvements will further the City's goal of economic growth and competitiveness. Through its land use regulation and permitting authority, the City should ensure that these utilities are broadly available to residents and businesses throughout the City, and that there are not excessive visual impacts within existing neighborhoods and local centers.

Note: The following goals and policies are referenced here from the City’s comprehensive goal and policy framework, selected as those most closely related to utilities considerations. For this reason, the goals and policies that follow may “skip” numeric sequence. See Appendix A for the complete Airway Heights comprehensive plan goal and policy set.

Utilities Goals

G.02 Maintain and improve the provision of high-quality, affordable and efficient community services in Airway Heights.

Discussion: Municipalities provide infrastructure and services that would be impossible for individuals to provide. While pooled resources make essential services achievable, they also require strong levels of coordination and management to assure accountability and efficiency. Some actions have clear and immediate effects on resources. Other actions may be more difficult to associate with fiscal impact, but over time, may profoundly affect the costs of services. This goal anchors the need for Airway Heights to consider the long-term cost implications of choices including land use, transportation investments, and provision of service infrastructure - maintaining efficiency and accountability for the community it serves.

G.08 Protect and maintain Airway Heights’ natural resources including clean air, soils, wetlands and ground water, and minimizing light and noise pollution citywide.

Discussion: City livability, health and value are fully dependent on clean, safe and sustainable natural resources. This goal underscores Airway Heights’ commitment to maintaining its natural resources as a top priority, recognizing them as essential to the community’s survival.

G.11 Maintain the City of Airway Heights’ long-term fiscal health.

Discussion: Services that cities provide cannot be sustained without fiscal balance and accountability. This goal serves to anchor the City of Airway Heights’ obligation to sustain its fiscal health - achieved through the gathering of revenue in responsible, equitable ways, and through decisions, investments and actions that provide ratepayers with efficient, effective services now and in the future.

Utilities Policies

P.10 Prioritize location of new industrial development in areas that provide:

- Close proximity to major transportation corridors;
- Siting near existing industrial uses, where possible;
- Cost-effective access to utilities and services;
- Ability to minimize trucking through residential areas.

P.28 On a regular basis, review and update the Capital Improvement Plan (CIP) and all related plans incorporating factors including:

- Population growth;
- Demographic trends;
- Building permit trends;
- Regional facility improvements and projections.

P.29 Support and cooperate with other agencies and providers of public services to maintain identified Levels of Service (LOS).

P.30 Plan new development to ensure provision of public services at current Levels of Service (LOS) or the LOS identified in City-adopted master plans.

P.32 Plan and locate private and public utilities consistent with best management practices.

P.34 Sustain and enhance the city's fiscal stability through good capital planning and use of a wide array of financial tools to fund infrastructure needs.

P.41 With Spokane County, base determination of Urban Growth Area (UGA) limits considering:

- Future service capabilities;
- Infrastructure planning;
- Ground and surface water provision and quality;
- Protection of public health.

