Operations Committee Meeting
Tuesday, February 1, 2022 at 1:00 PM
Valley Sanitary District Board Room
45-500 Van Buren Street, Indio, CA 92201

Members of the public wanting to participate in the open session of the meeting may do so in person or via the following Zoom registration link: https://us06web.zoom.us/j/84164857325 Meeting ID: 841 6485 7325. Members of the public wanting to address the Board many do so, either during public comment or before each action item.

Page

1. CALL TO ORDER

1.1. Roll Call

1.2. Pledge of Allegiance

2. PUBLIC COMMENT

This is the time set aside for public comment on any item not appearing on the agenda. Please notify the Secretary in advance of the meeting if you wish to speak on a non-hearing item.

3. DISCUSSION / ACTION ITEMS

3.1. Facility Process Control Modification to Consistently Remove Ammonia and Total Nitrogen — 3 - 6

3.1 Board Report - Process Modification for Ammonia Removal Pilot Project 20220201.pdf

3.1 Attachment A Pilot Process Explanation Sheet.pdf

3.2. Project Update: Recycled Water Project - Phase I Design Alternative 7 - 15

3.2 Reclaimed Water Project - Phase I Design Alternative.pdf

3.2 Attachment A Stantec Sludge thickening options TM.pdf

3.3. Review and Discuss the Draft Fiscal Year 2023 Capital Improvement Projects and Rankings Lists 16 - 21

3.3 Review and Discussion of draft FY23 CIP Projects.pdf

3.3 Attachment A Draft List of FY 23 CIP Projects.pdf

3.3 Attachment B Ranking List of Top 5 CIP.pdf

4. FUTURE MEETING ITEMS

5. ADJOURNMENT

Pursuant to the Brown Act, items may not be added to this agenda unless the Secretary to the Board has at least 72 hours advance notice prior to the time and date posted on this notice.

Valley Sanitary District
Operations Committee
February 1, 2022

TO: Operations Committee

FROM: Dave N. Commons, Facility Operations Manager

SUBJECT: Facility Process Control Modification to Consistently Remove Ammonia and Total Nitrogen

☐Board Action	☐New Budget Approval	☐Contract Award
☒Board Information	☐Existing FY Approved Budget	☐Closed Session

Executive Summary
The purpose of this report is to provide information regarding VSD's Temporary Process Control Modifications Pilot to access the capability of the current activated sludge treatment process to remove ammonia and total nitrogen with only minor modification to enhance the plant's nitrification and denitrification.

Strategic Plan Compliance
This item complies with VSD Strategic Plan Objective 3: Excellent Facilities.

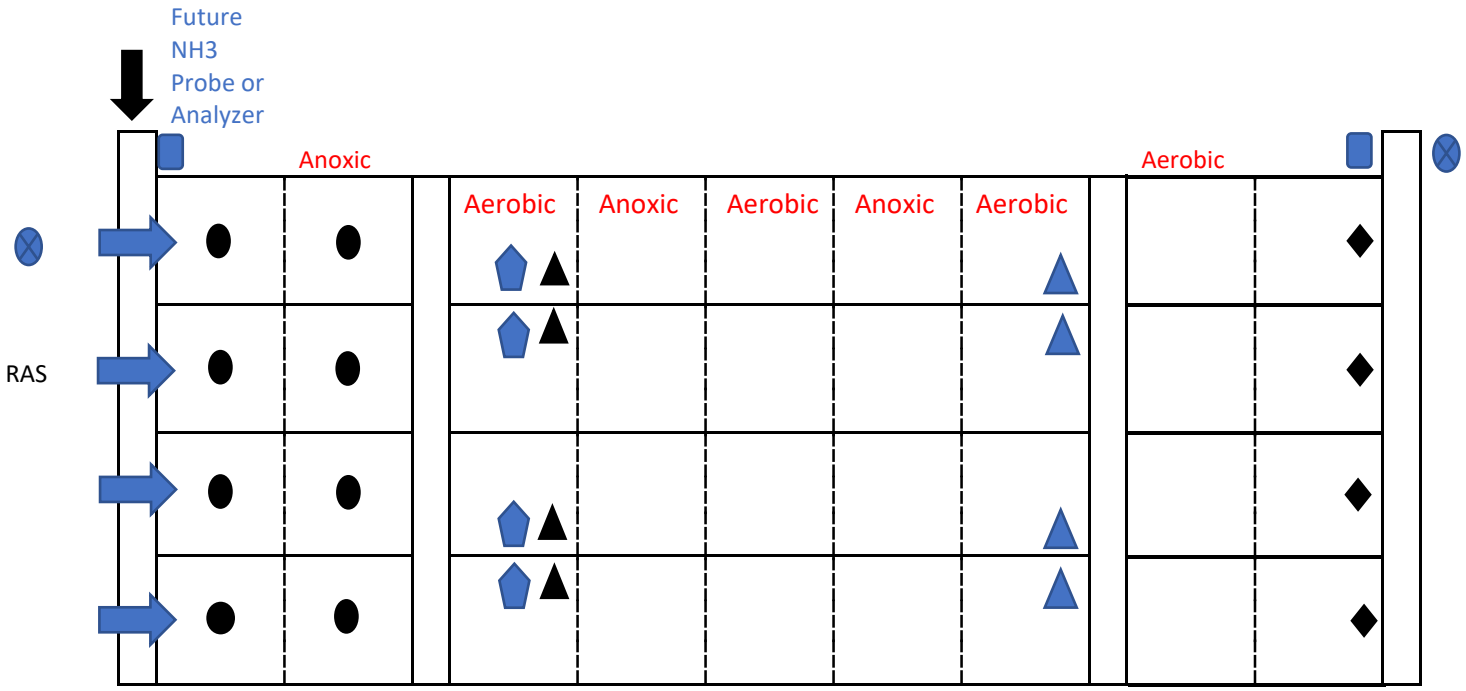
Fiscal Impact
There is no current fiscal impact of this pilot project.

Background
On April 1, 2020, the State of California Colorado River Basin Regional Water Quality Control Board as part of Board Order R7-2020-007 required the VSD to complete an Ammonia technical study within 18-months to evaluate the ability of VSD's treatment facility to reduce ammonia discharges into the Coachella Valley Whitewater Storm Water Channel. Normally when the Regional Board requires such a technical study, a pending or potential effluent discharge requirement modifications to the plant's NPDES permit is looming. Since the completion of the Ammonia Study, the VSD wanted to evaluate potential process modifications that could be implemented with a minimum of cost that would enhance the ability of the current activated sludge facility to remove ammonia and total nitrogen from the effluent. One the facility's four aeration basins has been modified into a process pilot project. Process modification will be made to that one basin to determine which process modifications will achieve the most nutrient removal for the minimum cost. This will allow process modifications to be made without impacting the entire plant.

Recommendation
No recommendation. Information only.

Attachments
Attachment A – Pilot Process Explanation Sheet

Primary Effluent



SYMBOLS KEY:

Current Anoxic Mixers

Current DO Probes

Current ANISE Probes

Future NH3 Probe or Analyzer (Possible PO4 Analyzer if must remove Phosphorous)

Future NISE Probe (On RAS Pipeline)

Future DO Probes

Future SS Probes

Study Plan

1.) Evaluate current data and run background information. Need NH3, NO3, pH, Alkalinity, Dissolved Oxygen data. Need the following:
   a.) Aeration basin influent – NH3, NO3, pH/Alkalinity, PO4; RAS Influent – NO3
   b.) Influent to First Aerobic Zone – TSS (MLSS); Effluent – DO, Microscopic examination
   c.) Second Anoxic Zone Effluent (First Anoxic zone after the Selectors) – pH/Alkalinity
   d.) Third Anoxic Zone Effluent – NO3, pH/Alkalinity
   e.) Final Aerobic Zone Effluent (Before final aerobic zones) – NH3, NO3, PO4
   f.) Plant Influent flow
   g.) Return and Waste Activated Sludge flow

h.) SVI data
i.) MCRT
j.) Sludge blanket levels in secondary clarifiers

Approximately one month (December 2021)

2.) Change Aeration Basin No. 4 to Step feed process configuration. Continue same test data gathering. Increase MCRT to approximately 12 days.
Approximately one month (January 2022)

3.) If not satisfied with the first results, divert some of the primary effluent around anoxic selectors to the entrance to the Step feed channel by first aerobic zone. Continue same test data gathering.
Approximately one month (February to March 2022)

Test other process changes to test if the above does not resolve NH3 problem:

Internal High rate Recycle flow from back of aeration basin to the front of the selectors.

Install baffles between zones with mixers in the anoxic zones.

Check nutrient balance in aeration basin between nitrogen, phosphorous, and potassium to determine if correct.

Do a DO cross section of the aeration basins to determine the optimum locations to install the DO probes.

Valley Sanitary District
Operations Committee
February 1, 2022

TO: Operations Committee

FROM: Ron Buchwald, Engineering Services Manager

SUBJECT: Project Update: Recycled Water Project – Phase I Design Alternative

☐Board Action	☐New Budget Approval	☐Contract Award
☒Board Information	☐Existing FY Approved Budget	☐Closed Session

Executive Summary
The purpose of this report is to provide a project update and design alternative regarding the Recycled Water Project – Phase I.

Strategic Plan Compliance
This item complies with VSD Strategic Plan Objective 3: Excellent Facilities.

Fiscal Impact
The current fiscal impact of this project is $2.2 million, which will produce 60% design plans. If the design alternative is accepted by the Board, the fiscal impact of this change is estimated at $387,497.

Background
The Recycled Water Project – Phase I is the initial project of three phases that will allow VSD to be able to produce recycled water. This project began in June 2020 and began the 30% design phase in September of 2020. During the 30% design phase, VSD staff worked with the design build team on key design components to thoroughly assess each component. Operations staff researched each of the design components that was included in the scope of work, such as bar screens, grit chambers, etc. to make sure the final selections fit within current and future plant operations. Once the components were selected by operations staff, the design build team provided the engineering design and specifications to make sure it would fit within our plant.

One specific component was the sludge thickening of the primary waste prior to entering the digester. There were three primary types of waste thickeners presented to VSD staff: gravity belt thickeners (GBT), rotary drum thickeners (RDT), and dissolved air floatation thickeners (DAFT). Each item has advantages and disadvantages and after discussing them with staff with our current operations in mind, the entire team (design build team, Stantec, and VSD) selected the DAFT system. Operations staff had little to no experience with DAFT units. They researched other public agencies that had

these units, found that they worked well, and selected the unit type that made the most sense for VSD. The 30% design phase was completed in June 2021 utilizing the DAFT system. The Design Build team then proceeded to the 60% design.

In November of 2021, VSD hired a new Facility Operations Manager, Dave Commons. Dave has decades of experience in the sewer treatment industry including sewer treatment plant design (one of the many reasons he was selected for the position). Dave was introduced to the design build team and quickly took part in this very important project. By the end of November, Dave had become familiar with the design parameters and the selection of many of the components chosen. This coincided with completion of the draft 60% design plans.

In Dave's review of the design reports and drawings, one component grabbed his attention – the sludge thickener of the primary sludge. Dave has substantial experience with each of the three primary devices, and he was not in favor of the DAFT unit based on it representing an older technology, lower operational efficiency, and maintenance difficulties. After careful consideration, management staff recommended that the team revisit this design component and consider the rotary drum thickener option.

The design of the DAFT unit is complete and is available as an option. The design alternative pricing for the RDT is near complete and will be ready to proceed with approval.

Recommendation
Recommend that the Operations Committee discuss the design alternative and provide feedback and direction.

Attachments
Attachment A: Stantec's Sludge Thickening Options Technical Memorandum dated December 2, 2020.

Stantec

Memo

To:	Ron Buchwald, PE Engineering Services Manager	From:	Akram Botrous, PhD, PE, BCEE Paul Wallace, PE Ruoren Yu, PE
	Valley Sanitary District		Stantec Consulting Services
File:	184031335	Date:	December 2, 2020

Reference: WAS Thickening Options TM - VSD Design-Build Project for Energy Services

The Valley Sanitary District (VSD) has engaged a Design Build (DB) team consisting of Schneider Electric (Contractor) and Stantec (Design Engineer) to provide the Energy Services to its Water Reclamation Facility (WRF). Stantec prepared a draft Basis of Design Report (BODR) and submitted it to Schneider Electric (SE) on 11/11/2020. The project included two Gravity Belt Thickeners (GBT) to thicken the Waste Activated Sludge (WAS) before sending the thickened WAS to the anaerobic digesters. GBTs would be operated intermittently because they need operator attention while in operation. If the GBT does not operate on one day, the sludge produced on that day will be stored in the secondary treatment system and the mixed liquor suspended solids (MLSS) concentration will increase. This was discussed briefly with SE and VSD before the draft BODR was submitted. However, the issue of varying MLSS was not evaluated in detail to maintain the draft BODR schedule. It was agreed that a follow-up document would be prepared to discuss the issues with intermittent WAS thickening operations. The purpose for this memorandum is to evaluate the effect of the WAS thickening operations and amend the BODR (if needed) before it is finalized.

Wasting Schedule and Its Effect on Secondary Treatment

If the WAS is not continuously withdrawn from the secondary process, it will accumulate in the system and will increase the MLSS concentration. When the GBT operates and WAS is withdrawn, the MLSS will be reduced during the thickening period. Figure 1 shows how the MLSS concentration changes when the GBT operates for 4, 5, and 7 days per week at SRT of 4 and 7 days. As shown on the Figure, the longer the GBT is idle, the higher the MLSS rises toward the end of the GBT idle period. High variation in MLSS is not recommended because it will affect the plant capacity, aeration system and the overall process performance. A 7-day/week schedule would be acceptable because the MLSS variation is not excessive. However, if a 4 or 5 day/week schedule is desired, then a WAS holding tank would be required.

WAS Holding Tank

If a WAS holding tank is constructed, WAS would be stored in the tank from Friday afternoon to Monday morning (Typical 5-day/week operation). This is equivalent to 2.66 days of storage. Assuming that 2 tanks are needed for the build out of 20 MGD, then one tank will be sized for a plant capacity of 10 MGD. WAS flow at 10 MGD is about 0.37 MGD (see mass balance). For a 2.66-day storage, the required tank volume would be about 1.0 MG. See Figure 2. The tank will need to be aerated and mixed with blowers to prevent sludge septicity and odor generation. The capital cost for the WAS holding tank is about $1.4M and the aeration energy is about $27,900/year as shown in Table 1 and Table 2, respectively.

7-Day Operation of GBT

Alternatively, the District could hire a part-time operator so that the GBT would be operated 7 days a week. This will cost about $44,600 as shown in Table 3.

Reference: WAS Thickening Options TM - VSD Design-Build Project for Energy Services

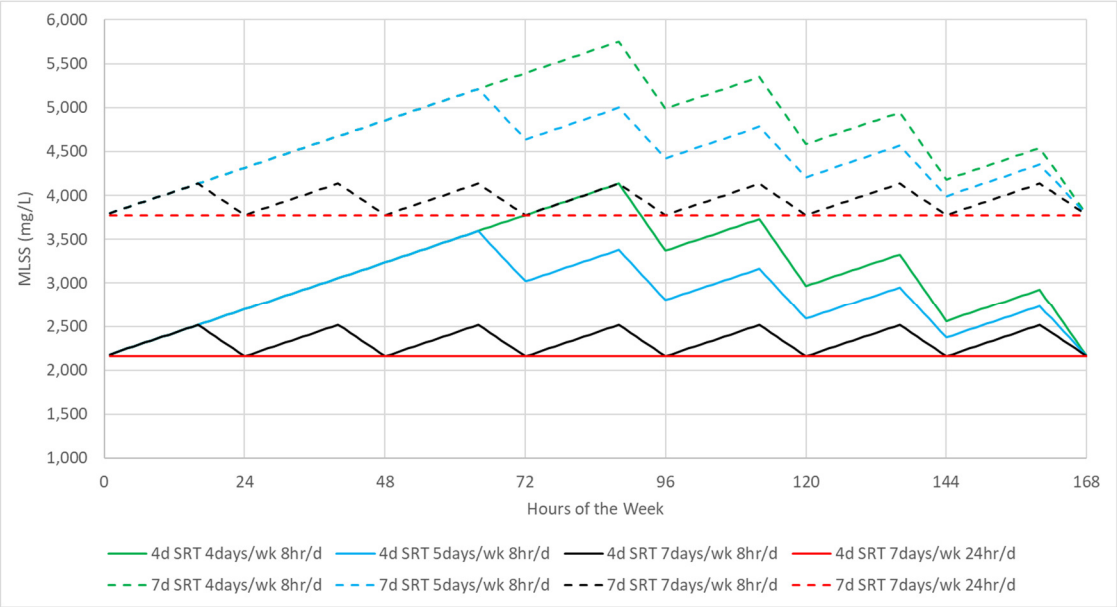


Figure 1 Effect of SRT and GBT Operational Schedule (WAS Withdrawal) on MLSS

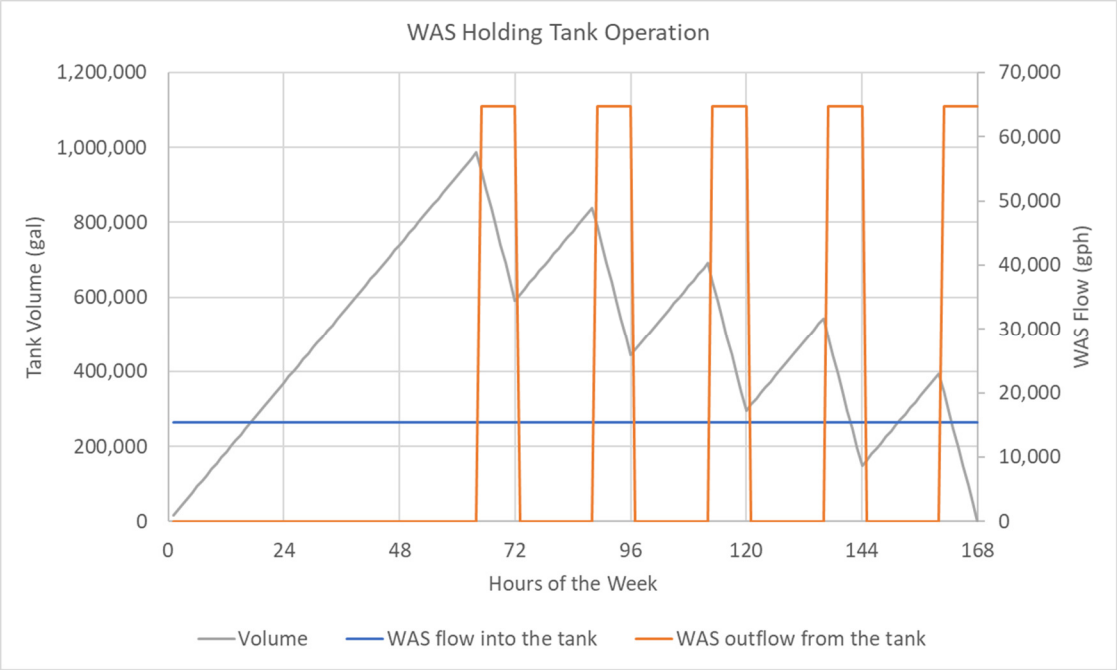


Figure 2 WAS Holding Tank Flow and Volume

Table 1 Cost Estimate for WAS Holding Tank (1-MG Volume)

Item Description	Cost
Site Work	$6,000
Tank Foundation and Equipment Slabs	$64,800
Blowers	$150,000
Diffusers	$112,500
WAS Transfer Pumps	$60,000
Steel Tank	$1,000,000
Mechanical (Pipes, Valves, Supports, etc.)	$40,000
Base Construction Cost	**$1,433,300**

Table 2 Energy Cost for Aeration of WAS Holding Tank

Item Description	Unit	Value
Aeration Power	hp	46
Aeration Power	kw	34
Aeration Energy	kwh	300,487
Cost of Electric Energy	$/kwh	0.093
Cost of Power	**$/Year**	**$27,900**

Table 3 Cost of Hiring a Part-Time Operator for 2 Days per Week

Item Description	Unit	Value
Days/Week	--	2
Extra Days Required to Operate the GBT	days/year	112
Operation Shift	hr/day	8
Extra Operational Hours per Year	hrs/year	896
Average Operation Hourly Wage	$/hour	49.77
Extra Cost of Operation per Year	**$/Year**	**$44,600**

WAS Thickening with Dissolved Air Flotation Thickeners (DAFT)

Dissolved air flotation thickening is used extensively for WAS thickening in many WWTPs. In the dissolved air flotation thickening process, air is added to incoming WAS flow at a pressure higher than atmospheric pressure. High pressure causes air to dissolve into the WAS. When the pressure is reduced as the flow enters the tank, excess air is released from the solution as very small bubbles. The bubbles adhere to the suspended particles or become enmeshed in the solids matrix. The density of the solids-air aggregate is less than that of water, thereby causing it to float to the surface. Water drains from the "float," increasing the solid concentration. Float is continuously removed from the surface of the thickener by skimmers. Bottom collectors are also used to remove any settled solids or grit that may accumulate. Subnatant is removed from the tank and returned to the plant influent.

Assuming two DAFTs are needed for the build out of 20 MGD, the appropriate size for each DAFT would be 30 ft in diameter. One DAFT would be needed for this project and would be adequate until the plant reaches 10-MGD capacity. The plant will have no redundant DAFT before the second DAFT is constructed but there will be redundant equipment outside the DAFT (recycle pumps and compressors). That is not unreasonable because the only maintenance that require DAFTs to be taken out of service is to paint the mechanism every 5-10 years. Selecting stainless steel mechanism will minimize the downtime even further. There are many plants that runs with just one DAFT thickener for WAS (Merced and Benicia are examples). A provision to send the WAS to one of the available ponds for emergencies would be an appropriate approach. The design criteria for dissolved air flotation thickeners are listed in Table 4.

Table 4 DAFT Design Criteria

	Phase 2b (5.9 MGD)	Buildout (20 MGD)
Number of DAFT units	1	2
DAFT Diameter, ft	30	30
SWD, ft	10	10
Design WAS Load, lb/d	9,160	31,050
Design WAS Flow, mgd	0.22	0.74
A/S Ratio	0.04	0.04
Number of Recycle Pumps	2	3
Capacity of Each Recycle Pump, gpm	600	600
Capture Efficiency, %	95	95
Thickened Sludge Concentration, %	4	4
Solids Loading, ppd/sf	13	22
Hydraulic Loading (including recycle), gpm/sf	1.06	1.21

WAS Thickening with Rotary Drum Thickeners (RDT)

A rotary drum thickener (RDT) operates similarly to a gravity belt thickener, with free water draining through a moving porous medium while flocculated solids are retained on the medium. A rotary drum thickener consists of an internally fed rotary drum with an integral internal screw for transporting thickened solids out of the drum. The drum rotates and is driven by a variable or constant speed-drive (See Figure 3). As with gravity belt thickeners, rotary drum thickeners are highly dependent upon polymer addition to achieve thickening objectives. The drums generally rotate at 5 to 20 revolutions per minute (rpm). With the proper polymer application and feed rate, rotary drum thickeners can produce a thickened solids concentration of 4 percent and a solids capture rate of 90 to 95-percent. The RDT can operate continuously without operator attention.

Assuming three RDTs are needed for the build out of 20 MGD (two duty and one standby), three 260 gpm RDTs will be an appropriate size at buildout. Two RDTs (one duty and one standby) would be needed for this project and would be adequate until the plant reaches 10 MGD capacity. The design criteria for rotary drum thickeners are listed in Table 5.

Figure 3 Example of an Installed Rotary Drum Thickener (by Huber)

Table 5 RDT Design Criteria

		This Project Phase 2b (5.9 MGD)	Buildout (20 MGD)
WAS Flow	gpd	219,700	744,600
WAS solids concentration	%	0.5	0.5
WAS Load	lb/d	9,160	31,050
Number of Installed Units	units	2	3
Number of Operating Units	units	1	2
Hydraulic Capacity of Each Unit	gpm/unit	153	259
Solids Loading Capacity of Each unit	lb/hr/unit	382	647
TWAS Concentration	%	4	4
Volume of WAS Wasted Weekly	gal/week	1,537,900	5,212,200
Mass of WAS Wasted Weekly	lb/week	64,120	217,350
Weekly Minimum Duration (solids control)	hrs/week	168	168
Weekly Minimum Duration (Hydraulic control)	hrs/week	168	168
Theoretical Minimum Weekly Duration	hrs/week	168	168
TWAS Flow (continuous)	gpd	26,089	88,421
TWAS Flow per Unit (continuous)	gpm	18	31
TWAS Flow per Unit (when operational)	gpm	18	31

Alternative Analysis and Conclusion

Table 6 summarizes the capital and O&M costs of each WAS thickening alternative. GBT (with and without WAS holding tank) is not recommended because of high life cycle cost. Both dissolved air flotation thickeners and rotary drum thickeners can operate 24/7 without operator's attention and have lower life cycle costs than the gravity belt thickener option. Note, life cycle costs are based on a 20-year period and 3% discount rate.

The continuous wasting is preferred for the secondary treatment process to minimize MLSS fluctuations and continuous feeding the digesters with thickened waste activated sludge TWAS is also preferred because it minimizes the digester foaming potential. The District staff may wish to consider visiting local installations of these two alternative WAS thickening technologies.

Table 6 Evaluation Summary of Thickening Alternatives

	Unit	GBT 7 days a week	GBT 5 days a week	DAFT	RDT
Capital Cost					
GBT & RDT Equipment	$	$1,925,000	$1,925,000		$1,020,000
DAFT (Tank and Mechanism)	$			$731,000	
DAFT Splitter Box	$			$200,000	
DAFT Recycle Pump Station	$			$150,000	
Building	$	$1,190,000	$1,190,000	$480,000	$1,190,000
WAS Holding Tank	$		$1,433,300		
BASE CAPITAL COST		**$3,115,000**	**$4,548,300**	**$1,561,000**	**$2,210,000**
Annual O&M Cost					
Extra Operation Time	$/year	$44,600			
Energy for WAS holding Tank	$/year		$27,900		
Polymer	$/Year	$23,000	$23,000	$10,400	$18,800
TWAS Pumps	$/Year	$3,300	$3,300	$2,700	$2,700
Unit Motor	$/Year	$2,000	$2,000	$1,200	$3,000
DAFT Recycle Pumps	$/year			$30,700	
DAFT Compressor	$/year			$1,500	
TOTAL O&M COST	**$/Year**	**$72,900**	**$56,200**	**$46,500**	**$24,500**
PV of LIFE CYCLE COST		**$4,193,000**	**$5,379,000**	**$2,249,000**	**$2,572,000**

Stantec Consulting Services Inc.

Akram Botrous, PhD, PE, BCEE
Wastewater Regional Practice Leader
Phone: 916 773 8100
Akram.Botrous@stantec.com

Attachment:

c.

Valley Sanitary District
Budget & Finance Committee
February 1, 2022

TO: Operations Committee

FROM: Ron Buchwald, Engineering Services Manager

SUBJECT: Review and Discussion of the Draft Fiscal Year 2023 (FY23) Capital Improvement Projects and Rankings Lists

☐Board Action	☐New Budget Approval	☐Contract Award
☒ Board Information	☐Existing FY Approved Budget	☐Closed Session

Executive Summary
The purpose of this report is for the Operations Committee to review and discuss the draft FY23 Capital Improvement Projects and ranking spreadsheet.

Strategic Plan Compliance
This item complies with VSD Strategic Plan Objective 5.1: Align long-term financial planning with strategic priorities.

Fiscal Impact
There is no fiscal impact from this report.

Background
In preparation for the FY23 budget, staff has prepared a draft list of CIP Projects for the Operations Committee to review. The capital budget incorporates key projects to further advance the District's Capital Improvement Program (CIP). The CIP for FY23 includes the Reclaimed Water Phase 1 treatment upgrade project, Influent Pump Station Rehabilitation Project, Collection System Sewer Main Rehabilitation and Replacement Program, as well as several other needed projects. Staff will discuss some of the smaller or older projects on the list.

The ranking list was created to prioritize the top 5, large CIP projects for staff to concentrate on in order of the highest scoring projects. The list was created from a spreadsheet with scoring items dealing with health/safety/regulatory requirements, asset condition, funding source, project readiness, etc. The prepared list will be shared for the Operations Committee to review.

Recommendation
Recommend that the Operations Committee receive this report for information.

Attachments
Attachment A – Draft list of FY 23 CIP Projects
Attachment B – Ranking list of the top 5 CIP Projects

Proposed CIP Projects and Budget (draft)

Project Name	FY 22 Budget	FY 23 Budget Estimate
Influent Pump Station Rehabilitation Project	3,634,476	Carry over
Sewer Siphon Replacement at Westward Ho Construction	2,241,805	3,000,000
Collection System Repairs/Rehabilitation/Replacement Construction	2,200,000	4,300,000
Reclaimed Water Project Phase I	2,200,000	Debt Service
Laboratory Building Final Design	1,000,000	Debt Service
Office and Training Building Final Design	922,000	Debt Service
Vehicle Equipment Replacement Fund	740,000	740,000
Collection System Repairs/Rehabilitation/Replacement Design	700,000	1,500,000
Additional Parking and Landscaping Project	500,000	Carry over
Transfer Refunding Bonds	426,926	426,567
Sewer Siphon Replacement at Westward Ho Design or Construction Management	320,258	300,000
Sewer Emergency Repairs	115,000	115,000
Contingency for Emergency Repairs - Admin/Engineering/Operations	100,000	100,000
Laboratory Information Management System	70,000	Carry over
Lateral Grant Program	50,000	Carry over
Treatment Plant Asphalt Repair	-	50,000
ASP Concrete Repair	-	50,000
Lift Station Pump Replacement	-	50,000
TOTAL	**15,220,465**	**10,631,567**

Westward Ho Sewer Siphon

Criteria	Strongly Disagree 1	2	3	4	Strongly Agree 5	Score	Weight	Weighted Score
1. Risk to Health, Safety and Environment and Regulatory or Mandated Requirements						**24**	**25%**	**6**
Project avoids or minimizes the risk to health, safety and environment associated with the infrastructure based on condition assessment of the asset, or the lack of an asset, that may include the age, size, material, capacity, and history of failure of the infrastructure.					x	5	5%	1.25
Urgency of the project to reduce the potential hazards to the public, property and environment					x	5	5%	1.25
Project is required by legal mandate or consent decree (less than 3 years, project specific or programmatic, e.g. Department of Health and Environmental Protection Agency's mandates).	x					1	1%	0.25
Project is required by other regulatory requirements (project specific or programmatic, e.g. General Permit Compliance).				x		4	4%	1
Project is required to comply with court orders and settlements or avoids plausible legal claims (project specific or programmatic).	x					1	1%	0.25
Project complies with Strategic Plan, General Plan, Community Plan, or Master plan.			x			3	3%	0.75
For Public Safety, this factor will also evaluate the potential in reducing the risks to the staff's health and safety minimizing the failure or maintenance of the existing deficient infrastructure.					x	5	5%	1.25
2. Asset Condition, Annual Recurring Costs and Asset Longevity:						**28**	**20%**	**5.6**
Existing conditions and capacity to meet the basic level of service is deficient.					x	5	4%	1
Avoids potential failure due to substandard conditions					x	5	4%	1
The project improves the overall reliability of the capital asset and infrastructure system.					x	5	4%	1
There are major implications of delaying the project such as significant future costs, or negative community impacts.					x	5	4%	1
The extent to which the project reduces District operations and maintenance expenditures.			x			3	2%	0.6
The project increases the longevity of the capital asset or extends the useful life of the asset in the long term					x	5	4%	1
3. Community Investment and Economic Prosperity:						**17**	**20%**	**3.4**
The project contributes toward economic development and revitalization efforts			x			3	4%	0.6
The project reduces or avoids impacts to the community when infrastructure fails.					x	5	6%	1
The project will benefit under-served communities including those with low income households, low community engagement			x			3	4%	0.6
The project implements the Economic Prosperity Element of the General Plan and/or other community plans.			x			3	4%	0.6
The project benefits communities that have the highest population served per acre.			x			3	4%	0.6
4. Level and Quality of Service:						**16**	**10%**	**1.6**

The project improves existing conditions and capacity to meet the minimum level and quality of services that is deficient. Avoids potential failure due to substandard conditions					x	5	3%	0.5
The project addresses an infrastructure or facility deficit identified in a community plan					x	5	3%	0.5
The project design shall provide the necessary flexibility to perform satisfactorily within the expected range of waste characteristics and volumes.					x	5	3%	0.5
The project design flow selected shall meet the appropriate effluent and water quality standards that are set forth in the discharge permit.	x					1	1%	0.1
5. Sustainability and Conservation:						**14**	**10%**	**1.4**
The project improves the health of the community and natural environment through sustainable designs with improved regional air quality and reduced greenhouse gas emission that contributes to climate change.			x			3	2%	0.3
Where appropriate, the project promotes infill development, open space and land form preservation, habitat protection and biological diversity, and enhanced urban runoff management.			x			3	2%	0.3
The project incorporates design that meets or exceeds recognized federal and state standards in the field of energy efficiency, such as State of California Title 24 Energy Efficiency Standards, LEED building standards, etc.			x			3	2%	0.3
The project results in greener neighborhoods and reduces or avoids the potential public exposure to pollutants, contamination and other hazards to public health and environment.					x	5	4%	0.5
6. Funding Availability:						**18**	**5%**	**0.9**
The greater a project leverages District funds against external funds (grant funds or cost sharing from outside entities) the greater priority said project shall receive.					x	5	1%	0.25
The project's rank is increased based on assessment of the amount of funding needed to complete the current project phase and the entire project.					x	5	1%	0.25
Have contingency and management reserves been estimated					x	5	1%	0.25
Are the latest staff rates and resource unit costs up-to-date and available?			x			3	1%	0.15
7. Project Readiness:						**31**	**10%**	**3.1**
The project is ready to enter the phase corresponding to the funding proposed. For example, a design-build project with a completed environmental document will score higher than a design-build project without a complete environmental document.					x	5	2%	0.5
Assessment of non-engineering issues involved in completing the project. (e.g., significant environmental issues, project complexity, and level of public support). For example, projects with complex environmental issues or known significant legal challenges shall be scored lower than projects without said complications.				x		4	1%	0.4
The project shall be scored based upon the delivery method. Project that can be delivered most expeditiously shall be preferred.					x	5	2%	0.5
A clear line of sight into project performance — particularly in terms of cost, schedule, and quality — at every stage in a project's life cycle				x		4	1%	0.4
Effective contracting strategies				x		4	1%	0.4

Are there sufficient resources in terms of time, budget, infrastructure, and people with relevant expertise?				x		4	1%	0.4
Risks and uncertainties can be effectively managed and responded to					x	5	2%	0.5
Grand Total						**148**	**100%**	**22.00**
						185		

Project	Score	Weighted	Funds
Recycled Water Phase 1	148	22.15	Bank of America
Westward Ho Sewer Siphon	148	22.00	FEMA
Influent Pump Station	139	21.00	District
New Office & Lab Buildings	130	18.65	I-Bank
Collection System Rehab	128	21.15	I-Bank