RURAL INFRASTRUCTURE INVESTMENT PLAN

FY 2024-2025

Approved by the Yolo County Board of Supervisors September 24, 2024

Lucas Frerichs, Chair
District 2

Oscar E. Villegas
District 1

Mary Vixie Sandy
District 3

Jim Provenza
District 4

Angel Barajas
District 5

Plan author and project manager
Elisa Sabatini, Manager of Natural Resources

With assistance from
Casey Liebler, Natural Resources Planner
Cindy Perez, Associate Management Analyst

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Introduction

Purpose

The Rural Infrastructure Investment Plan assesses and categorizes infrastructure investments in the County's rural communities in support of the Board's Strategic Plan goals. According to the American Society of Civil Engineers (ASCE), the United States "infrastructure gap," which refers to the amount of money required to meet our nation's infrastructure needs, is currently estimated to be above $2 trillion, and expected to increase to $3.7 trillion between 2024 - 2033[1]. This gap is even more exaggerated in rural areas, like Northern California's Central Valley, where funding is much more difficult to secure. An earlier ASCE study from 2021, "Failure to Act" estimates that sub-par infrastructure costs American families $3,300 each per year.

Most state and federal infrastructure initiatives are focused on urban and suburban areas and do not adequately address the unique needs of rural communities. Deteriorating or inadequate infrastructure can impact the lives of our rural residents in many ways: jeopardizing or limiting employment opportunities, decreasing quality of life and public safety, impeding access to quality health care, and reducing economic competitiveness.

Infrastructure is generally defined as "the system of public works of a country, state, or region including the resources (such as personnel, buildings, or equipment) that form the underlying foundation or basic framework to support an economy."[2] Typically, infrastructure includes roads, railways, bridges, tunnels, water supply/distribution, sewer/wastewater, electrical grids, and telecommunications, including internet/broadband.

This report serves a repository for locally derived and supported infrastructure projects as the County explores new funding models and builds public/private/non-profit relationships to leverage investments and braid financial resources.

Though local funding may be currently inadequate to fully implement these rural infrastructure projects, opportunities exist to incrementally invest in projects, thereby positioning projects to be competitive when funding becomes available.

A local agency could develop a rough project cost estimate for an identified rural infrastructure need, for example, secure local funding for preliminary design and engineering or California Environmental Quality Act (CEQA) review, and then apply for a state or federal grant. Alternatively, the local agency could combine multiple similar projects into a larger single project, increasing the number of beneficiaries and the (now larger) project's overall funding competitiveness.

[1] American Society of Civil Engineers, "2024 Bridging the Gap" infographic, published in 2024
[2] Merriam-Webster dictionary, 2022

Methodology

To better understand the needs of rural communities within Yolo County, many sources of information were reviewed, researched, and analyzed, including:

- Municipal Service Reviews and special studies undertaken by the Yolo Local Agency Formation Commission (LAFCo)
- Community Area Plans (developed by rural community advisory committees)
- Community revitalization studies
- Special district engineer's reports in support of fee/assessment modifications
- Deficiencies documented by local/state regulatory agencies
- Results from previous Yolo County Strategic Plan community engagement surveys and meetings
- Comments provided via written correspondence, including electronic mail
- Staff conversations with rural community advocates
- Robust outreach to local stakeholders
- Results from stakeholder engagement efforts, including multilingual online public opinion surveys completed in summer 2024

Infrastructure improvements and recommended projects are organized first by each rural community and then categorized by the County's adopted Strategic Plan goals. Some projects align with multiple Strategic Plan goals. In those cases, projects are categorized under the goal with which they are most closely related.

Executive Summary

Relationship to Yolo County Strategic Plan

This report, prepared for fiscal year 2024-2025, is the fifth annual rural infrastructure investment report. These annual reports are a companion to the Yolo County Strategic Plan ("Strategic Plan") and are also provided as an appendix to the County's "Capital Improvement Plan". The County's Strategic Plan is a multi-year plan that presents a meaningful vision of the future and long-term strategic goals, indicating where resources are to be concentrated to accomplish strategic outcomes. Following Board adoption of the Strategic Plan's goals and high-level objectives, County departments develop operational plans in concert with the County Administrator to support the Strategic Plan goals, which are, in turn, aligned with the County budget. The adopted 2024-2028 Strategic Plan goals are:

Thriving Residents

To provide a healthy, safe, and inclusive place to live, work and visit.

Collaborative Communities

To foster cross-system engagement that bridges gaps, advances public safety, takes early preventative measures, and enhances community protection.

Sustainable Environment

To build a resilient, equitable, and carbon negative future that efficiently utilizes natural resources.

Flourishing Agriculture

To uphold a vibrant agricultural industry while supporting future economic opportunities for the public.

Robust Economy

To promote a growing economy, smart development, and be good stewards of county assets to increase public benefit.

Operational Excellence

To champion a quality workforce that strengthens efficient, accessible, and fiscally responsible County operations to provide excellent customer service.

Rural Infrastructure Investment Plan Accomplishments

Accomplishments and progress from the first (FY 2019-20) Rural Infrastructure Investment Plan include the following projects. The use of **bold text** indicates that the project has been completed since the prior year's Rural Infrastructure Investment Plan.

Progress Report
Rural Infrastructure Accomplishments

THRIVING RESIDENTS

Community	*Description*	*Cost*	*Status*
Capay Valley	New community center and comprehensive health clinic in the Valley region	$19.1 M	Completed January 2024
Capay Valley	Installation of temporary restroom facilities in Guinda	$65,000	Completed June 2021
Capay Valley	Guinda Town Hall improvements (grading, painting and repairs, septic work, and new overhang with ADA access)	$55,000	Completed 2022
County-wide	Install/upgrade broadband at migrant housing centers to facilitate distance learning	Funded	Completed 2021
Knights Landing	New community park with sports fields	$4.8 M	Under construction
Knights Landing	Promenade and trails along Sacramento River	$1M / mile	Concept evaluated in 2022. No construction funding identified.
Madison	Improvements at community park	$80,000	Madison CSD funded via Prop 68
Yolo	Replace Yolo Branch Library	$5.5 M	Completed in 2023

COLLABORATIVE COMMUNITIES

Community	*Description*	*Cost*	*Status*
Capay Valley	Replace CR 40 bridge to improve emergency service access	$3.36 M	Completed December 2022
Capay Valley	Create programs to "fire harden" residences and businesses	-	Yolo Fire Safe Council launched in 2022
Capay Valley	Replace two speed notification signs on SR-16	$20,000	Completed 2022
Clarksburg	Improve law enforcement response time	$200,000	Resident Deputy assigned
Clarksburg	Install additional cameras to prevent/enforce illegal dumping	N/A	Additional cameras have been placed by Sheriff and DA
Clarksburg	Installation of bollards on Poplar Street alley	$5,000	Completed 2020
County-wide	Create Capital Improvement Plans for fire districts, building on "Yolo County Fire Protection Districts" study from July 2019	Staff time	Prop. 218 elections have been held for 8 FPDs as of summer 2024
Esparto	Installation of street print, flashing pedestrian beacons, and other safety improvements along SR-16 in downtown Esparto	$50,000	Completed 2020
Esparto/ Madison/Yolo	Obtain specialized off-road equipment to be able to respond to OHV emergencies in Cache Creek	$130,000	Completed 2020
Knights Landing	Improve pedestrian safety near Sci-Tech Academy	$45,000	Traffic calming measures installed on Railroad Street in 2020
Knights Landing	Install backup generator for Ridge Cut Well	$200,000	Completed in 2022
Knights Landing	Reduce localized flooding by constructing new drainage infrastructure	$600,000	Funded via DWR, construction in summer 2024
Knights Landing	Levee repairs on Sacramento River	$9 M	Mid-Valley Sites 9 & 10 completed 2023; Site 11 expected to construct in 2026
Knights Landing	Levee repairs on Knights Landing Ridge Cut	$2 M	Completed
Madison	154 KV generator for Madison CSD to power drinking water and wastewater systems during power outages	$90,000	Completed in 2021

Madison	Complete preliminary design and engineer's opinion for replacement of community drinking water system	$50,000	Completed in 2020
Madison	Implement flood risk reduction projects to increase flood protection	$900,000 expended to date	30% designs underway for Madison, Esparto HWY 16 project
Madison Migrant Center	Expand parking area at Madison Migrant Center to prevent resident's cars from becoming stuck in mud	$180,000	Completed in March 2024 via In Lieu Fee Agreement with Granite Materials
Yolo	Generator to power community drinking water system during power outages	$100,000	Complete

SUSTAINABLE ENVIRONMENT

Community	*Description*	*Cost*	*Status*
Capay Valley	Ensure sustainable water supply through responsible groundwater management	$7.8 M	In progress through Yolo Groundwater Sustainability Agency via $7.8M grant from DWR received in 2023
Capay Valley	Development of small off-stream storage / detention to slow water down and allow for greater infiltration	$100,000	In progress through Yolo Groundwater Sustainability Agency via $7.8M grant from DWR received in 2023

FLOURISHING AGRICULTURE

Community	*Description*	*Cost*	*Status*
County-wide	Work with local community colleges to develop a farm apprenticeship and training program on local farms	Funded	Complete

ROBUST ECONOMY

Community	*Description*	*Cost*	*Status*
Clarksburg	Connect Clarksburg area to high-speed broadband	$1 M	Completed in 2023
Clarksburg	Relocation of 1883 Clarksburg School House	$1.8 M	Relocation complete; improvements funded and underway
County-wide	Reduce cost and burdens of FEMA regulations and flood insurance within agricultural zones	Staff time	Agricultural Floodplain Task Force Final Memo

Universal Themes

Throughout the information gathering process and analysis of survey results, several reoccurring themes were identified in nearly all the rural communities: road improvements, increased law enforcement presence, health equity, power supply reliability, and access to high-speed internet (broadband). Power supply reliability is added to this year's report as it ranked third, overall, in response to a survey question asking the user to rank various infrastructure categories by level of concern.

Road Improvements

Each rural community has strong opinions about investments in their local transportation infrastructure. Unfortunately, state and federal funding for road improvements dictates that roads are repaired/upgraded based on certain criteria, including public safety, and there are frequently road repair emergencies that take priority over all other projects.

One methodology for capturing each communities' desired improvements is to incorporate them into the rural community "area plan" for each unincorporated community. The Esparto Community Plan was adopted in 2019 and includes robust discussion and documentation of the communities' desired circulation and transportation improvements. An "area plan" can serve as a formal, adopted, community driven planning document to guide future investments. Existing community area plans have been adopted for the following communities:

- Capay Valley Area Plan
- Clarksburg Area Community Plan
- Esparto Community Plan

Copies of these community area plans can be found here.

Increased Law Enforcement Presence

Several rural communities have articulated a desire to reinstate a "resident deputy" program, which currently exists in the communities of the Capay Valley and Clarksburg. Generally, a resident deputy program calls on deputies involved to patrol the communities where they live, routinely attend events, and visit schools in their assigned areas. Resident Deputies cover other areas during their routine patrol but focus their efforts on crime prevention by collaborating on community issues with residents, businesses, homeowners' associations, schools, and other local and state agencies. Resident deputies' duties also include overseeing some Neighborhood and Business Watch groups, as well as keeping department administration abreast of town halls and other events relevant to community engagement or crime prevention.

The Capay Valley currently has two (2) resident deputies, and the community of Clarksburg has two (2) resident deputies as well. There is currently a vacant resident deputy position for the north County area, which includes Knights Landing, Dunnigan, and Zamora. It is estimated that each additional resident deputy would cost approximately $200,000 per deputy, per fiscal year.

Power Supply Reliability

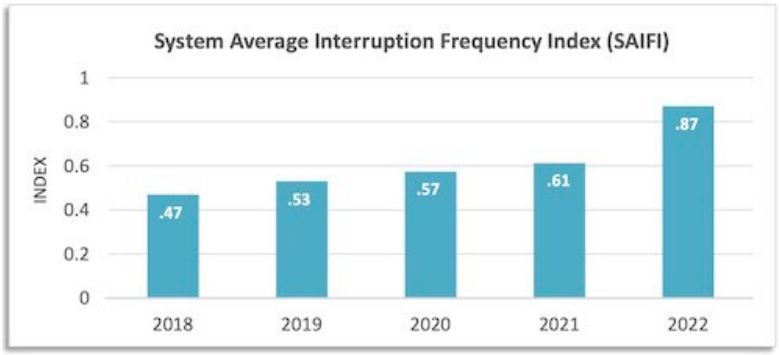
Power supply reliability ranked via public survey as one of the top three infrastructure concerns within Yolo County. Most of unincorporated Yolo County is ultimately served by Pacific Gas and Electric (PG&E). PG&E infrastructure located within Yolo County includes:

- 1,529 miles of overhead distribution lines
- 392 miles of overhead transmission lines
- 14 substations
- 90,600 customers, of which 2,800 are medical baseline customers
- 400 critical facilities

Amongst County residents, there were three distinct areas of concern identified:

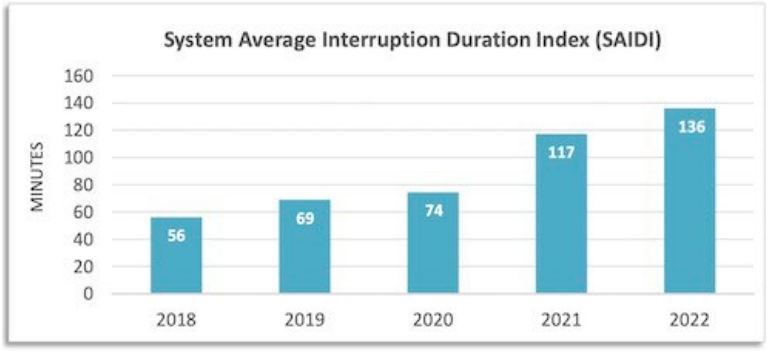
- Sub-standard infrastructure (regular grid operations)
- Public safety power shutoffs (planned outages)
- Outages due to storms, EPSS settings, or grid overload (unplanned outages)

PG&E has reported a downward trend of system reliability in the most recent year data is available (2022). Without counting major storm events, PG&E customers lost power an average of 256 minutes each, in 2022, according to data the utility recently submitted to the state Public Utilities Commission. That was worse than its mark of 218 minutes in 2021. The previous low mark for reliability was 211 minutes back in 2001.



Source: CPUC Reliability Workshop, PG&E Presentation (2023)

The system average interruption frequency index (SAIFI) is the average number of times that a system customer experiences an outage during the year (or time period under study). SAIFI is measured in units of interruptions per customer. It is usually measured over the course of a year, and according to the Institute of Electric and Electronics Engineers the median value for North American utilities is approximately 1.10 interruptions per customer.



Source: CPUC Reliability Workshop, PG&E Presentation (2023)

The System Average Interruption Duration Index (SAIDI) is based on the amount of time the average PG&E customer experiences a sustained outage (being without power for more than five minutes) in a given year. The United States ranks 26th out of the 30 countries that publicly disclose their SAIDI index.

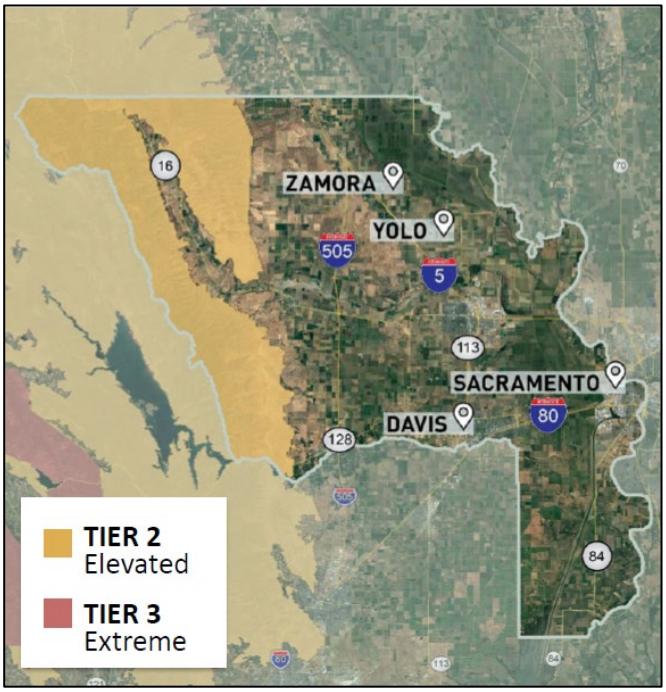
Substandard Infrastructure

The Yolo County Farm Bureau reports that many farmers and agricultural producers have experienced a decrease in the useful life of expensive equipment, such as well pumps, due to lack of adequate capacity at local power substations and/or undersized transformers. The US Department of Agriculture reports that high production costs generally lower agricultural outputs, raise the price of agricultural products, and reduce farm income (*USDA, Economic Research Service, August 2011*). Suggested improvements include increased capacity at power substations and transformers.

Unplanned Outages

PG&E attributes much of the decline in reliability to a program called Enhanced Powerline Safety Settings (EPSS). In high fire-risk areas, PG&E has equipped power lines with an automatic shutoff capability that is enabled during certain weather conditions. When EPSS is enabled, the underlying circuit trips whenever a line is accidentally touched or faults. The circuit stays dead until it is inspected. This has resulted in thousands of multi-hour unplanned outages affecting over 750,000 customers in 2022 alone.

High Fire Threat Area Map



***Source**: PG&E, 2020*

Planned Outages

Over the last decade, California has experienced increased, intense, and record-breaking wildfires in California. These wildfires have resulted in a devastating loss of life and billions of dollars in property and infrastructure damage. Historically, electric utility infrastructure has been responsible for less than 10% of reported wildfires. However, wildfires attributed to electrical infrastructure consist of roughly half of the most destructive wildfires in California history. With the continuing threat of wildfire, the electric investor-owned utilities, such as PG&E, may proactively cut power to electrical lines as a measure of last resort if the utility reasonably believes that there is an imminent and significant risk that strong winds may topple power lines or cause major vegetation-related issues leading to increased risk of wildfires. This effort is called a Public Safety Power Shutoff (PSPS). While PSPS events may reduce the risk of utility-associated wildfires, PSPS events can leave communities and essential facilities without power, which brings its own risks and hardships, especially for vulnerable communities and individuals.

As shown in the High Fire Threat Area map above, the western-most portion of Yolo County is designated a high fire threat area. This area generally coincides with the Capay Valley, the town of Winters, and the foothills between both communities. Data from PSPS outages from 2019 shows that the average PSPS outage in Yolo County lasts 26.7 hours and affects an average of 2,898 residents. Many rural residents rely on groundwater wells, with pumps that require electricity to operate, for domestic water and are without both power and water for these extended outages.

One issue frequently cited by County residents is that PSPS shutoffs are not restricted to those high fire threat area zones due to the configuration of electric system infrastructure. For example, when the power is shut off to protect the Capay Valley from extreme fire hazards, the power is also shut off in large portions of the valley floor, including portions of Esparto and Madison which are not located in high fire threat areas. Suggested improvements include additional redundancy, additional substations, and back-up power solutions, potentially including battery stored solar energy.

High Speed Internet / Broadband

Broadband is a vital element of Yolo's economic sustainability that will keep rural communities competitive, locally, and globally. Where our road systems provide the infrastructure necessary to connect our communities physically, broadband provides the digital infrastructure necessary to connect our communities virtually to the rest of the world. As more of our everyday lives are lived online, broadband has become a fundamental need for our homes, businesses, and communities. Broadband reaches many facets of everyday life by improving the delivery of healthcare services, enriching the educational experiences of children and adults, aiding in the management and conservation of energy resources, assisting public safety personnel in the performance of their duties, and facilitating citizen interaction with our government agencies. Broadband is a driving force behind the competitiveness of our businesses, fostering innovation, productivity, and access to the global economy. Affordable, available access to broadband means the difference between thriving in the new economy and becoming obsolete.

Yolo County LAFCo commissioned the "Yolo Broadband Strategic Plan" in 2015. The study can be found here. The Yolo Broadband Strategic Plan provides a roadmap to understand our local broadband environment and forge strategies that will ensure our communities are prepared to thrive in the digital economy. In 2012, about 70% of Yolo households maintained some type of broadband connection, 6% lower than California's statewide average of 76%.

Recent broadband successes include:

- In 2018 Yolo County partnered with WAVE Broadband to bring high speed internet to the unincorporated community of Knights Landing. The County, in partnership with Yolo LAFCo, convenes a "Broadband Committee" that is committed to implementing the Broadband Strategic Plan.

- The County installed fiber to connect the decommissioned 180' tower at the Yolo County landfill to broadband. Yolo County Housing then obtained funding (one time cost of

$10,000, and approximately $20,000 per year thereafter) to use this connection to increase broadband capacity at the Davis Migrant Center.

Current broadband efforts include the following:

- Signed into law in July of 2021, this SB 156 allocates $6 Billion dollars of investment to build broadband infrastructure throughout California. As a result, the State will be building middle-mile infrastructure in Yolo County that will be instrumental in connecting unserved/underserved communities. However middle mile only extends west to Esparto, and not further through the Capay Valley. The county advocated for the State to expand its reach; however, design changes were not accepted. The Federal Funding Account (FFA) allocation through SB 156 is $15.3 million for the Yolo County. Total Broadband designs across the county are approximately $98 million to construct.

- The county received a grant from the California Public Utilities Commission in the amount of $500,000 to develop broadband network designs for underserved/unserved communities. Network designs were created starting in Esparto extending west through Guinda and Rumsey. The total estimated cost of the buildout is near $33 million.

Infrastructure Provided by Other Entities

Migrant Housing Centers

There are two migrant housing communities within Yolo County: the Davis/Dixon Migrant Center and the Madison Migrant Center. Both are owned and operated by the Yolo County Housing Authority, with financial assistance from the state and federal government. Several project suggestions for the migrant housing communities surfaced during the data gathering phase of this project. A short profile for each migrant housing community and a summary of recommended improvements are provided in Appendix A.

Community Services Districts (CSDs)

Small rural communities in unincorporated areas need basic services like water, wastewater management, security, fire protection, street lighting, vector control, and recreation. Since counties often consist of large and diverse geographical areas, it is difficult to provide tailored community services to any one community. Small rural communities usually do not have the tax base necessary to incorporate services into their own city. Consequently, the Community Services District Law (Gov. Code §61000-61850) was created to provide an alternate method of providing services in unincorporated areas. Community services districts are governed by residents who live with the serve area boundary through local elections. Community service districts localize the costs and benefits of public services: CSDs let local residents get the services they desire at the price that they are willing to pay.

Yolo County currently has four (4) community services districts (CSDs):

- Cacheville Community Services District
- Esparto Community Services District
- Knights Landing Community Services District
- Madison Community Services District

While these CSDs are independent legal districts, they are subject to review by Yolo LAFCO. LAFCO has the authority to review and make determinations on the following:

(1) Growth and population projections for the affected area.
(2) Present and planned capacity of public facilities and adequacy of public services, including infrastructure needs or deficiencies.
(3) Financial ability of agencies to provide services.
(4) Status of, and opportunities for, shared facilities.
(5) Accountability for community service needs, including governmental structure and operational efficiencies.
(6) Any other matter related to effective or efficient service delivery, as required by commission policy.

Further, LAFCO has the power to approve or deny consolidation or reorganization of special districts, jurisdictional and service area boundaries, add or remove legal powers/services provided by districts, and conduct periodic Municipal Services Reviews to ensure adequate provision of services. These reviews occur once every five (5) years. Municipal Service Reviews for the community services districts were most recently completed in 2020 and adopted by LAFCo in August of 2021.

Appendix B to this report provides an overview of each CSD and a summary of recommended improvements. The improvements are further organized by 1) immediate improvements required for service delivery and 2) improvements anticipated to be needed by 2030 to allow for anticipated growth.

California has about 2,900 community water systems that serve homes and businesses. Half of these systems have fewer than 100 connections and suffer from limited staffing. Small districts are generally run by volunteer boards, and their utility rates don't generally cover long-term improvements. These small water systems struggle to cope with things like drought or contaminated drinking water. In 2019, the Safe and Affordable Drinking Water Fund allocated approximately $1.3 billion dollars to help struggling water systems, and it emphasizes sustainable solutions such as consolidation. As the state of California seeks to fix its crumbling water

infrastructure, the State Water Resources Control Board has embarked on an ambitious program to encourage struggling small water systems to join forces with larger, neighboring water systems. Since 2016 the State Water Board has completed 178 water system consolidations and is currently involved with 175 small community water systems in various stages of the consolidation process.

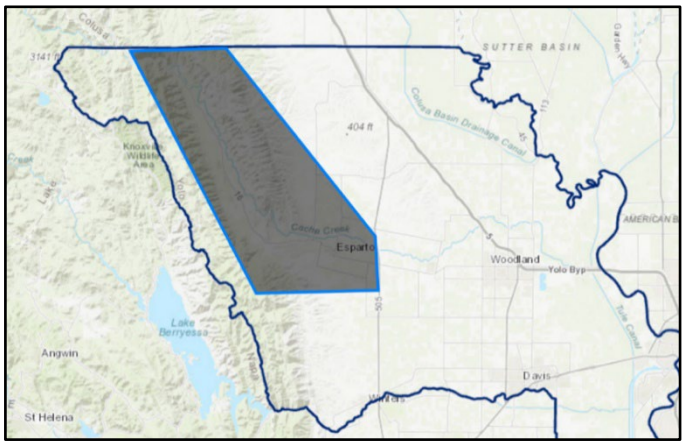
In 2023 the Yolo County Board allocated $300,000 of American Rescue Plan funding to study consolidation for small community water/wastewater systems (i.e., Madison CSD, Cacheville CSD, Knights Landing CSD, Cal-AM Dunnigan). The project will conduct a feasibility analysis of consolidating one or more utility with nearby larger systems. The analysis will look at supply and demand, necessary infrastructure improvements, potential alignments, estimated construction costs, governance options, and identify pros and cons of consolidation for all potentially affected entities.

Rural Community Profiles and Needs Assessments

The remainder of this report consists of a rural community profile and community-based needs assessment for each of the following rural communities: Clarksburg, Dunnigan, Esparto, Knights Landing, Madison, the town of Yolo, and Zamora. A separate profile and needs assessment were created for the Capay Valley Region (the rural communities of Brooks, Capay, Guinda, and Rumsey, as well as the surrounding areas). The town of Esparto is the County's largest rural community and, therefore, has its own community profile and needs assessment.

Capay Valley Regional Profile

The Capay Valley comprises approximately 200 square miles in the northwestern portion of Yolo County. Generally, the Capay Valley is the area of the valley floor west of I-505 to the County line. This area includes the communities of Rumsey, Brooks, Guinda, Capay, Esparto, and Madison. The region lies within the 5th Supervisorial District of the County.



Though inexact, the general demographic profile (below) is extracted from Census Tract 115 in the 2020 Census. The census-based demographics in the "Regional Demographics" table below include the rural communities of Esparto and Madison, which for the purposes of this report, have their own rural community profiles (see pages 27 and 32).

Regional Demographics, 2020 US Census

Capay Valley Region	
Total population	5,435
Median age (years)	35.2
Estimated MHI	
Brooks	$50,932
Capay	$60,440
Guinda	$78,146
Rumsey	$65,796
Race	
White	54.4%
Latino	40.1%
Native American	2.9%
African American	1.2%
Occupied Housing Units	1,471
Owner-occupied Units	73.2%

Capay Valley Region Needs Assessment

New project concepts are listed in **bold text*

THRIVING RESIDENTS

Subject	*Description*	*Cost*	*Status*
Health Equity	**Revitalization of Guinda (Nichols) park; construct shade structures**	**TBD**	**Referred to Yolo County Parks**

COLLABORATIVE COMMUNITIES

Subject	*Description*	*Cost*	*Status*
Criminal Justice	Increase fines for littering, dumping and trespass in scenic high-traffic areas	TBD	Concept
Disaster Preparedness	Additional roads into Capay Valley for adequate residential evacuation; improve condition of existing roads	New roads: $3 M / mile	Referred to Public Works Division
Fire Protection	Work with PG&E to underground all electric infrastructure	TBD	Concept
Fire Protection	**Construct additional water storage tanks to ensure reliable water supply for fire fighting**	**TBD**	**Concept**
Public Safety	Provide Automated External Defibrillators (AEDs) at community buildings, such as community halls	$2,500 ea.	Concept
Transportation	**Improve Rumsey bridge over Cache Creek**	**TBD**	**Referred to Public Works Division**
Transportation	**Improve traffic circulation during Almond Festival**	**N/A**	**Referred to Public Works Division**
Transportation	**Road improvements:** • **Rumsey Canyon Road** • **CR 49**	**TBD**	**Referred to Public Works Division**
Transportation	Install speed bumps on rural county roads to slow traffic and increase public safety	TBD	Referred to Public Works Division
Transportation	Fix and maintain CR 41	$350,000 to repair	On hold due to acquisition issues
Transportation	**Install passing lanes on HWY 16 (State highways are the jurisdiction of Caltrans). Note: Some commenters have expressed concern with unintended impacts that may result from passing lanes.**	**TBD**	**Concept**

Transportation	Install Park & Ride lots at key locations for casino patrons	TBD	Referred to Sustainability Division
Infrastructure	Improve cellular service/ communications networks for emergencies	$33 M	Initial designs complete in 2023, no funding identified
Infrastructure	**Install drainage inlet in front of Guinda Corner Store on SR 16 to prevent seasonal flooding**	**TBD**	**Referred to Public Works Division/CalTrans**
Infrastructure	**Install broadband at Western Yolo Grange Hall**	**TBD**	**Concept**
Water	Install a municipal well and community septic and hook ups for residents of Guinda and Rumsey	$3 M - $9 M	Concept

SUSTAINABLE ENVIRONMENT

Subject	*Description*	*Cost*	*Status*
Climate Action	Energy independence pilot projects	TBD	In progress through Yolo County Sustainability Division
Habitat	**Restore oak woodlands and riparian habitat to improve stormwater runoff and soil health**	**TBD**	**Referred to Yolo Habitat Conservancy and Planning Division**
Habitat	**Create Cache Creek Watershed Stewardship Group, led by the Cache Creek Conservancy**	**TBD**	**Referred to Natural Resources Division and Yolo Groundwater Sustainability Agency**
Water	**Work with UC Davis to conduct study on water dynamics for the Capay Valley, including Cache Creek**	**TBD**	**Concept**

FLOURISHING AGRICULTURE

Subject	*Description*	*Cost*	*Status*
Agricultural Workforce	Create shuttle service to allow agricultural workers from Woodland/Esparto to reach the Valley	TBD	Referred to Yolo County Transportation District
Sustainable Agriculture	**Create program to provide free soil testing service to educate residents about soil composition's unique role in groundwater recharge and conveyance of stormwater**	**TBD**	**Referred to Agricultural Commissioner**

Sustainable Agriculture	**Create compost facility that produces high quality, organic compost for residents of Capay Valley**	**TBD**	**Referred to Agricultural Commissioner**
Housing	Reduce regulatory hurdles for agricultural housing on agriculturally zoned properties	Staff time	Referred to Planning Division
Housing	Create affordable housing for local workers with families	TBD	Concept
Housing	Keep migrant housing centers open year-round to ensure adequate labor supply (*Note: Migrant centers are operated by Yolo County Housing Authority. Effort will require Federal advocacy)*	TBD	Referred to Yolo County Housing Authority

ROBUST ECONOMY

Subject	*Description*	*Cost*	*Status*
Broadband	Extend broadband service to Capay Valley	$33 M	Yolo County IT completed preliminary designs in 2023
Economy	Streamline County permitting processes	Staff time	Referred to Building Division
Economy	Create and implement "Capay Grown" branding/appellation	TBD	Concept
Tourism	Installation of way-finding signage throughout the Capay Valley region	$60,000	Shovel Ready
Tourism	Install permanent public restrooms in Capay Valley for rafters/hikers/cyclists (*Cost dependent acquisition and whether water supply exists*)	$200,000 – $600,000	Concept
Tourism	Develop bicycling and hiking trails throughout the region; expand access to state/federal lands in West; improve facilities at existing County parks; create more campgrounds.	TBD	Referred to Parks Division
Tourism	Modify regulations to allow private entities to host camping (i.e., Hip Camp, glamping)	TBD	Referred to Planning Division
Utilities	Conduct assessment of necessary infrastructure and essential services needed to make Valley attractive to new businesses	$150,000	Referred to Planning Division

Utilities	Conduct Guinda wastewater treatment facility feasibility study; public utilities needed to attract commercial businesses	$70,000	Concept

Clarksburg Community Profile

The rural community of Clarksburg comprises about two (2) square miles and is located in the extreme southeastern corner of the County, on the west bank of the Sacramento River. Clarksburg lies within the primary zone of the Sacramento-San Joaquin Delta and is subject to regulation by the Delta Stewardship Council and the Delta Protection Commission. Clarksburg is within County Supervisorial District 1.

Clarksburg is best known for its grapes and viticulture, though other crops grown include grass (seed and sod) and tomatoes.

Demographics, 2020 US Census
Safety Net Data, Yolo County HHSA, Aug. 2024

Clarksburg	
Total population	
Within CDP	1,309
Within Clarksburg limits	302
Median age (years)	48.8
Estimated MHI	$133,411
Race	
White	72.1 %
Latino	26.1 %
Native American	0.5 %
African American	0.5 %
Occupied Housing Units	177/182 (95 %)
Owner-occupied Units	91/182 (50 %)
Poverty	-
Medi-CAL	86 %
CalFresh	20 %

Clarksburg Needs Assessment

New project concepts are listed in **bold text*

THRIVING RESIDENTS

Subject	*Description*	*Cost*	*Status*
Health Equity	Establish bicycle routes to/through the community, possibly using old railroad right-of-way	$150,000*	Referred to Public Works Division
Health Equity	Food distribution events are held on same day within short timeframe. Hours should be adjusted to allow those in need to access services outside of working hours	TBD	Referred to Yolo Food Bank and local Family Resource Center
Health Equity	Provide medical services to migrant/farm workers	TBD	Concept
Health Equity	New outdoor public recreational facility	TBD	Aquatic center studied in 2020 – cost prohibitive

**Potential SACOG funding for active transportation study*

COLLABORATIVE COMMUNITIES

Subject	*Description*	*Cost*	*Status*
Infrastructure	Create "off-grid" electric storage to mitigate for periods of extended power outages. Work with PG&E to establish redundancy in the Clarksburg electric system	TBD	Concept
Infrastructure	Rezone Willow Point area to Industrial/light industrial. Install forced main for sewer between Willow Point, Old Sugar Mill, Clarksburg, and Regional San to allow Clarksburg to have sewer service.	$2 M/mile	Referred to Planning Division
Transportation	Add speed limit signs on River Road and Jefferson Blvd.	$1,200 per sign	Referred to Public Works Division
Transportation	• Realign and install safety improvements on Jefferson Blvd • Install additional guardrails on South River Road • Install crosswalks on Clarksburg Rd and School St • Improve street lighting, install fog lights, and widen key intersections	$100,000*	Referred to Public Works Division
Transportation	Ensure trees and shrubs do not inhibit traffic visibility	$10,000 / yr.	Ongoing

Transportation	Separate cyclists from traffic. Create walking/bike paths in old railroad ROW to connect West Sacramento and Clarksburg.	$ 1 M /mile	Referred to Public Works Division
Transportation	HWY 84 realignment: realign HWY 84 using the old railroad ROW and Regional San easement to cross the Sacramento River and connect with Consumnes Blvd and I-5.	TBD	Referred to Public Works Division

SUSTAINABLE ENVIRONMENT

Subject	*Description*	*Cost*	*Status*
Stormwater	Aquatic invasive species are significantly impacting local agency/resident ability to pump stormwater out. County should create program that allows removal of invasive species.	TBD	Concept

FLOURISHING AGRICULTURE

Subject	*Description*	*Cost*	*Status*
Agriculture	Modify zoning to allow for new processing facilities	Staff time	Referred to Planning Division
Housing	Reduce regulatory hurdles for agricultural housing on agriculturally zoned properties	Staff time	Referred to Planning Division

ROBUST ECONOMY

Subject	*Description*	*Cost*	*Status*
Economy	Connect Clarksburg area to high-speed broadband	$1 M	In progress, construction contract awarded; est. 20234 completion
Flood	Bring levees up to current Army Corps standards	$187 M	Flood Risk Reduction study completed
Tourism	Install public dock / marina on Sacramento River	$3 M	Concept
Tourism	Create hotels/lodging for tourists	TBD	Concept

Dunnigan Community Profile

The rural community of Dunnigan is located in the northeastern portion of Yolo County, bisected by Interstate 5, just north of the interchange between Interstate 505 and I-5. The City of Woodland is located approximately 14 miles to the south, and the town of Arbuckle in Colusa County is located approximately 8 miles to the north. Dunnigan is located within County Supervisorial District 5.

The town has no public sewer and one small community water system (Cal-American), primarily relying on groundwater wells, septic systems and small wastewater treatment facilities with ponds.

Demographics, 2020 US Census
Safety Net data, Yolo County HHSA, Aug. 2024

Dunnigan	
Total population	1,045
Median age (years)	45.5
Estimated MHI	$40,875
Race	
White	55 %
Latino	41.2 %
Native American	1.3 %
African American	1.8 %
Occupied Housing Units	484/501
Owner-occupied Units	286/484 (59 %)
Poverty	13 %
Medi-CAL	77 %
CalFresh	23 %

Dunnigan Needs Assessment

New project concepts are listed in **bold text*

THRIVING RESIDENTS

Subject	*Description*	*Cost*	*Status*
Health	Establish bicycle routes to/through the community, possibly by replacing culverts with underground drainage*	$40,000*	Concept

**Potential funding from SACOG for active transportation study*

COLLABORATIVE COMMUNITIES

Subject	*Description*	*Cost*	*Status*
Disaster Preparedness	Create new access/egress for Hardwoods subdivision for evacuations	TBD	Concept
Public Safety	Improve law enforcement response time	$200,000/yr	Concept
Transportation	Improve street lighting *(Note: could be folded into bike route study, above)*	TBD	Concept
Transportation	CR 2 needs repair of road surface and edges	TBD	Referred to Public Works
Transportation	Extend CR 5 to CR 88	TBD	In progress
Transportation	Widen public roadways and ensure adequate shoulders	TBD	Concept

SUSTAINABLE ENVIRONMENT

Subject	*Description*	*Cost*	*Status*
Water	Bring public water supply to North Dunnigan (See rural community support, below)	$300,000 (feasibility study)	Feasibility study in progress

FLOURISHING AGRICULTURE

Subject	*Description*	*Cost*	*Status*
	Projects not yet identified		

ROBUST ECONOMY

Subject	*Description*	*Cost*	*Status*
Business/Workforce Development	Install broadband for community	TBD	Concept
Rural Community Support	Work with Cal-AM Dunnigan, State Water Board, and Yolo LAFCo to expand water distribution/wastewater collection to serve entire community of Dunnigan.	Est. $60 M ($20 M for water; $23M for WW, plus contingencies)	BOS approved $300,000 in ARP funding for feasibility study in 2024. Contracting in process.

Esparto Community Profile

Esparto is the most populous rural community and is located in the central portion of Yolo County, bisected by Highway 16, roughly halfway between Woodland and the town of Brooks. Located within Supervisorial District 5, Esparto is considered the "gateway" to the Capay Valley region.

Public water and sewer are provided by the Esparto Community Services District.

Demographics, 2020 US Census
Safety Net data, Yolo County HHSA, Aug. 2024

Esparto	
Total population	3,334
Median age (years)	31.3
Estimated MHI	$87,837
Race	
White	49.6 %
Latino	44 %
Native American	4.2 %
African American	1.4 %
Occupied Housing Units	1,076/ 1,267 (85%)
Owner-occupied Units	72 %
Poverty	13 %
Medi-CAL	40 %
CalFresh	13 %

Esparto Needs Assessment

New project concepts are listed in **bold text*

THRIVING RESIDENTS

Subject	*Description*	*Cost*	*Status*
Health	Install playing field lights and shade structures at Tuli Mem Park	$200,000	Referred to Parks Division
Health	**Create trails/walking path to connect Madison, Esparto, and Capay**	**$1M per mile**	**Concept**
Housing	**Provide age restricted low-income housing**	**TBD**	**Referred to Yolo County Housing**
Education	Keep Esparto Library open full time and year-round	$100,000 / yr.	Referred to Yolo County Library

COLLABORATIVE COMMUNITIES

Subject	*Description*	*Cost*	*Status*
Disaster Preparedness	**Install back up generator at Tuli Mem Park and use facility as a cooling center during power outages**	**TBD**	**Referred to Yolo OES**
Fire Protection / Infrastructure	Work with PG&E to underground electric utilities	TBD	Concept
Infrastructure	Create off grid electric storage for use in power outages; create redundancy in the electric system	TBD	Concept
Infrastructure	Add new bus stops in Esparto; increase service to/from Esparto during commute hours	TBD	Referred to Yolo County Transportation District
Infrastructure	• Install multi-use path around/throughout town to link school routes and provide recreation • Install sidewalks throughout the community • Replace Yolo Ave and Fremont St bridges with ones that can withstand 100-year flood events • Add crosswalks on HWY 16 to facilitate safe crossing • Additional streetlights needed in all areas of town	TBD	Concept
Infrastructure	Regularly clean and deepen sloughs in and around Esparto to prevent flooding	TBD	Regional permits in process to authorize slough maintenance

SUSTAINABLE ENVIRONMENT

Subject	*Description*	*Cost*	*Status*
Utilities	Long-term CIP needed for water and wastewater services	$80,000	Concept
Utilities	Upgrade WWTP to allow use of recycled water for irrigation; results in 20% reduction in potable water use	$8 M	Concept

Utilities	Install solar system at Tuli Mem Park	TBD	Referred to Parks Division
Waste	Expand hours of Esparto Transfer Station to reduce illegal dumping	$150,000 / yr.	Referred to Integrated Waste Management

FLOURISHING AGRICULTURE

Subject	*Description*	*Cost*	*Status*
Housing	Provide affordable housing for elderly/seniors	TBD	Referred to Yolo County Housing Authority
Housing	Adequate affordable housing needed to reduce competition between farm workers and casino employees	TBD	Referred to Yolo County Housing Authority

ROBUST ECONOMY

Subject	*Description*	*Cost*	*Status*
Broadband	Expand Library's Wi-Fi to cover businesses on the length of Yolo Ave	TBD	Referred to Yolo County Library
Business Development	Recruit agricultural processing facility to town	Staff time	Concept
Business Development	Facilitate addition of gas station to Esparto	Staff time	Concept
Rural Community Support	Maintenance of alleyways in Esparto	$10,000/yr.	Concept
Rural Community Support	Fund critical repairs to historic Adams Building. Building owned by non-profit and rents are subsidized to allow development of new small businesses. Engineering complete, funding is for construction only.	$150,000	Concept

Knights Landing Community Profile

Knights Landing is located in the northeastern portion of Yolo County on the west bank of the Sacramento River and lies within Supervisorial District 5. Knights Landing is designated as a "disadvantaged community" and an "economically distressed area" by state and federal standards.

Public water and wastewater services are provided by the Knights Landing Community Services District.

Demographics, 2020 Census
Safety Net data, Yolo County HHSA, Aug. 2024

Knights Landing	
Total population	987
Median age (years)	39.5
Estimated MHI	$40,583
Race	
White	35 %
Latino	64%
Native American	0.7 %
African American	0.4 %
Occupied Housing Units	296/296 (100%)
Owner-occupied Units	72 %
Poverty	19 %
Medi-CAL	57 %
CalFresh	17 %

Knights Landing Needs Assessment

New project concepts are listed in **bold text*

THRIVING RESIDENTS

Subject	*Description*	*Cost*	*Status*
Health Equity	System-wide upgrades and repairs to community drinking water system	$26 M	Concept

COLLABORATIVE COMMUNITIES

Subject	*Description*	*Cost*	*Status*
Transportation	**Improve speed limit signage on CR 116 in both directions**	**TBD**	**Referred to Public Works Division**
Public Safety	Improved street lighting, particularly on highly traveled streets	TBD	Referred to Public Works Division
Public Safety / Transportation	**Construct sidewalks on streets that are frequently used by pedestrians to the school.**	**TBD**	**Referred to Public Works Division**
Public Safety / Transportation	**Install light up crossways for kids crossing**	**TBD**	**Referred to Public Works/CalTrans**
Public Safety	Levee repairs – Sac River	$20 M	In progress, DWR grant funded repairs at MV site 9 and 10. Sac River and Site 11 repairs funded, est. construction 2025/26.

SUSTAINABLE ENVIRONMENT

Subject	*Description*	*Cost*	*Status*
Utilities	Long-term CIP needed for wastewater services	$80,000	Water CIP completed WWTP CIP still needed
Waste	Provide recycling and green waste services *(Note: Waste management services provided by contractor)*	TBD	Referred to Yolo County Integrated Waste Management

FLOURISHING AGRICULTURE

Subject	*Description*	*Cost*	*Status*
Agricultural Workforce	Provide farmworker housing and/or low-income housing for those that qualify	TBD	Referred to Yolo County Housing Authority

ROBUST ECONOMY

Subject	*Description*	*Cost*	*Status*
Economy	100-year flood protection needed	$90-$110 M	In progress
Economy	Ensure broadband access to low-income residents	TBD	Concept

Madison Community Profile

Madison is located in the central portion of Yolo County, just west of the intersection of I-505 and HWY 16 and lies within Supervisorial District 5. Madison is designated as a "disadvantaged community" and "Low/Moderate Income" area by some state standards.

Public water and wastewater services are provided by the Madison Community Services District. Madison lies within the 100-year flood zone and is subject to localized flooding during moderate precipitation events.

Demographics, 2020 US Census
Safety Net Data, Yolo County HHSA, Aug. 2024

Madison	
Total population	455
Median age (years)	28.6
Estimated MHI	$42,696
Race	
White	44.5 %
Latino	52 %
Native American	1.6 %
African American	0.2 %
Occupied Housing Units	141/141 (100%)
Owner-occupied Units	64 %
Poverty	19 %
Medi-CAL	84 %
CalFresh	27 %

Madison Needs Assessment

New project concepts are listed in **bold text*

THRIVING RESIDENTS

Subject	*Description*	*Cost*	*Status*
Transportation	Add additional Yolo Bus shelter close to migrant housing	$300,000	Referred to Yolo County Housing Authority and Yolo County Transportation District

COLLABORATIVE COMMUNITIES

Subject	*Description*	*Cost*	*Status*
Infrastructure	Create "bulky pick-up" days for removal of large trash items; prevent illegal dumping	TBD	Referred to Integrated Waste Management
Infrastructure	Raise roadway at CR 20 and CR 92C to prevent residents from being trapped by floodwater	TBD	Referred to Public Works
Fire Protection	Replace fire station	$1.3 M	Concept
Public Safety	22KW generator needed for emergency backup power for Madison Fire Dist.	$50,000	Concept

SUSTAINABLE ENVIRONMENT

Subject	*Description*	*Cost*	*Status*
Water	**Madison CSD obtained funding for replacement of distribution system. Water storage tank, booster pumps, etc. needed to meet fire flow requirements**	**$7.8 needed**	**$3.8 M obtained; Additional $4M needed**
Wastewater	Investigate odor from wastewater treatment ponds	TBD	Referred to YSAQMD

FLOURISHING AGRICULTURE

Subject	*Description*	*Cost*	*Status*
Housing	Adequate (non-farm labor) affordable housing needed	TBD	Referred to Yolo County Housing Authority
Housing	Keep migrant housing centers open year-round to ensure adequate labor supply (*Note: Migrant centers are operated by Yolo County Housing Authority. Effort will require Federal advocacy)*	TBD	Referred to Yolo County Housing Authority

ROBUST ECONOMY

Subject	*Description*	*Cost*	*Status*
Economy	100-year flood protection needed	$40 M	25-yr flood protection attained in FY 19/20; add'l project designs under development with CalOES grant

Town of Yolo Community Profile

Yolo is located five miles north of Woodland along I-5 and lies within Supervisorial District 5. Cache Creek runs immediately south of the town. Yolo is considered a "Low/Moderate Income" area by some state standards.

Public water is provided by the Cacheville Community Services District.

Demographics, 2020 US Census
Safety Net Data, Yolo County HHSA, Aug. 2024

Town of Yolo	
Total population	281
Median age (years)	45.2
Estimated MHI	$74,368
Race	
White	32 %
Latino	68 %
Native American	0 %
African American	0 %
Occupied Housing Units	158/165 (96%)
Owner-occupied Units	71/165 (48 %)
Poverty	5 %
Medi-CAL	49 %
CalFresh	28 %

Town of Yolo Needs Assessment

New project concepts are listed in **bold text*

THRIVING RESIDENTS

Subject	*Description*	*Cost*	*Status*
Health Equity	Basketball court and associated small park infrastructure	$20,000	Referred to Parks Division
Utilities	Infrastructure assessment & CIP for Cacheville CSD	$60,000	Concept

COLLABORATIVE COMMUNITIES

Subject	*Description*	*Cost*	*Status*
Infrastructure	Implement flood risk reduction projects to reduce flood risk to Yolo	$15 M	Concept identified in 2019 SCFRR Study

SUSTAINABLE ENVIRONMENT

Subject	*Description*	*Cost*	*Status*
Water	Replace well and provide adequate water storage and treatment for community drinking water supply	$1.5 M	Concept

FLOURISHING AGRICULTURE

Subject	*Description*	*Cost*	*Status*
	Projects not yet identified		

ROBUST ECONOMY

Subject	*Description*	*Cost*	*Status*
Broadband	**Install broadband in commercial/business area**	**TBD**	**Concept**

Zamora Community Profile

Zamora is located twelve (12) miles northwest of Woodland along I-5 and lies within Supervisorial District 5. Zamora is considered a "Low Income" area by some state/federal standards.

Water and wastewater are provided by domestic groundwater wells and individual septic systems.

Demographics, 2020 US Census
Safety Net Data, Yolo County HHSA, Aug. 2024

Zamora	
Total population (CDP)	193
Median age (years)	60.1
Estimated MHI	$47,857
Race	
White	60 %
Latino	40 %
Native American	0 %
African American	0 %
Occupied Housing Units	91/99
Owner-occupied Units	66/99 (67%)
Poverty	-
Medi-CAL	-
CalFresh	-

Zamora Needs Assessment

New project concepts are listed in **bold text*

THRIVING RESIDENTS

Subject	*Description*	*Cost*	*Status*
	Projects not yet identified		

COLLABORATIVE COMMUNITIES

Subject	*Description*	*Cost*	*Status*
Infrastructure	Stormwater systems (ditches and storm drains) are not adequately sized to prevent roadway flooding	TBD	Referred to Public Works
Infrastructure	Install rumble strips on CR 13/14 to prevent illegal passing and keep people from drifting off roadway	TBD	Referred to Public Works

SUSTAINABLE ENVIRONMENT

Subject	*Description*	*Cost*	*Status*
Water	Identify and construct opportunities for groundwater recharge (e.g., Oat Creek)	TBD	Underway by Yolo Subbasin Groundwater Agency

FLOURISHING AGRICULTURE

Subject	*Description*	*Cost*	*Status*
	Projects not yet identified		

ROBUST ECONOMY

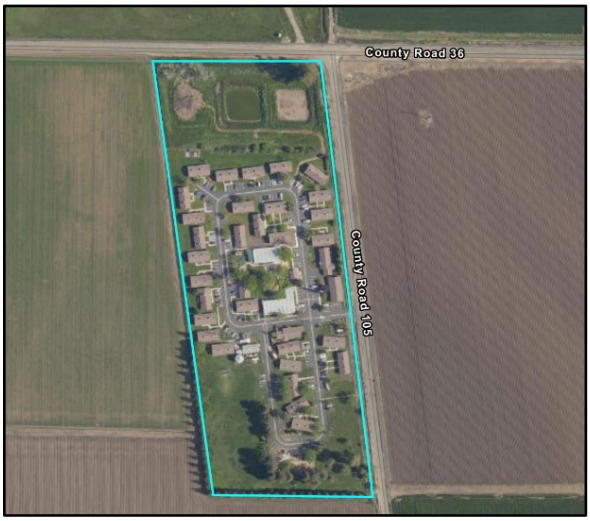
Subject	*Description*	*Cost*	*Status*
Rural Community Support	Install physical barriers, such as vegetation or sound walls, along I-5, I-505, and busy roadways to deaden noise within residences	TBD	Concept
Rural Community Support	Construct a community gathering area	TBD	Referred to Parks Division

Appendix A – Migrant Housing Community Needs

There are two migrant housing communities within Yolo County: The Davis/Dixon Migrant Center and the Madison Migrant Center. Both are owned and operated by the Yolo County Housing Authority, with financial assistance from the state and federal government. Several project suggestions for the migrant housing communities surfaced during the data gathering phase of this project. A short profile for each migrant housing community is provided below. Migrant housing project suggestions are compiled on the following pages.

Davis Migrant Center

31150 County Road 105, Dixon



9 Two Bedroom Units, 44 Three Bedroom Units, 11 Four Bedroom Units

Madison Migrant Center

28285 HWY 16, Madison

14 Two Bedroom Units, 61 Three Bedroom Units, 13 Four Bedroom Units

Davis Migrant Center Needs Assessment

New project concepts are listed in **bold text*

THRIVING RESIDENTS

Subject	*Description*	*Cost*	*Status*
Health Equity	Install gym/recreation space with exercise bikes and weight machines	TBD	Referred to Yolo County Housing Authority
Education	Provide computers, printers, and Wi-Fi at the migrant center. Will also facilitate telehealth.	$50,000	Referred to Yolo County Housing Authority

COLLABORATIVE COMMUNITIES

Subject	*Description*	*Cost*	*Status*
Transportation	Install bus stop at the migrant center	$350,000	Referred to Yolo County Transportation District
Infrastructure	Create hotline for migrant center residents to report crime, housing issues, transportation help, connection to services	TBD	Concept

SUSTAINABLE ENVIRONMENT

Subject	*Description*	*Cost*	*Status*
	Projects not yet identified		

FLOURISHING AGRICULTURE

Subject	*Description*	*Cost*	*Status*
	Projects not yet identified		

ROBUST ECONOMY

Subject	*Description*	*Cost*	*Status*
	Projects not yet identified		

Madison Migrant Center Needs Assessment

New project concepts are listed in **bold text*

THRIVING RESIDENTS

Subject	*Description*	*Cost*	*Status*
Health Equity	Install gym/recreation space with exercise bikes and weight machines	$25,000	Referred to Yolo County Housing Authority
Health Equity	Freezers are undersized for number of residents per unit. Residents cannot take advantage of bulk purchases or large batch cooking of healthy meals.	$500 per unit	Referred to Yolo County Housing Authority
Education	Provide computers, printers, and Wi-Fi at the migrant center. Will also facilitate telemedicine.	$50,000	Referred to Yolo County Housing Authority

COLLABORATIVE COMMUNITIES

Subject	*Description*	*Cost*	*Status*
Transportation	Install bus stop at the migrant center; it is dangerous for residents to walk along HWY 16	$350,000	Referred to Yolo County Transportation District
Infrastructure	Create hotline for migrant center residents to report crime, housing issues, transportation help, connection to services	TBD	Concept

SUSTAINABLE ENVIRONMENT

Subject	*Description*	*Cost*	*Status*
Transportation	Residents must travel to Esparto for laundry machine change. Installation of change machine or reloadable “credit” card would reduce VMTs	$4,000-10,000	Referred to Yolo County Housing Authority

FLOURISHING AGRICULTURE

Subject	*Description*	*Cost*	*Status*
Housing	Address labor shortages/affordable housing shortage by keeping the Madison Migrant Center open year-round. Center does not have heating in the units, precluding use in winter months.	$500,00	Referred to Yolo County Housing Authority

ROBUST ECONOMY

Subject	*Description*	*Cost*	
	Projects not yet identified		

Appendix B – Community Services District Needs

Small rural communities in unincorporated areas need basic services like water, wastewater management, security, fire protection, street lighting, vector control, and recreation. Since counties often consist of large and diverse geographical areas, it is difficult to provide tailored community services to any one community. Small rural communities usually do not have the tax base to necessary to incorporate services into their own city. Consequently, the Community Services District Law (Gov. Code §61000-61850) was created to provide an alternate method of providing services in unincorporated areas. Community services districts are governed by residents who live with the serve area boundary through local elections. Community service districts localize the costs and benefits of public services: CSDs let local residents get the services they desire at the price that they are willing to pay.

Yolo County currently has four (4) community services districts (CSDs):

- Cacheville Community Services District
- Esparto Community Services District
- Knights Landing Community Services District
- Madison Community Services District

While these CSDs are independent legal districts, they are subject to review by Yolo LAFCo. LAFCo has the authority to review and make determinations on the following:

(1) Growth and population projections for the affected area.
(2) Present and planned capacity of public facilities and adequacy of public services, including infrastructure needs or deficiencies.
(3) Financial ability of agencies to provide services.
(4) Status of, and opportunities for, shared facilities.
(5) Accountability for community service needs, including governmental structure and operational efficiencies.
(6) Any other matter related to effective or efficient service delivery, as required by commission policy.

Further, LAFCo has the power to approve or deny consolidation or reorganization of special districts, as well as jurisdictional and service area boundaries, add or remove legal powers/services provided by districts, and conduct periodic Municipal Services Reviews to ensure adequate provision of services. Municipal Service Reviews were completed for the community services districts in 2020 and adopted by the LAFCo Commission in August 2021.

This appendix provides an overview of each community services district within Yolo County and a summary of known deferred maintenance and/or recommended improvements. The improvements are further organized by 1) immediate improvements required for service delivery and 2) improvements anticipated to be needed by 2030 to allow for anticipated growth. A summary

of estimated near and long-term costs is provided on the following page.

Estimated Community Services District Infrastructure Improvement Costs*

Cacheville Community Services District	
Total Recommended Near-Term Improvements	$ 1,300,000
Total Recommended Long-Term Improvements	$ 5,500,000

Esparto Community Services District	
Total Recommended Near-Term Improvements	$12,550,000
Total Recommended Long-Term Improvements	$15,130,000

Knights Landing Community Services District	
Total Recommended Near-Term Improvements	$ 7,805,000
Total Recommended Long-Term Improvements	$ 10,210,000

Madison Community Services District	
Total Recommended Near-Term Improvements	$ 7,310,000
Total Recommended Long-Term Improvements	$ 17,250,000

**Additional detail and information pertaining to recommended improvements for each CSD is found in the following pages of this Appendix.*

Cacheville Community Services District

PO Box 268, Yolo, CA 95697 **www.*cacheville.specialdistrict.org***

The Cacheville Community Services District (CSD) is located four miles north of the City of Woodland and provides domestic water and street lighting services to the town of Yolo, which is approximately 89 acres in size. The town of Yolo is located along County Road 99W and the Union Pacific Railroad, south of County Road 17 and Washington Street, west of Cache Creek and County Road 98, and north of County Road 97B and Interstate 5.

The Cacheville CSD was formed on September 8, 1970 and was originally given the ability to provide water and wastewater services to the town of Yolo. The District never utilized its power to provide wastewater services, however, as the community uses private septic tanks for wastewater disposal in the area. The District added street lighting services in 1978 and acts as a pass-through agency with Pacific Gas and Electric Company (PG&E) for street lighting. Currently, the District provides street lighting services as well as domestic water supply for 165 housing units (US Census, 2010).

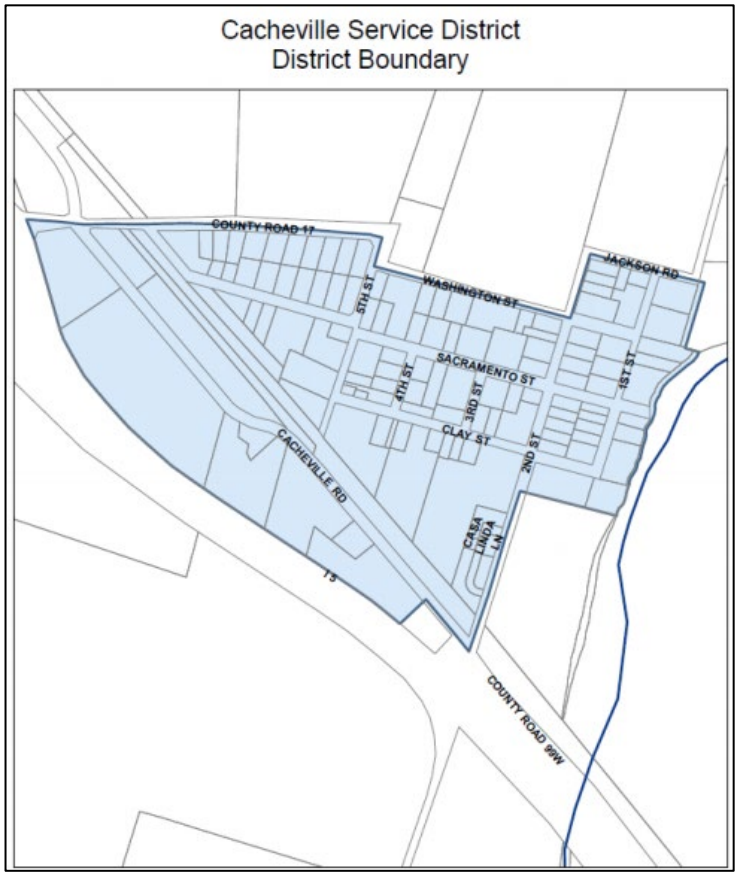
Service area
89 acres
452 population (2010)
165 housing units
13 commercial units

Services provided
Water, street lighting
**all connections are metered*

District Staff
Clerk, part-time
Water Distribution Operator, part time

Municipal Service Review
August 2021
July 2014
October 2006

Special Studies
2011 Final Facility Master Plan, Yolo County



Near-Term Improvements to Existing System

The water system was constructed in the 1970s and consists primarily of 4-inch diameter and 6-inch diameter pipes, many of which are undersized. Existing non-residential fire flows do not meet current requirements and the pipes are in need of expansion to provide adequate pressures for fire flows. The calculated current average day use based on standard demand rates and known land uses is 122 gpm.

There are two wells that are a part of the system (see Figure 1, page 35) – Washington Street Well (Well 1) and Sacramento Street Well (Well 2). Well 2 serves as a backup well. Well 1 has a reported capacity of 1,000 gpm. Well 2 capacity is reported at 100 gpm. Well 1 is equipped with a 100 hp pump and is connected to two 5,000-gallon hydropneumatic tanks. Both Well 1 and Well 2 receive chlorination treatment at the well head. Cacheville CSD staff indicate that the water system performs satisfactorily under current domestic water demands, but additional facilities would be required to handle all but a nominal amount of additional development. Back-up power is not available at the wells.

The combined pumping capacity from the wells (1000 gpm) is not adequate to meet either residential or commercial fire flow requirements (1,500 gpm residential and 2,500 commercial, respectively).

In summary, the current system has the ability to meet the existing domestic supply needs of the community but does not appear to have the ability to meet fire flow requirements without improvements. Additionally, upsizing the pumps would not resolve the fire flow deficiencies: inadequate pipeline diameter sizing throughout water distribution system constrains the delivery of these flows. The existing developed area would benefit from the upsize or replacement of some pipes and a storage tank, possibly in combination with a booster pump for fire flow and increased system reliability in the event wells are out of service.

Recommended Improvements	
Water Main Upsizing	Est. Cost: $ 1,000,000
Upsize Water Pump and Provide Backup Power	Est. Cost: $ 300,000
Total Recommended Near-Term Improvements	**$ 1,300,000**

Figure 1. Proposed Water System Configuration – 2030 Buildout

LEGEND

- EXISTING SYSTEM WATER MAIN
- PROPOSED WATER MAIN TO SERVE 2030 BUILDOUT & PROVIDE BACKBONE LOOP
- EXISTING WELL
- PROPOSED WELL
- PROPOSED STORAGE TANK

Long-Term Improvements to Existing System

A significant increase in the size of Cacheville is envisioned by the 2030 General Plan. The land use areas and their percentage of the total 2030 build-out area are summarized in Table 1 to provide an understanding of the scope of the 2030 growth compared to the existing CSD area. It should be noted that the areas designated as developed and served may not necessarily be fully developed and/or could be redeveloped in such a way that water demands could increase. From Table 1, the areas projected for future development make up a significant fraction of the currently served area, which indicates that facility upgrades will be needed to meet water demand needs associated with the projected growth.

Table. 1 Existing and Future Development Acreages

Development Category	Acreage	Percent of 2030 Build-out
Developed and Served	78 acres	61.9 %
Future Development	48 acres	38.1 %
Total	126 acres	100 %

The 2030 growth area build-out envisioned in the General Plan expands the developed area of Cacheville from 78 acres to approximately 126 acres (an increase in service area of approximately 62%). This increase will require upsizing some of the existing water mains and the addition of system looping to increase the reliability of the current water distribution and supply system. Average day demand for the existing condition based on land use is calculated as 118 gpm and is expected to increase to 266 gpm under 2030 build-out conditions – an increase by a factor of about 2.3. The water system that would be required to serve the build-out area will depend on phasing, actual land use, and actual land use patterns, but the following recommendations include the major elements that will be required.

Recommended Improvements	
Upgrade to 12” Transmission Main	Est. Cost: $ 1,500,000
New Backup Well (>500 gpm)	Est. Cost: $ 750,000
New Primary Well (>1,500 gpm)	Est. Cost: $ 1,750,000
New Water Storage Tank (0.4 MG)	Est. Cost: $ 1,500,000
Total Recommended Long-Term Improvements	**$ 5,500,000**

Esparto Community Services District

26490 Woodland Ave, Esparto, CA 95627 **www.*ecsd-ca.org***

The Esparto Community Services District was founded in 1969, replacing the Esparto Sanitary District, and is authorized to provide water, wastewater, and street lighting services to the approximately 3,108 residents of the unincorporated community of Esparto (US Census Bureau, 2010).

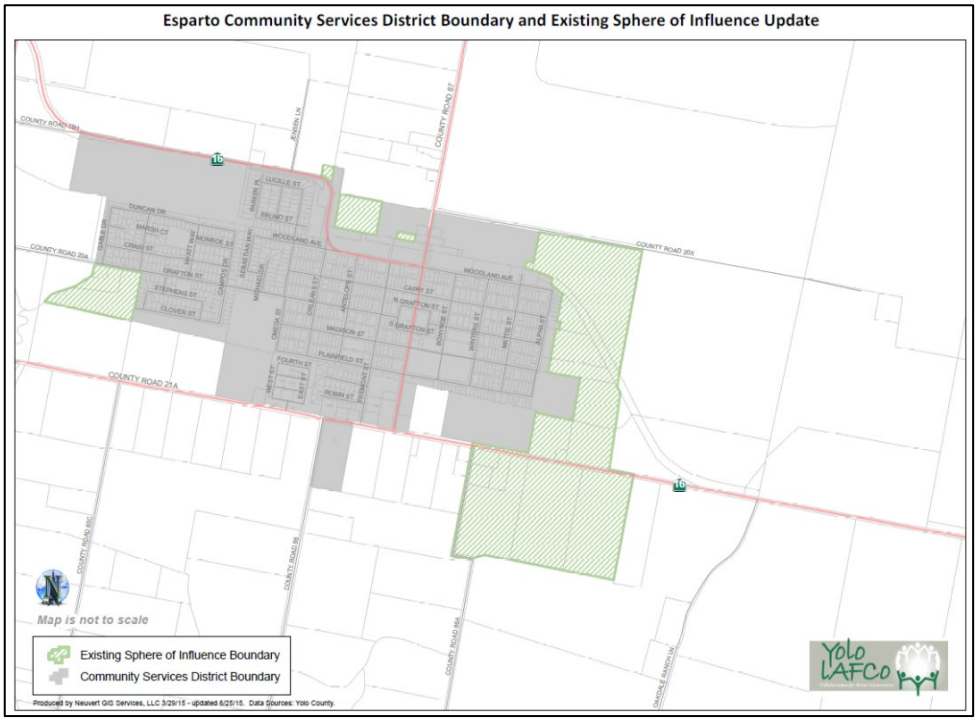
The Esparto CSD is located on Highway 16 between the communities of Madison and Capay. See the map below for greater detail.

Service area
531 acres
3,108 residents (2010)
1,025 water connections
1,107 sewer connections

Services provided
Water, wastewater, street lighting, parks and recreation
**Connections are not metered*

District Staff
General Manager
Fiscal Officer
4 water/sewer staff
1 parks maint staff
Total: 7 FTEs

Municipal Service Review
August 2021
July 2015



Special Studies
2011 Final Facility Master Plan, Wood Rogers (Yolo County)
2003 Esparto CSD Facilities Update Plan, Psomas, (Esparto CSD)

Near-Term Improvements to Existing System

Water Supply and Distribution

The Esparto CSD owns, operates and maintains the water system servicing the community of Esparto, which serves a total of 1,025 water connections. According to the District's Facility Master Plan (2011), the system's infrastructure includes:

- Five (5) wells- Well 1A, Well 5, Well 5B and Well 6
  (Well 5B depth is 1,200 ft; all other wells have depth of 400 feet)
- Emergency well- The Well 4 is not currently in use due to adequacy issues, but still connected to the system for emergency use
- 500,000-gallon storage tank
- Booster pump station
- Two (2) hydropneumatic tanks- connected to the distribution system in order to maintain system pressure and reliability

In total, the four in-service wells have a capacity of 2,100 gpm. Water from the wells is treated with chlorine for disinfection before entering the distribution system. Individual water service connections are not metered, but when a service is repaired or replaced a meter box is installed with a spacer to allow for future placement of a water meter.

The primary concern of the CSD with the existing system at this time is improving the flow capacity in older sections of the town by either upsizing or additional water main looping.

Wastewater Collection and Treatment

The existing wastewater collection system consists primarily of vitrified clay pipe with diameters ranging from 4-inch through 12-inch. The collection system flows by gravity to a treatment pond system on the easterly side of Esparto. A pump station is located at the headworks to the treatment ponds and is pumped into ponds by a submersible pump lift station equipped with two 500 gpm submersible Chicago pumps. Operators indicate that the collection system has both maintenance and repair problems at various locations around town, including:

- Inverted siphon passing under Lamb Valley Slough
- Sewer trunk on Omega Street located between the cross streets of Grafton Street and Capay Street
- Inadequate capacities in three sewer trunks flowing west to east between Madison Street and Woodland Avenue
- Infiltration of groundwater into sewer lines and inflow of surface water into the treatment ponds

The CSD owns 90 acres of land, which are intended to be used for treatment ponds or other treatment and disposal facilities. However, the actual useable property is approximately 75-acres, containing 10 ponds totaling 42.7 acres. A portion of the 90 acres is impaired by the South Fork

Willow Slough, Lamb Valley Slough, and Oakdale Ranch Lane, which reduces the usable property to approximately 75 acres. This property currently contains 10 ponds totaling approximately 42.7 acres. Wastewater drains by gravity to a pump station located at the headworks to the treatment ponds and is pumped into the ponds by means of a submersible pump lift station equipped with two 500 gpm submersible Chicago pumps. The existing 42.7 acres of ponds are divided by Oakdale Ranch Lane, which progresses in a northerly direction from Highway 16. The existing system is configured with Ponds 1-6 totaling 12.7-acres on the west side of Oakdale Ranch Lane and four ponds totaling a measured 30-acres to the east of the Lane. Ponds 1 and 2 are treatment ponds, and the remaining ponds are disposal ponds. Currently, the remainder of the CSD property is used as an emergency overflow area. Levees around the ponds provide a barrier between the ponds and the adjacent Lamb Valley Slough and South Fork Willow Slough.

There are no improvements needed in the near-term for the wastewater treatment system, however, the Esparto CSD is pursuing a wastewater recycling project that would allow the CSD to use treated wastewater to irrigate the park/open space lands it is responsible for maintaining, resulting in a 20% reduction in use of groundwater. This wastewater recycling project is shovel ready and is estimated to cost $6.6M.

Recommended Improvements

Water System Improvements

Water Main Upsizing	Est. Cost: $ 5,600,000
Total Recommended Near-Term Water Improvements	**$ 5,600,000**

Wastewater System Improvements

8-inch Sewer Trunk Diversion	Est. Cost: $ 220,000
Sewer Lift Station and Force Main	Est. Cost: $ 130,000
Wastewater Recycling project	Est. Cost: $ 6,600,000
Total Recommended Near-Term Wastewater Improvements	**$ 6,950,000**
Cumulative Recommended Near-Term Improvements	**$ 12,550,000**

Long-Term Improvements to Existing System

Future Water Supply and Distribution – 2030 Expected Growth

The 2030 growth area build-out envisioned in the General Plan expands the developed area of Esparto from 235 acres to approximately 614 acres (an increase in service area of approximately 2.6 times). This increase will require increases in the size and reliability of some portions of the current water distribution and supply system. The current average daily demand is 651 gpm and is expected to increase to 1,500 gpm under 2020 build-out conditions. Current fire flow requirements are expected to increase from 2,500 gpm to 3,500 gpm.

Table 2. Water System – Current vs. Expected Demand

Requirement	Current	2030 Build-out
Average Daily Demand	651 gpm	1,500 gpm
Max. Fire Flow	2,500 gpm	3,500 gpm

Future Wastewater Collection and Treatment – 2030 Expected Growth

Similar to the water system, the growth area for 2030 build-out will require a sizable expansion of Esparto's wastewater collection and treatment system. The peak sewer flow generation is expected to increase from the existing condition flow, estimated at 1.87 MGD, to a projected 2030 build-out flow of 4.58 MGD – an increase by a factor of approximately 2.4.

Recommended improvements to the wastewater collection and treatment system to accommodate the growth projected by the County's 2030 General Plan are provided below.

Recommended Long-Term Improvements

Water System Improvements

Transmission Main Loop	Est. Cost: $ 2,630,000
New Water Supply Well(s)	Est. Cost: $ 1,200,000
Additional Water Storage	Est. Cost: $ 2,600,000
Total Recommended Long-Term Water Improvements	**$ 6,430,000**

Wastewater System Improvements

Gravity Collector System (New Development)	Est. Cost: $ 2,500,000
Upsize of existing 12" Trunk Line & Relief Sewer Line	Est. Cost: $ 1,000,000

New Lift Station at Pond Outfall	Est. Cost: $ 900,000
Upsize Collector Sewers	Est. Cost: $ 1,750,000
Land Acquisition (80-acres for new ponds)	Est. Cost: $ 800,000
New Storage Pond(s)	Est. Cost: $ 650,000
New Aeration Pond(s)	Est. Cost: $ 500,000
Construct Effluent Irrigation System	Est. Cost: $ 600,000
Total Recommended Long-Term Wastewater Improvements	**$ 8,700,000**
Cumulative Recommended Long-Term Improvements	**$15,130,000**

Knights Landing Community Services District

PO Box 548, Knights Landing, CA 95645 ***www.klcsd.specialdistrict.org***

The Knights Landing Community Services District (CSD) was established in May 1968 to provide water, wastewater treatment, street lighting, and parks and recreation services to the community of Knights Landing. The CSD received LAFCo approval to add storm drainage services to its list of powers in 2007. Effective July 2020, the Knights Landing CSD Board approved an agreement with the Madison CSD for Madison CSD staff to provide general operations and management services.

The community of Knights Landing is located on State Highway 113 adjacent to the Sacramento River. The current boundaries for the Knights Landing CSD roughly correspond to the perimeter of the developed areas in the community of Knights landing, with the addition of a few agricultural parcels immediately adjacent to the community.

Service area
220 acres
995 residents (2010)
380 housing units
287 connections

Services provided
Water, wastewater, street lighting, parks and recreation, storm water
**Connections are not metered*

District Staff
Part-time General Manager
Part-time bookkeeper
Total: 1.0 FTE

Municipal Service Review
August 2021
December 2014

Special Studies
2011 Final Facility Master Plan, Wood Rogers (Yolo County)

Knights Landing Community Services District Boundary and Sphere of Influence

Near-Term Improvements to Existing System

Water Supply and Distribution

The Knights Landing CSD owns, operates and maintains the water distribution system serving the town of Knights Landing. The water system was constructed in the 1970s and consists primarily of 6" diameter pipes, many of which are undersized. Existing non-residential fire flows do not meet current requirements, and the pipes are in need of expansion to provide adequate pressures for fire flows. Average daily water demand is roughly 200 gpm, with a peak demand of 695 gpm. The community water supply is drawn from three (3) active wells.

Well	Capacity (gpm)	Constructed	Depth (ft)	Status
Well 3 (Railroad St.)	500	1971	332'	Active
Well 4 (Ridge Cut)	1,000	1981	342'	Active
Well 5 (Third St.)	1,500	1999	402'	Active

The combined pumping capacity of the three (3) active wells should allow the system to meet fire flow requirements (1,500 gpm residential and 2,500 gpm commercial). However, the 4-inch and 6-inch diameter piping throughout the system constrains the delivery of flows, and the pipes are in need of expansion to provide adequate pressure for fire flows. In summary, the District's water system has the capacity to meet the community's existing water supply needs but cannot meet fire flow requirements without improvements. The addition of above ground water storage is needed to ensure adequate water capacity and pressure. Above ground storage is estimated to cost $500,000.

Well 3 is recommended for replacement because of its age and recent problems with water quality; typically wells experiencing these issues experience further degradation over time. Well 3 is also losing thousands of gallons of water per month due to leaks. Replacement valves and tank repairs to stem the leaks are estimated to cost $5,000-10,000. The CSD reports that Well 3 occasionally pumps sand. It is recommended that the well apparatus be removed and the well be cleaned and inspected. This maintenance will cost approximately $25,000. The system proposed for 2030 assumes a production rate of 3,000 gpm from the existing wells. Subsequently, the new well is proposed to have a capacity of 1000 gpm to address future demand as well as the replacement of existing Well 3. The CSD reports that Well 5 occasionally has water quality issues with metals.

Upsizing exiting water mains would serve to improve fire flow capacities within the distribution system and benefit the future development areas by providing additional transmission capacity through the existing area. A study to determine upsizing requirements was not part of this analysis. Water distribution system modeling is recommended to confirm the appropriate upsizing using fire flows appropriate to the existing and planned land use, as well as to plan for service to future growth areas. The approximate total length of existing 4-inch/6-inch diameter lines is about 20,985 lineal feet. All public water systems are required to meter their water deliveries by 2025. Knights Landing CSD does not have meters installed. The estimated cost for metering is $500,000.

Wastewater Collection and Treatment

Wastewater from the collection system drains by gravity to the wastewater treatment facility located on 51.5-acres of property, southeast of town. The treatment facility is adjacent to the Knights Landing Ridge Cut, which is located on a 473-acre parcel of land under Williamson Act contract. The treatment facility consists of 10 facultative ponds plus a "spreading area" that serves as an emergency holding area to accommodate excess hydraulic flows during years of heavy flooding.

The facultative ponds were originally constructed in 1977 and have reached their current configuration in stages over the years. The latest modification was completed in 2008; improvements included the addition of two ponds to the then-current eight pond system to increase the treatment system capacity to 0.112 mgd. The lift station at the treatment pond headworks consists of a sump structure and two submersible-style pumps which transfer water into the treatment ponds through a common 6-inch diameter pipeline. The lift station pumps incoming wastewater from an elevation of 13.19 feet at the sump intake into the facultative ponds, which operate at a design water surface elevation of 28.3-feet.

Pond sludge removal should occur approximately once every 10-15 years. The last documented sludge removal occurred in 2005 in pond 8.

The current wastewater treatment system has the ability to meet the current need with some minor upgrades. The wastewater distribution system needs replacement and a new forced main to the ponds. The system also needs new pumps and a solids separator. The estimated cost for these improvements is $1,720,000. The CSD has applied for a infrastructure planning grant ($160,000) from the State Water Resources Control Board for the planning, design, and engineering of these improvements. There is no local match required for this funding source.

The wastewater treatment system is sized to accommodate current development. To increase system reliability, an emergency alarm system is recommended at the lift station to alert the operator if the lift station pumps fail.

Recommended Improvements

Water System Improvements

Water Main Upsizing	Est. Cost: $ 3,550,000
New well	Est. Cost: $ 1,500,000
Maintenance of Well 3	Est. Cost: $ 35,000

Addition of above ground storage tank	Est. Cost: $ 500,000
Installation of water meters	Est. Cost: $ 500,000
Total Recommended Near-Term Water Improvements	**$ 6,085,000**

Wastewater System Improvements

New Lift Station at Outfall to Ponds	Est. Cost: $ 650,000
Parallel Collector Sewer	Est. Cost: $ 570,000
Installation of Solids Separator	Est. Cost: $ 500,000
Total Recommended Near-Term Wastewater Improvements	**$ 1,720,000**
Cumulative Recommended Near-Term Improvements	**$ 7,805,000**

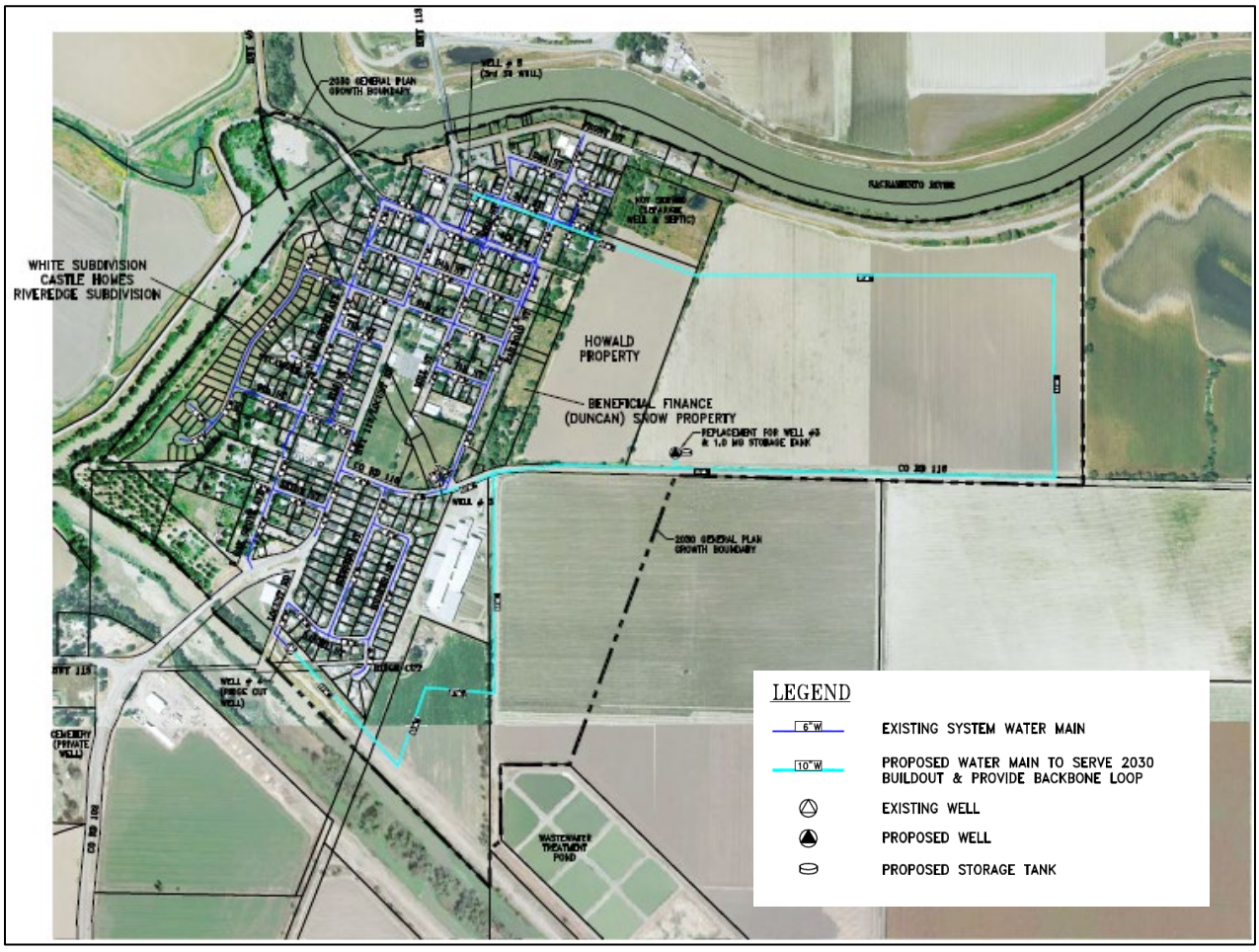
Long-Term Improvements to Existing System

Future Water Supply and Distribution – 2030 Expected Growth

The 2030 growth area build-out envisioned in the General Plan expands the developed area of Knights Landing from 151 acres to approximately 407 acres (an increase in service area of approximately 2.7 times). This increase will require a significant increase in the size and reliability of the current water distribution and supply system.

Average day demand for the existing condition based on land use is calculated as 203.9 gpm and is expected to increase to 976.7 gpm under 2030 build-out conditions – an increase by a factor of almost five. The 2030 system presented assumes a fire flow requirement of 2,500 gpm. Figure 2, below, is a conceptual future build-out schematic prepared by Wood Rodgers in 2012.

Figure 2. Water Distribution System – 2030 Buildout



It is recommended that additional water mains which loop through the future growth areas and connect to the existing distribution system be provided for water circulation to all areas and allow fire flow to come from wells throughout the community with a minimal head loss. The loops shown in Figure 2, above, represent about 11,000 feet in new distribution trunks and would be constructed in phases. Detailed modeling of the entire pipe network would be needed to confirm the size of the pipe needed, but 10-inch and 12-inch diameter lines have been assumed for the purposes of previous study.

An additional well will be required to provide water supply for the future growth area. The 2030 system includes a new well assumed to both serve the future growth area and to replace Well 3. The new well is shown in the Specific Plan Area adjacent to the proposed storage tank (refer to Figure 2, above). The location of the well is approximate and will depend on phasing but should be located centrally to future development areas and be linked to the proposed transmission main loop.

Future Wastewater Collection and Treatment – 2030 Expected Growth

Similar to the water system, the growth area for 2030 build-out will require a significant expansion of Knights Landing's wastewater collection and treatment system. Based on the proposed General Plan land uses, the peak sewer flow generation is expected to increase from the existing condition flow, estimated at 0.704 MGD, to a projected 2030 build-out flow of 1.94 MGD – an approximate 3-fold increase. The collection system required to serve the build-out area will depend on development phasing, land use type, and land use patterns.

Recommended Long-Term Improvements

Water System Improvements

Transmission Main Loop	Est. Cost: $ 2,800,000
New Water Supply Well(s)	Est. Cost: $ 1,040,000
Additional Water Storage	Est. Cost: $ 2,600,000
Total Recommended Long-Term Water Improvements	**$ 6,440,000**

Wastewater System Improvements

Gravity Collector System (New Development)	Est. Cost: $ 1,680,000
Upsize/replace 12" Trunk Line	Est. Cost: $ 510,000
Treatment Pond Headworks Improvements	Est. Cost: $ 390,000

New Lift Station at Outfall to Ponds	Est. Cost: $ 650,000
Parallel Collector Sewer	Est. Cost: $ 570,000
Total Recommended Long-Term Wastewater Improvements	**$ 3,770,000**
Cumulative Recommended Long-Term Improvements	**$10,210,000**

Madison Community Services District

28963 Main Street, Madison, CA 95653 ***www.madisoncsd.org***

The Madison Community Services District was formed in 1966 to provide water, wastewater, street lighting, and parks and recreation services to the approximately 503 residents living in the unincorporated community of Madison (US Census, 2010). Additionally, an agreement between the Madison CSD and Yolo County Housing Authority (YCH) was established in 1968 authorizing the District to provide wastewater treatment and domestic water supply services to the Madison Migrant Center operated YCH. The Migrant Center is located at the District's eastern boundary, and houses about 300 people during the growing season from April through November each year. Effective July 2020, the Knights Landing CSD Board approved an agreement with the Madison CSD for Madison CSD staff to provide general operations and management services.

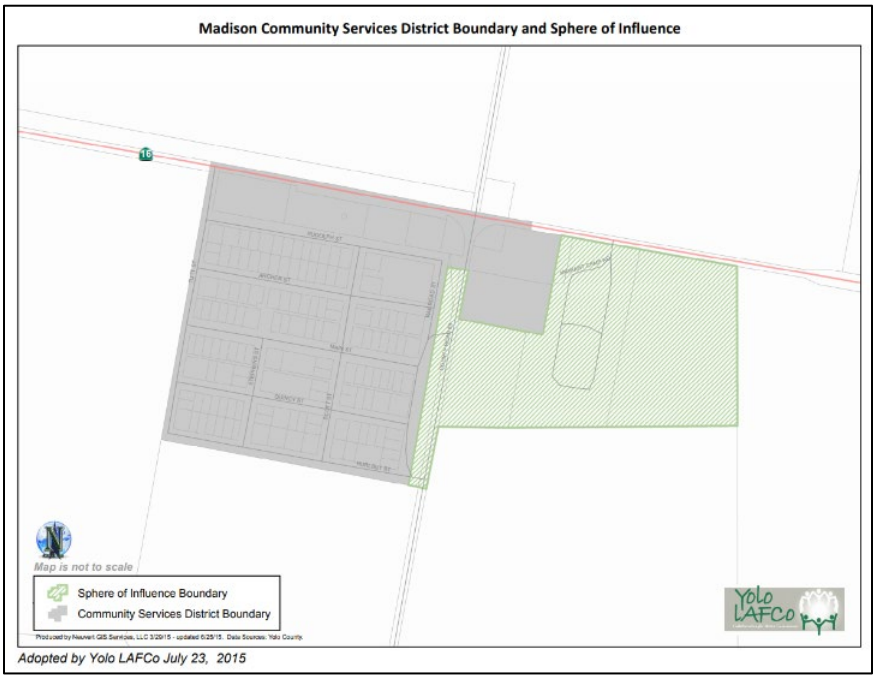
The Madison CSD is governed by a five-member Board of Directors. The District, which is staffed by a General Manager and a system operator, contracts with Esparto CSD for finance and administration services. The Madison CSD serves approximately 60 acres bounded by Highway 16 on the north and Interstate 505 on the east. The Madison Migrant Center is located outside the District boundaries but within the current SOI.

Service area
60 acres
503 residents (2010)
239 housing units
248 connections

Services provided
Water, wastewater, street lighting, and parks and recreation
**Water not metered*

District Staff
1 Full-time manager
1 Full-time operator
Total: 2 FTE's

Municipal Service Review
August 2021
December 2015



Special Studies
2011 Final Facility Master Plan, Wood Rogers (Yolo County)
Madison CSD Water Improvement Preliminary Engineering Report (Yolo County, 2018)

Near-Term Improvements to Existing System

Water Supply and Distribution

According to the Madison CSD Facility Master Plan (2011), the CSD's domestic water supply and distribution system was constructed in the 1960's and consists primarily of 6-inch diameter pipes made of transite. The system has three wells (Park Wells 1, 2, and 3). Park Well 3 is the primary well with a production rate of 500 gallons per minute (gpm). Park Well 1 is used as the back-up well, with a production rate of 450 gpm. Park Well 2 is considered an emergency backup well due to sand infiltration problems and is only capable of approximately 110 gpm.

Table 3. Existing Well Data

Well Name	Date Drilled	Capacity (gallons per minute)	Status
Park Well 1	Unk (1960's ?)	450 gpm	Not in use Requires submersible pump
Park Well 2	2007	110 gpm	Current backup well
Park Well 3	2010	650 gpm	Main Well

The 2011 Facility Master Plan reports that the Madison CSD water system's transite pipe distribution network is prone to water main breaks and leaks, with approximately four to six major breaks per year. The system is also unable to meet state mandated fire flow requirements, as discussed previously. The system requires several near-term improvements to address these issues, including replacement of the transite water main pipes, upsizing of the existing water mains from 6-inch to 12-inch, and the addition of a 0.25 MG storage tank. The District also hopes to add water meters to all connections in order to more accurately charge for water usage.

Madison CSD charges a flat rate of $36 per month (2020) for residential water use, resulting in water system revenues of approximately $217,000 per year. Its current rate structure is not sufficient to fund near-term infrastructure improvements. The 2018 Preliminary Engineering Report (Coleman Engineering, 2018) recommends that the CSD set aside approximately $25,500 per year in a new "Asset Reserve" account. Table 4, below, describes the assets that their anticipated replacement schedule.

Table 4. Asset Replacement Reserve Fund Recommendations

Description	Replacement Cost	Type of Reserve	Annual Reserve Requirement
Well 1 Pump and Motor	$60,000	15 years	$4,000
Disinfection System	$15,000	10 years	$1,500
High Flow Pumps	$150,000	20 years	$7,500
Low Flow Pumps	$100,000	20 years	$5,000
Emergency Generator	$150,000	20 years	$7,500
		Total =	**$25,500**

The District has analyzed the need to raise its rates but has concerns that even a modest increase will have a significant impact on the small ratepayer base. The median income in Madison community is $40,221, which is only 70% of the statewide median of $57,708, qualifying the community to apply for funding as a "Disadvantaged Community" as the median income is less than 80% of the state median. (Coleman, 2018)

Wastewater Collection and Treatment

The existing wastewater collection system consists of 6-inch and 8-inch vitrified clay pipe that was constructed in the 1960's. The collection system flows by gravity to a treatment pond system on the easterly side of Madison. Operators indicate that the collection system has very few repair or maintenance requirements. However, from a downstream stream wastewater treatment standpoint, infiltration of ground water and inflow of stormwater into the collection system is a concern and a burden on the treatment system. The CSD's wastewater permit requires that the treatment pond system have adequate capacity to hold stormwater from a 100-year storm event, plus two (2) feet of freeboard.

The Madison CSD is served with a facultative pond-type wastewater treatment facility. Facultative ponds are designed with an aerobic layer in the top few feet of the liquid surface, an anaerobic layer in the bottom few feet, and a facultative region between that is partly aerobic and partly anaerobic. Aeration is accomplished without the need for deep mixing by mechanical means. The upper aerobic zone of the pond serves to minimize odor resulting from off-gases produced from the lower anaerobic zones. There are no effluent requirements since the ponds do not discharge into receiving waters. Sludge levels are evaluated annually for determination of removal needs. The CSD plans to implement a semi-annual sludge cleaning program once it secures the necessary equipment (estimated at $60,000).

Recommended Near-Term Improvements

Water System Improvements

Implement Water System Replacement project	$ 6,600,000
Total Recommended Near-Term Water Improvements	**$ 6,600,000**

Wastewater System Improvements

Upsize Existing Trunk System	$ 150,000
Sludge Removal Maintenance Equipment	$ 60,000
Solid Waste Removal Auger System	$ 500,000
Total Recommended Near-Term Wastewater Improvements	**$ 710,000**
Cumulative Recommended Near-Term Improvements	**$ 7,310,000**

Long-Term Improvements to Existing System

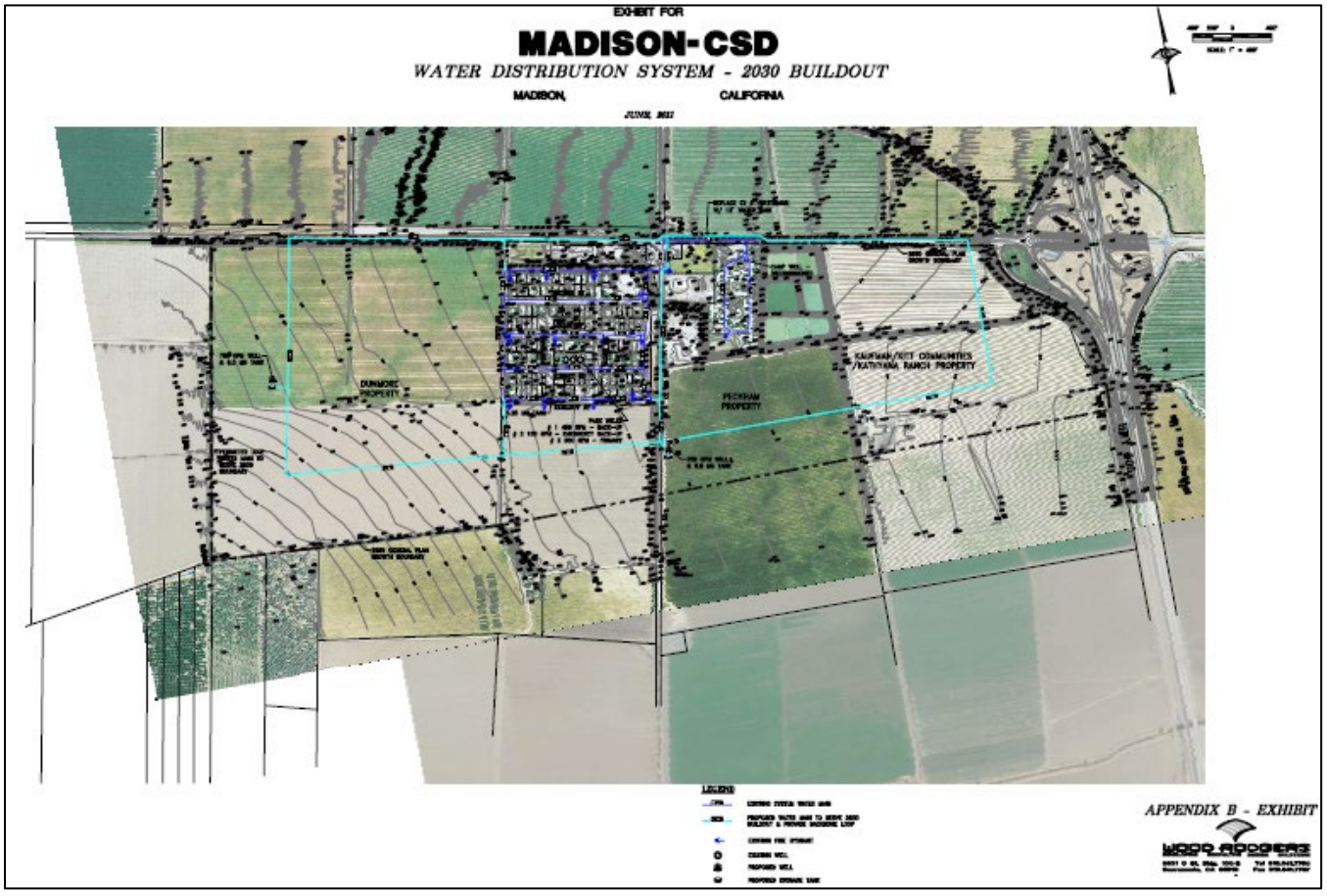
Future Water Supply and Distribution – 2030 Expected Growth

The 2030 growth area build-out envisioned in the General Plan expands the developed area of Madison from 94 acres to approximately 500 acres (an increase in service area of approximately 4.3 times). This increase will require a significant increase in the size and reliability of the current water distribution and supply system. Average day demand for the existing condition based on land use is calculated as 173 gpm and is expected to increase to 1,210 gpm under 2030 build-out conditions. The 2012 Wood Rogers Facility Master Plan recommends the following future improvements:

- Additional 12-inch water main loop through the community with cross connection at CR 89
- Two (2) additional community water wells (750 gpm each)
- Replacement of existing Well 1 (new 1,100 gmp well)
- New 0.25M gallon water storage tank for adequate fire flow pressure
- Two (2) new 0.5M gallon storage tanks (one at each new well)

The following schematic shows the existing and proposed 2030 water system build-out.

Figure 3. Existing and Proposed 2030 Madison CSD Water System

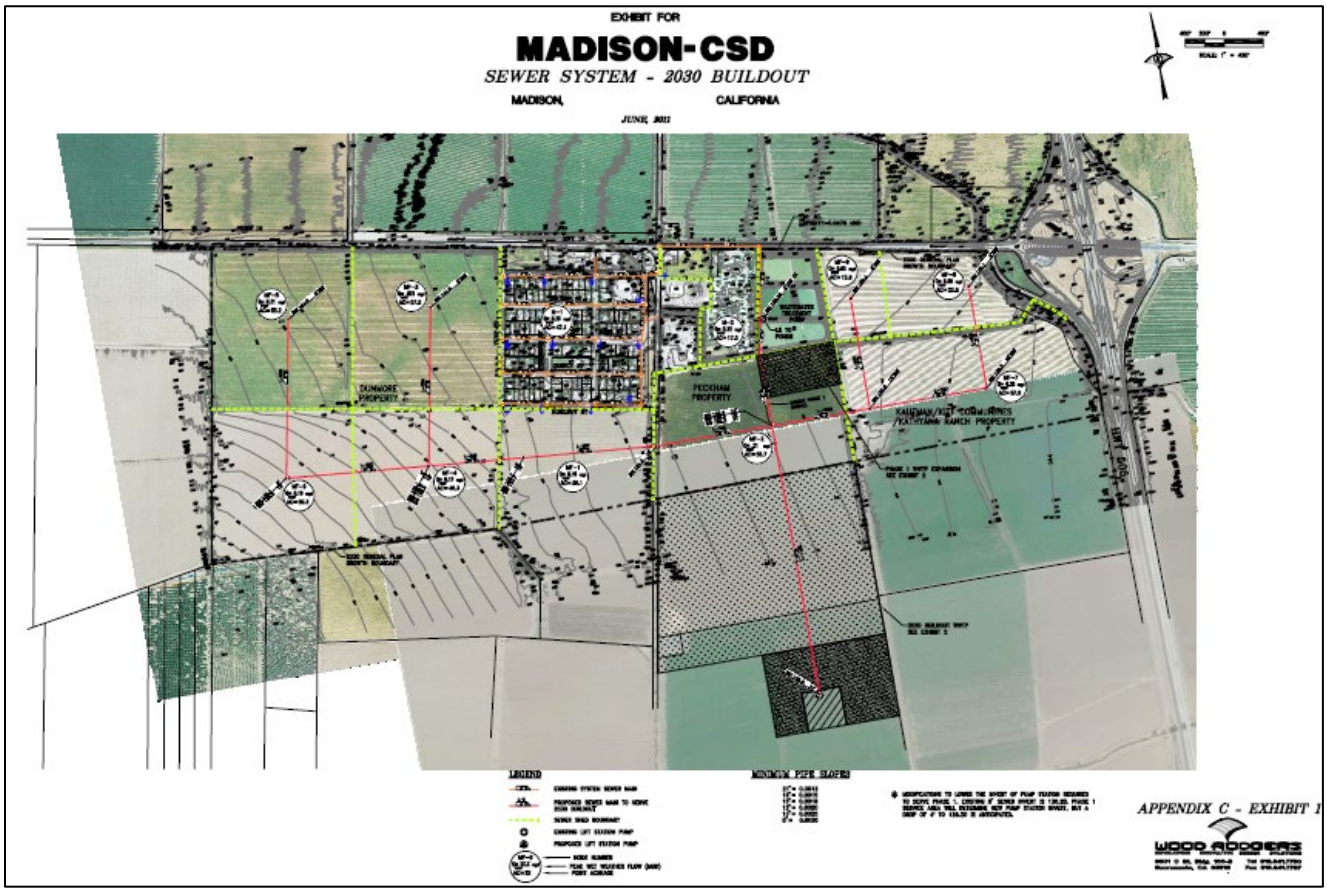


Future Wastewater Collection and Treatment – 2030 Expected Growth

Similar to the water system, the growth area for 2030 build-out will require a significant expansion of Madison's wastewater collection and treatment system. Based on the proposed General Plan land uses, the peak sewer flow generation is expected to increase from the existing condition flow, estimated at 0.50 MGD, to a projected 2030 build-out flow of 3.69 MGD – an approximate 7-fold increase. The collection system required to serve future build-out areas is depicted in the Figure 4, below. The treatment capacity for Madison must be increased from the existing inflow capacity of 70,000 gpd to an inflow capacity of 474,000 gpd to meet projected 2030 build-out development needs. The 2012 Wood Rodgers Facilities Master Plan recommends the following future improvements:

- New gravity collector trunks system-wide
- New parallel collector sewers (~2,500 linear feet)
- Replace facultative ponds with new aerated pond area (~25 acres total)
- Create new irrigated crop treatment area (~90 acres) to spread treated wastewater

Figure 4. Existing and Proposed 2030 Madison CSD Build-out



Recommended Long-Term Improvements

Water System Improvements

Transmission Main Loop	Est. Cost: $ 4,160,000
New Water Supply Well(s)	Est. Cost: $ 1,560,000
Replacement of Well 1	Est. Cost: $ 1,140,000
Water Storage for Fire Flow (0.25MG tank)	Est. Cost: $ 1,300,000
Water Storage for Demand (two 0.5MG tanks)	Est. Cost: $ 1,300,000
Total Recommended Long-Term Water Improvements	**$ 9,460,000**

Wastewater System Improvements

Land Acquisition (~115 acres)	Est. Cost: $ 730,000
New Aerated Treatment Pond (~50 acre-feet capacity)	Est. Cost: $ 510,000
New Facultative Pond (~180 acre-feet capacity)	Est. Cost: $ 1,720,000
New Crop Treatment System (90 acres)	Est. Cost: $ 640,000
New Gravity Collector Trunks	Est. Cost: $ 3,620,000
New Parallel Collector Sewers	Est. Cost: $ 570,000
Total Recommended Long-Term Wastewater Improvements	**$ 7,790,000**
Cumulative Recommended Long-Term Improvements	**$17,250,000**