

Capital Improvement Plan

Town of Yountville, California

'18/'19 thru '22/'23

Project # WW-0011
Project Name Wastewater Building Remodel



Type Improvement **Department** Wastewater Treatment & Rec
Useful Life **Contact**
Category Project **Priority** 2 Medium
GL Account 63-4518-5500
Object Code 5500-Utility Systems
Status Active

Description

In the mid-1970's, the Joint Wastewater Treatment Plant (JTP) at the Veterans Home was modified and upgraded to serve the Town and The Veterans Home. Since that original treatment plant expansion there has been no significant remodel to the treatment plant offices and labs.

The remodel for the wastewater building will include new ADA compliant spaces and restrooms (and locker room) which are required under current law. There will also be expansion of the original building to accommodate the equipment and staff.

The improvement plans also call for an update to the lab spaces. The current lab was designed in the 1970's as well and with the new regulations also needs updating to meet the current standards and equipment requirements. The expansion will also include Design which is proposed for FY 2019/2020 and construction to follow in FY 2020/2021.

Justification

The following Strategic Plan goals apply:

Exceptional Town Services and Staff
The Town supports its talented staff who deliver high quality municipal programs and services while maintaining public infrastructure for the benefit of the community.

Engaged Residents
The Town embraces our residents' commitment to community as seen through volunteerism, civic engagement, and public participation that enhances the quality of life in Yountville.

Responsible Fiscal Policy
The Town maintains its fiscal health through policies designed to maximize economic opportunities, manage expenses, and ensure prudent reserves.

Funding Sources	'18/'19	'19/'20	'20/'21	'21/'22	'22/'23	Total
Wastewater Treatment (63)		30,000	350,000			380,000
Total		30,000	350,000			380,000

Capital Improvement Plan

Town of Yountville, California

'18/'19 *thru* '22/'23

Project # WW-0012
Project Name SCADA Controls



Type Improvement **Department** Wastewater Treatment & Rec
Useful Life **Contact**
Category Project **Priority** 2 Medium
GL Account 63-4518-5500
Object Code 5500-Utility Systems

Status Active

Description

This technology helps the wastewater operators to view and operate various functions of the plant remotely. This remote viewing and operational capability allows staff to respond to conditions, that if left for any length of time, could result in violations of the National Pollutant Discharge Elimination System (NPDES) Permit or cause damages to plan equipment or the plant itself.

Prior to this technology the staff would carry a beeper and get an alarm via that device but would need to go to the plant to view and make the necessary adjustments. This provides a level of safety and risk management that have not been available prior to the availability of this technology.

The equipment, pumps, and motors that were not included in prior SCADA projects will need to be eventually brought into the SCADA infrastructure. This program continues that process.

Justification

The following Strategic Plan goals apply:

Responsible Fiscal Policy
The Town maintains its fiscal health through policies designed to maximize economic opportunities, manage expenses, and ensure prudent reserves.

Funding Sources	'18/'19	'19/'20	'20/'21	'21/'22	'22/'23	Total
Wastewater Treatment (63)			50,000	50,000	50,000	150,000
Total			50,000	50,000	50,000	150,000

Capital Improvement Plan
Town of Yountville, California

'18/'19 thru '22/'23

Project # WW-0014
Project Name Trickling Filter Pump Replacement at JTP



Type Equipment **Department** Wastewater Treatment & Rec
Useful Life **Contact**
Category Project **Priority** 2 Medium
GL Account 63-4518-5500
Object Code 5500-Utility Systems
Status Active

Description

This project will replace two pumps in FY2018/19 that are associated with the trickling filter process. These trickling filters are the main biological process used to treat the wastewater influent produced by the Town and Veterans Home.

These pumps are used to distribute wastewater over a plastic media that forms a biological film that breaks down the wastewater. Each of the two trickling filters have two pumps (total of (4) four). Under normal conditions one pump is utilized at a time with the other available as a backup, under high flow periods two pumps may be called for.

The original pumps were installed over 25 years ago and have come to the end of their service life. Two pumps were also replaced in FY 2017/18

Justification

The following strategic plans and goals apply:

Responsible Fiscal Policy
 The Town maintains its fiscal health through policies designed to maximize economic opportunities, manage expenses, and ensure prudent reserves.

Prior	Funding Sources	'18/'19	'19/'20	'20/'21	'21/'22	'22/'23	Total
40,000	Wastewater Treatment (63)	40,000					40,000
Total	Total	40,000					40,000

Capital Improvement Plan
Town of Yountville, California

'18/'19 *thru* '22/'23

Project # WW-0015
Project Name Video and Repair Outfall Line at JTP



Type Improvement **Department** Wastewater Treatment & Rec
Useful Life **Contact**
Category Project **Priority** 2 Medium
GL Account 63-4518-5500
Object Code 5500-Utility Systems
Status Active

Description
This project is necessary to inspect and repair several sags and off-set joints that are impeding the flow in the pipeline that is used to convey highly treated effluent to the Napa River. This portion of pipeline is nearly .5 miles long and is 18" diameter. The pipeline was constructed in 1977 when the Joint Treatment Plant was built and is the conduit for discharging to the Napa River as allowed by the NPDES permit.

Justification
The following Strategic Plan goals apply:
Responsible Fiscal Policy
The Town maintains its fiscal health through policies designed to maximize economic opportunities, manage expenses, and ensure prudent reserves.

Funding Sources	'18/'19	'19/'20	'20/'21	'21/'22	'22/'23	Total
Wastewater Treatment (63)		100,000				100,000
Total		100,000				100,000

Capital Improvement Plan
Town of Yountville, California

'18/'19 *thru* '22/'23

Project # WW-0019
Project Name Backup Sludge Heater



Type Equipment **Department** Wastewater Treatment & Rec
Useful Life **Contact**
Category Project **Priority** 2 Medium
GL Account 63-4518-5500
Object Code 5500-Utility Systems
Status Active

Description

The current Joint Treatment plant was constructed with only one Sludge Heater. This means there is no backup sludge heater. Now when maintenance is needed the digester must be shut down. The backup Sludge Heater will be smaller than the current model so that it can be utilized during times of low flow to increase efficiency and decrease use of energy.

Justification

The following Strategic Plan goals apply:

- Protecting Community Health and Safety.
- Environmental Sustainability
- Implement Key Sanitary Sewer Service CIP Projects
- Implement Maintenance Measures
- Maintain Compliance with Current and Evolving Regulations

Funding Sources	'18/'19	'19/'20	'20/'21	'21/'22	'22/'23	Total
Wastewater Treatment (63)					200,000	200,000
Total					200,000	200,000

Capital Improvement Plan
Town of Yountville, California

'18/'19 *thru* '22/'23

Project # WW-0020
Project Name Clean & Inspect Primary/Secondary Digester



Type Maintenance **Department** Wastewater Treatment & Rec
Useful Life **Contact**
Category Project **Priority** 2 Medium
GL Account 63-4518-5500
Object Code 5500-Utility Systems
Status Active

Description
 Every 10-12 years the digesters need to be cleaned. The last cleaning was in 2008. The primary digester will be cleaned first and then the following year the secondary digester will be cleaned.

Justification
 The following Strategic Plan goals apply:
 Protecting Community Health and Safety.
 Environmental Sustainability
 Implement Key Sanitary Sewer Service CIP Projects
 Implement Maintenance Measures
 Maintain Compliance with Current and Evolving Regulations

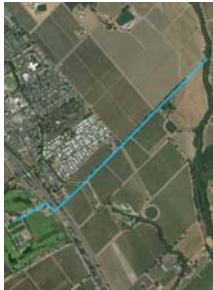
Funding Sources	'18/'19	'19/'20	'20/'21	'21/'22	'22/'23	Total
Wastewater Treatment (63)				35,000	35,000	70,000
Total				35,000	35,000	70,000

Capital Improvement Plan

Town of Yountville, California

'18/'19 thru '22/'23

Project # WW-0021
Project Name Slipline Outfall to Napa River



Type Improvement **Department** Wastewater Treatment & Rec
Useful Life **Contact**
Category Project **Priority** 2 Medium
GL Account 63-4518-5500
Object Code 5500-Utility Systems
Status Active

Description

This project is necessary to repair and rehabilitate the pipeline that is used to convey highly treated effluent to the Napa River. This portion of pipeline is nearly .5 miles long and is 18" diameter. The pipeline was constructed in 1977 when the Joint Treatment Plant was built and is the conduit for discharging to the Napa River as allowed by the NPDES permit. Due to the age of the pipeline and deteriorating pipe condition; a slip line will be installed to re-set the service life and prolong the outflow pipeline.

Justification

The following Strategic Plan goals apply:

Exceptional Town Services and Staff
The Town supports its talented staff who deliver high quality municipal programs and services while maintaining public infrastructure for the benefit of the community.

Quality of Life
The Town enhances the livability of Yountville by providing well-maintained public facilities, parks, and trails, and quality programs and events.

Funding Sources	'18/'19	'19/'20	'20/'21	'21/'22	'22/'23	Total
Wastewater Treatment (63)					150,000	150,000
Total					150,000	150,000

Capital Improvement Plan
Town of Yountville, California

'18/'19 *thru* '22/'23

Project # WW-0022
Project Name Epoxy Scum Well



Type Maintenance **Department** Wastewater Treatment & Rec
Useful Life **Contact**
Category Project **Priority** 2 Medium
GL Account 63-4518-5500
Object Code 5500-Utility Systems
Status Active

Description

The Scum Well requires periodic maintenance to repair scouring and scrubbing. It is a best management practice to seal the well from infiltration that occurs in the structure. This is accomplished using an epoxy resin substance that re-seals the well and prevents the infiltration from occurring. This project will re-set the service life clock on the Scum Well.

Justification

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Exceptional Town Services and Staff
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Quality of Life
The Town enhances the livability of Yountville by providing well-maintained public facilities, parks, and trails, and quality programs and events.

Funding Sources	'18/'19	'19/'20	'20/'21	'21/'22	'22/'23	Total
Wastewater Treatment (63)		30,000				30,000
Total		30,000				30,000

Capital Improvement Plan

'18/'19 thru '22/'23

Town of Yountville, California

Project # WW-0023
Project Name Pipe Burst Town Force Main



Type Maintenance **Department** Wastewater Collection
Useful Life **Contact**
Category Project **Priority** 2 Medium
GL Account 64-4519-5500
Object Code 5500-Utility Systems
Status Active

Description

The Town Force Main was installed when the Joint Treatment Plant was built in 1977. The main runs from the Town Pump Station at the South end of town, under the freeway and up the driveway between the Golf Course and Fire Station. The 6" Force Main carries all of the town's collections system influent. At times during heavy wet weather the force main exceeds capacity and the sewage has to be managed more carefully to avoid a spill from an overflow. This project will upsize the 3/4 mile long force main from 6" to 8" to be able to handle the larger amount of flow that occurs during the raining season.

Justification

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Exceptional Town Services and Staff
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Quality of Life
 The Town enhances the livability of Yountville by providing well-maintained public facilities, parks, and trails, and quality programs and events.

Funding Sources	'18/'19	'19/'20	'20/'21	'21/'22	'22/'23	Total
Wastewater Collection (64)				250,000		250,000
Total				250,000		250,000

Capital Improvement Plan

Town of Yountville, California

'18/'19 thru '22/'23

Project # WW-0024
Project Name Replace Trickling Filter Media



Type Maintenance **Department** Wastewater Collection
Useful Life **Contact**
Category Project **Priority** 2 Medium
GL Account 63-4518-5500
Object Code 5500-Utility Systems
Status Active

Description

The trickling filter media has reached the end of service life and in many places is worn away in portions on both the primary and secondary trickling filters. The primary media will be replaced and the secondary media will be updated using the remaining media from the primary. This should extend the lives of both the primary and secondary media for 20 plus years.

Justification

The following Strategic Plan goals apply:

Exceptional Town Services and Staff
The Town supports its talented staff who deliver high quality municipal programs and services while maintaining public infrastructure for the benefit of the community.

Quality of Life
The Town enhances the livability of Yountville by providing well-maintained public facilities, parks, and trails, and quality programs and events.

Funding Sources	'18/'19	'19/'20	'20/'21	'21/'22	'22/'23	Total
Wastewater Treatment (63)					300,000	300,000
Total					300,000	300,000

Capital Improvement Plan

'18/'19 *thru* '22/'23

Town of Yountville, California

Project # WW-0025
Project Name Purchase 3/4 Ton Work Truck



Type Equipment **Department** Wastewater Treatment & Rec
Useful Life **Contact**
Category Project **Priority** 2 Medium
GL Account 63-4518-5500
Object Code 5500-Utility Systems

Status Active

Description
 This is to replace the current 2008 work truck for the wastewater department.

Justification
 The following Strategic Plan goals apply:
 Exceptional Town Services and Staff
 The Town supports its talented staff who deliver high quality municipal programs and services while maintaining public infrastructure for the benefit of the community.

Funding Sources	'18/'19	'19/'20	'20/'21	'21/'22	'22/'23	Total
Wastewater Treatment (63)	50,000					50,000
Total	50,000					50,000

Capital Improvement Plan

Town of Yountville, California

'18/'19 thru '22/'23

Project # WW-2019
Project Name Inflow and Infiltration Reduction Program



Type Maintenance **Department** Wastewater Collection
Useful Life **Contact**
Category Program **Priority** 3 Low
GL Account 64-4519-5500
Object Code 5500-Utility Systems
Status Active

Description

This is the Town's ongoing program for reducing the infiltration of groundwater into the sewer collection system. Reductions of infiltration results in reduced need for treating, pumping of sewage, reduced maintenance and electrical costs, and reduced flow volumes to and from the treatment plant, which improve system operations. Reducing infiltration sources into the wastewater collection systems helps to reduce the risk of system overflow and the release of untreated sewage in winter months.

Projects are prioritized by video survey results, smoke testing of the system, assessment of local pipe conditions, other utility replacement projects, and known system needs. One of the conditions of our current National Pollution Elimination Discharge System NPDES permit is that the town maintain the current level of funding and repair as a minimum.

PROJECT:

In 2013 the program focused on video camera work as a critical portion of a system wide Inflow/Infiltration Study to assess the condition of the remaining sewer mains that have not been replaced in the last few years. In 2015, GIS added the ability for staff to locate, identify, and manage assets.

This program is paid for by the Sewer Enterprise Fund (64)

Ongoing Projects: Based on video survey conducted in Fiscal Year 2013/14

- Slip lining and point repairs of leaking sewer mains
- Lining, repair, or replacement of leaking manholes

Justification

The following Strategic Plan goals apply:

Responsible Fiscal Policy

The Town maintains its fiscal health through policies designed to maximize economic opportunities, manage expenses, and ensure prudent reserves.

Prior	Funding Sources	'18/'19	'19/'20	'20/'21	'21/'22	'22/'23	Total	Future
178,064	Wastewater Collection (64)	74,819	78,560	82,488	86,612	90,943	413,422	95,490
Total	Total	74,819	78,560	82,488	86,612	90,943	413,422	Total

Capital Improvement Plan

Town of Yountville, California

'18/'19 *thru* '22/'23

Project #	WW-3019
Project Name	Sewer Main Replacement and Repair Program



Type	Maintenance	Department	Wastewater Collection
Useful Life		Contact	
Category	Program	Priority	3 Low
GL Account	64-4519-5500		
Object Code	5500-Utility Systems		
		Status	Active

Description

This is part of the Town's ongoing program for the routine replacement of its nearly 45,000 feet of sewer mains throughout Town on an annual basis. Replacing and repairing the existing sewer collection system will reduce the potential for clogged pipes and/or system overflow, and will reduce maintenance demands associated with these issues.

Sewer main lines need to be repaired or replaced in order to ensure the wastewater collection system remains in good working order, does not leak, and is in compliance with state and federal regulations. It also reduces the need for emergency repairs due to plugged mains, which can generate sewage backing up homes, onto streets, and flowing into storm drains and waterways.

Each year several sections of sewer main pipeline will be rehabilitated or replaced using a variety of construction practices and materials. Over the past few years and "in-place" method has been used to slip line the pipe. Approximately 1300' of pipeline (F3-Line) has been rehabilitated using this method in 2017/18 with great success. It is anticipated that over the next few years the same method of rehabilitation will be utilized on the longest section of pipeline in Town (A-Line) that is in close proximity to Beard Ditch and most susceptible to infiltration when to waterway is at full capacity. One of the conditions of our current National Pollution Elimination Discharge System NPDES permit is that the town maintain the current level of funding and repair as a minimum

The Town includes the following information in assessing which sections of sewer main lines are replaced:

- Age of the pipe line section (at end of useful life cycle),
- Erosion of the pipe bottom, often necessitated by soil conditions,
- Cracks in the pipe,
- Tree root intrusion,
- Leaks at joints and connections which require replacement of the main.
- Coordination with other utility projects such as water, undergrounding of utility lines, and street repaving projects.

Video surveys are an important tool for inspecting sewer mains, and are combined with age and lifespan assessment of the system to evaluate and prioritize the mains to be replaced. Staff has been mostly performing these projects with the sole source contractor and saving the project management and design costs usually associated with this type of work.

Future projects include the replacement of the following pipes:

- A line - East of Town Limits 1956. This would be a candidate for the "slip line" process. Gravity out fall from WWTP to the river. The pipe has a sag in it which allows water to back up. This is a future project that will require additional evaluation/survey.

The following projects will be evaluated and prioritized as funding allows:

- O line - Webber 1956 the main has had some point repairs completed.
- E line - Finnell, Humboldt, and Webber 1956, focus on the laterals.
- M line - Mulberry, Heather, and Ivy Ct. 1958, with focus on the laterals.

Justification

The following Strategic Plan goals apply:

Responsible Fiscal Policy

The Town maintains its fiscal health through policies designed to maximize economic opportunities, manage expenses, and ensure prudent reserves.

Exceptional Town Services and Staff

Capital Improvement Plan

'18/'19 thru '22/'23

Town of Yountville, California

The Town supports its talented staff who deliver high quality municipal programs and services while maintaining Public infrastructure for the benefit of the community.

Prior	Funding Sources	'18/'19	'19/'20	'20/'21	'21/'22	'22/'23	Total	Future
196,231	Wastewater Collection (64)	72,572	76,200	80,010	84,010	88,211	401,003	92,622
Total	Total	72,572	76,200	80,010	84,010	88,211	401,003	Total

Capital Improvement Plan

Town of Yountville, California

'18/'19 thru '22/'23

Project # WW-4019
Project Name Plant Equipment Replacement Program



Type Equipment **Department** Wastewater Treatment & Rec
Useful Life **Contact**
Category Program **Priority** 2 Medium
GL Account 63-4518-5500
Object Code 5500-Utility Systems
Status Active

Description

In the late 1930's, a wastewater treatment plant was built at the Veterans Home. In the 1977, the Town upgraded the Joint Wastewater Treatment Plant (JTP) at the Veterans Home to serve the Town and Veterans Home.

In 2010, the \$1.2 million Wastewater Treatment Plant Title 22 Upgrade Project (WW-27) was completed. Several pumps, motors and other equipment were replaced with more energy efficient equipment in 2011 (WW-4011). These include the Final Tank Pumps and Plant Water Pumps as well as several inefficient motors associated with the Trickling Filter Rotary Distributors.

The Town and Veterans Home has invested millions of dollars in infrastructure at the JTP. It is proposed that a fund be established to set money aside each year for the eventual replacement of equipment at the JTP, instead of making major investments of funds when equipment fails or needs to be replaced.

This is the Town's ongoing program for equipment replacement used at the wastewater treatment plant. Examples of equipment include approximately 20 pumps, four blowers, two digester mixers, digester heating system, sludge collectors, trickling filter rotating distributors, the grit screw and motor, the grinder, and the auger.

Some of the replacement projects are the result of routine maintenance, other projects are designed to increase and extend the useful life of the treatment plant. Some projects are also done in conjunction with mandated changes which are necessary for meeting current state and federal regulations or are in preparation for upcoming regulations.

These improvements are paid for equally by the Town and the Veterans Home through annual contributions to the Joint Recovery Fund (63).

Justification

The following Strategic Plan goals apply:

Responsible Fiscal Policy

The Town maintains its fiscal health through policies designed to maximize economic opportunities, manage expenses, and ensure prudent reserves.

Exceptional Town Services and Staff

The Town supports its talented staff who deliver high quality municipal programs and services while maintaining Public infrastructure for the benefit of the community.

Prior	Funding Sources	'18/'19	'19/'20	'20/'21	'21/'22	'22/'23	Total	Future
234,967	Wastewater Treatment (63)	67,003	70,354	73,872	77,565	81,444	370,238	85,516
Total	Total	67,003	70,354	73,872	77,565	81,444	370,238	Total

Capital Improvement Plan

Town of Yountville, California

'18/'19 thru '22/'23

Project # WW-5019
Project Name Town Pump Station Equipment Replacement Program



Type Equipment **Department** Wastewater Collection
Useful Life **Contact**
Category Program **Priority** 3 Low
GL Account 64-4519-5500
Object Code 5500-Utility Systems
Status Active

Description

In the late 1930's, a wastewater treatment plant was built at the Veterans Home. In the mid-1970's, this wastewater treatment plant (JTP) was upgraded and modified to serve both the residents of the Town and Veterans Home. In 1977, the Town's wastewater treatment plant was modified to serve as a wastewater pump station to convey the flow generated by the residents of Yountville uphill from the low point in Town to the JTP. The Pump Station utilizes two (2) large pumps that remain in service at all times and are called to run based on the incoming flow conditions. The third pump is not connected and serves as a spare or stand-by in the event that one pump fails. There are also other motors, variable frequency drives, and an elaborate control system associated with the operation of the pumps which require maintenance and periodic replacement.

Several upgrades/improvements have been made at the wastewater pump station to bring it to its current improved conditions. It is proposed that funds continue to be allocated preparing for future improvements that will be necessary of the next several years.

Justification

The following Strategic Plan goals apply:

Responsible Fiscal Policy
The Town maintains its fiscal health through policies designed to maximize economic opportunities, manage expenses, and ensure prudent reserves.

Exceptional Town Services and Staff
The Town supports its talented staff who deliver high quality municipal programs and services while maintaining Public infrastructure for the benefit of the community.

Prior	Funding Sources	'18/'19	'19/'20	'20/'21	'21/'22	'22/'23	Total	Future
108,800	Wastewater Collection (64)	11,025	11,576	12,155	12,763	13,401	60,920	14,071
Total	Total	11,025	11,576	12,155	12,763	13,401	60,920	Total