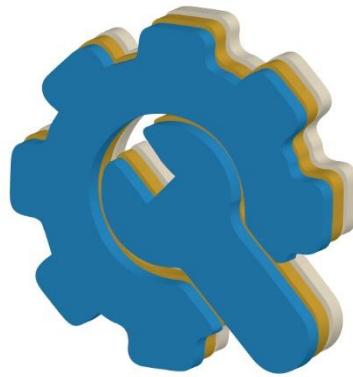


PUBLIC UTILITIES



.....

providing efficient
and reliable public
utility services
requires coordination
with planned growth
to power our
community's future

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SECTION 2. Public Utilities Element

The Public Utilities Element focuses on the movement of energy, water, sewage, and communications through Isleton. Other public facilities and buildings are discussed in the Land Use Element. This element sets forth specific goals, policies, and implementation actions to guide the development and maintenance of infrastructure for the city through 2040. Based on guidelines in the California Government Code, this Public Utilities Element highlights Isleton’s existing utilities infrastructure and facilities as well as planned improvements.

2.1. Why is Planning for Public Utilities Important?

This element balances the need to provide efficient and reliable public utility services and infrastructure with planned growth. Public utility systems should accommodate planned growth and expected infill development while minimizing environmental degradation and complementing land use plans. Most importantly, the Public Utilities Element will ensure new growth does not overburden current infrastructure without planned improvements.



Figure 2-1: Example Infrastructure Repair Work in Isleton

Source: Public Domain

2.2. Statutory Requirements

State law requires a General Plan to include an element that identifies the general locations and extents of existing and proposed local public utilities and facilities. (Cal. Gov. Code § 65302(b)(1)) Relevant public utilities include water, wastewater, stormwater, telecommunications and broadband, electricity and electric vehicle charging stations, and natural gas. State law also requires that general plans include “the proposed general distribution and general location and extent of the uses of the land for... solid and liquid waste disposal facilities.” (Cal. Gov. Code §65302(a))

2.3. Existing and Future Public Utilities

This element, along with the associated Public Utilities Background Report, highlights the locations of existing public utilities infrastructure and facilities, and future improvements to utilities, to support planned growth in the City of Isleton. Public utilities in Isleton cover water distribution, wastewater collection, electric and natural gas service, solid waste collection, and internet, cellular, and cable television infrastructure.

The City of Isleton coordinates with utility providers during project entitlement and building permit process to assure the provision of these utilities. Dry utilities continue to be an access issue throughout Isleton, especially broadband internet. Another barrier to growth is Isleton continues to lack reliable cellular signal in much of the city. Like broadband, access to cellular data service is critical in today's world for connection to business, government, health, safety, and educational resources. Cellular service is provided by various companies; however, cellular signals are poor throughout most of the city.

2.3.1. Water Distribution

A private water company, California American Water, supplies domestic water to the City of Isleton. The Isleton water system is served by three wells within the Isleton service area that pump groundwater from aquifers. The water system consists of pumps, water treatment equipment, water storage, distribution piping, fire hydrants, valves, and other equipment. California American Water uses drinking water treatment technologies to remove naturally occurring arsenic and manganese from the pumped groundwater. The water is chlorinated to ensure that it meets bacteriological quality standards and is distributed for residential and commercial use.

Residents report water pressure issues that are also a concern for firefighting capabilities. However, California American Water reports adequate water supplies to meet Isleton's future growth needs and the City continues to work with California American Water on pressure issues.

2.3.2. Wastewater Collection

The City of Isleton provides sewage collection, treatment, and disposal for residential, commercial, and industrial customers. The city owns, maintains, and operates all wastewater facilities connected to the collection and treatment system within the service area. New private sewage disposal systems, septic tanks, and septic systems are prohibited within the city. The city also has a contractual agreement to accept wastewater from the Oxbow Marina Recreational Facility.

The Oxbow Marina Recreational Facility consists of a boat holding tank pump-out station, public restrooms, club house, office, and 95 mobile homes. Wastewater is pumped to the City of Isleton Wastewater Treatment Facility (WWTF) via a force main which runs along the toe of the Georgiana

Slough levee. The force main enters the plant near the headworks, is metered, and then discharged into the primary aeration pond. Operation and maintenance of the Oxbow Marina Recreational Facility collection system, lift station, and force main is the responsibility of Oxbow Marina.



Figure 2-2: Oxbow Marina Recreational Facility

Source: Oxbow Marina Facebook page

As detailed in the Public Utilities Background Report, the City of Isleton's wastewater collection system consists of approximately 21,107 linear feet of gravity-fed sewer mains and approximately 81 manholes. The system generally flows north to south and then east to west. Approximately half of the sewer pipes have been replaced or rehabilitated since construction of the original system in the early 1900s and,

overall, the pipes in the collection system have adequate capacities under various flow conditions to support existing and future development in the city.

The city's pump station conveys wastewater from the collection system to the WWTF located along Georgiana Slough southeast of the city. Wastewater enters the pump station through a grinder manhole and is then temporarily held in a wet well containing two chopper pumps before being sent to the WWTF via a force main. However, several nonfunctional or missing components in the pump station contribute heavily to sludge accumulation in the WWTF ponds and also require 24-hour staffing during rainstorms and high flow events. To accommodate future development, the pump station and pumps may need to be upsized in addition to other needed improvements.

The City of Isleton's WWTF utilizes a lagoon treatment system consisting of one primary aeration pond equipped with four aerators and two facultative stabilization ponds which are operated in series. After treatment, wastewater is gravity-fed to six disposal ponds that span more than 24 acres and use percolation and evaporation for final disposal. One of the treatment ponds has ongoing issues and does not currently operate as designed, but the other treatment ponds are operating within design parameters. During the wet season, the disposal ponds have a lower disposal rate due to reduced percolation from high groundwater and reduced evapotranspiration due to cloudy weather.

Isleton has consistently struggled with maintaining sufficient capacity at the WWTF during the wet season, especially during extremely wet years. Both the treatment and storage ponds lack sufficient capacity to contain the permitted flow of treated effluent and a 100-year storm event. Loss of pond

capacity is primarily due to the settling of the pond berms over time. Capacity is also lost from inflow and infiltration of groundwater and stormwater.

The city's wastewater collection, treatment, and disposal systems will need to be improved and expanded to accommodate future build out conditions under additional pressures from climate change, including hardening the systems against future flood events. Expansion of Isleton's wastewater collection system may require a secondary level of treatment with discharge to areas approved by the Central Valley Regional Water Quality Control Board. Based on recommendations in the 2023 Wastewater Master Plan, there are several capital improvement projects that would significantly improve functionality and capacity of the system. Such wastewater system upgrades might include collection system improvements to reduce stormwater inflow and infiltration, pump station improvements to reduce solids reaching the WWTF to better maintain capacity, and WWTF improvements to rebuild and reinforce the lagoon system. Long-term planning activities, potentially including regionalization and land application, are also recommended in the 2023 Wastewater Master Plan in order to serve the City of Isleton's distant future needs. Additional details about recommended improvements are provided in the Public Utilities Background Report and Wastewater Master Plan.

2.3.3. Stormwater Drainage

The city's stormwater drainage infrastructure consists of a traditional above ground curb and gutter collection system and limited underground facilities. Much of the city street system has curb and gutter, as well as some drop inlets, which convey stormwater to major drainage ditches south of town. Where curb, gutter, and drop inlets are missing, drainage occurs by gravity flow to the lowest points along the street system and adjacent parcels. To address ongoing problems with stormwater inflow and infiltration into the wastewater collection system, several improvements to the drainage system are recommended in the 2023 Wastewater Master Plan. Such improvements include removing illicit connections; abandoning and replacing older, damaged pipes and manholes and those exhibiting excessive inflow and infiltration; and reducing direct connections between the drainage and wastewater systems. See the Public Utilities Background Report for additional details about recommended improvements.

Individual reclamation districts (RD) that represent the islands of Brannan, Andrus, and Lower Andrus, including districts RD2067, RD317 and RD407, operate the drainage pump facilities and oversee maintenance of the primary drainage canals around Isleton. Oversight and maintenance of the levees protecting the three RD areas are legislatively vested in a single entity known as Brannan-Andrus Levee Maintenance District (BALMD).

2.3.4. Broadband Internet

Broadband access is critical in today's world for connection to business, government, health, safety, and educational resources, and the City of Isleton understands the need to provide adequate internet services now more than ever with increasing demand for work-from-home employment. To improve internet access within the community, the City will continue to promote the efficient expansion of broadband infrastructure.

Access to broadband internet networks continues to challenge growth in the city and much of the greater Delta region. Fifty percent of rural housing in California lacks high-speed broadband service at 2020 benchmark speeds of 100 megabits per second (Mbps) download. In Isleton, only 60 percent of households are estimated to have an internet subscription, compared to 85 percent of households in California. (ACS, 2014-2018) There are very few areas of Isleton that have adequate broadband at the 100 Mbps level, and according to the Federal Communication Commission's (FCC) 2022 coverage mapping, the downtown core has full fixed broadband coverage at 25 Mbps download or greater. (FCC, 2022)

Households and businesses have no fiber optic options, only one (and in some cases no) digital subscriber line (DSL) provider option, limited fixed wireless options which are entirely dependent on place of residence or business, and two satellite options. Broadband quality and access challenges are exacerbated by limited provider investment and physical terrain barriers. (Delta Protection Commission; Valley Vision, 2019) The Delta Protection Commission has identified broadband access as a critical issue in the Delta and commissioned a 2019 study by Valley Vision, called Connecting the Delta: Broadband Action Plan, which identifies recommended actions to improve broadband adoption and support. The primary actions explored in greater detail in the plan are:

- Establish broadband-focused leadership for the Delta legacy communities;
- Piggyback on all infrastructure opportunities, such as CalTrans "dig once" policies and further local "dig once, climb once" policies; and
- Secure funding and resources to plan and implement projects, including public-private partnership models.

Much of the city is eligible for California Advanced Services Fund (CASF) infrastructure grants to "telephone corporations" to bridge the "digital divide" in unserved and underserved areas in the state, as shown in Figure 2-3. Also, as outlined in the CIP, the City aims to one day provide free and readily available wireless internet in the downtown area to promote foot traffic and support local shops and stores.

2.3.5. Cellular Telephone and Data Service

Cellular telephone and data service is provided by various companies to the City of Isleton; however, cellular signals remain poor and unreliable in much of the city, creating a barrier to growth. Like broadband internet, access to cellular service is critical in today's world for connection to business, government, health, safety, and educational resources.

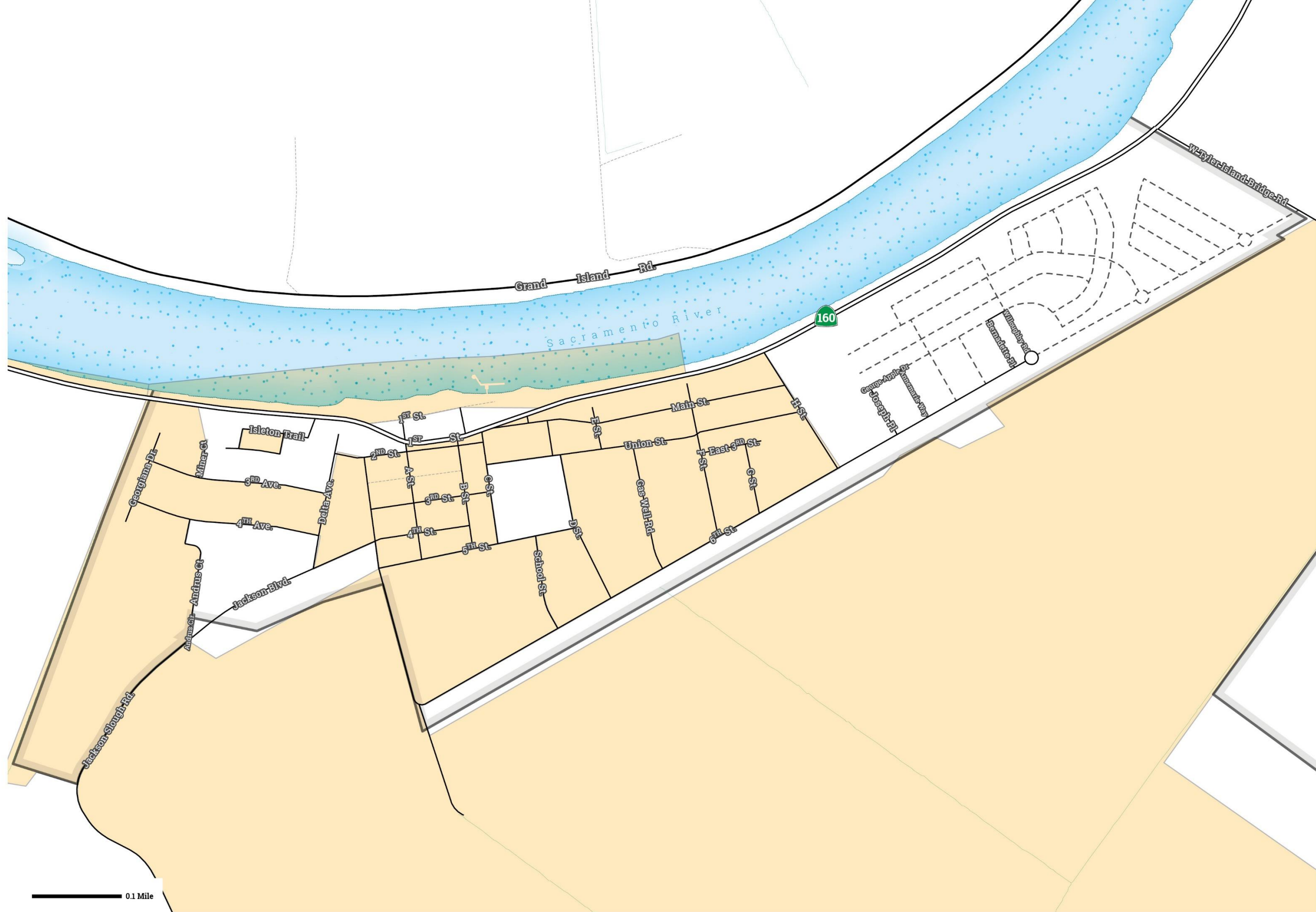
Cellular voice and data service coverage in Isleton is provided by three of the nation's four largest mobile wireless carriers: Verizon, T-Mobile, and AT&T Mobility. According to the FCC's 2021 coverage mapping, all three providers have voice coverage throughout the city limits, where customers can expect to make and receive mobile voice calls and send and receive text messages over the network. For data service, only Verizon and AT&T had full fourth generation (4G) long-term evolution (LTE) coverage in Isleton while T-Mobile's data coverage is lacking in several areas, including the downtown core. (FCC, 2021) 4G LTE data coverage areas represent where customers can expect to receive 4G LTE broadband internet service on their data-capable cellular device at a minimum user download speed of five megabits per second (5 Mbps) and a user upload speed of one megabit per second (1 Mbps).

As fifth generation (5G) wireless communication is rolled out across the nation, providing transformational speeds, low latency, and massive capacity well beyond that of 4G LTE, it will create new possibilities in mobile data that could transform Isleton. 5G is expected to revolutionize industries, make businesses more efficient, and provide immediate impact for customers by giving them access to more information faster than ever. 5G could also help enable smarter transportation systems, support artificial intelligence (AI) in public safety, and allow for expanded access and new experiences in education among other anticipated benefits.

In planning for Isleton's future growth and economic development, the City will pursue funding opportunities for infrastructure that will provide reliable cellular 4G LTE or better data coverage throughout the city.



CITY OF ISLETON
GENERAL PLAN 2040
CIRCULATION ELEMENT



CASF Infrastructure Eligible Areas

Figure 2-3: California Advanced Systems Fund
California Advanced Systems Fund

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2.3.6. Electric and Natural Gas Service

Pacific Gas and Electric (PG&E) provides electricity and natural gas to city residents and commercial and industrial customers, and all areas within the city limits have access to electricity and natural gas service. PG&E offers a number of programs meant to incentivize energy conservation along with residential rebates, including rebates for the installation of certain energy-saving products, free weatherization measures, appliance efficiency upgrades, and reduced rates for income-qualified households.

To promote energy conservation, the City of Isleton has adopted the most recent version of the California Building Code, which includes a section on green building regulations, referred to as the 2019 CALGreen Building Standards Code. CALGreen is the nation's first mandatory state-wide green building code, intended to encourage more sustainable and environmentally-friendly building practices, require low pollution emitting substances that can cause harm to the environment, conserve natural resources, and promote the use of energy-efficient materials and equipment.

2.3.7. Solid Waste Collection

The City of Isleton contracts with Cal-Waste Recovery Systems for once-a-week residential and commercial garbage, garden and yard waste, and recycling services. Cal-Waste Recovery Systems schedules a citywide bulk waste pick up for all Isleton residents once a year. Solid waste collection as well as hazardous waste management are discussed in more detail in the Safety Element.

There are no landfills or other solid waste collection or processing facilities located within the city limits.

2.4. Relationship to Land Use Element

The need for new or improvements to public utilities relates directly to planned land uses; therefore, the city's Public Utilities Element and the goals, policies, and actions herein are correlated with the Land Use Element, per Cal. Gov. Code § 65302(b)(1). As such, the City will size and located utility infrastructure and service facilities to accommodate planned growth in Isleton, to maximize efficiency and minimize impacts on the community, and to reflect resource constraints and other broader considerations.

2.5. Circulation Goals, Policies, and Implementation Actions

GOAL PU-1 Maintain economic health and viability while making improvements to public utilities infrastructure and facilities.

| | |
|-------------------|--|
| POLICY-PU-1.1 | Promote the efficient expansion of broadband and cellular infrastructure to provide high-speed broadband internet service to residents and businesses and to promote tourism. <i>(Source: New)</i> |
| • Action-PU-1.1.1 | Seek funding for broadband infrastructure improvements through California Advanced Services Fund (CASF) and other infrastructure grants to provide high-speed internet to the community's residents and businesses with the goal of download speeds of at least 100 Mbps. <i>(Source: New)</i> |
| • Action-PU-1.1.2 | Identify opportunities to provide free and readily available wireless internet in the downtown area to promote foot traffic and support local shops and stores. <i>(Source: New)</i> |
| • Action-PU-1.1.3 | Pursue funding for infrastructure that will provide cellular 4G LTE or better data coverage throughout the city. <i>(Source: New)</i> |
| POLICY-PU-1.2 | In coordination with other utility providers, maintain and upgrade sewer, water, and electrical utilities within the city to reduce operational costs, modernize services, increase efficiency, and accommodate appropriate future growth. <i>(Source: New)</i> |
| • Action-PU-1.2.1 | In coordination with other utility providers, inventory, assess, and digitally map existing utilities within and around the city and identify needed improvements. <i>(Source: New)</i> |
| • Action-PU-1.2.2 | Generate a database of upcoming public infrastructure projects (e.g., sewer, road paving) in public rights-of-way, including location, routes, and estimated timelines, and coordinate infrastructure improvements whenever possible. <i>(Source: New)</i> |
| • Action-PU-1.2.3 | Ensure new development pays its fair share of the costs for new or improvements to utilities infrastructure and facilities based on anticipated impacts, including increased water supply, |

pressure, or flow demand for fire protection and increased sewage disposal need. *(Source: New)*

- **Action-PU-1.2.4** Plan for and construct improvements to the wastewater collection and treatment system, as necessary, to reduce inflow and infiltration of stormwater and to prevent soil and groundwater contamination. Design system improvements to withstand future flood conditions and sea-level rise while also efficiently accommodating anticipated growth. *(Source: New)*
- **Action-PU-1.2.5** Update the municipal code to encourage renewable energy systems, where appropriate, and collaborate with the electric utility provider to reduce barriers and increase incentives for residential- and business-scale projects. *(Source: New)*
- **Action-PU-1.2.6** Work with the water utility provider to encourage water conservation within the community and repair and upgrade infrastructure for efficient delivery, as necessary. *(Source: New)*
- **Action-PU-1.2.7** The City, in coordination with the local water provider, shall deliver clean water to the community and make improvements, including to taste, odor, color, and quality. *(Source: 2000 General Plan, modified)*
- **Action-PU-1.2.8** The City, in coordination with the local water provider, shall maintain pressurized water for adequate fire suppression at all times. *(Source: 2000 General Plan, modified)*
- **Action-PU-1.2.9** Periodically conduct Municipal Service Reviews to evaluate utility expansions to support future growth. *(Source: New)*
- **Action-PU-1.2.10** Seek funding to support wastewater collection and disposal system capital improvement projects to improve capacity and functionality, including those recommended in the Wastewater Master Plan. Prioritize funding to implement improvements that reduce stormwater inflow and infiltration and increase system capacities. *(Source: New)*
- **Action-PU-1.2.11** Investigate alternatives for long-term wastewater management planning, potentially including regionalization and land application as recommended in the Wastewater Master Plan. *(Source: New)*