MT. VIEW SANITARY DISTRICT

10-YEAR CAPITAL IMPROVEMENT PROGRAM

FISCAL YEAR 2022-2023 UPDATE

District Board of Directors

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June 9, 2022

INTRODUCTION

BACKGROUND

The District's CIP encompasses all engineered studies and projects related to improvements, repairs, rehabilitation, and replacement of the District's plant, collection system, and marsh assets. The 10-year CIP update is a planning tool that manifests proactive asset management, facilitates financial planning (sewer service charges and cash flow), promotes organizational balance (staff's ability to manage and support the workload), and informs the Board and the public about the District's infrastructure needs, upcoming projects, and proposed capital expenditures.

A draft 10-year CIP update is presented annually for Board review and direction in March. A final version, including this 10-year CIP update document, is presented for Board adoption thereafter at its May or June regular meeting. The last 10-year CIP update was approved by the Board on June 10, 2021.

The strategic goal of the CIP is to complete, as measured by Board acceptance, at least two capital projects every fiscal year.

DISCUSSION

The following tables summarize the plant projects, collection system projects, marsh projects, and strategic initiative studies planned for the next ten fiscal years, along with the estimated total project cost for each project and the fiscal year in which construction is anticipated to occur.

Plant Projects Treatment Processes	Est. Total Project Cost	Fiscal Year
UV Disinfection Replacement [1]	$5,492,000	23
Plant Improvements [1]	$5,680,000	25-26
Plant Masterplan	$775,000	24-26
Biofilter & Biotower Rehabilitation	$2,824,000	27
Switchgear & Standby Generator Replacement [1, 2] Control Building MCC P1 Replacement [1, 2]	$11,296,000 $2,448,000	29 30

Thickener Rehabilitation & Improvements (or Replacement)	$2,313,000	31
Headworks Improvements & Automatic Screening Replacement [1]	$1,948,000	33
Sand Filters / Compressed Air System / Chemical Systems Rehabilitation [3]	$2,368,000	35
Facilities		
Pavement Management Program	$20,000	30
New Operations & Maintenance Building [1, 3]	$7,191,000	37-38

Collection System Projects	**Estimated Total Project Cost**	**Fiscal Year**
Pipelines & Manholes		
Pipeline Cleaning & Televising / Condition Assessment Program	$2,020,000 [5]	Ongoing
888 Howe Road Sanitary Sewer Replacement	$879,000	24
Collection System Improvements Phase 1 [2]	$1,555,000	26
Inflow & Infiltration Reduction Program Improvements [2]	$2,016,000	26
Collection System Improvements Phase 2 [2]	$1,699,000	28
Capacity Improvements Phase A [2, 4]	$1,289,000	28
Collection System Improvements Phase 3 or West Service Zone Sanitary Sewer Replacement [2, 4]	$2,898,000	30
Capacity Improvements Phase B [2, 4]	$758,000	30
Collection System Improvements Phase 4	$1,829,000	32
Collection System Improvements Phase 5 [3]	$1,857,000	34
Collection System Capacity Assessment	$299,000	32
Pump Stations & Force Mains		
Pump Stations Condition Assessment	$75,000	23
Pump Stations Rehabilitation & Improvements	$1,616,000	25
Other / Miscellaneous		
Iron Adjustments After Street Pavement Projects	$30,000 in Fiscal Year 2022-2023	Ongoing

Marsh Projects	Est. Total Project Cost	Fiscal Year
McNabney Marsh Trunk Line Accessibility [2]	$1,422,000	28-29
Moorhen Marsh Complex Maintenance [2]	$1,440,000	29-30

Strategic Initiatives	Est. Total Project Cost	Fiscal Year
Inflow & Infiltration Reduction Program / Wet Weather Flow Management Study	$304,000	23-24 27
Climate Resiliency Study	$75,000	24
Emergency & Cybersecurity Resiliency Study	$75,000	25
Energy Independence Study	$75,000	26

[1] Project is a part of or contains scope related to the overall electrical and SCADA systems upgrades program.

[2] Combined project.

[3] Project is beyond the horizon of the ten-year plan, but is still noteworthy for financial planning purposes.

[4] Project scope must be confirmed through preceding condition and / or capacity assessments.

[5] First complete cycle of three phases.

FINANCIAL IMPACT

Expenditures Summary

Total estimated project costs across the ten-year plan cusp $51.3 million. Accordingly, annual expenditures average well over $5.1 million; however, when an expenditure spike of nearly $12.2 million in Fiscal Year 2028-2029 is removed, the annual average drops to roughly $4.3 million.

The largest ongoing or upcoming projects are the UV Disinfection Replacement (approximately $2.8 million remains in the next 9 months), the Plant Improvements (estimated $5.7 million over the next 3 to 4 fiscal years), the Pipeline Cleaning & Televising Phases 2 and 3 (approximately $1.6 million in the next 3 fiscal years), the combined Collection System Improvements Phase 1 / Inflow & Infiltration Reduction Program Improvements (estimated $3.6 million by Fiscal Year 2025-2026), and the Pump Stations Condition Assessment / Rehabilitation & Improvements (estimated $1.7 million in the next 3 fiscal years).

Revenue Summary

Capital projects expenditures are offset by revenues from a combination of sources including sewer service charges, ad valorem property tax, debt, and possibly grants. During Fiscal Year 2019-2020, the Board adopted a three-year schedule of sewer service charge increases, primarily to fund the CIP. The Board will likely need to revisit sewer service charges and adopt another schedule of increases during Fiscal Year 2022-2023. The capital funding plan has also included acquisition of a $6.0 million loan during Fiscal Year 2018-2019, and another $6.0 million loan during Fiscal Year 2020-2021. The District also continues to prospect grant funding opportunities and pursue legislative earmarks for the CIP.

The capital funding plan generally excludes capacity fees for new connections since they vary annually and are therefore difficult to forecast. Larger developments are not necessarily guaranteed to move forward, and when they do their exact timing is never quite certain. Nevertheless, there are presently at least eight subdivisions and two apartment complexes at various stages of development which could make significant funding contributions at some point in the future. These developments potentially represent 644 new connections, equating to nearly $6.3 million in future revenue using Fiscal Year 2022-2023 capacity fees.

SUPPLEMENTARY INFORMATION

Immediately following this introduction is a copy of the 10-year CIP update. On the first three pages, projects are listed in the left-hand column, and grouped by Plant, Collection System, Marsh, and Strategic Initiatives. Next to the project name is its estimated total project cost. Across the top rows is the timeline, represented as plan year, calendar year, and fiscal year. In the field area is the schedule, broken out in 6-month increments by project phase (see legend at upper left). The estimated project cost for each fiscal year is shown just below the phases. These annual project cost totals roll down to fiscal year subtotals for each type of project, and also to fiscal year grand totals at the bottom of the third page. On the fourth page is a column chart which graphically depicts those subtotals and grand totals by fiscal year. On the fifth page is a pie chart which graphically depicts 10-year grand totals by type of project.

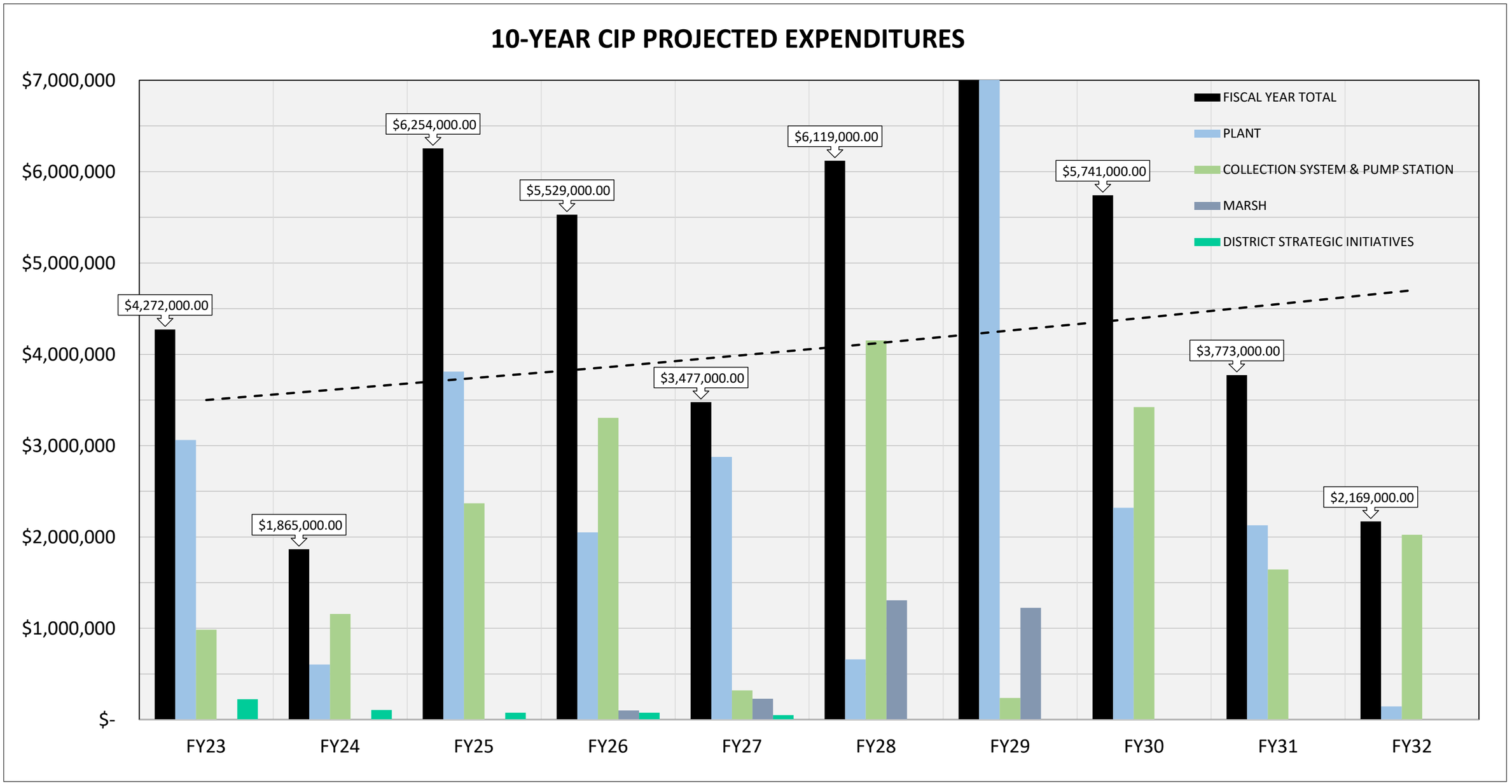
Following the 10-year CIP update are project summary sheets arranged in the same order as the projects appear on the 10-year CIP update. Each summary sheet provides further detail about the project including its scope description, justification for being in the CIP, estimated total project cost, and anticipated schedule.

1.0330 = INFLATION FACTOR (BASED ON ENR COST INDICES)			CIP PLAN YEAR	1		2		3		4		5		6		7		8		9		10	
S = STUDY P = PRE-DESIGN D = DESIGN C = CONSTRUCTION			CALENDAR YEAR	2022	2023		2024		2025		2026		2027		2028		2029		2030		2031		20
^ = COMBINDED PROJECT (SEE IMMEDIATELY ABOVE)			FISCAL YEAR	FY23		FY24		FY25		FY26		FY27		FY28		FY29		FY30		FY31		FY32	
PLANT																							
TREATMENT PROCESSES																							
Plant	UV DISINFECTION REPLACEMENT			C	C																		
		$ 5,492,000.00		$ 2,792,000.00																			
Plant	PLANT IMPROVEMENTS			D	D	D	D	C	C	C													
		$ 5,680,000.00		$ 270,000.00		$ 303,000.00		$ 3,404,000.00		$ 1,658,000.00													
Plant	PLANT MASTERPLAN					S	S	S	S	S	S												
		$ 775,000.00				$ 300,000.00		$ 300,000.00		$ 175,000.00													
Plant	BIOFILTER & BIOTOWER REHABILITATION								D	D	D	C	C										
		$ 2,824,000.00						$ 106,000.00		$ 217,000.00		$ 2,502,000.00											
Plant	SWITCHGEAR & STANDBY GENERATOR REPLACEMENT											P	D	D	D	C	C	-					
		$ 11,296,000.00										$ 253,000.00		$ 461,000.00		$ 10,583,000.00							
Plant	CONTROL BUILDING MCC P1 REPLACEMENT											^	^	^	^	-	-	C					
		$ 2,448,000.00										$ 122,000.00		$ 199,000.00				$ 2,127,000.00					
Plant	SLUDGE THICKENER REHABILITATION & IMPROVEMENTS (or															P	D	D	D	C	C		
		$ 2,313,000.00														$ 109,000.00		$ 172,000.00		$ 2,033,000.00			
Plant	HEADWORKS IMPROVEMENTS & AUTOMATIC SCREENING REPLACEMENT																			P	D	D	D
		$ 1,948,000.00																		$ 95,000.00		$ 145,000.00	
Plant	SAND FILTERS / COMPRESSED AIR SYSTEM / CHEMICAL SYSTEMS REHABILITATION																						
		$ 2,368,000.00																					
FACILITIES																							
Plant	PAVEMENT MANAGEMENT PROGRAM																		S				
		$ 20,000.00																$ 20,000.00					
Plant	NEW OPERATIONS & MAINTENANCE BUILDING																						
		$ 7,191,000.00																					
PLANT SUBTOTALS				$ 3,062,000.00		$ 603,000.00		$ 3,810,000.00		$ 2,050,000.00		$ 2,877,000.00		$ 660,000.00		$ 10,692,000.00		$ 2,319,000.00		$ 2,128,000.00		$ 145,000.00	

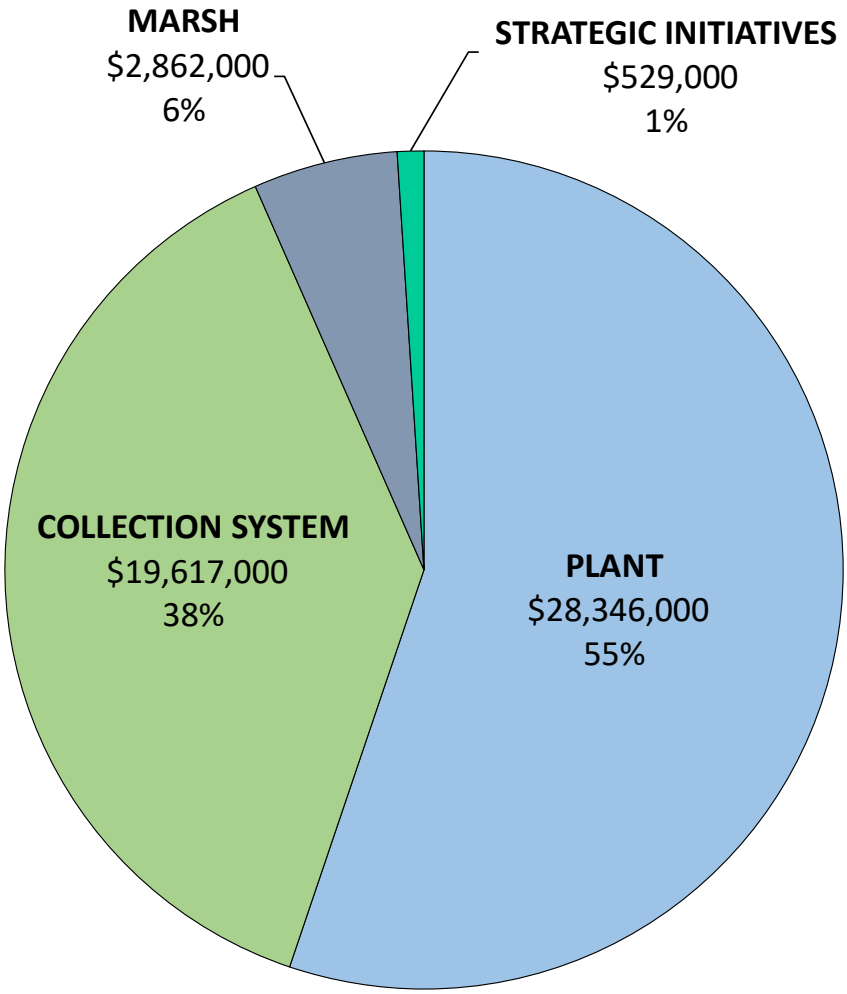
1.0330 = INFLATION FACTOR (BASED ON ENR COST INDICES)		CIP PLAN YEAR	1		2		3		4		5		6		7		8		9		10	
S = STUDY P = PRE-DESIGN D = DESIGN C = CONSTRUCTION		CALENDAR YEAR	2022	2023	2024		2025		2026		2027		2028		2029		2030		2031		20	
^ = COMBINDED PROJECT (SEE IMMEDIATELY ABOVE)		FISCAL YEAR	FY23		FY24		FY25		FY26		FY27		FY28		FY29		FY30		FY31		FY32	
COLLECTION SYSTEM																						
PIPELINES & MANHOLES																						
Coll. Sys.	PIPELINE CLEANING & TELEVISING / CONDITION ASSESSMENT PROGRAM																					
	CYCLE 1, PHASE 1																					
	CYCLE 1, PHASE 2		C	C																		
	CYCLE 1, PHASE 3				D		C	C														
	FUTURE CYCLE 2											D	C	C				D	C	C		
	FUTURE CYCLE 3																					
	FUTURE CYCLE 4																					
		$ 2,020,000.00	$ 721,000.00		$ 42,000.00		$ 674,000.00				$ 47,000.00		$ 1,322,000.00				$ 52,000.00		$ 1,459,000.00			
Coll. Sys.	888 HOWE ROAD SANITARY SEWER REPLACEMENT		D	D	C																	
		$ 879,000.00	$ 160,000.00		$ 677,000.00																	
Coll. Sys.	COLLECTION SYSTEM IMPROVEMENTS PHASE 1				D	D	D	D	C	C												
		$ 1,555,000.00			$ 92,000.00		$ 97,000.00		$ 1,366,000.00													
Coll. Sys.	INFLOW & INFILTRATION REDUCTION PROGRAM IMPROVEMENTS				^	^	^	^	^	^												
		$ 2,016,000.00			$ 128,000.00		$ 133,000.00		$ 1,755,000.00													
Coll. Sys.	COLLECTION SYSTEM IMPROVEMENTS PHASE 2								D	D	D	D	C	C								
		$ 1,699,000.00							$ 61,000.00		$ 146,000.00		$ 1,492,000.00									
Coll. Sys.	CAPACITY IMPROVEMENTS PHASE A								^	^	^	^	^	^								
		$ 1,289,000.00							$ 86,000.00		$ 91,000.00		$ 1,112,000.00									
Coll. Sys.	COLLECTION SYSTEM IMPROVEMENTS PHASE 3 WEST SERVICE ZONE SANITARY SEWER REPLACEMENT												D	D	D	D	C	C				
		$ 2,898,000.00											$ 142,000.00		$ 147,000.00		$ 2,610,000.00					
Coll. Sys.	CAPACITY IMPROVEMENTS PHASE B												^	^	^	^	^	^				
		$ 758,000.00											$ 47,000.00		$ 52,000.00		$ 659,000.00					
Coll. Sys.	COLLECTION SYSTEM IMPROVEMENTS PHASE 4																D	D	D	D	C	C
		$ 1,829,000.00															$ 61,000.00		$ 146,000.00		$ 1,622,000.00	
Coll. Sys.	COLLECTION SYSTEM IMPROVEMENTS PHASE 5																				D	
		$ 1,857,000.00																			$ 61,000.00	
Coll. Sys.	COLLECTION SYSTEM CAPACITY ASSESSMENT																				S	S
		$ 299,000.00																			$ 299,000.00	
PUMP STATIONS & FORCE MAINS																						
Coll. Sys.	PUMP STATIONS CONDITION ASSESSMENT			S																		
		$ 75,000.00	$ 75,000.00																			
Coll. Sys.	PUMP STATIONS REHABILITATION & IMPROVEMENTS				D	D	D/C	C														
		$ 1,616,000.00			$ 185,000.00		$ 1,431,000.00															
OTHER / MISCELLANEOUS																						
Coll. Sys.	SSMP				Audit		Re-certification		Audit				Audit				Re-certification				Audit	
		N/A																				
Coll. Sys.	IRON ADJUSTMENTS AFTER STREET PAVEMENT PROJECTS																					
		N/A	$ 30,000.00		$ 33,000.00		$ 34,000.00		$ 36,000.00		$ 36,000.00		$ 37,000.00		$ 39,000.00		$ 40,000.00		$ 40,000.00		$ 42,000.00	
COLLECTION SYSTEM SUBTOTALS			$ 986,000.00		$ 1,157,000.00		$ 2,369,000.00		$ 3,304,000.00		$ 320,000.00		$ 4,152,000.00		$ 238,000.00		$ 3,422,000.00		$ 1,645,000.00		$ 2,024,000.00	

1.0330 = INFLATION FACTOR (BASED ON ENR COST INDICES)		CIP PLAN YEAR	1		2		3		4		5		6		7		8		9		10	
S = STUDY P = PRE-DESIGN D = DESIGN C = CONSTRUCTION		CALENDAR YEAR	2022		2023		2024		2025		2026		2027		2028		2029		2030		2031		20
^ = COMBINDED PROJECT (SEE IMMEDIATELY ABOVE)		FISCAL YEAR	FY23		FY24		FY25		FY26		FY27		FY28		FY29		FY30		FY31		FY32	
MARSH																						
Marsh	MCNABNEY MARSH TRUNK LINE ACCESSIBILITY								P	P	D	D	D	C	C							
		$ 1,422,000.00							$ 50,000.00		$ 115,000.00		$ 1,257,000.00									
Marsh	MOORHEN MARSH COMPLEX MAINTENANCE								^	^	^	^	^	-	-	C	C					
		$ 1,440,000.00							$ 50,000.00		$ 115,000.00		$ 50,000.00		$ 1,225,000.00							
MARSH SUBTOTALS			$ -		$ -		$ -		$ 100,000.00		$ 230,000.00		$ 1,307,000.00		$ 1,225,000.00		$ -		$ -		$ -	
STRATEGIC INITIATIVES																						
Strat. Initv.	INFLOW & INFILTRATION REDUCTION PROGRAM / WET WEATHER FLOW MANAGEMENT STUDY		S	S	S						S											
		$ 304,000.00	$ 224,000.00		$ 30,000.00						$ 50,000.00											
Strat. Initv.	CLIMATE RESILIENCY STUDY					S																
		$ 75,000.00			$ 75,000.00																	
Strat. Initv.	EMERGENCY & CYBERSECURITY RESILIENCY STUDY						S															
		$ 75,000.00					$ 75,000.00															
Strat. Initv.	ENERGY INDEPENDENCE STUDY								S													
		$ 75,000.00							$ 75,000.00													
STRATEGIC INITIATIVES SUBTOTALS			$ 224,000.00		$ 105,000.00		$ 75,000.00		$ 75,000.00		$ 50,000.00		$ -		$ -		$ -		$ -		$ -	
GRAND TOTALS			**$ 4,272,000.00**		**$ 1,865,000.00**		**$ 6,254,000.00**		**$ 5,529,000.00**		**$ 3,477,000.00**		**$ 6,119,000.00**		**$ 12,155,000.00**		**$ 5,741,000.00**		**$ 3,773,000.00**		**$ 2,169,000.00**	

10-YEAR CIP PROJECTED EXPENDITURES



10-YEAR CIP PROJECTED EXPENDITURES



MT. VIEW SANITARY DISTRICT

10-YEAR CAPITAL IMPROVEMENT PROGRAM
FISCAL YEAR 2022-2023 UPDATE

PLANT PROJECTS

MT. VIEW SANITARY DISTRICT

PLANT PROJECTS

PROJECT NAME: UV Disinfection Replacement

DESCRIPTION: This project will primarily replace the existing UV disinfection equipment and controls with new equipment and controls. Other assets in the UV process area will also be replaced, including the Class 3 water reuse pump station (with the addition of a hydropneumatic tank), the crane structure, influent and effluent gates, the motor control center and its associated programmable logic controller, process control instrumentation, and various other electrical and SCADA upgrades.

JUSTIFICATION: The existing UV disinfection system was installed in 1994, is now 28 years old, and has reached the end of its useful service life. The equipment uses a substantial amount of electrical energy, is not operated automatically, cannot be monitored remotely, has no automatic sleeve wiping system, lacks instrumentation to measure transmittance, and in general requires frequent maintenance with high costs associated. The 2011 Wastewater Treatment Plant Systems Reliability Evaluation recommended that the equipment and controls be replaced.

ESTIMATED TOTAL PROJECT COST: $5,492,000

ANTICIPATED SCHEDULE:

- Construction – FY23

MT. VIEW SANITARY DISTRICT

PLANT PROJECTS

PROJECT NAME: Plant Improvements

DESCRIPTION: This project will improve aging infrastructure in a number of plant process areas, replace or upgrade old equipment, install some new equipment, make various electrical and SCADA upgrades, and address a diverse backlog of other high priority issues around the plant.

Headworks: The automatic screening mechanism will be rebuilt. Some of the major replacement parts are already in the District's possession at the plant.

Centrifuge: The existing centrifuge equipment and controls will be replaced with new sludge dewatering equipment and controls. Various electrical upgrades in and around the Dewatering Building may also be addressed.

Digesters: Permanent repairs must be made to the Primary Digester feed pipe. Piping and valves for secondary digester redundancy should be added, and the heat exchanger and its recirculation pump will be replaced. Various electrical and SCADA upgrades in and around the Digester Heat / Mix Room will be made, including replacing the motor control center and installing a new programmable logic controller. The microturbine system will be permanently demolished and removed. Both the primary and secondary digesters will be cleaned, inspected, and repaired as necessary.

Influent Flow Metering: In accordance with recommendations from the District's previous influent flow metering study, flow meters will be installed on each of the three pump discharge pipes in the Influent Pump Station (IPS), as well as on four side streams which join the influent flow both before and after the IPS.

Other Issues: A corroded slide gate isolating the IPS from the Secondary Clarifier must be replaced; this may require a plant shutdown. Valves, piping, and a slide gate in the equalization basin influent / effluent box must be replaced. The Arthur Road potable water pump station needs rehabilitation. The Operations Building men's restroom / locker room is undersized and needs to be reconfigured and renovated; also a corroded waste drain pipe serving that space must be replaced. Storm drain pipes in the Administration Building parking lot must be modified to meet current regulatory requirements. The Arthur Road vehicle gate has been prone to failure and repeated maintenance callouts, and may need to be replaced. Additional steel fencing and gates may

Plant Improvements, continued…

be installed at various locations to improve physical plant security. The Administration Building fire suppression system may need some modifications to comply with current building codes.

Pavement: In accordance with recommendations from the District's previous pavement condition assessment study, certain pavement maintenance, rehabilitation, and replacement activities such as patch repairs, sealing, microsurfacing, striping, etc. will be undertaken.

JUSTIFICATION:

Headworks: The existing automatic screening mechanism is reaching the end of its useful service life and must be rebuilt. The mechanical work required to do this is beyond the capabilities of District staff and equipment.

Centrifuge: The existing equipment is close to 20 years old. Its frame and casing are cracked, it leaks slightly and clogs easily, and it is not working as efficiently as it used to. The control technology is no longer supported. The cost to fix these issues may equal or surpass the cost to furnish and install completely new equipment.

Digesters: The primary digester feed pipe failed in 2019 due to internal corrosion; a temporary repair was made by staff at that time. The likelihood of another failure is unknown, while the consequence of another failure could be significant. While the Secondary Digester provides the Primary Digester with limited redundancy for planned shutdowns, the Primary has no redundancy for emergency situations (such as the broken feed pipe). The Secondary is currently unmixed and unheated, and the Heat / Mix Room lacks the necessary piping and valves to easily switch between the two digesters. The heat exchanger was installed in 1969 and has reached the end of its useful service life, while its recirculation pump needs to be upgraded to a chopper-style pump to eliminate potential clogging issues. The microturbine is no longer needed; it is not used as there is insufficient digester gas available to run it. Most of the improvements described above were recommended by the 2011 Wastewater Treatment Plant Systems Reliability Evaluation and the 2017 Wastewater Treatment Plant Electrical Systems Study. The Primary Digester was last cleaned and inspected

Plant Improvements, continued…

in 2015, while the Secondary Digester was last cleaned and inspected in 2014. Both digesters should be cleaned, inspected, and repaired roughly every ten years to keep them in optimal operating condition.

Influent Flow Metering: Operations staff are currently unable to measure influent flow since the plant lacks an influent flow meter.

Other Issues: See "Description" above. Drivers include corrosion, deterioration, end of useful service life, maintenance problems, staff needs, regulatory or building code compliance, security, etc.

Pavement: Pavement assets should be maintained regularly to extend their useful service life and optimize long-term capital costs. Left unmaintained, pavement will eventually deteriorate and fail, leading to costly replacement projects which far exceed the cost of regular maintenance and repairs. Deteriorating pavement also presents safety concerns (e.g. tripping hazards) for employees and visitors, and may also fail to adequately support District maintenance vehicles.

ESTIMATED TOTAL PROJECT COST: $5,680,000

ANTICIPATED SCHEDULE:

- Design – FY23 to FY24
- Construction – FY25 to FY26

Headworks

Centrifuge

MT. VIEW SANITARY DISTRICT

PLANT PROJECTS

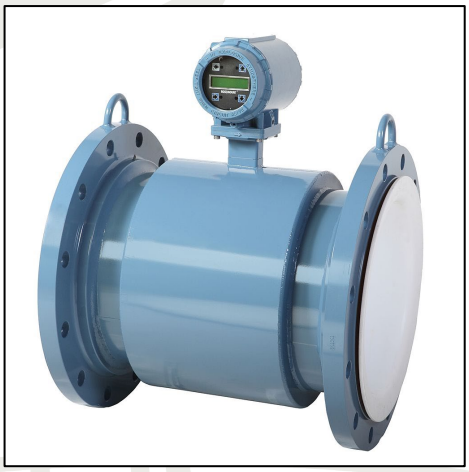
Plant Improvements, continued…

Digester Heat / Mix Room and old MCC

Microturbine

Primary Digester

Secondary Digester



Flowmeter Example

Pavement Defects

MT. VIEW SANITARY DISTRICT

PLANT PROJECTS

PROJECT NAME: Plant Masterplan

DESCRIPTION: The Plant Masterplan will conduct condition, capacity, safety, and redundancy assessments for each plant process unit and its major equipment or assets to identify those in need of repair, replacement, rehabilitation, upsizing, or redundancy. Over the duration of the study, plant process units will be temporarily shut down one by one to accommodate the detailed inspections necessary to accomplish these goals. Other important issues to be examined under the study are as follows:

- Confirmation of the remaining service lives of both the switchgear and the standby generator, as well as confirmation of the estimated cost and recommended timing for the Switchgear & Standby Generator Replacement.
- Confirmation of the estimated cost and recommended timing for the MCC P1 Replacement.
- Recommendation as to if / when to conduct seismic evaluations for the various plant process units and District facilities / buildings.
- Evaluation of general facilities / buildings maintenance and upgrade needs.
- Confirmation of the assumed size, proposed location, estimated cost, and anticipated phasing and construction schedule for the New Operations & Maintenance Building. Preliminary site master planning and a formal space needs study may be conducted.

JUSTIFICATION: A comprehensive Plant Masterplan should be conducted roughly every ten years to maintain an ongoing understanding of the state of the District's aging infrastructure, to account for increasingly stringent regulatory requirements, and to become a reference point for capital planning, project prioritizing, annual budgeting, and rate setting. The last such study was the 2011 Wastewater Treatment Plant Systems Reliability Evaluation; therefore, it is time to conduct an updated study.

ESTIMATED TOTAL STUDY COST: $775,000

ANTICIPATED SCHEDULE: FY24 to FY26

MT. VIEW SANITARY DISTRICT

PLANT PROJECTS

PROJECT NAME: Biofilter & Biotower Rehabilitation

DESCRIPTION: This project includes a seismic retrofit of the Biofilter structure, rehabilitation of the Biofilter redwood timber grillage, replacement of the Biotower media, removal and replacement of the Biotower wall interior coating and possibly installation of an exterior coating as well, and installation of redundant float controls for both the Biofilter and Biotower. The Biofilter motor control center, pumps, and motors will also be evaluated for replacement. The Plant Masterplan will confirm all these issues and may recommend other, yet unidentified improvements for these two process areas.

JUSTIFICATION: The Biofilter was originally constructed in 1968, long before current building codes took effect, and there are certain seismic concerns with the structure. The condition of the Biofilter redwood timber grillage must be investigated further as it is showing signs of decay around the perimeter. The Biotower media is deteriorating across the top surface and may be reaching the end of its useful service life. The Biotower wall has a seepage problem which creates aesthetic issues and could lead to localized structural problems over time. Redundant float controls are necessary to ensure that the Biofilter and Biotower remain in service in the event of an instrumentation failure. Most of the improvements described above were recommended by the 2011 Wastewater Treatment Plant Systems Reliability Evaluation.

ESTIMATED TOTAL PROJECT COST: $2,824,000

ANTICIPATED SCHEDULE:

- Design – FY25 to FY26
- Construction – FY27

PROJECT NAME: Switchgear & Standby Generator Replacement

DESCRIPTION: This project will replace the plant's main electrical switchgear and standby generator with larger capacity units. Electrically speaking, the switchgear is the "front door" that controls, protects, and isolates the plant's entire electrical system from the power utility (PG&E). The standby generator is used to power and keep the entire plant running in the event of utility power failure. The project will also install a power monitor at the new switchgear and rearrange the feeder to Motor Control Center (MCC) P3 to be directly connected to the switchgear instead of routed through MCC P1.

JUSTIFICATION: This project was recommended by the 2017 Wastewater Treatment Plant Electrical Systems Study as well as its 2019 update. The Plant Masterplan will perform condition assessments of these two assets and confirm the anticipated replacement costs.

The switchgear was installed in 1993 and is nearly 30 years old. It is currently in good condition, but its useful service life is only expected to be 30 to 40 years. Moreover, it is under capacity for peak electrical loads. While it operates within the designed factor of safety for peak loading, it is possible that plant operations could be adversely affected if the breaker were to trip. Any capital projects that introduce new electrical loads at the plant will only exacerbate the problem and increase that risk.

The standby generator was also installed in 1993 and is nearly 30 years old. It is also currently in good condition; however, depending on a number of factors (e.g. overall run time, regular maintenance, amount of exercise, etc.), its useful service life is only expected to be 20 to 30 years. Moreover, it is also under capacity for peak electrical loads as described above and must be upsized similar to the switchgear.

The switchgear currently does not have a power monitor. This device is essential to monitor power usage, record power fluctuations, and diagnose power failures. It should be connected to the SCADA system for full monitoring capability.

The rearrangement of the electrical feeder to MCC P3 will increase reliability and reduce the electrical load on MCC P1.

Switchgear & Standby Generator Replacement, continued…

The switchgear and standby generator are some of the most critical infrastructure at the plant. Their capacity directly affects the District's ability to maintain uninterrupted operations during events such as major wet weather, power blips and failures, public safety power shutoffs, and natural disasters. Risk of failure due to condition always increases with an asset's age, and given their age the District would be prudent to replace these assets within the next 10 years.

ESTIMATED TOTAL PROJECT COST: $11,296,000

ANTICIPATED SCHEDULE:

- Pre-Design – FY27
- Design – FY27 to FY28
- Construction – FY29

MT. VIEW SANITARY DISTRICT

PLANT PROJECTS

PROJECT NAME: Control Building MCC P1 Replacement

DESCRIPTION: This project will replace Motor Control Center (MCC) P1 and its associated Programmable Logic Controller (PLC). It will also rearrange the feeder to electrical panel 20P1 from MCC P1 to electrical panel EP5A.

JUSTIFICATION: This project was recommended by the 2017 Wastewater Treatment Plant Electrical Systems Study as well as its 2019 update. MCC P1 is over 50 years old, is in poor condition, has reached the end of its useful service life, is under capacity for peak electrical loads, and should be replaced. It is logical to replace the PLC at the same time since the two assets are immediately adjacent to each other and closely related. The rearrangement of the electrical feeder to panel 20P1 will be a more straight-forward arrangement that better meets electrical code requirements.

ESTIMATED TOTAL PROJECT COST: $2,448,000

ANTICIPATED SCHEDULE:

- Pre-Design – FY27
- Design – FY27 to FY28
- Construction – FY30

MT. VIEW SANITARY DISTRICT

PLANT PROJECTS

PROJECT NAME: Sludge Thickener Rehabilitation & Improvements (or Replacement)

DESCRIPTION: This project will either rehabilitate and improve the sludge thickener (thickener) process unit or replace it altogether. If the former, the recommendations of both past and upcoming master planning evaluations would establish the project scope.

JUSTIFICATION: The thickener was constructed in 1954 and was the original treatment plant primary clarifier. Certain structural defects such as concrete corrosion have been observed recently. A seismic evaluation of the structure at some point might be prudent. The thickener's rotating mechanism was last replaced in 1997. The 2011 Wastewater Treatment Plant Systems Reliability Evaluation rated the thickener with an overall priority of "low"; however, it is unknown the last time the thickener was shut down and inspected in detail. The upcoming Plant Masterplan includes plans to shut down the thickener and conduct a detailed inspection to identify all needed improvements for this process unit. Moreover, both the thickener and the rotating mechanism may be reaching the end of their useful service lives; the Plant Masterplan will preliminarily evaluate rehabilitation versus replacement of the entire process unit, while a pre-design would serve to finalize such a decision and confirm the scope for the project.

ESTIMATED TOTAL PROJECT COST: $2,313,000

ANTICIPATED SCHEDULE:

- Pre-design – FY29
- Design – FY29 to FY30
- Construction – FY31

MT. VIEW SANITARY DISTRICT

PLANT PROJECTS

PROJECT NAME: Headworks Improvements & Automatic Screening Replacement

DESCRIPTION: This project will replace the existing automatic screening equipment in the primary influent channel with new equipment. It will also replace the existing manual bar screen in the bypass channel with a second, redundant automatic screening system; the bypass channel would need to be widened to accommodate this improvement. A new programmable logic controller (PLC) will also be installed, and access improvements for worker safety will be made. A pre-design study will examine the potential to add chopping / grinding and grit separation processes at the headworks, which may be subsequently incorporated into the project scope. The Plant Masterplan may recommend other, yet unidentified improvements for this process area.

JUSTIFICATION: The improvements described above were recommended by the 2011 Wastewater Treatment Plant Systems Reliability Evaluation and the 2017 Wastewater Treatment Plant Electrical Systems Study.

ESTIMATED TOTAL PROJECT COST: $1,948,000

ANTICIPATED SCHEDULE:

- Pre-design – FY31
- Design – FY31 to FY32
- Construction – FY33

MT. VIEW SANITARY DISTRICT

PLANT PROJECTS

PROJECT NAME: Sand Filters / Compressed Air System / Chemical Systems Rehabilitation

DESCRIPTION: This project will rehabilitate the sand filters process unit and its associated compressed air and chemical systems.

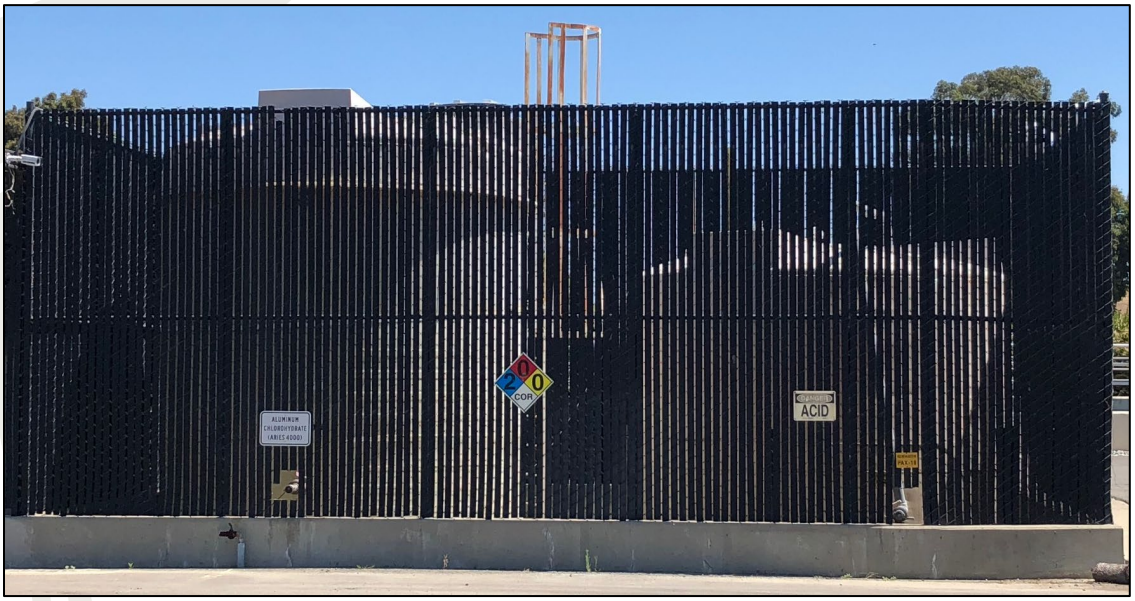
JUSTIFICATION: The sand filters were constructed in 1994. The 2011 Wastewater Treatment Plant Systems Reliability Evaluation rated the sand filters with an overall priority of "low"; however, potential capacity and redundancy issues were identified, and it is unknown the last time the sand filters were shut down and inspected in detail. The upcoming Plant Masterplan will re-evaluate the capacity and redundancy issues, and includes plans to shut down the sand filters and conduct a detailed inspection to identify all needed improvements for this process unit. The air compressors may be reaching the end of their useful service lives and may need to be replaced, and the air compressor room needs ventilation improvements. A pre-design will evaluate alternatives to potentially move the air compressors to a different location closer to the sand filter process unit.

ESTIMATED TOTAL PROJECT COST: $2,368,000

ANTICIPATED SCHEDULE:

- Pre-design – FY33
- Design – FY33 to FY34
- Construction – FY35

Sand Filters / Compressed Air System / Chemical Systems Rehabilitation, continued…



PROJECT NAME: Pavement Management Program

DESCRIPTION: This program is the ongoing effort to maintain the District's pavement assets, which include the Plant Road, Administration Building parking lot and connecting roads, lower Plant roads, and pavements around the four pump stations. A condition assessment study should be conducted roughly every ten years to establish the condition of each asset and recommend necessary maintenance, repairs, or improvements. Such work may include crack sealing, base repairs and patch paving, surface seals, microsurfacing, overlays, and striping, and may be incorporated into another upcoming CIP project.

JUSTIFICATION: Pavement assets should be maintained regularly to extend their useful service life and optimize long-term capital costs. Left unmaintained, pavement will eventually deteriorate and fail, leading to costly replacement projects which far exceed the cost of regular maintenance and repairs. Deteriorating pavement also presents safety concerns (e.g. tripping hazards) for employees and visitors, and may also fail to adequately support District maintenance vehicles.

ESTIMATED TOTAL PROJECT COST: $20,000

ANTICIPATED SCHEDULE:

- Study – FY30

MT. VIEW SANITARY DISTRICT

PLANT PROJECTS

PROJECT NAME: New Operations & Maintenance Building

DESCRIPTION: This project would construct a new building to accommodate all of the Operations and laboratory staff's office, workspace, and storage needs. The building is estimated at 6,500 square feet. Its most likely location would be in the area roughly bounded by Moorhen Marsh Pond A2, the biosolids processing area and Centrifuge Building, and the Thickener. If that is the case, two existing, aging operations and maintenance buildings would be demolished to make way. The project would also abandon or demolish the former administration building (the modular, now the Operations staff building), and rehabilitate and upgrade the existing Control Building.

JUSTIFICATION: The existing Control Building is over 70 years old (1951), while the former administration building is nearly 40 years old (1983) and near the end of its useful service life. These buildings have safety concerns (e.g. electrical room), existing spaces are undersized or inadequate to accommodate staff needs (e.g. men's locker room, laboratory), they lack certain spaces entirely (e.g. dedicated women's restroom and women's locker room), and they are not up to certain building code requirements (e.g. unisex bathroom ADA access, seismic standards). The Operations and laboratory staff offices, workspaces, and storage areas are spread out across multiple, separate buildings in the lower plant area, leading to a certain amount of inefficiency. The 2011 Wastewater Treatment Plant Systems Reliability Evaluation performed a preliminary space needs assessment, evaluated the existing spaces available, and recommended that a new building be built.

ESTIMATED TOTAL PROJECT COST: $7,191,000

ANTICIPATED SCHEDULE:

- Pre-design – FY35
- Design – FY35 to FY36
- Construction – FY37 to FY38

MT. VIEW SANITARY DISTRICT

10-YEAR CAPITAL IMPROVEMENT PROGRAM
FISCAL YEAR 2022-2023 UPDATE

COLLECTION SYSTEM PROJECTS

MT. VIEW SANITARY DISTRICT

COLLECTION SYSTEM PROJECTS

PROJECT NAME: Pipeline Cleaning & Televising / Condition Assessment Program

DESCRIPTION: The District is required by the State Water Resources Control Board to develop and implement a Sewer System Management Plan (SSMP) that includes a plan to identify, prioritize, and correct collection system deficiencies. This program must include regular television inspection of sewer pipes and a system for ranking their condition. The District's current SSMP commits to implement a comprehensive condition assessment program to clean and televise each and every pipeline in its collection system. Television inspection will record pipeline condition data pursuant to the National Association of Sewer Service Companies (NASSCO) standard rating systems, which data will ultimately be fed into a computerized risk model (generic sample shown on next page) that will be used to prioritize defective pipelines and scope out future collection system capital projects. It is anticipated that the program's first cycle through the District's entire collection system will occur in three phases over about five years. The program will include manhole condition assessment inspections as well, also conducted pursuant to NASSCO.

JUSTIFICATION: Collection system condition assessment should be conducted continually to maintain an ongoing understanding of the state of the District's aging infrastructure, and to become a reference point for capital planning, project prioritizing, annual budgeting, and rate setting. The findings and recommendations of this program will form the basis of the Collection System Improvements project phases that follow in the CIP.

ESTIMATED TOTAL PROJECT COST: $2,020,000 (first complete cycle of 3 phases)

ANTICIPATED SCHEDULE:

- Cycle 1, Phase 1 – complete
- Cycle 1, Phase 2 – FY23
- Cycle 1, Phase 3 – FY24 to FY25
- Cycle 2: FY27 and following

Pipeline Cleaning & Televising / Condition Assessment Program, continued…

		A	B	C	D	E
		Negligible	Minor	Moderate	Significant	Severe
E	Very Likely	Low Med	Medium	Med Hi	High	High
D	Likely	Low	Low Med	Medium	Med Hi	High
C	Possible	Low	Low Med	Medium	Med Hi	Med Hi
B	Unlikely	Low	Low Med	Low Med	Medium	Med Hi
A	Very Unlikely	Low	Low	Low Med	Medium	Medium

MT. VIEW SANITARY DISTRICT

COLLECTION SYSTEM PROJECTS

PROJECT NAME: 888 Howe Road Sanitary Sewer Replacement

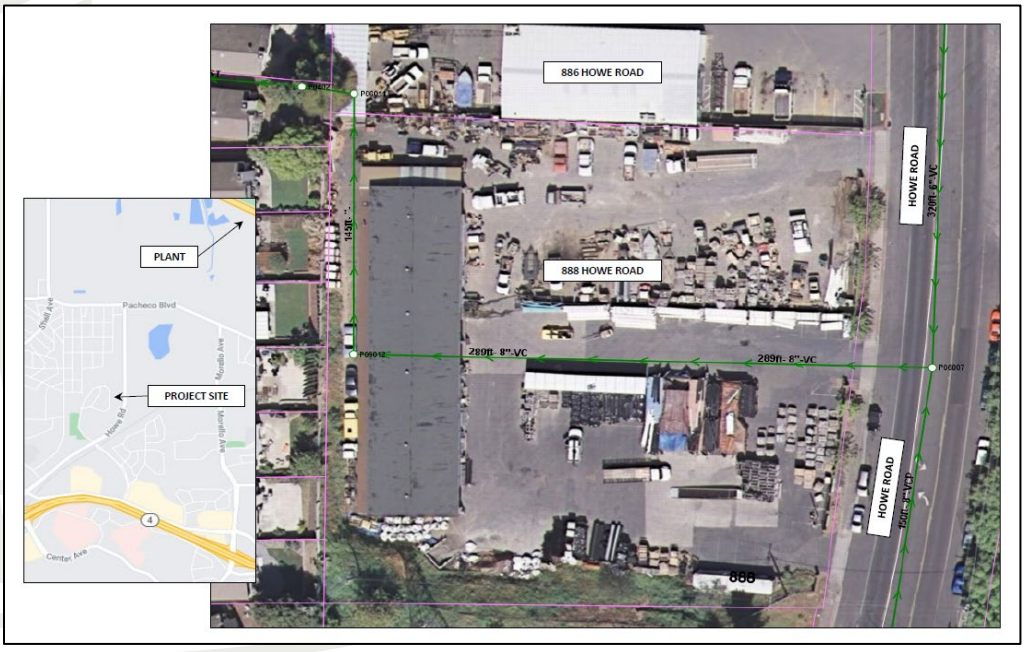
DESCRIPTION: Severe defects were discovered in two pipelines at 888 Howe Road. Additionally, a large warehouse at 888 Howe and a sizeable carport structure at 886 Howe were previously constructed above sections of these two pipelines. The project will resolve right-of-way issues, acquire an easement if necessary, and either remove and replace the sewer in its existing alignment or construct a new sewer alignment and abandon the old alignment in place. The existing alignment includes approximately 434 linear feet of existing 8-inch sanitary sewer and one manhole, and the project would replace or construct roughly the same length and size of new pipe and possibly add some additional manholes. Most of the project will occur within 888 Howe Road, but some portions of the work will also occur in public right-of-way on Howe Road itself, as wells as on the neighboring private property at 886 Howe Road.

JUSTIFICATION: The two pipelines must be replaced to eliminate the severe defects in the existing alignment and to alleviate the significant above-ground obstructions.

ESTIMATED TOTAL PROJECT COST: $879,000

ANTICIPATED SCHEDULE:

- Alignment Study – complete
- Right-of-way – FY22 to FY23
- Design – FY23
- Construction – FY24



MT. VIEW SANITARY DISTRICT

COLLECTION SYSTEM PROJECTS

PROJECT NAME: Collection System Improvements Program

DESCRIPTION: This program consists of multiple project phases that will repair, rehabilitate, or replace defective collection system pipelines and manholes. Project scopes will be comprised of the highest priority pipeline and manhole issues identified by the Pipeline Cleaning & Televising / Condition Assessment Program. Some projects may also include other improvements such as raising manholes to grade or making easement access improvements.

JUSTIFICATION: Defective pipelines and manholes must be addressed promptly to eliminate recurring maintenance problems, reduce the risk of sanitary sewer overflows and possibly even catastrophic failures, and generally to continually renew and rejuvenate the District's aging collection system infrastructure. More detailed information is pending the data and risk modeling results from the Pipeline Cleaning & Televising / Condition Assessment Program.

ESTIMATED TOTAL PROJECT COST:

- Phase 1 – $1,711,000
- Phase 2 – $1,779,000
- Phase 3 – $3,552,000
- Phase 4 – $1,829,000
- Phase 5 – $1,857,000

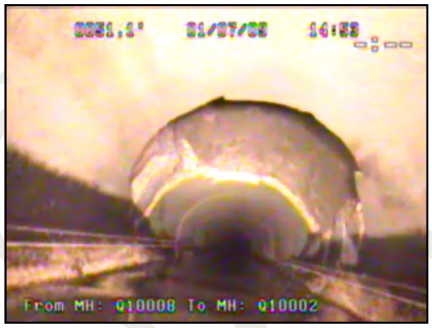
ANTICIPATED SCHEDULE:

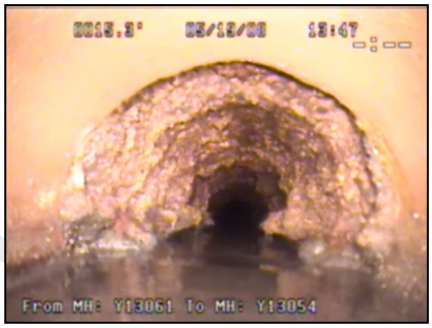
- Phase 1
  - Design – FY24 to FY25
  - Construction – FY26
- Phase 2 – FY26 to FY28
- Phase 3 – FY28 to FY30
- Phase 4 – FY30 to FY32
- Phase 5 – FY32 to FY34

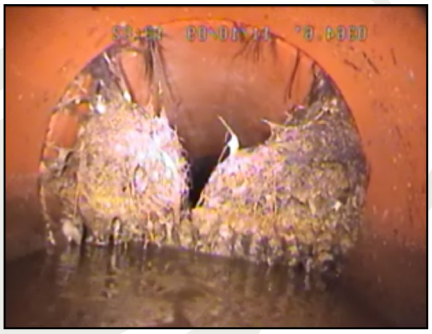
MT. VIEW SANITARY DISTRICT

COLLECTION SYSTEM PROJECTS

Collection System Improvements Program, continued…







MT. VIEW SANITARY DISTRICT

COLLECTION SYSTEM PROJECTS

PROJECT NAME: Inflow & Infiltration Reduction Program Improvements

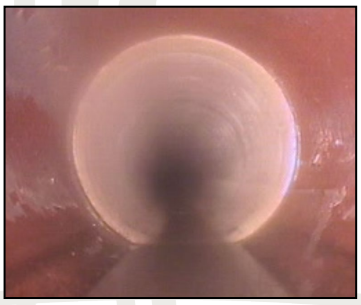
DESCRIPTION: This project will eliminate specific inflow and infiltration (I&I) sources in the collection system through the repair, replacement, or rehabilitation of defective pipeline and manholes. The final scope of the project will be clarified and determined by the focused field investigations conducted under the I&I Reduction Program Study scheduled for Fiscal Year 2022-2023.

JUSTIFICATION: The 2022 Collection System Capacity Assessment identified six collection system micro-basins as having excessive wet weather flows, and recommended that focused field investigations be conducted in those areas to locate I&I sources. The study further recommended that approximately 2,300 linear feet of pipe in one of those micro-basins be replaced or rehabilitated to eliminate all potential defects allowing infiltration, and that point repairs and other activities be performed to eliminate all known sources of inflow. After the I&I Reduction Program Improvements is carried out, a follow-up round of flow monitoring will be performed to confirm that measurable I&I reduction has been accomplished. Assuming that it is, the project could ultimately help reduce or eliminate the need for future capacity-driven capital projects such as the Capacity Improvements Phases A & B, potentially saving the District substantial monies in the future.

ESTIMATED TOTAL PROJECT COST: $2,016,000

ANTICIPATED SCHEDULE:

- Design – FY24 to FY25
- Construction – FY26



MT. VIEW SANITARY DISTRICT

COLLECTION SYSTEM PROJECTS

PROJECT NAME: Capacity Improvements Phases A & B

DESCRIPTION: These projects will replace approximately 1,660 linear feet (Phase A) and 920 linear feet (Phase B) of pipe with larger-sized pipe. Note that after the Inflow & Infiltration Reduction Program Improvements is carried out, a follow-up round of flow monitoring will be performed to confirm that measurable I&I reduction has been accomplished. Assuming that it is, the necessity and scope of these projects could be reduced or perhaps even eliminated, potentially saving the District substantial monies. It is also possible that some overlap exists between the pipelines of these projects and those in various phases of the Collection System Improvements Program, resulting in savings since they only need to be replaced once, not twice.

JUSTIFICATION: The 2022 Collection System Capacity Assessment recommended that approximately 2,580 linear feet of pipe be upsized to accommodate hydraulically modeled peak wet weather flows.

ESTIMATED TOTAL PROJECT COST:

- Phase A – $1,289,000
- Phase B – $758,000

ANTICIPATED SCHEDULE:

- Phase A
  - Design – FY26 to FY27
  - Construction – FY28
- Phase B
  - Design – FY28 to FY29
  - Construction – FY30

MT. VIEW SANITARY DISTRICT

COLLECTION SYSTEM PROJECTS

PROJECT NAME: West Service Zone Sanitary Sewer Replacement

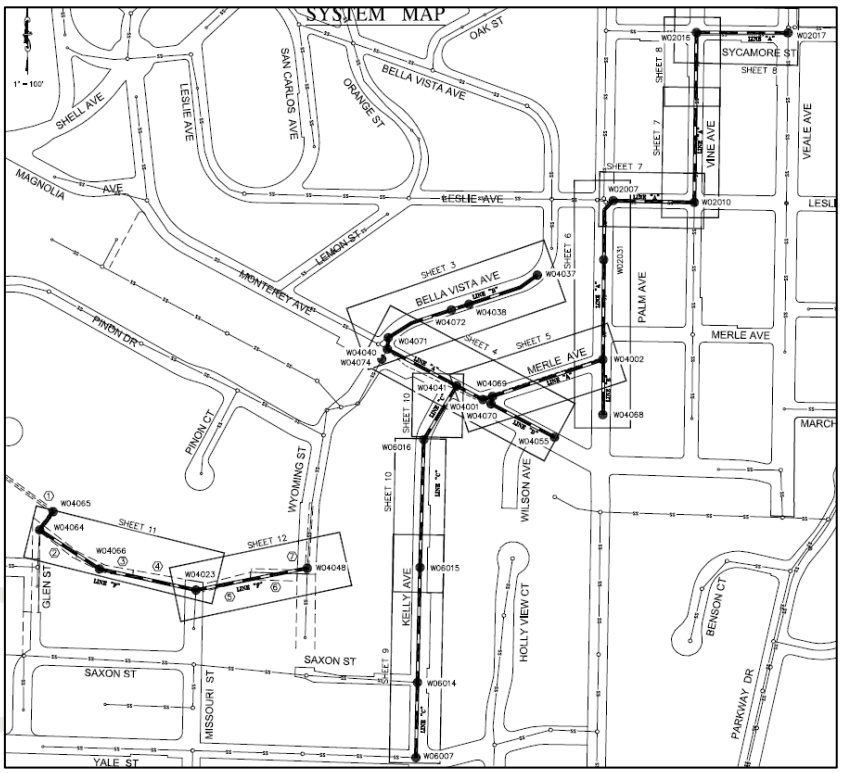
DESCRIPTION: As originally designed, the scope of this project included approximately 4,400 linear feet of pipe bursting, approximately 360 linear feet of open cut sewer replacement, 26 manhole replacements, and property owner-paid pipe bursting of up to 118 lateral sewers. Work areas in the West Service Zone included the Glen Street to Wyoming Street creek easement, Kelly Avenue from Yale Street to Monterey Avenue, Monterey Avenue itself, Merle Avenue, Bella Vista Avenue, Palm Avenue, Leslie Avenue, Vine Avenue, and Sycamore Street (see map below).

JUSTIFICATION: This project was originally conceived to address both condition and capacity issues in the collection system areas noted above. Project design was begun and progressed substantially during 2009, but was shelved indefinitely due to concerns about the necessity for the capacity portion of the project. The 2022 Collection System Capacity Assessment should provide the data necessary to confirm or refute the need for the capacity improvements. The relative priorities of condition-driven improvements also need to be confirmed via the ongoing Pipeline Cleaning & Televising / Condition Assessment Program. Appropriate improvements might be incorporated into one of the future Collection System Improvements project phases. A pre-design will evaluate all the issues and compile the final project scope.

ESTIMATED TOTAL PROJECT COST: $3,552,000

ANTICIPATED SCHEDULE:

- Pre-design – FY28
- Design – FY28 to FY29
- Construction – FY30



MT. VIEW SANITARY DISTRICT

COLLECTION SYSTEM PROJECTS

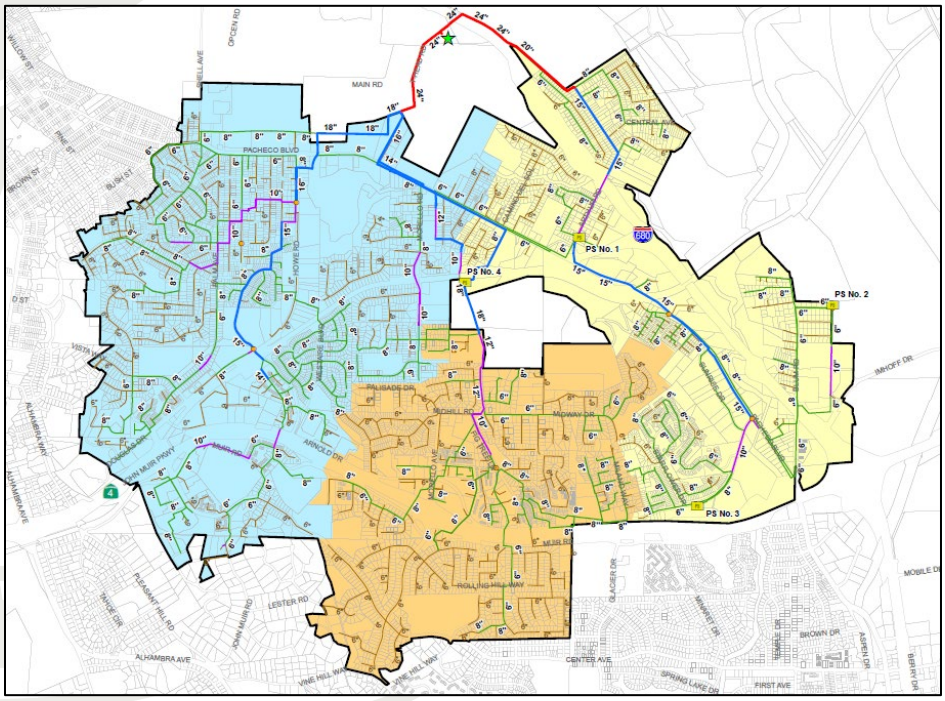
PROJECT NAME: Collection System Capacity Assessment

DESCRIPTION: This study will update the last collection system capacity assessment that was completed in 2022. A flow monitoring program would be conducted and the collection system hydraulic model would be recalibrated, updated, and maintained. The study will re-confirm planning and analysis criteria and will also update land usage data and projections for the District's service area. A capacity analysis will be conducted, and pipelines and / or pump station equipment in need of capacity improvements will be identified. Progress towards inflow and infiltration reduction in the collection system will be evaluated.

JUSTIFICATION: A comprehensive collection system capacity assessment should be conducted roughly every ten years to confirm the District's ability to adequately convey peak wet weather flows to the plant, and to become a reference point for capital planning, project prioritizing, annual budgeting, and rate setting. The hydraulic model is an essential tool for the District to conduct hydraulic analyses which in turn facilitate engineering and administrative control over potential impacts to collection system capacity precipitated by proposed developments.

ESTIMATED TOTAL PROJECT COST: $299,000

ANTICIPATED SCHEDULE: Study – FY32



MT. VIEW SANITARY DISTRICT

COLLECTION SYSTEM PROJECTS

PROJECT NAME: Pump Stations Condition Assessment

DESCRIPTION: This study will conduct condition, safety, and redundancy assessments of each of the four pump stations and their major pieces of equipment and assets to identify those in need of repair, replacement, rehabilitation, or redundancy. The study will also evaluate the feasibility to install telemetry and implement full monitoring and control of all four pump stations via the SCADA system. That scope of work would include modifying or adding PLCs, adding cellular radios and antennas, adding control panels, and modifying SCADA screens to accommodate the new monitoring and control capabilities.

JUSTIFICATION: A comprehensive pump station condition assessment should be conducted roughly every ten years to maintain an ongoing understanding of the state of the District's aging infrastructure, and to become a reference point for capital planning, project prioritizing, annual budgeting, and rate setting. Currently, none of the pump stations are connected to the District's SCADA system and therefore cannot be monitored or operated remotely, thus requiring daily trips (including weekends) by Operations staff to each pump station. Full pump station monitoring and control will significantly reduce the number of trips to the pump stations, which will greatly improve Operations staff efficiency and productivity, and ultimately save the District time and money in the long term. The 2017 Wastewater Treatment Plant Electrical Systems Study as well as its 2019 update recommended the telemetry and SCADA improvements described above. The findings and recommendations from this study will be incorporated into the Pump Stations Rehabilitation & Improvements which will immediately follow this study.

ESTIMATED TOTAL PROJECT COST: $75,000

ANTICIPATED SCHEDULE: Study – FY23

MT. VIEW SANITARY DISTRICT

COLLECTION SYSTEM PROJECTS

PROJECT NAME: Pump Stations Rehabilitation & Improvements

DESCRIPTION: This project will replace the wet well coating at Pump Station Nos. 1 and 2, and will also replace the pumps at Pump Station No. 4. Specific electrical improvements will be addressed at Pump Station Nos. 2 and 3, while all four pump stations will be carefully evaluated for other electrical upgrade needs. Installation of telemetry and implementation of SCADA system improvements are possible for all four pump stations. Maintenance and repairs to pavement assets will be addressed. Other assets in need of repair or replacement, as determined by the Pump Stations Condition Assessment, will also be included in the project scope.

JUSTIFICATION: The wet well coating at Pump Station Nos. 1 and 2 is failing and needs to be replaced. The pumps at Pump Station No. 4 are a constant maintenance problem due to ragging and will have reached the end of their useful service life. Electrical upgrades are necessary to eliminate certain maintenance issues, improve redundancy, and ensure uninterrupted pumping. Currently, none of the pump stations are connected to the District's SCADA system and therefore cannot be monitored or operated remotely, thus requiring daily trips (including weekends) by Operations staff to each pump station. Full pump station monitoring and control will significantly reduce the number of trips to the pump stations, which will greatly improve Operations staff efficiency and productivity, and ultimately save the District time and money in the long term. Pavement assets should be maintained regularly to extend their useful service life and optimize long-term capital costs.

ESTIMATED TOTAL PROJECT COST: $1,616,000

ANTICIPATED SCHEDULE:

- Design – FY24 to FY25
- Construction – FY25

MT. VIEW SANITARY DISTRICT

COLLECTION SYSTEM PROJECTS

PROJECT NAME: Iron Adjustments After Street Pavement Projects

DESCRIPTION: The City of Martinez regularly conducts street pavement projects; Contra Costa County occasionally does so as well. It is the District's responsibility to raise its manhole and rodding inlet frames and covers to the new street grade after these street pavement projects. The District typically collaborates with the City or County to have their paving contractor perform this work, and then under formal agreement directly reimburses the City or County for the cost. This inter-agency collaborative effort saves the District a significant amount of time and money while still accomplishing the necessary work.

JUSTIFICATION: It is the District's responsibility to raise its manhole and rodding inlet frames and covers to the new street grade after these street pavement projects. If these structures are not raised, they cannot be located later on, preventing critical collection system maintenance activities from occurring and reducing collection system oversight. The time and cost to find and raise these structures to the new street grade also increases.

BUDGET: $30,000 (in Fiscal Year 2022-2023)

ANTICIPATED SCHEDULE: Annually as necessary

MT. VIEW SANITARY DISTRICT

10-YEAR CAPITAL IMPROVEMENT PROGRAM
FISCAL YEAR 2022-2023 UPDATE

MARSH PROJECTS

MT. VIEW SANITARY DISTRICT

MARSH PROJECTS

PROJECT NAME: McNabney Marsh Trunk Line Accessibility

DESCRIPTION: The District owns 4 manholes and nearly 800 feet of 20-inch and 24-inch pipe within the boundaries of McNabney Marsh. These facilities are located on McNabney's southern border, beginning at the plant road near the north tunnel entrance and running parallel to the Interstate 680 freeway. They represent one of two main trunk lines transporting wastewater flow into the treatment plant – this one from the north. Although there is an easement, the District currently has no access to these facilities. Limited access may have existed in the past, but that was lost when the water level in McNabney Marsh rose due to marsh tide gate management issues.

The project would construct all-weather vehicle access to these facilities. Given their location in the marsh, and the prospect of building an access road along the edge of a wetland, the scope of work could be fairly complex. At a minimum, it would likely involve a full California Environmental Quality Act (CEQA) evaluation and extensive biological permitting, but could also involve wetland mitigation banking of some kind. A pre-design will identify all pertinent requirements and undertake the work necessary to satisfy them.

The long-term future of McNabney Marsh is still uncertain at present, but if a multi-agency enhancement-type project was to proceed at some point, the District might have an opportunity to address its access improvement needs through that project rather than embark on its own capital project.

JUSTIFICATION: If an overflow, emergency repair, or other critical situation were to occur on these facilities, the District would be virtually unable to access the area (particularly the western portion) or do anything to mitigate or rectify the problem. The likelihood of failure for such a situation is difficult to predict, while the consequence of failure could be extraordinarily high.

ESTIMATED TOTAL PROJECT COST: $1,422,000

ANTICIPATED SCHEDULE:

- Pre-design – FY26
- Design – FY26 to FY28
- Construction – FY28 to FY29

McNabney Marsh Trunk Line Accessibility, continued…

MT. VIEW SANITARY DISTRICT

MARSH PROJECTS

PROJECT NAME: Moorhen Marsh Complex Maintenance

DESCRIPTION: This project will include necessary maintenance work, repairs, rehabilitation, or improvements to the Moorhen Marsh complex that may have accumulated since the major enhancement projects were completed in 2018 and 2019. Work activities could include levee repairs or stabilization, erosion control, burrowing animal control, pond and / or slough dredging, pathway construction or rehabilitation, vegetation removal, landscaping and irrigation, biological upgrades, Interpretive Center upkeep, levee and bridge seismic evaluations and associated improvements, bridge maintenance and painting, water control and outlet structure maintenance, etc. A pre-design will identify all pertinent biological and permitting requirements and undertake the work necessary to satisfy them.

JUSTIFICATION: A comprehensive maintenance project should be conducted roughly every ten years to maintain the Moorhen Marsh complex and its infrastructure assets. Due to the anticipated biological constraints on work activities in the marsh, it is recommended that all required maintenance work be compiled into a single project to be completed at the same time.

ESTIMATED TOTAL PROJECT COST: $1,440,000

ANTICIPATED SCHEDULE:

- Pre-design – FY26
- Design – FY26 to FY28
- Construction – FY29 to FY30






MT. VIEW SANITARY DISTRICT

10-YEAR CAPITAL IMPROVEMENT PROGRAM
FISCAL YEAR 2022-2023 UPDATE

STRATEGIC INITIATIVES

PROJECT NAME: Inflow & Infiltration Reduction Program / Wet Weather Flow Management Study

DESCRIPTION: The purpose of this strategic initiative is to reduce inflow and infiltration (I&I) in the collection system. Inflow is water discharged to the system via direct connections such as downspouts and yard or area drains, holes in manhole covers, storm drain cross connections, etc. Infiltration is stormwater or groundwater that enters the system through pipeline or manhole defects. I&I is a major contributor to sanitary sewer overflows during and after wet weather events, as it can cause the rated capacity of pipelines, pump stations, and possibly parts of the plant itself to be overwhelmed.

I&I reduction strategies will begin with focused field investigations to trace and locate I&I sources in six collection system micro-basins that were identified under the Collection System Capacity Assessment Study Update as having excessive wet weather flows. Smoke testing, wet weather pipeline televising, night time reconnaissance, and other investigative methods will be utilized. These efforts will build upon a smoke testing program conducted from 2011 to 2015. Findings from both efforts will be compiled and either confirmed as resolved previously or addressed as described further below.

The field investigations' findings will help establish the scope of the Inflow & Infiltration Reduction Program Improvements, a capital project intended to eliminate specific I&I sources in the collection system through the repair, replacement, or rehabilitation of defective pipelines and manholes. It will also serve as the basis for targeted outreach and possibly enforcement action to eliminate specific I&I sources such as illicit direct connections in private sewer laterals.

Another potential I&I reduction strategy is a private sewer lateral (PSL) program. The efficacy and logistics of PSL programs will be examined in detail, and it is possible that such a program could be implemented at the District. PSL programs require side sewers to be inspected and, if necessary, repaired or replaced as part of the residential real estate sale process. The long-term outcome is incremental, District-wide renewal of defective side sewer infrastructure that has been contributing to the I&I problem, with a corresponding gradual reduction of wet weather flows.

Finally, the study may examine the District's needs, if any, for wet weather storage or an additional equalization basin somewhere in the collection system. However, this portion of the study would not occur until after the strategies described above have

I&I Reduction Program / Wet Weather Flow Management Study, continued…

been fully carried out and measurable I&I reduction has been accomplished and confirmed by another round of flow monitoring.

JUSTIFICATION: I&I reduction has the potential to alleviate and perhaps even eliminate collection system capacity deficiencies while simultaneously improving the District's ability to adequately convey peak wet weather flows to the plant. Furthermore, implementing a multi-faceted I&I reduction strategy as described above (e.g. field investigations, capital project(s), outreach and enforcement, PSL program) may ultimately reduce or eliminate the need for future capacity-driven capital projects such as the Capacity Improvements Phases A & B, potentially saving the District substantial monies in the future.

ESTIMATED TOTAL STUDY COST: $304,000

ANTICIPATED SCHEDULE:

- I&I Reduction Program – FY23 to FY24, and possibly ongoing thereafter
- Wet Weather Flow Management Study – FY27

MT. VIEW SANITARY DISTRICT

STRATEGIC INITIATIVES

PROJECT NAME: Climate Resiliency Study

DESCRIPTION: The purpose of this strategic initiative is to develop a District Climate Action Plan and / or Climate Resilience Plan. Each of the District's three main asset areas (plant, collection system and pump stations, and marshes) will be evaluated for potential vulnerabilities and impacts due to climate change, sea level rise, and groundwater rise. The District's consumption of fossil fuels is also an area that needs study and possibly future planning.

JUSTIFICATION: The District must understand the potential impacts that a changing climate may have upon its infrastructure and assets, and should develop a Climate Action / Resilience Plan to mitigate those impacts. The District is yet to undertake any formal action on climate change such as this study; therefore, it should do so soon. A Climate Action / Resilience Plan would also ensure that the District is aware of any climate-related regulatory requirements that it must meet, inform capital improvement program (CIP) development, provide technical guidance for CIP project execution, and better position the District for future funding opportunities. The District may need to plan for the replacement of its fossil fuel-consuming assets with assets that consume alternative forms of energy.

ESTIMATED TOTAL STUDY COST: $75,000

ANTICIPATED SCHEDULE: Study – FY24

MT. VIEW SANITARY DISTRICT

STRATEGIC INITIATIVES

PROJECT NAME: Emergency & Cybersecurity Resiliency Study

DESCRIPTION: The purpose of this strategic initiative is to review and evaluate the District's ability to withstand, respond to, and recover from a natural disaster, cybersecurity incident, or other potential major operational disruption. Current preparedness and resiliency levels of the District's staff and equipment, its response and communication plans and procedures, its infrastructure, and its network of outside resources will be examined; required levels for each of the same will be determined. Vulnerabilities will be identified and mitigation plans prepared. Training and drilling needs will also be identified.

JUSTIFICATION: The District is an essential service provider that must maintain continuity of operations in all circumstances. In today's ever-changing world, those circumstances can change suddenly, drastically, and sometimes catastrophically. The District must be fully prepared for any situation that might occur; therefore, it is prudent to regularly review and refresh the District's preparedness and resiliency levels. It is further prudent to conduct regular staff training and drilling, and the District must do so for the many new staff it has hired over the last few years.

ESTIMATED TOTAL STUDY COST: $75,000

ANTICIPATED SCHEDULE: Study – FY25

MT. VIEW SANITARY DISTRICT

STRATEGIC INITIATIVES

PROJECT NAME: Energy Independence Study

DESCRIPTION: The purpose of this strategic initiative is to identify and evaluate energy independence opportunities available to the District. The study will particularly focus on how and where solar panels and batteries could be effectively and economically installed at the plant and pump stations. If warranted, the study will develop a solar power implementation plan or project. Cogeneration and lighting efficiency upgrades have been examined at various times in the past and may be revisited. Additional energy independence opportunities will be prospected.

JUSTIFICATION: The District should pursue energy independence to decrease operational reliance on utility power, safeguard itself against public safety power shutoffs, and reduce its utility (PG&E) power bill. Moreover, whenever it is economically feasible and wherever it is physically possible, the District should seek to develop its own sources of renewable energy and build an independently functioning electrical microgrid.

ESTIMATED TOTAL STUDY COST: $75,000

ANTICIPATED SCHEDULE: Study – FY26