

8.10 Goals & Strategies

1. Enhance and expand current utilities to account for future population growth.
2. Ensure access to culinary and secondary water for all residents and businesses.
3. Encourage water conservancy.
4. Cooperate with schools and provide parks that increase residents' quality of life and promote community participation.

Goal 1: Enhance and expand current utilities to account for future population growth.

Strategies

» Research and pursue federal grants to invest in storm drainage and create regulation standards for neighborhood flood control.

» Forecast the cost and implementation of utility lines in potentially annexable or development areas.

» Ensure a sanitary and quality sewage system to meet the needs of the City.

» Ensure water lines are developed, operated, and maintained environmentally sound to meet the needs of the City.

» Improve streets and alleys by adjusting the grade on manhole lids and clean out plugs, and keeping them properly marked.

» Invest in improving internet and cell-phone service infrastructure through construction of a cell-phone tower near or in city limits or other collaborative means.

Goal 2: Ensure access to culinary and secondary water for all residents and businesses.

Strategies

- » Ensure that private development is responsible for additional utilities per new development.
- » Expand irrigation pond to increase carrying capacity to further conserve culinary water and secure more secondary water for the City.
- » Replace water treatment facilities' meters to determine accurate water flow readings.

Goal 3: Encourage water conservancy.

Strategies

» Host workshops and provide educational resources for community to learn about the value and implementation of water conservancy.

» Develop an adequate system of water control where water conservancy and water time is key in discouraging wasteful water use at all times and discourage non-essential water use during droughts.

» Perform professional water loss and water storage study within the next 3 years.

Goal 4: Cooperate with schools and provide parks that increase residents' quality of life and promote community participation.

Strategies

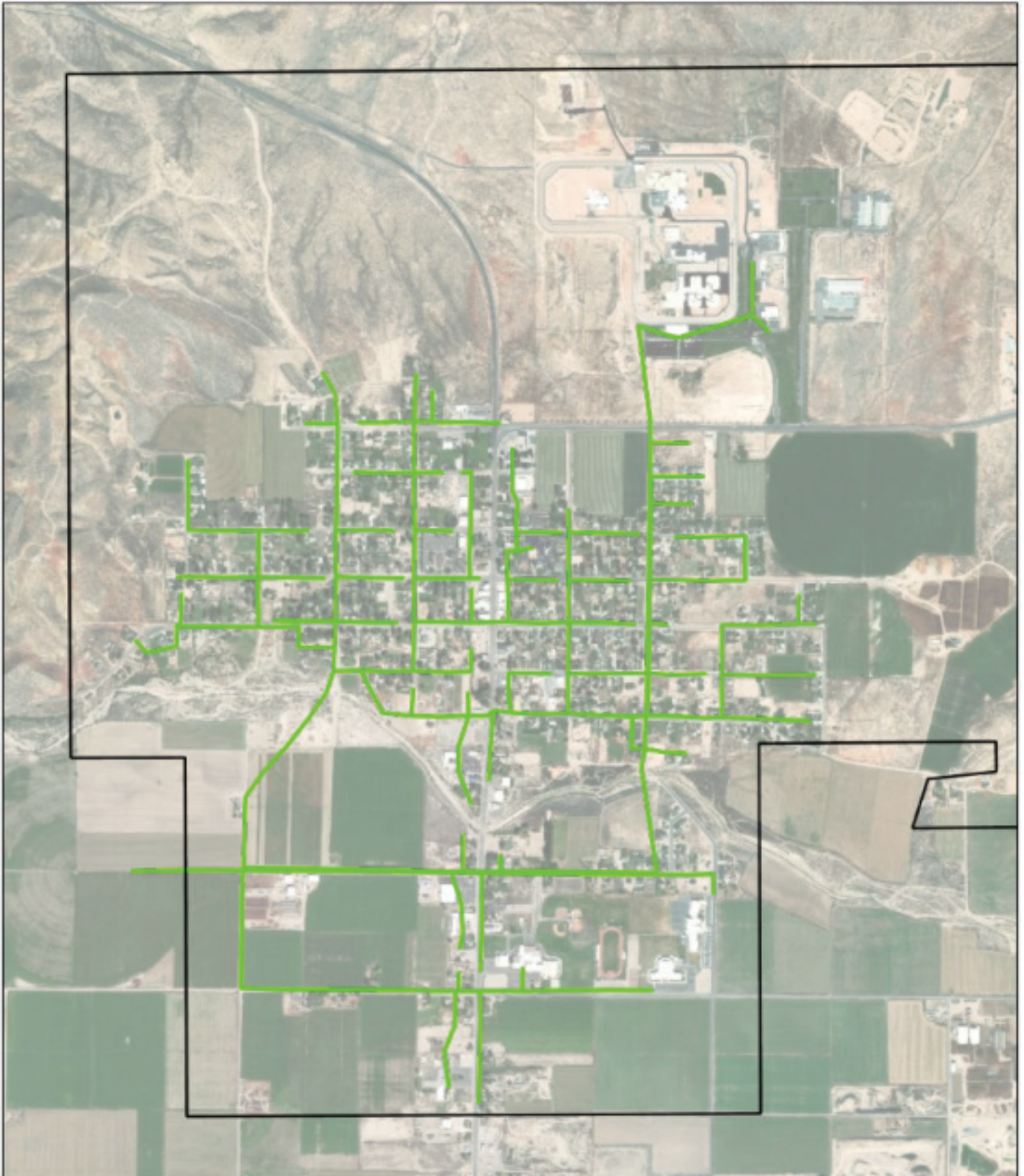
» Locate areas of unused land for potential pocket parks and recreational areas.

» Collaborate with school officials in providing safe and timely routes for students by reducing traffic speeds in walk zones, incorporating signage, and establishing crosswalks for safe travel across Highway 89.



































» Acquire, promote, and maintain special facilities for groups with unique needs (eg. senior citizens, school-aged children).

» Acquire, promote, and maintain existing/new areas for community gatherings/events that cater to citizens of all ages while retaining citizen engagement and rapport.

Map 8-1: Overview of Gunnison City's Sewers



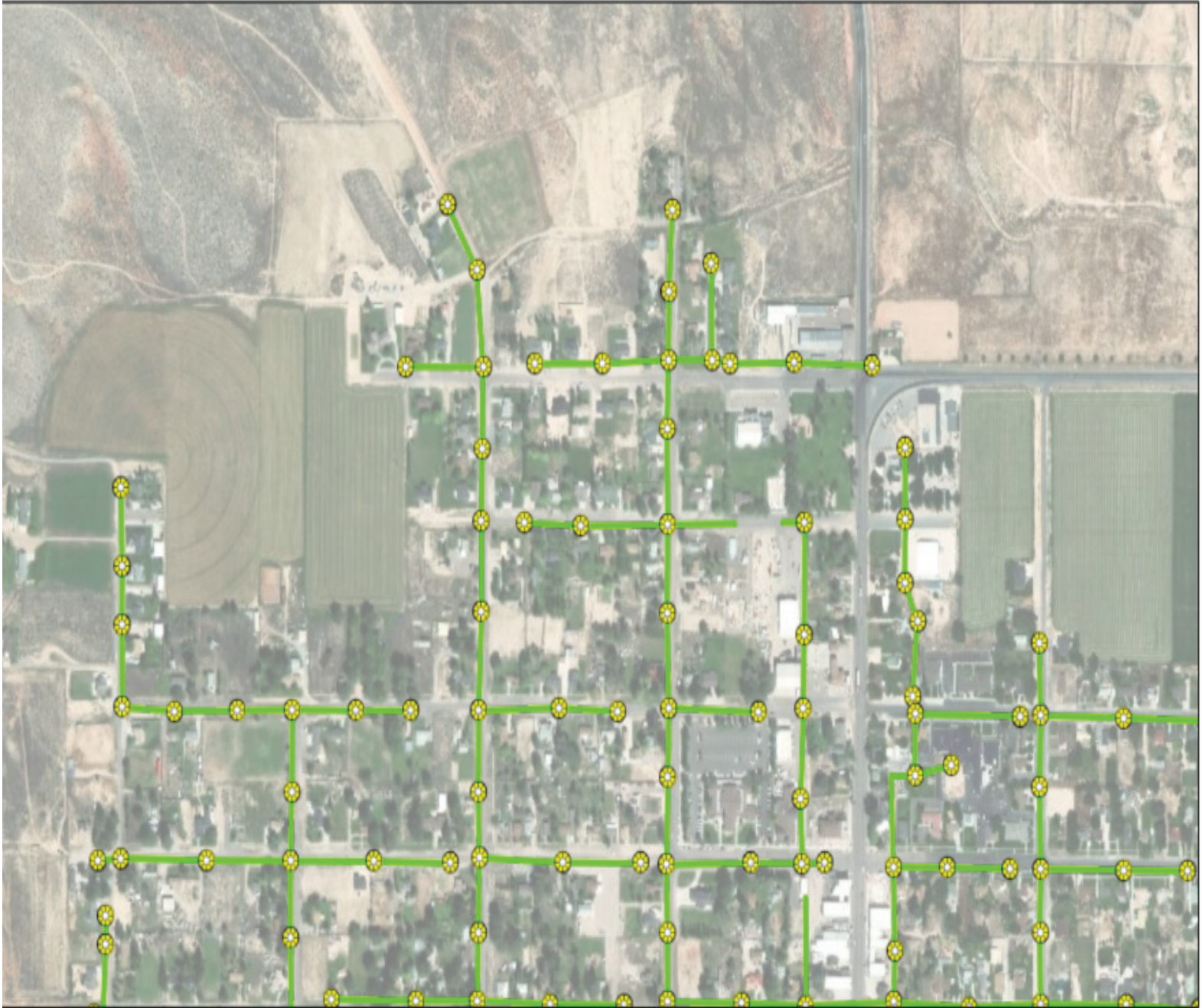
Sewer Maps Legend:

	Sewer Detention Areas		Sewer Network Structures		Sewer Manholes
	Sewer Virtual Drainlines		Discharge Structure		Sewer Inlets
	Sewer Open Drains		Diversion Chamber		Sewer Fittings
	Sewer Pressurized Mains		Diversion Point		Sewer Discharge Points
	Sewer Gravity Mains		Junction Chamber		Sewer Control Valves
	Sewer Lateral Lines		Lift Station		Sewer Clean Outs
	Sewer Casings		Production Well		Sewer Construction Lines
	Sewer Test Stations		Pump Station		Sewer Construction Points
	Sewer Taps		Split Manhole		Sewer Abandoned Lines
	Sewer System Valves		Storage Basin		Sewer Abandoned Points
	Sewer Service Connections		Tide Chamber		Municipal Boundary
			Treatment Plant		

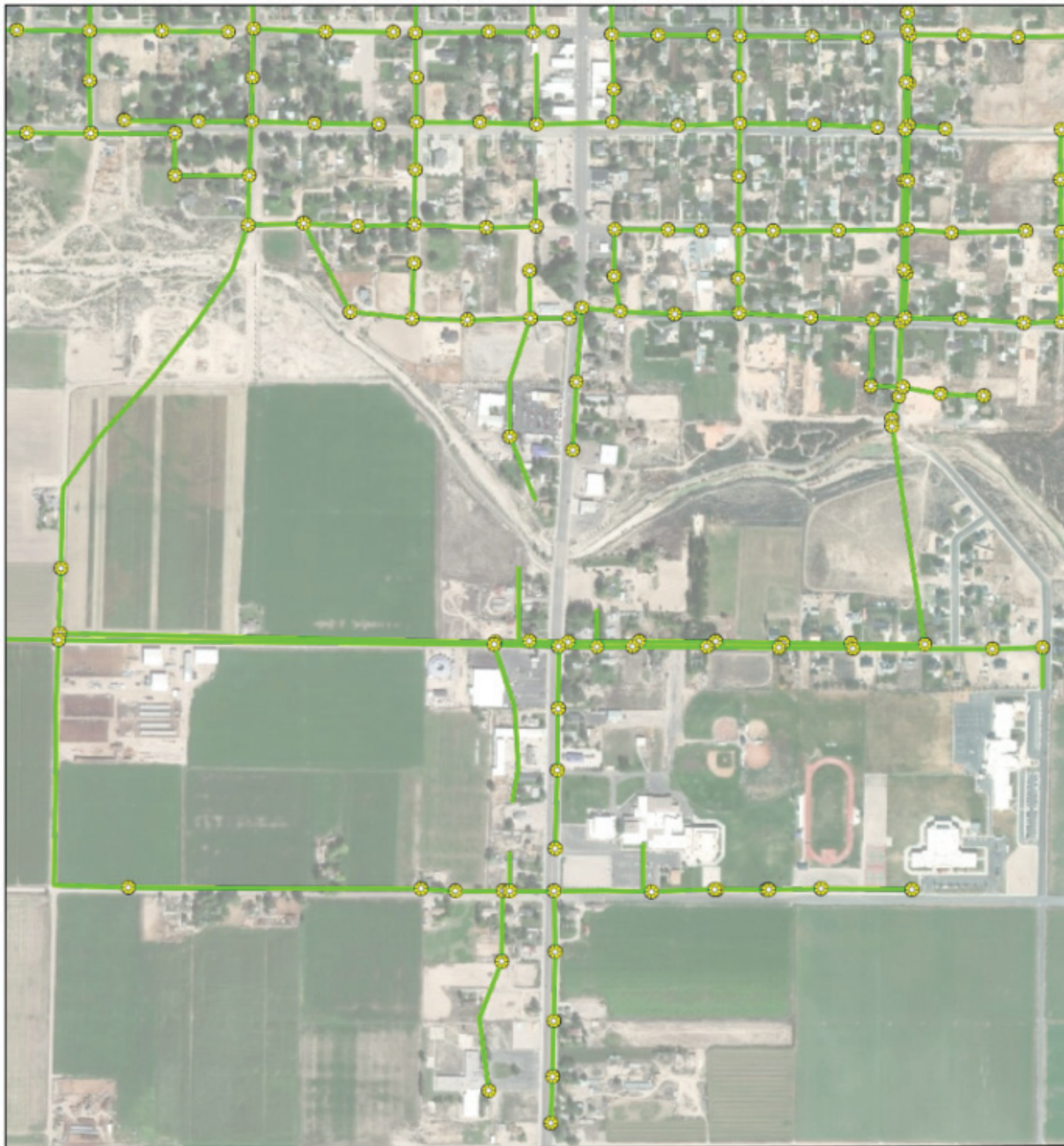
Map 8-2: Sewers in Northeast Gunnison City



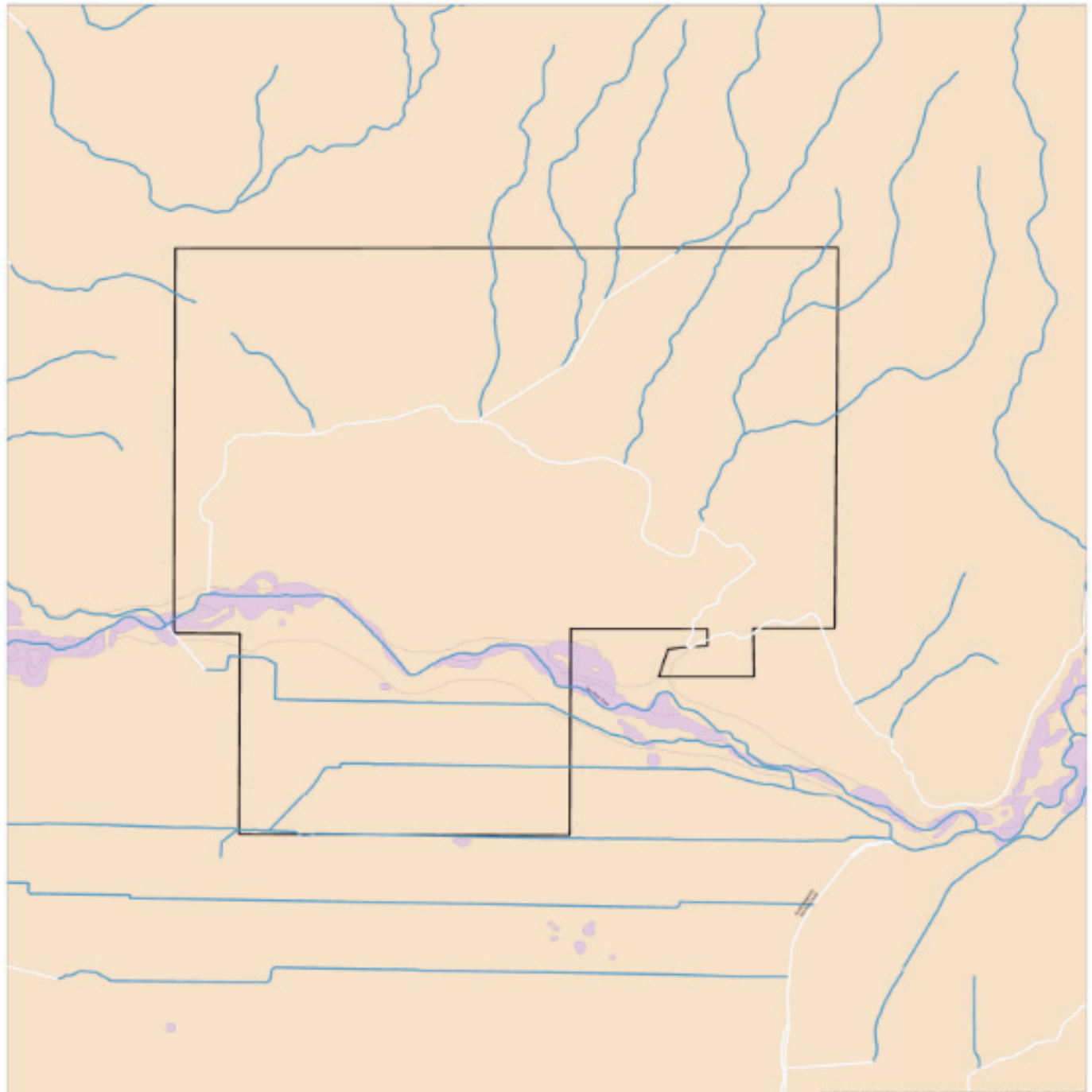
Map 8-3: Sewers in Northwest Gunnison City



Map 8-4: Sewers in South Gunnison City



Map 8-5: Flood Zones in Gunnison City



- Streams
- ▬ Gunnison Boundaries
- Springs
- Special Flood Hazard Area
- Flood Plains

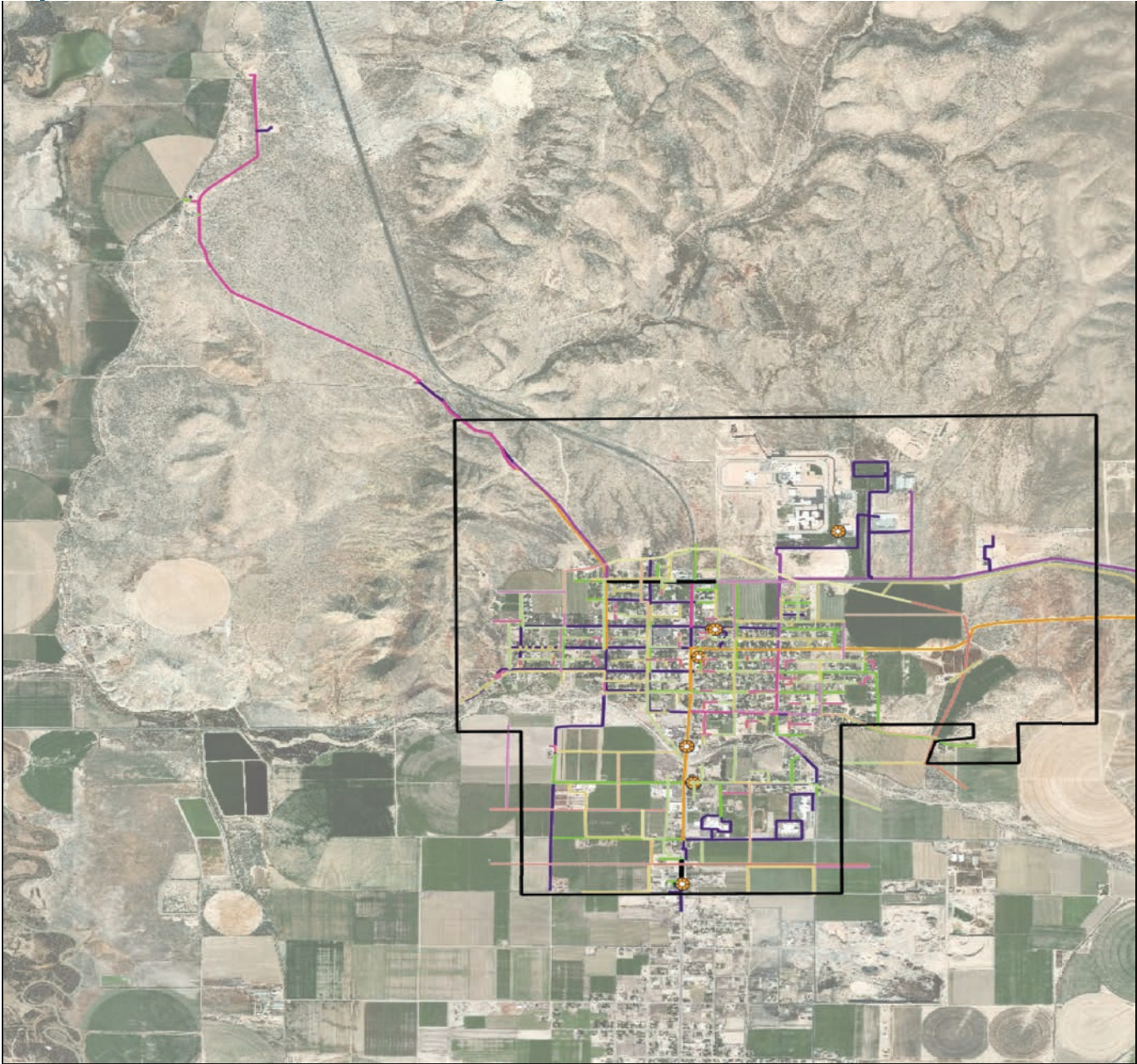
Notes

- Special Flood Hazard Area is the area subject to flooding in the 1% annual chance flood. No base flood elevation has been determined
- Flood Plane area is either outside the 0.2% annual chance floodplain, or flood hazards are undetermined, but possible
- Streams labeled with blue can vary from intermiten to perennial, while streams labeled with white can vary

0 0.5 1 2 Kilometers



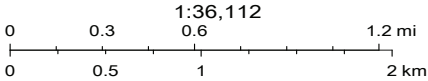
Map 8-6: Gunnison City Water Lines



November 7, 2018

- Water Mains

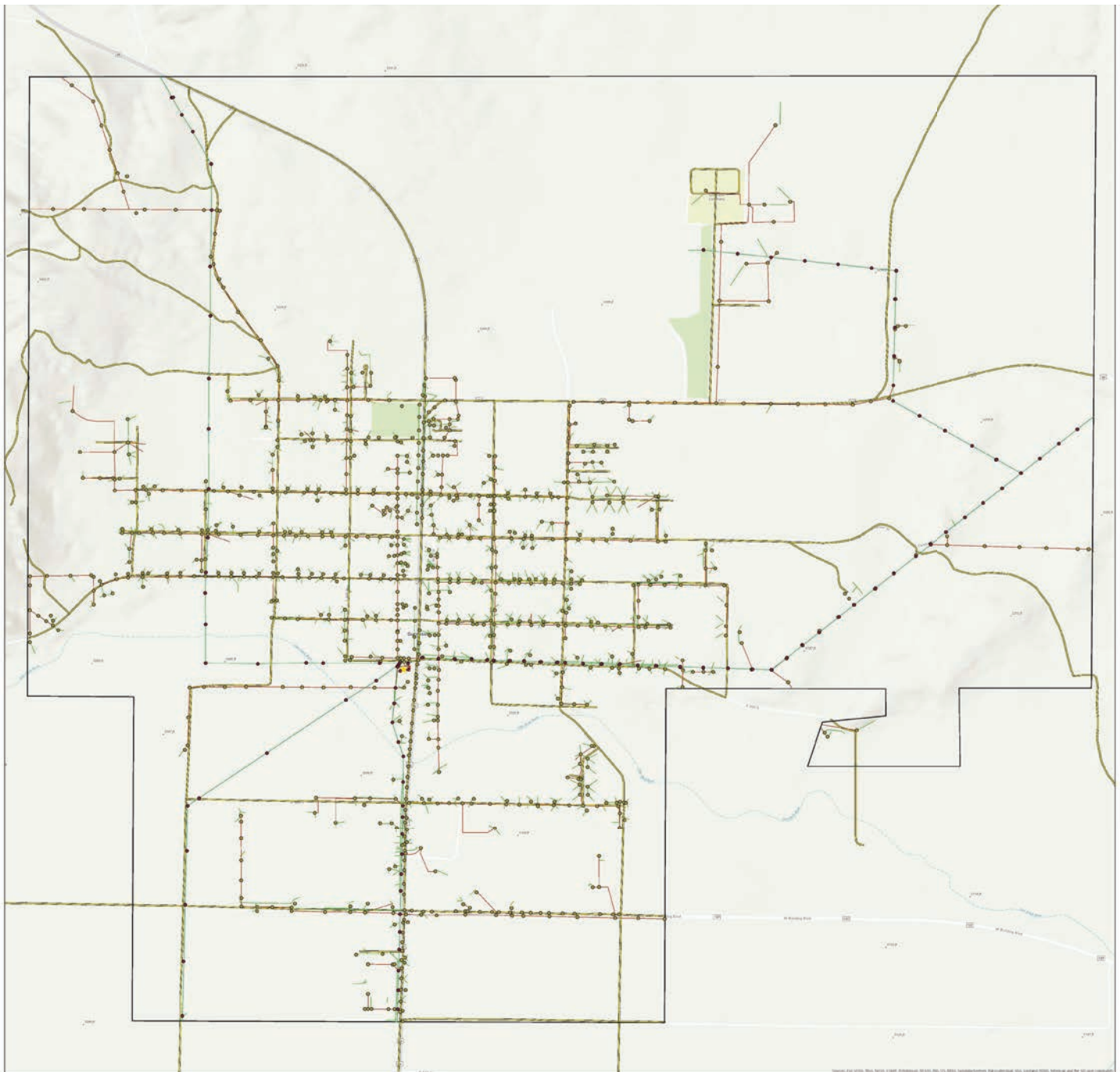
 - 2"
 - 4"
 - 6"
 - 8"
 - 10"
 - 12"
 - 14"
 - 16"
 - 20"
 - Other
 - Unknown
 - Water Lateral Lines
 - Water Casings
- Water Test Stations
 - Water System Valves
 - Water Service Connections
 - Water Sampling Stations
 - Water Pumps
 - Water Network Structures
 - <all other values>
 - Water Tank
 - Production Well
 - Treatment Plant
 - Water Hydrant Valves
 - Water Hydrants
 - Water Fittings



Sunrise Cloud SMART GIS™
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/
Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User
Community

Gunnison City

Map 8-7: Gunnison City Power Lines

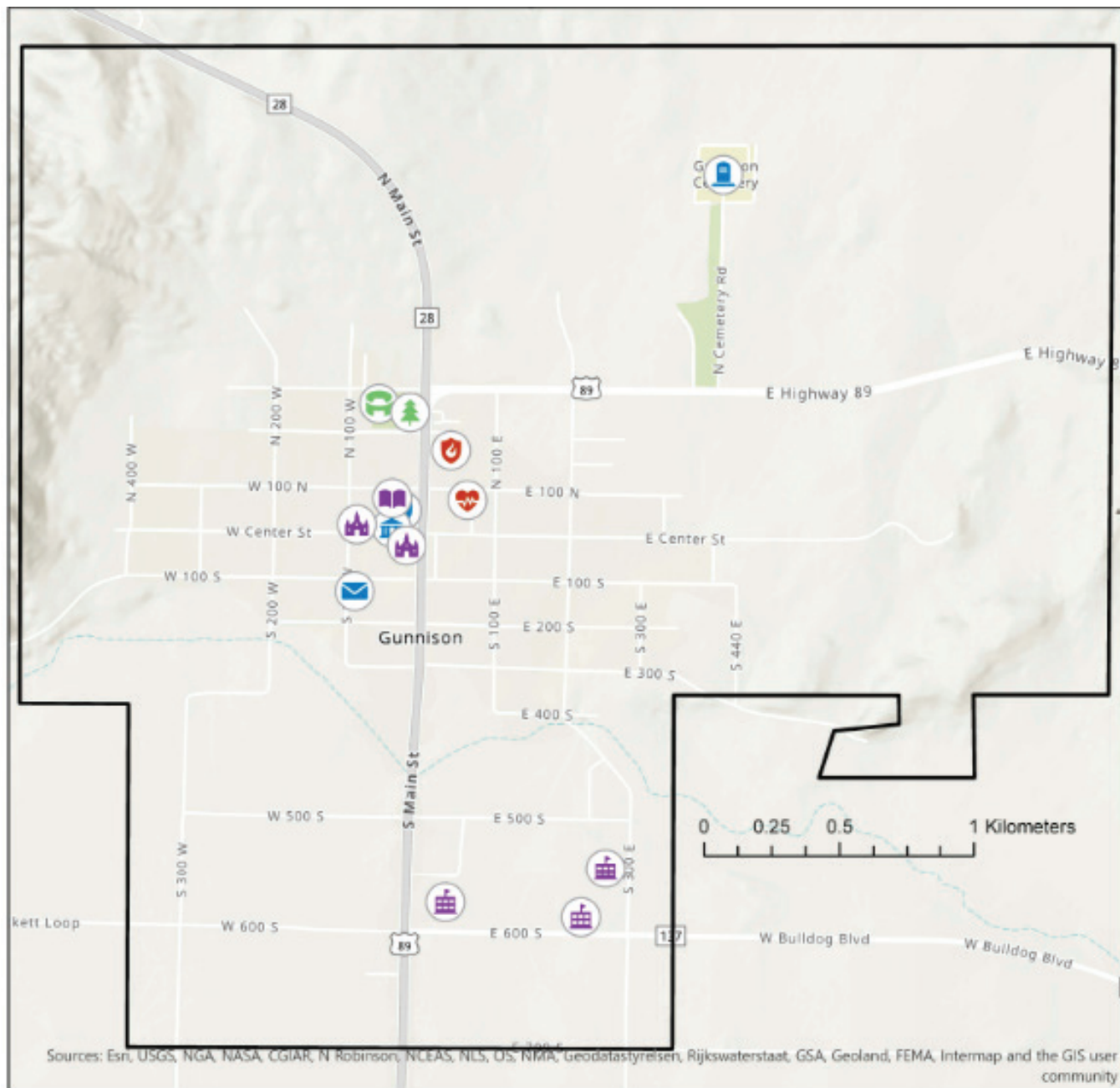


- Distribution Substation
- Transmission Structure
- Facility Point
- Transmission Line
- Distribution Line
- Secondary Distribution Line
- ▬ Gunnison Boundaries
- Roads

0 0.5 1 2 Kilometers



Map 8-8: Gunnison City Buildings



- | | | |
|---------------|----------------|---------------------|
| Schools | Community Pool | City Hall |
| Health Center | Churches | Police |
| Park | Post Office | Fire Department |
| Cemetery | Library | Gunnison Boundaries |



ENVIRONMENT



9.1 Overview

9.2 Climate

9.3 Natural
Environment

9.4 Ecosystem

9.5 Natural Hazards

9.6 Goals & Strategies

9.1 Overview

This chapter addresses issues and concerns relating to the natural environment of Gunnison City. It is imperative that goals and strategies be made to address these issues. Environmentally sensitive and hazardous areas will be brought forward for discussion so that Gunnison City can develop in the best possible way.

9.2 Climate

Gunnison City is located in a dry, semi-arid climate. The climate is dry all year long, with hot summers and cold winters. Average temperatures in the summer are between 52 and 92 degrees

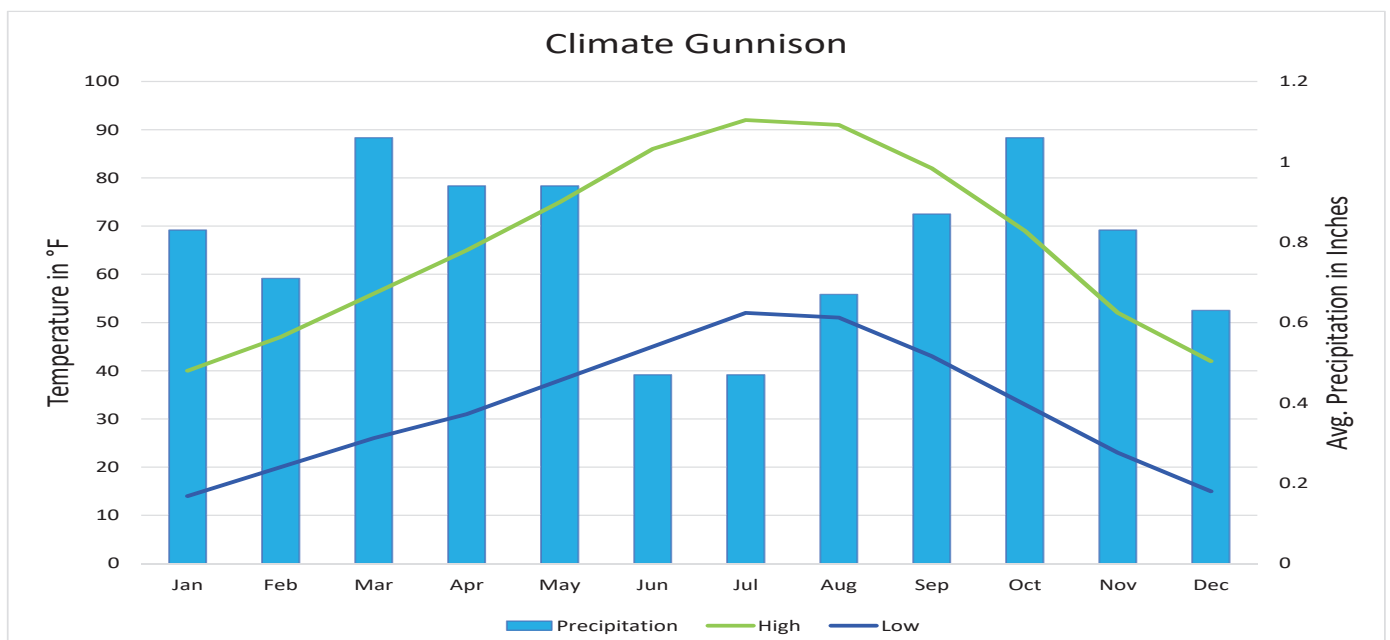
Fahrenheit. Average temperatures in the winter are between 14 and 40 degrees Fahrenheit

Average annual precipitation is 9.48 inches. The months of the year with the most amount of precipitation are March and October, each averaging at about 1.06 inches. Gunnison City averages about 39 inches of snow annually. The city also averages 239 sunny days annually.

9.3 Natural Environment

9.3.1 Geography

Gunnison City is located in the Sevier River Basin in Central and South



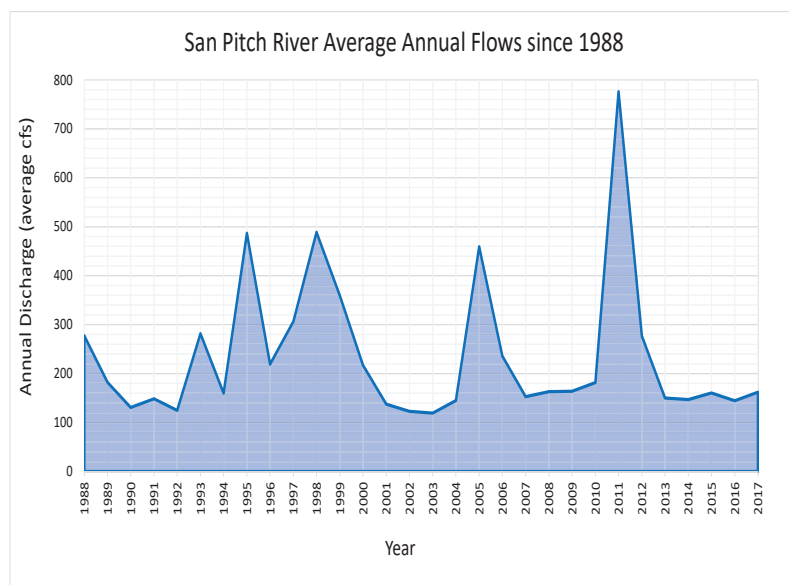
Graph 9.1: Source: U.S Climate Data

Central Utah. The Sevier River Basin covers nearly 6.8 million acres (10,575 square miles), with large variations in topography, climate, soils, and vegetation. The Basin is 180 miles from north to south and 125 miles from east to west. It includes parts of Beaver, Garfield, Iron, Juab, Kane, Millard, Piute, Sanpete, Sevier, and Tooele counties. Growing seasons range from 74 days at Panguitch to 144 days at Fillmore within the area. The geologic parent materials provide a wide variety of soils producing vegetation from alpine conifer forest complexes to desert shrubs and grasses. Private land covers about 23 percent of the area; federally administered lands, 69 percent; and state lands, 8 percent. Native American tribal lands cover 1,735 acres.

Gunnison City has the San Pitch river running right through the heart of the City. The river heads near Indianola, then runs through the Sanpete valley. It eventually pours into Gunnison Reservoir, near Sterling--about twelve miles from town. From there, it meanders into town. The City has created a beautiful river trail that follows the stretch of the river that goes through town. Not far outside of the city boundaries to the west--about a mile--the river meets up with the Sevier River, which runs into Yuba Reservoir, which then drains into the Sevier Lake playa.

9.3.2 San Pitch River

The United States Geological Survey (USGS) has been monitoring the surface water discharge of the San Pitch since 1918. They have a monitor on the river located near Gunnison City near the merging point with the Sevier River. Below is the last thirty years of data.



Graph 9.2: River flow average for last 30 years

1995, 1998, 2005, and 2011 are represented as spikes on the graph. These are the flood years of the past 30 years. The average annual cubic feet of the year 2011 was 744.5. The highest flood level, which happened in 1984, saw almost double the flow of 2011 at 1319 annual average cubic feet. This data can be found in Appendix A of this plan.

Residents should be aware that the San Pitch river will eventually flood and development should be avoided along the floodplain.

9.3.3 Terrain

Gunnison City is in a small valley appropriately named, ‘Gunnison Valley.’ In almost every direction is some kind of mountain range or hills. To the north is the “Caterpillar Formation”. G Hill marks the south end of the hills of the Western edge of the City and is known as “Rocky Point.” Directly west a few miles are the “Valley Mountains.” Not far outside of the city to the east are the “Chalk Hills.” Near Mayfield, and from there running south-west down to Axtell are the “White Hills.” Each of these hill and mountain ranges create the natural walls that surround Gunnison City and create the Gunnison Valley.

9.3.4 Soils

All soils within and surrounding Gunnison City, as shown on Map 9-1, are different varieties of loams. Loams are soils composed of a mixture of sand and clay and are generally viewed as the some of the best soils for farming and plant growth. Climate and terrain dictate what can be grown in these soils.

The best soils for farming should be considered as a natural resource that ought to be protected as much as realistically possible.

9.4 Ecosystem

Ecosystems are important in preserving the natural environment. They should be sought to be protected. As ecosystems are incredibly complex, this plan will not explore the fine details of that ecosystem and will instead briefly cover topics that will be relevant to the future development of Gunnison City. Information regarding certain sensitive species can be found in Appendix A.3.

9.5 Natural Hazards

9.5.1 Soil Hazards

Gunnison City, at present, is not at high risk for soil hazards and is not anticipated to be in the future.

9.5.2 Flooding

As recent as 2015, Gunnison City has experienced flood events. One of the largest major flooding events occurred on the San Pitch river in 1984. If such events happened in the past, they are very likely to occur again in the future. It is essential that Gunnison City should prepare for this hazard.

A map of the 100-year flood plain of the Sanpitch river is shown below-. This floodplain denotes where the damage will be in the event of a 100-year flood event.

Limited development should occur here because of the risk of such a flood.

Also on the map are two other areas of flooding concern. They are City Ditch and G Hill. Residents have commented that the ditch is prone to flooding. Water overflows into the streets and flows towards the San Pitch. It also appears that neighborhoods surrounding the base of G Hill do not have the proper infrastructure to drain runoff coming from the hill. These areas, as well as others throughout the City, will be less prone to flood damage if adequate storm drain infrastructure are put in place.



Figure 9.1: Horticulture in Gunnison City

9.5.3 Earthquakes

Gunnison City, at present, does not have any known fault lines running through the City. While this is true, earthquakes do occur in the region and should be prepared for.

Liquefaction is a natural hazard associated with earthquakes. According to the Utah Geologic Survey, Gunnison City has a very low to moderate risk of experiencing it in the event of a large earthquake in the region. Areas south of the City have a very low risk and areas to the north have a moderate risk. A general principle given by the Utah Geologic Survey in their 1994 liquefaction report is that the closer one gets to the Wasatch Front area, the more risk there is for liquefaction.

9.6 Goals & Strategies

1. Preserve and protect the natural beauty and resources surrounding Gunnison City including open space, wildlife habitat, clean air, and water.
2. Reduce impacts from natural disasters; including fires, floods, geologic and seismic hazards, and other dangers.

Goal 1: Preserve and protect the natural beauty and resources surrounding Gunnison City including open space, wildlife habitat, clean air, and water.

Strategies

» Avoid development on active and effective farmland.

» Give high priority to secondary water use for active and effective farmland.

» Study and apply appropriate policy and implementation of xeriscaping as a means to conserve water.

Goal 2: Reduce impacts from natural disasters; including fires, floods, geologic and seismic hazards, and other dangers.

Strategies

» Improve storm drainage infrastructure to mitigate the effects of flooding, especially in areas that are most susceptible to it such as those near G Hill and City Ditch.

» Avoid development along the San Pitch river.

Map 9-1: Floodplains and Wetlands in Gunnison City

