Hidden Valley Lake Community Services District

Finance Committee Meeting

DATE: October 9, 2018

TIME: 12:30 pm

PLACE: Hidden Valley Lake CSD
Administration Office, GM Office
19400 Hartmann Road
Hidden Valley Lake, CA

1) CALL TO ORDER

2) PLEDGE OF ALLEGIANCE

3) ROLL CALL

4) APPROVAL OF AGENDA

5) DISCUSS: Repayment of advance to other funds (Fund 130 to 712)

6) DISCUSS: Setting a Pooled Cash ceiling w/ excess transferred to Water and Sewer Operational Reserves & CIP accounts

7) DISCUSS: General Managers current purchasing limitations

8) DISCUSS: Water and Sewer Connection Fees for new construction and T.I.'s (Informational only)

9) DISCUSS and REVIEW: Water and Sewer Sustainability Plans for SRF Loan and possible recommendation to Board

10) PUBLIC COMMENT

11) COMMITTEE MEMBER COMMENT

12) ITEMS FOR NEXT AGENDA

13) ADJOURNMENT

Public records are available upon request. Board Packets are posted on our website at www.hvlcsd.org/Meetings.

In compliance to the Americans with Disabilities Act, if you need special accommodations to participate in or attend the meeting please contact the District Office at 987-9201 at least 48 hours prior to the scheduled meeting.

Public shall be given the opportunity to comment on each agenda item before the Governing Board acts on that item, G.C. 54953.3. All other comments will be taken under Public Comment.

Hidden Valley Lakes Community Services District
Advance of funds from 712 to 130
6/30/2010

	Fiscal Year LAIF Yield	Advance & Prior Year Accrued Interest	Annual Accrued Interest	Total Outstanding Advance
6/30/2010		201,000.00		201,000.00
6/30/2011	0.495%	201,000.00	994.95	201,994.95
6/30/2012	0.382%	201,994.95	771.62	202,766.57
6/30/2013	0.307%	202,766.57	622.49	203,389.06
6/30/2014	0.249%	203,389.06	506.44	203,895.50
6/30/2015	0.269%	203,895.50	548.48	204,443.98
6/30/2016	0.434%	204,443.98	887.29	205,331.27
6/30/2017	0.754%	205,331.27	1,548.20	206,879.47
6/30/2018	1.376%	206,879.47	2,846.66	209,726.13

RESOLUTION 2014-17

RESOLUTION OF THE HIDDEN VALLEY LAKE COMMUNITY SERVICES DISTRICT BOARD OF DIRECTORS CLARIFYING TERMS OF TWO PREVIOUS INTERFUND TRANSFERS FROM SEWER ENTERPRISE FUND TO WATER ENTERPRISE FUND AND RESCINDING HIDDEN VALLEY LAKE COMMUNITY SEVICES DISTRICT BOARD OF DIRECTORS RESOLUTION 2010-12

WHEREAS, On June 24, 2002 the Board of Directors of the Hidden Valley Lake Community Services District (District) entered into an agreement with the California Infrastructure and Economic Development Bank (CIEDB) to borrow $3,000,000 for completion of the Hidden Valley Lake Water System Improvement Project; and

WHEREAS, Section 3.03 of the CIEDB agreement stipulates the District make annual loan payments; and

WHEREAS, Section 5.06 (a) of the CIEDB agreement stipulates the District set aside reserves equivalent to or greater than 110 percent of the annual debt service; and

WHEREAS, on April 30, 2010 staff transferred $140,000 from "Fund 712", a subaccount within the District's Sewer Enterprise Fund, to "Fund 218" (also known as the CIEDB Redemption Fund), a subaccount within the Water Enterprise Fund, for the purpose of making an annual CIEDB loan payment; and

WHEREAS, on July 20, 2010 the Board of Directors of the Hidden Valley Lake Community Services District adopted Resolution 2010-12 authorizing the creation of a Water Rate Stabilization Account within the Water Enterprise Fund, for the purposes of supplementing loan reserves pursuant to Section 5.06 (a) of the CIEDB agreement, and authorizing the transfer of $201,000 from Fund 712 within the Sewer Enterprise Fund to the newly created Water Rate Stabilization Account within the Water Enterprise Fund; and

WHEREAS, the Sewer Enterprise Fund and the Water Enterprise Fund are separate funds, fiscally independent of each other; and

WHEREAS, Proposition 218, the "Right to Vote on Taxes Act", passed by the California voters in November 1996, restricts the use of benefit assessments and transfer of monies between enterprise funds; and

WHEREAS, a permanent transfer of funds from the District's Sewer Enterprise Fund to the Water Enterprise Fund, as opposed to a loan between the two enterprise funds, would be in violation of Proposition 218; and

WHEREAS, the transfer of $140,000 from Fund 712 within the District's Sewer Enterprise Fund to Fund 218 within the Water Enterprise Fund was made on April 30, 2010 without clarifying said transfer is a loan between enterprise funds; and

WHEREAS, Resolution 2010-12 of the Hidden Valley Lake Community Services District authorizes the transfer of $201,000 from Fund 712 within the District's Sewer Enterprise Fund to the Water Rate Stabilization Account within the Water Enterprise Fund, without clarifying said transfer is a loan between enterprise funds.

NOW, THEREFORE, BE IT RESOLVED that the Hidden Valley Lake Community Services District Board of Directors hereby:

1) Authorize the temporary transfer of $140,000 from Fund 712 within the Sewer Enterprise Fund to Fund 218 within the Water Enterprise Fund, with the stipulation that the total transferred amount ($140,000) be returned to Fund 712 or any fund designated for unrestricted wastewater capital expenditures within the Sewer Enterprise Fund by no later than June 30, 2020.

2) Reauthorize creation of a Water Rate Stabilization Account within the Water Enterprise Fund, for the purposes of creating a loan reserve pursuant to Section 5.06 (a) of the CIEDB agreement.

3) Reauthorize the temporary transfer of $201,000 from Fund 712 within the Sewer Enterprise Fund to the Water Rate Stabilization Account within the Water Enterprise Fund, for the purposes of creating a loan reserve pursuant to Section 5.06 (a) of the CIEDB agreement, with the stipulation that the $201,000 principal and any accumulated interest be returned to Fund 712 or any fund designated for unrestricted wastewater capital expenditures within the Sewer Enterprise Fund upon repayment of the CIEDB loan.

4) Rescind Resolution 2010-12 of the Hidden Valley Lake Community Services District Board of Directors.

PASSED AND ADOPTED on December 16, 2014 by the following vote:

AYES: DIRECTORS HERNDON, FREEMAN, GRAHAM, LIEBERMAN AND MIRBEGIAN

NOES: NONE

ABSTAIN: NONE

ABSENT: NONE

Judy Mirbegian
President of the Board of Directors

ATTEST:

Roland Sanford
Secretary to the Board of Directors

Hidden Valley Lake Community Services District

Fiscal Sustainability Plan

Treatment Operations

Contents

Inventory of critical assets (Clean Water Act, 603(d)(1)(i)(I))

The Hidden Valley Lake Community Services District's (HVLCSD) Sewer System Management Plan (SSMP)[1] describes the wastewater collection system as follows;

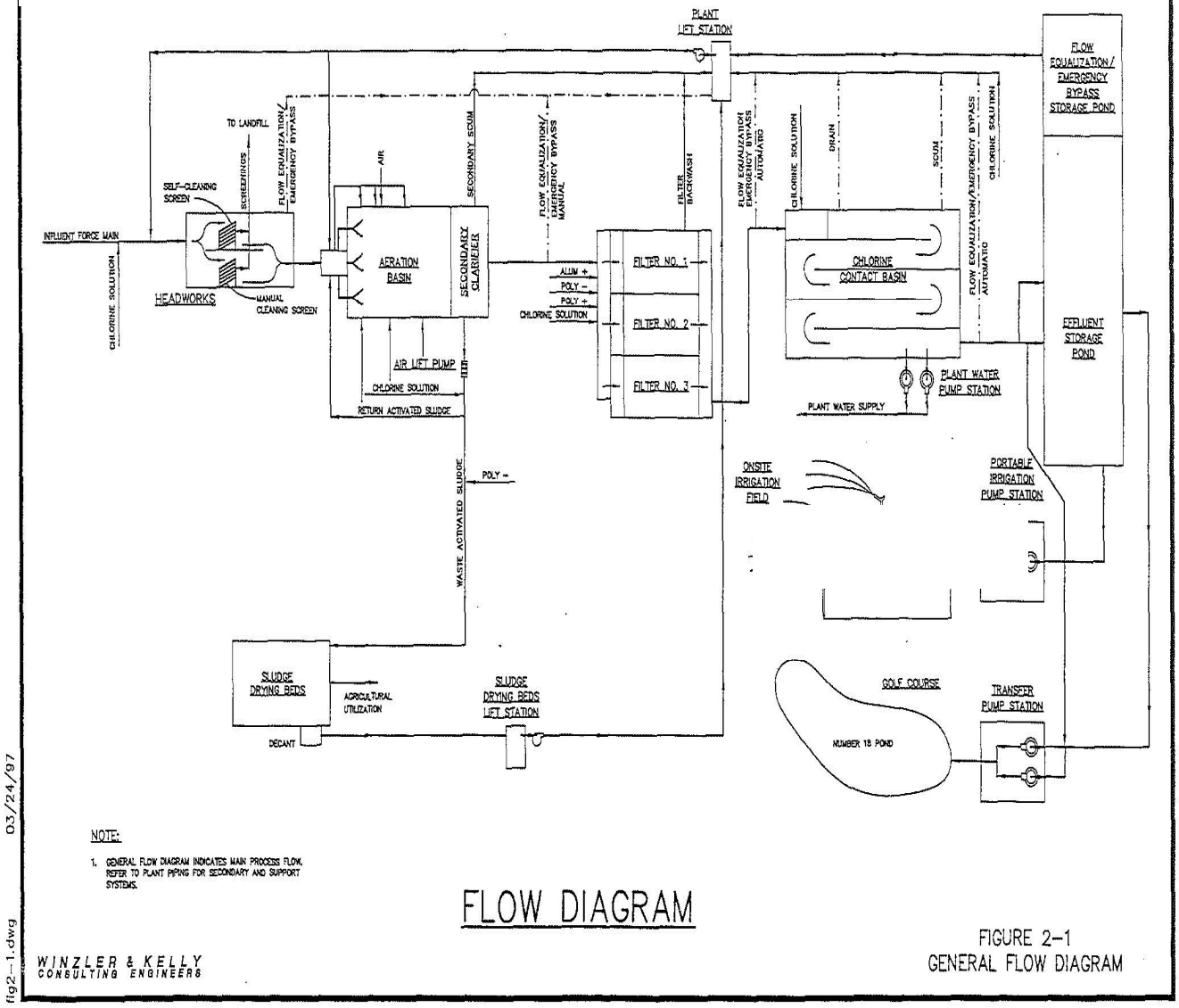
"The wastewater collection system consists of approximately 15 miles of gravity mains ranging from 4 to 18 inches in diameter, 8 pumping stations, and 1.5 miles of forced main.[2] Collected wastewater is discharged to the Hidden Valley Lake Community Services District Regional Water Reclamation Facility (RWRF), an advanced treatment plant located off of Grange Road, south of Putah Creek.[3] The RWRF treats an average dry weather flow of 0.350 million gallons-per-day (MDG) and is capable of treating a peak flow of 0.894 MGD.[4]

Raw wastewater is treated with a series of processes including mechanical screening, extended aeration and activated sludge, clarification, direct filtration, and chemical addition processes. After providing tertiary level treatment, the RWRF discharges treated effluent to a 412 acre-feet, clay-lined storage pond where it is held for golf course irrigation via 1.5 miles of reclaimed water transmission pipe. The storage pond is sized to hold effluent from the RWRF plus flows from a 1 in 100-year recurrence interval wet weather event.[5] The following sections address each SSMP element required under SWRCB Order No. 2006-0003-DWQ and SWRCB Order No. WQ 2013-0058-EXEC."

A visual representation of wastewater treatment and wastewater collection are represented by Figures 1 & 2, resp.

[1] https://www.hvlcsd.org/files/6d430b4c1/SSMP+Final+Draft+April+2018.pdf
[2] Hidden Valley Lake Community Services District Sewer System Management Plan, 2011
[3] Coyote Valley Concept Infrastructure Plan, 2007
[4] Hidden Valley Lake Community Services District Water Reclamation Facilities Operations and Maintenance Manual, 1996
[5] Ibid.

Figure 1.



NOTE:

1. GENERAL FLOW DIAGRAM INDICATES MAIN PROCESS FLOW. REFER TO PLANT PIPING FOR SECONDARY AND SUPPORT SYSTEMS.

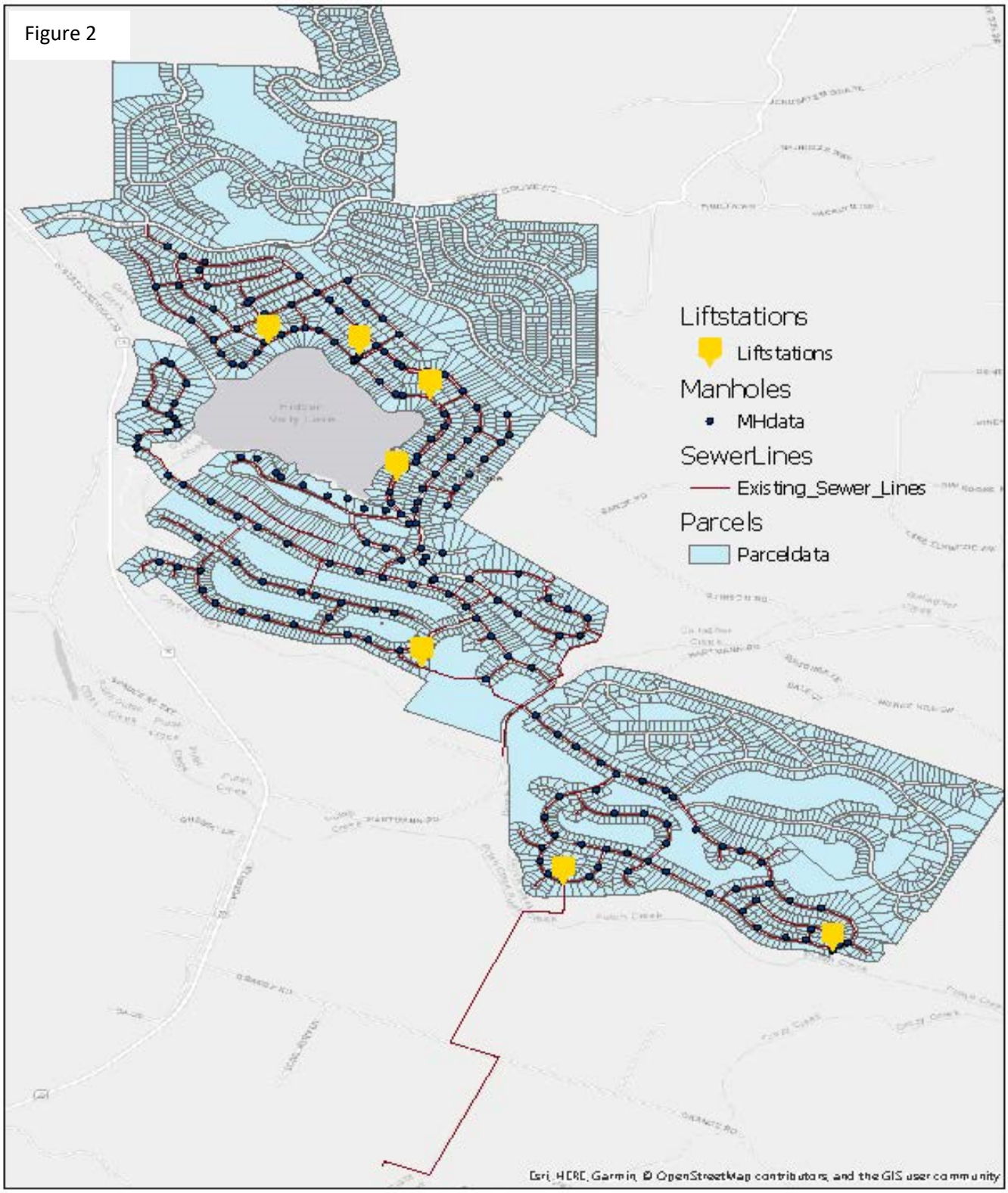
FLOW DIAGRAM

FIGURE 2-1
GENERAL FLOW DIAGRAM

WINZLER & KELLY
CONSULTING ENGINEERS

fig2-1.dwg 03/24/97

Figure 2


Liftstations
Liftstations
Manholes
MHdata
SewerLines
Existing_Sewer_Lines
Parcels
Parceldata
Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community

Evaluation of asset condition & performance (Clean Water Act, 603(d)(1)(i)(II))

Ongoing evaluation of assets is conducted by monitoring equipment performance via SCADA, as well as adherence to the Maintenance Schedule and Checklist.[6]

The evaluation of assets had led to certain Capital Improvement projects as outlined in HVLCSD's Risk Management Plan (RMP), and the Inflow & Infiltration Assessment. Figure 3 is an excerpt from the RMP itemizing improvement opportunities, and figure 4 reveals the results of an entire wet weather season of data collection and analysis.

Figure 3

2.6 Planned Changes to Improve Safety

[Reference CalARP Regulation 19 CCR 2745.3(f)]

The following recommendations were identified during the Process Hazard Analysis (PHA) discussed in Section 5.2 of this RMP and fully documented in Appendix D to improve the safety of the chlorination system. Please refer to each footnote to cross-reference the items identified in the the PHA:

1. An evaluation will be conducted to explore the feasibility of using sodium hypochlorite as a substitute for chlorine gas. (Expected completion by fall of 2018.)[2]
2. Fuel tanks will be relocated a safe distance from the chlorine cylinders. (Expected completion by fall of 2019).[3]
3. The prevention of chlorine gas releases from the chlorination system is dependent on the proper operation of the chlorinator valve that is attached to the one-ton cylinders. As an integrated component of the one-ton cylinders, the District uses a reliable chlorine gas vendor that supplies cylinders that are in good condition. Once delivered, proper cylinder handling becomes the responsibility of the District. Proper cylinder handling procedures are documented, and are required training for all field personnel.[4]
4. Components of the chlorination system are maintained and inspected on a regular basis according to manufacturer recommendations and procedures. (Ongoing maintenance requirement.)[5]

[6] Appendix A

5. The feasibility of updating the ventilation in the chlorine cylinder room will be examined (Spring 2019).
6. Maintenance of the leak detectors is performed according to manufacturer's recommendations. (Ongoing maintenance requirement.)[6]
7. At the assembly area identified in the ERP, access to the existing water line will be added. This will provide first responder personnel the ability to administer first aid if necessary (expected completion by Spring 2019)[7]
8. Accessibility to emergency personnel will be improved with signage on Glider port road, and a Knox box at the gate to the Glider port (expected completion by June 2018).[8]
9. The feasibility of installing additional chlorine leak detectors around the perimeter of the chlorination area will be evaluated. The additional external detectors could provide data on the chlorine plume if chlorine gas were to escape the chlorine storage area. (Expected completion by June 2019.)[9]
10. For contractors that will be working on or near the chlorine system or for vendors providing chlorine gas, their contracts require them to take the necessary precautions to prevent accidents that could result in a chlorine release and also require training of their employees on appropriate actions to take in the event of a chlorine alarm or release. This training may need to be provided by the District. Contractor safety procedures are listed in Section 5.12 of this RMP. (Ongoing.)[10]
11. Install seismic hold-down straps on 1-ton chlorine cylinders[11]

Figure 4

7 CONCLUSION

Flow data analysis conducted during the 2017-2018 Wet Weather Assessment revealed half of the water being treated at the WWTP is GWI and RDI rather than wastewater. The previous sections in this document demonstrated how the District arrived at this conlcusion; based on past experience and the execution of a wet weather plan.

The temporary flow monitor data suggests that The District can make the most impact by applying repairs to the Lift Station 6 Flow Monitoring Area and the Lift Station 2 Flow Monitoring Area. The Lift Station 6 Flow Monitoring Area was found to have the highest rate of total I/I; this was to be expected, as this area contains the oldest pipes out of all of the flow monitoring areas. These results help to characterize the extent and severity of I/I within the whole system, as well as within each flow monitoring area.

To the extent it has been financialy feasible, HVLCSD has affected positive change in our wastewater collection system by taking immediate mitigative actions. The District has sealed cleanouts in identified I/I areas (refer to Appendix 8.6), along with the implementation of a manhole lid replacement project for prioritized manholes. Since March, HVLCSD has replaced four manhole lids.

Rate Study plans are anticipated to be completed with a rate change target for January 2019; at which point repairs on Lift Station 6 Monitoring Area will take place based on the mid year budget review. Depending on the anticipated Rate Study, repairs will also take place throughout Lift Station 2 Monitoring Area during the 2019 / 2020 fiscal year

The District has also established a longer term plan in the reduction of I/I within the collection system. This plan includes more studies focused throughout the collection system; Specifically, CCTV of Lift Station 2 Flow Monitoring Area, additional upstream/downstream flow

monitoring, nighttime reconnaissance activites, and the continuation of the manhole lid replacement project. The District expects to use capital funding for Flow Monitoring, and CCTV activities while opertational funding will be used for the Manhole Lid Replacement project.

Certification of Water & Energy Conservation (Clean Water Act, 603(d)(1)(i)(III))

Sewer pipe repair in the identified areas of the I/I Assessment will achieve a level of efficiency and water conservation by reducing the flow to the wastewater treatment system, and allowing stormwater to naturally recharge the Coyote Valley aquifer.

Maintenaince/Repair Plan with Funding (Clean Water Act, 603(d)(1)(i)(IV))

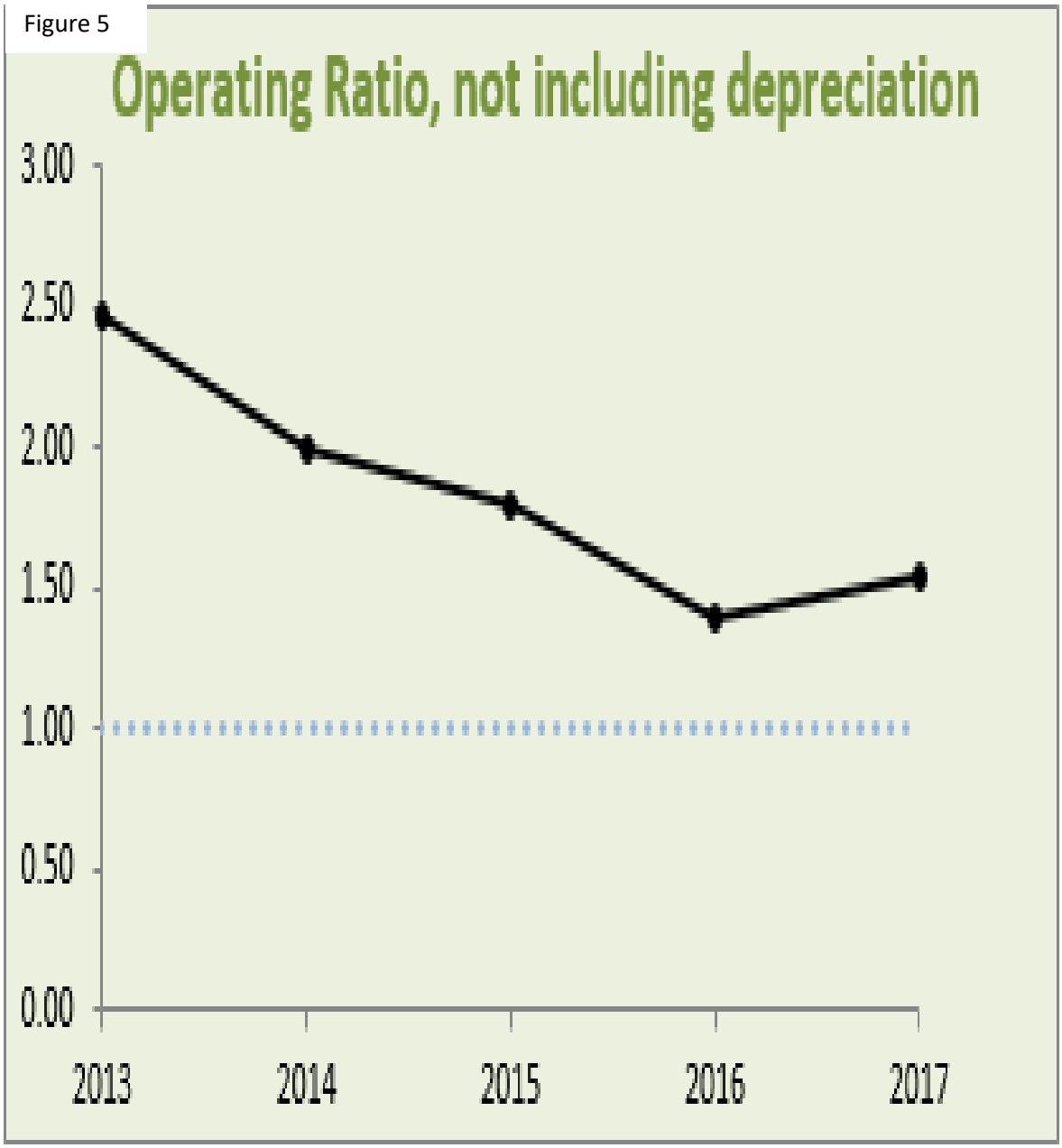
A five year CIP has been developed to address these improvement opportunities, and is currently incorporated into a Rate Study that HVLCSD has commissioned from a third party.[7]

Five years of audit data provide a positive trend for Operating Ratio and Debt Service Coverage. (Figure 5 & 6). In anticipation of rate study results, these ratios will continue to trend above industry benchmarks with the implementation of the Proposition 218 process for rate increases.

[7] Appendix B

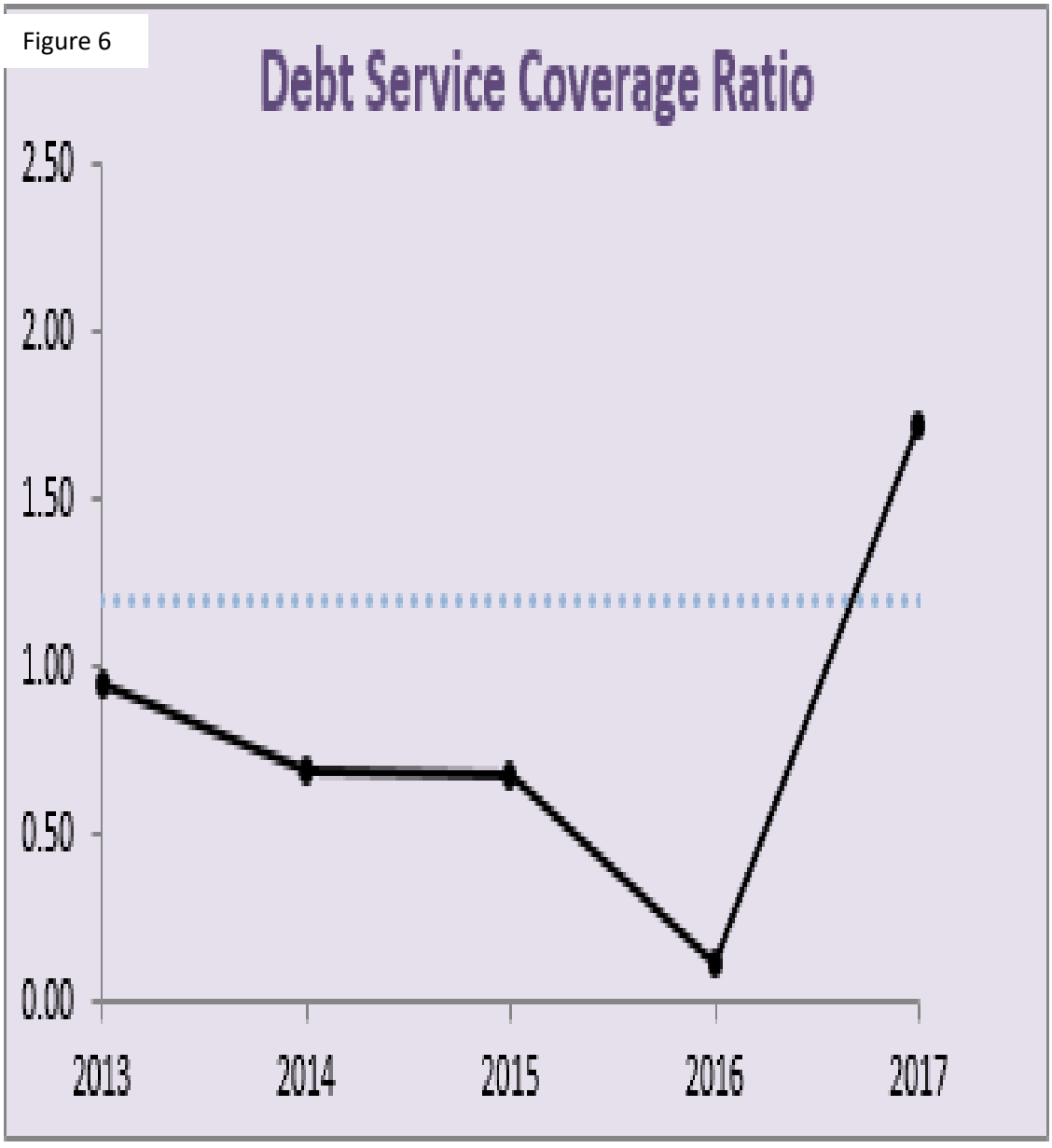
Did you generate the revenues needed to pay for O&M by itself?

Figure 5



Did you generate the revenues needed to pay for O&M and existing debt service?

Figure 6



Appendix A – Maintenance Schedule and Checklist

Hidden Valley Lake Community Services District

WWTP Daily/Weekly Inspections

WW Rounds, Field Operations

Contents

Wastewater Inspection

Daily – Outside Inspection

Effluent pond – Check for berm seepage, pond height gauge

EQ Basin levels – Appropriateness

Transfer pumps – Pump operation, Flow meter operation, Bearing oil level, Wildlife

Geo tube level in sludge beds

W3 (400s), Sample (500s), Cl2 mixer – Pump operation, Runtime, Visual, Sight and Sound of mechanics

Headworks – Screen rake & bar screen cleanliness, trash can, operational, Visual, Sight and Sound of mechanics. Clean stop gates after each use.

Aeration Basin – Influent flow from junction box, diffuser functionality, chains secure, appropriate color. Clean stop gates after each use.

Clarifier – Airlift, sludge rate, motor functionality. Check sonar for depth, any algae growth. Floating sludge, algae growth on weir.

Filters – Airlift, water traps functionality. Verify appropriateness of headloss.

CL2 Contact basin – Clarity, verify functionality of perforated pipe to flash mixer. Take coliform sample, include residual & turbidity for reference.

Windsock intact

Solar inverter functionality

Chlorine container room – Check chlorine container levels, scale, regulator, heater for functionality. Check for room cleanliness, free of combustible materials, free of unnecessary objects, no overhead storage, no standing water, and covers & caps are secure. Check and calibrate Foxcroft FX-1502 Guardian II as needed. Check functionality of Crane lift

Chlorine feed rooms – Flow functionality. Clean strainer, turbidimeter & feed line. Maintain buffer solution in chlorine analyzer.

SCADA – Check Interface for functionality of all controls.

Blower room – Check for weights, air compressors, and motor functionality with Visual, Sight and Sounds of mechanics.

Circle charts – Change out

Daily - Data Collection

Pump hours

FLR SCR MFS-100

SLG RK SR-200

SMP Pump SP-503

W3 Wtr P P-400

PT Wtr P-800

PT Wtr P-801

SLG BWT P P-700

SLG BWT P P-701

SMP P SP-502

SMO O SP-501

SMO O SP-500

TRSF P P-600

TRSF P P-601

Station 1 Pump 1

Station 1 Pump 2

Flows

Pond Effluent

CL2 Basin Influent

CL2 Basin Effluent

Headworks Influent

800 Pump Totalizer

Headworks Totalizer

Clarifier Max flow

WAS Flow

Filter Flow

Ponds

Effluent Pond height

Effluent Pond pH

Blowers

Air Comp #1

Air Comp #2

Blower #1

Blower #2

Blower #3

Number of blowers

Generator

Hours

Volt/Amps

Fuel

Chlorine tanks

Tank 1

Tank 2

Daily Dose

Turbidity

Sec. Eff Turb

Final Eff Turb

Solids test

DO Mg/L (AB)

Temp (AB)

ORP MV (AB)

NO3 (AB)

NO2 (AB)

ORP RAS

ORP Clar

NO3 (Clarifier)

NO2 (Clarifier)

DO Mg/L (Filter)

ORP Mg/L (Filter)

CL2 Mg/L (Filter)

Cl2 Mg/L (CL2 Basin)

ORP MV (CL2 Basin)

Misc.

Temperature

Rain

pH (AB)

SB Feet

RAS Valve position

WOX @ min.

Step Feed (AB)

pH RAS

pH Clar

pH (Filter)

Backwash PSI (Filter)

Headloss (Filter)

CL2 Detention time

CL2 Analyzer Residual

Weekly – Data Collection

Solids test

TSS ML

MLSS ML 10

MLVSS ML

RAS ML

CLAR. Eff ML

Filter Eff ML

CL2 Eff ML

BOD Mg/L

COD Mg/L (Headworks)

COD Mg/L (AB)

SS Mg/L

pH (Headworks)

Alk Mg/L (Headworks)

Nitrate Mg/L

Nitrite Mg/L

ORP MV (Headworks)

NH3 Mg/L (Headworks)

Sulfide Mg/L

MLSS Mg/L

NH3 (Clarifier)

Solids under Air

VSS Mg/L

NH3 Mg/L (AB)

FM Ratio

MCRT days

Alk Mg/L (AB)

TSS Mg/L (Clarifier)

SVI Mg/L (Clarifier)

RAS Mg/L

TSS Mg/L (Filter)

Alk Mg/L (Filter)

DO (CL2 Basin)

TSS/SS (CL2 Basin)

Alk (CL2 Basin)

pH (CL2 Basin)

Nitrate (CL2 Basin)

Nitrite (CL2 Basin)

NH3 (CL2 Basin)

Misc.

Settleometer

SD Feet

ALK RAS

ALK Clar

Predicted Waste Rate Time (min)

Sludge Age/SRT 1

Sludge Age/SRT 2

PROCESS	EQUIPMENT	MAINTENANCE SCHEDULE	MAINTENANCE PROCEDURE	VENDOR/STAFF	LOCATION	MAINTENANCE DATE	NAME
HEADWORKS	Mechanical Screen	6 months	Check the conveyor chain and snap rings				
HEADWORKS	Mechanical Screen Gear Reducer	6 months	Drain and replace oil in upper and lower sections				
HEADWORKS	Mechanical Screen Side Seals	6 months	Check for wear				
HEADWORKS	Mechanical Screen Main Channel	6 months	Remove sand, gravel, debris				
HEADWORKS	Mechanical Screen	Annual	Check wear on roller and chain plates				
HEADWORKS	Mechanical Screen	Annual	Check wear on guide rails				
AERATION BASIN	Diffusers and Hoses	6 months	Lift diffuser assembly and examine the hose and diffuser socks for tears.				
AERATION BASIN	Electronic Butterfly Valves Gear Reducer	6 months	Drain and Replace Oil				
BLOWERS	Gear House	3 months	Change Oil				
BLOWERS	Cartridge Filter	3 months	Inspect & Change				
BLOWERS	Electric Starters	6 months	Inspect & Clean				
FILTERS	Airlift pump	Annual	Remove the airlift pump for inspection and cleaning. Change oil, air filter and belts.				
CHLORINATION SYSTEM	Contact basin	Annual	Clean basin with trash pump				
CHLORINATION SYSTEM	Chlorinators	Annual	Maintenance, calibration, replacement as needed				
CHLORINATION SYSTEM	Chlorine sensor (FoxCroft)	Annual	Maintenance, calibration, replacement as needed. Test with a known concentration of chlorine.				
CHLORINATION SYSTEM	Chlorine analyzers	Annual	Maintenance, calibration, replacement as needed				
CHLORINATION SYSTEM	Mixer Motor gear drive	5 years	Lubricate with special lithium oil				
EQ/EMERGENCY OVERFLOW BASIN	Rubber Check Valves	6 Months	Operate and Inspect in the Under drain System				
EQ/EMERGENCY OVERFLOW BASIN	Basin	Annual	Clean out sludge				
WWTP Lift Stations	600, 700, 800 pumps (6 total)	Annual	Overhaul/Replace one pump per year				
Transfer Pump Station	Motor Bearings	3 months	Lubricate				
STANDBY GENERATOR	Generator	Annual	Change Oil, Lubricate Gears				
Compliance Audit	RMP Section 5.8; Appendix K	3 years					

TRAINING	TRAINING SCHEDULE	OPERATOR	Date
Operations & Maintenance	Annual		
Hazard Communication Program	Annual		
Emergency Response Plan	Annual		
Respiratory Protection Plan	Annual		
Cylinder Handling	Annual		

Appendix B – Capital Improvement Plan

Category	Item/Project	Cost Year 1	Cost Year 2	Cost Year 3	Cost Year 4	Costs Year 5	
Wastewater	CS Line replacement	$ 70,000.00	$ 70,000.00	$ 70,000.00	$ 70,000.00	$ 70,000.00	
Water	CCTV	$ 15,000.00	$ 30,000.00	$ 30,000.00	$ 30,000.00	$ 30,000.00	
Split	Dump Truck		$ 150,000.00				
Split	Construction Truck	$ 85,000.00					
Water	Vacc Truck	$ 335,000.00					
Split	SCADA replacement	$ 60,000.00	$ 60,000.00	$ 60,000.00	$ 60,000.00	$ 60,000.00	
Wastewater	Backhoe						
Split	IT Updgrades	$ 50,000.00	$ 20,000.00	$ 10,000.00	$ 20,000.00	$ 20,000.00	
Wastewater	Manhole rehab	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	
Wastewater	Pump replacement/Overhaul	$ 22,500.00	$ 22,500.00	$ 22,500.00	$ 22,500.00	$ 22,500.00	
Water	Water Plant VFDs	$ 12,000.00	$ 12,000.00	$ 12,000.00	$ 12,000.00	$ 12,000.00	
Wastewater	Sample stations	$ 2,000.00	$ 2,000.00	$ 2,000.00	$ 2,000.00	$ 2,000.00	
Water	Well	$ 728,400.00	$ 728,400.00	$ 728,400.00	$ 728,400.00	$ 728,400.00	
Water	Tanks	$ 979,800.00	$ 979,800.00	$ 979,800.00	$ 979,800.00	$ 979,800.00	
Water	DS Line replacement	$ 541,800.00	$ 541,800.00	$ 541,800.00	$ 541,800.00	$ 541,800.00	
Water	Generators	$ 434,400.00	$ 434,400.00	$ 434,400.00	$ 434,400.00	$ 434,400.00	
Water	Hydrants	$ 748,400.00	$ 748,400.00	$ 748,400.00	$ 748,400.00	$ 748,400.00	
Stormwater	Tideflex	$ 131,600.00	$ 131,600.00	$ 131,600.00	$ 131,600.00	$ 131,600.00	
		$ 4,265,900.00	**$ 3,980,900.00**	**$ 3,820,900.00**	**$ 3,830,900.00**	**$ 3,830,900.00**	**$ 19,729,500.00**

Hidden Valley Lake Community Services District

Fiscal Sustainability Plan

Drinking Water Operations

Contents

Inventory of critical assets (Clean Water Act, 603(d)(1)(i)(I))

The Hidden Valley Lake Community Services District's (HVLCSD) potable water system is described in the Coyote Valley Concept Infrastructure Plan[1] as follows;

"[Water supply] is obtained through three domestic wells on the south side of Putah Creek, East of Highway 29. The current system is broken down into seven distinct pressure zones, which is supplied by approximately 165,000 feet of pipe (ranging from 4-12" in diameter). There are 2479 service connections, 2440 residential connections, and 39 commercial connections[2].

The District's existing pumping facilities consist of four booster pump stations:

Water Treatment Plant Booster Pumps
- *Zone 1: Three 490-gpm pumps*
- *Zone 4: Two 380-gpm pumps*

Greenridge Booster Station
- *Two 415-gpm pumps used to booster water from Zone 1 to Tank 9*

Tank 9/Eagle Rock Booster Station
- *Three 1380-gpm pumps used to booster water form Tank 9 to the Little Peak Tank*

The District currently maintains six storage reservoirs totaling 2 MG.

Tank 1a - .15MG
Tank 1b - .2MG
Tank 1c - .5MG
Tank 4a - .5MG
Tank 4b - .15MG
Tank 9 - .15MG
Little Peak Tank - .5MG"

A visual representation of the HVLCSD Water System Schematic and Pressure Zones are represented by Figures 1 and 2 resp.

[1] Coyote Valley concept Infrastructure Plan, 2007
[2] Connection information as of 8/31/2018

Figure 1

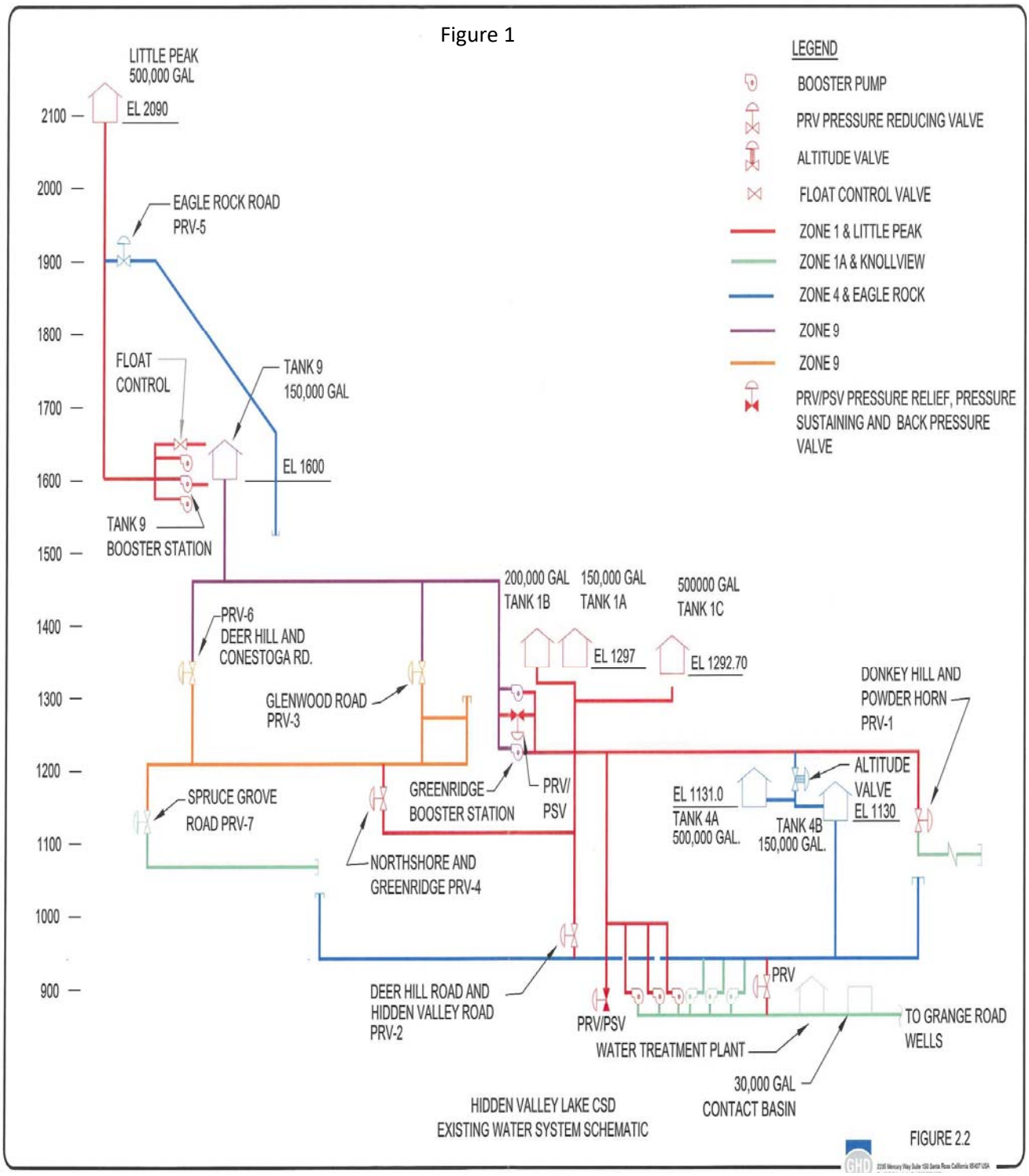
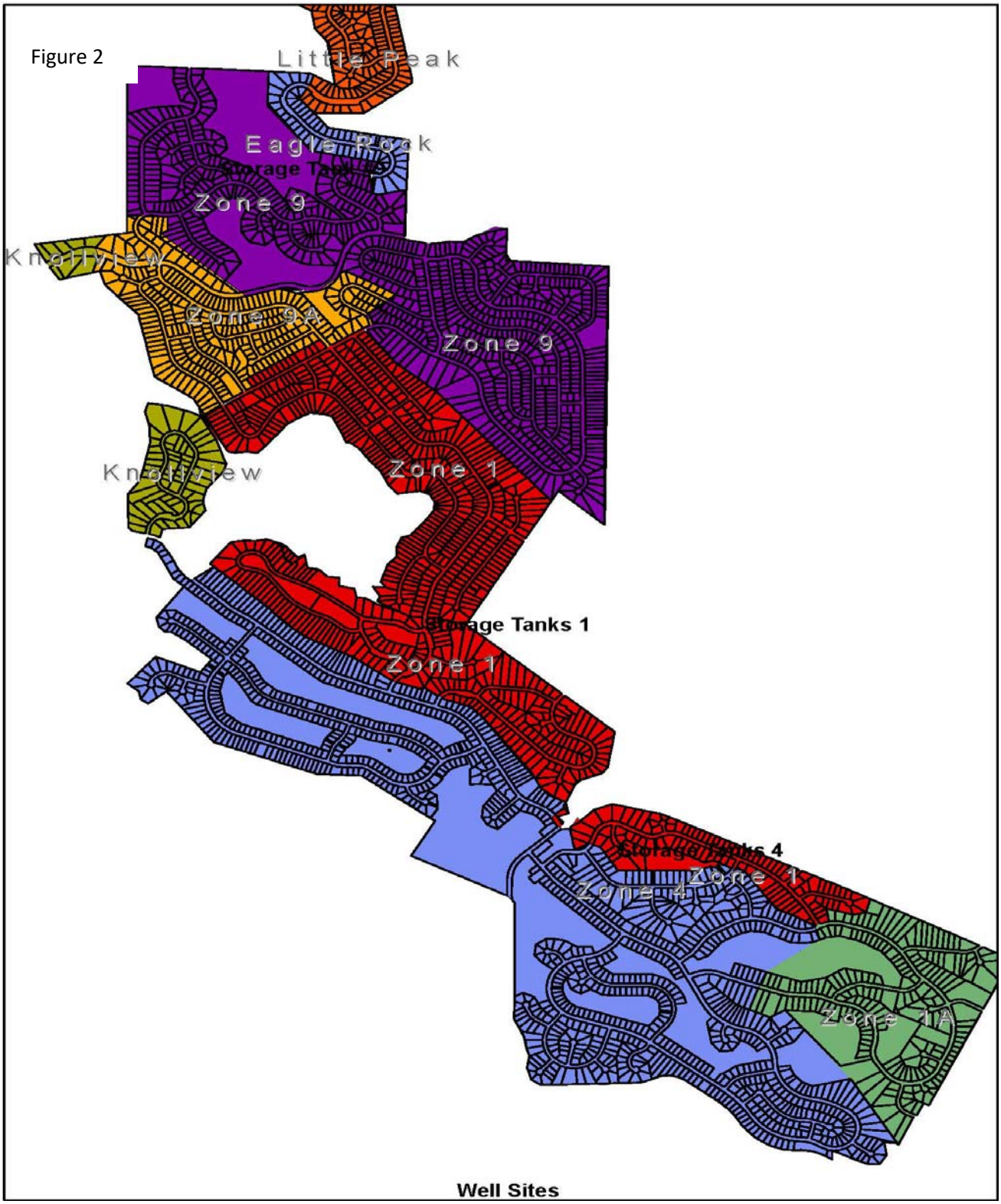

LITTLE PEAK
500,000 GAL
EL 2090
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
EAGLE ROCK ROAD
PRV-5
FLOAT
CONTROL
TANK 9
150,000 GAL
EL 1600
TANK 9
BOOSTER STATION
200,000 GAL
TANK 1B
150,000 GAL
TANK 1A
500000 GAL
TANK 1C
EL 1297
EL 1292.70
PRV-6
DEER HILL AND
CONESTOGA RD.
GLENWOOD ROAD
PRV-3
DONKEY HILL AND
POWDER HORN
PRV-1
ALTITUDE
VALVE
EL 1130
EL 1131.0
TANK 4A
500,000 GAL.
TANK 4B
150,000 GAL.
SPRUCE GROVE
ROAD PRV-7
GREENRIDGE
BOOSTER STATION
PRV/
PSV
NORTHSHORE AND
GREENRIDGE PRV-4
DEER HILL ROAD AND
HIDDEN VALLEY ROAD
PRV-2
PRV
PRV/PSV
TO GRANGE ROAD
WELLS
WATER TREATMENT PLANT
30,000 GAL
CONTACT BASIN
HIDDEN VALLEY LAKE CSD
EXISTING WATER SYSTEM SCHEMATIC
FIGURE 2.2
LEGEND
BOOSTER PUMP
PRV PRESSURE REDUCING VALVE
ALTITUDE VALVE
FLOAT CONTROL VALVE
ZONE 1 & LITTLE PEAK
ZONE 1A & KNOLLVIEW
ZONE 4 & EAGLE ROCK
ZONE 9
ZONE 9
PRV/PSV PRESSURE RELIEF, PRESSURE SUSTAINING AND BACK PRESSURE VALVE

Figure 2


Little Peak
Eagle Rock
Storage Tanks 2
Zone 9
Knollview
Zone 9A
Zone 9
Knollview
Zone 1
Storage Tanks 1
Zone 1
Storage Tanks 4
Zone 1
Zone 4
Zone 1A
Well Sites

Evaluation of asset condition & performance (Clean Water Act, 603(d)(1)(i)(II))

Ongoing evaluation of assets is conducted by monitoring equipment performance via SCADA, performing daily rounds, completing monthly well drawdown tasks, and responding to trouble calls.

Figure 3 is the SCADA interface that reports real-time performance and functionality of assets. Figure 4 is the form used to record daily data from water assets. Figure 5 is the form used to record monthly data of well performance.

Figure 3

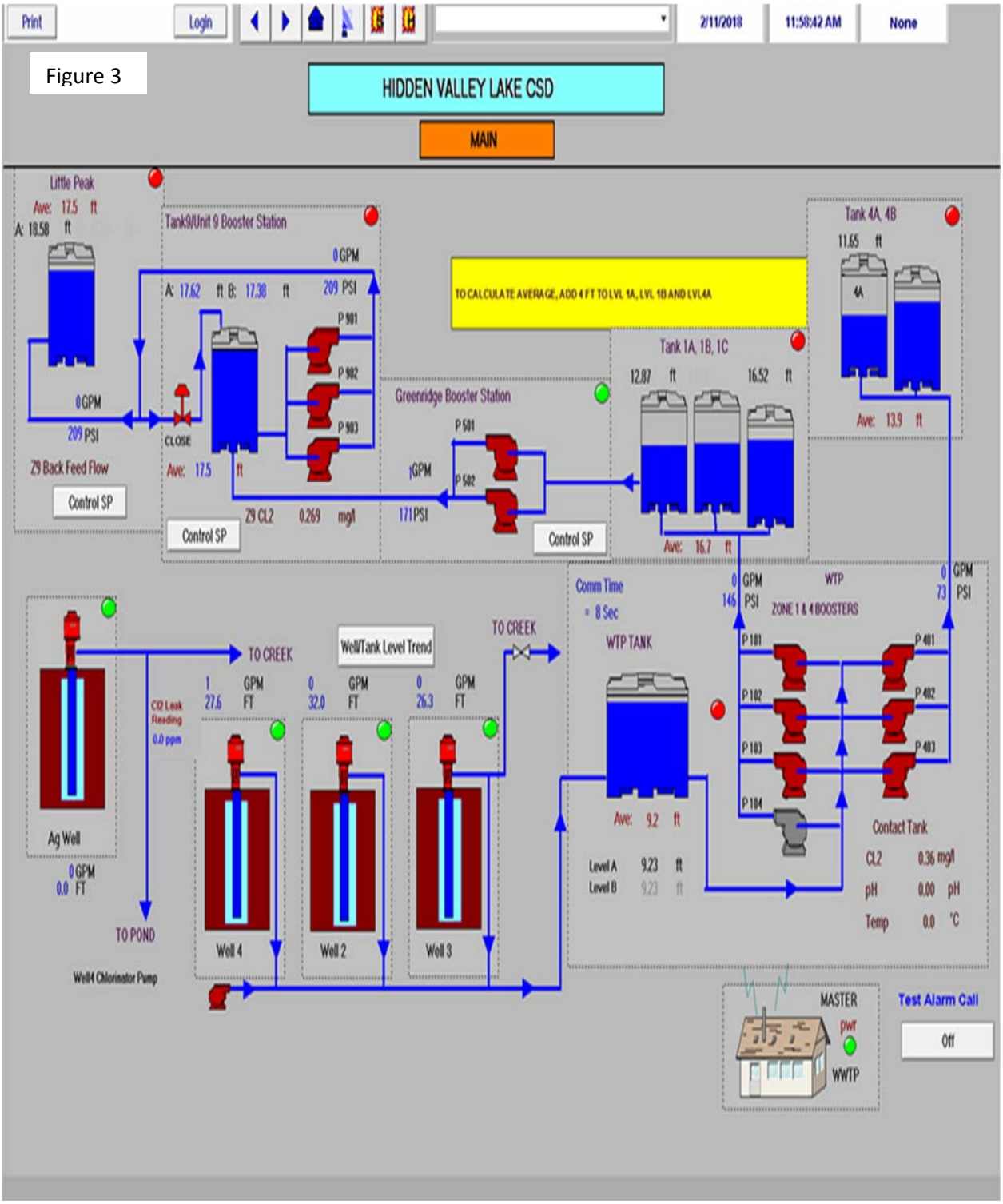

Print
Login
2/11/2018
11:58:42 AM
None
HIDDEN VALLEY LAKE CSD
MAIN
Little Peak
Ave: 17.5 ft
A: 18.58 ft
Tank9/Unit 9 Booster Station
0 GPM
A: 17.62 ft B: 17.38 ft
209 PSI
P 901
P 902
P 903
0 GPM
209 PSI
CLOSE
Ave: 17.5 ft
Z9 Back Feed Flow
Control SP
Z9 CL2 0.269 mg/l
Control SP
TO CALCULATE AVERAGE, ADD 4 FT TO LVL 1A, LVL 1B AND LVL4A
Greenridge Booster Station
P 501
P 502
GPM
171 PSI
Control SP
Tank 1A, 1B, 1C
12.87 ft
16.52 ft
Ave: 16.7 ft
Tank 4A, 4B
11.65 ft
4A
Ave: 13.9 ft
Comm Time
= 8 Sec
0 GPM
146 PSI
WTP
ZONE 1 & 4 BOOSTERS
0 GPM
73 PSI
P 101
P 102
P 103
P 104
P 401
P 402
P 403
WTP TANK
Ave: 9.2 ft
Level A 9.23 ft
Level B 9.23 ft
Contact Tank
CL2 0.36 mg/l
pH 0.00 pH
Temp 0.0 °C
TO CREEK
Well/Tank Level Trend
TO CREEK
1 GPM 27.6 FT
0 GPM 32.0 FT
0 GPM 26.3 FT
Cl2 Leak Reading 0.0 ppm
Ag Well
0 GPM
0.0 FT
TO POND
Well 4
Well 2
Well 3
Well4 Chlorinator Pump
MASTER
pwr
WWTP
Test Alarm Call
Off

Figure 4

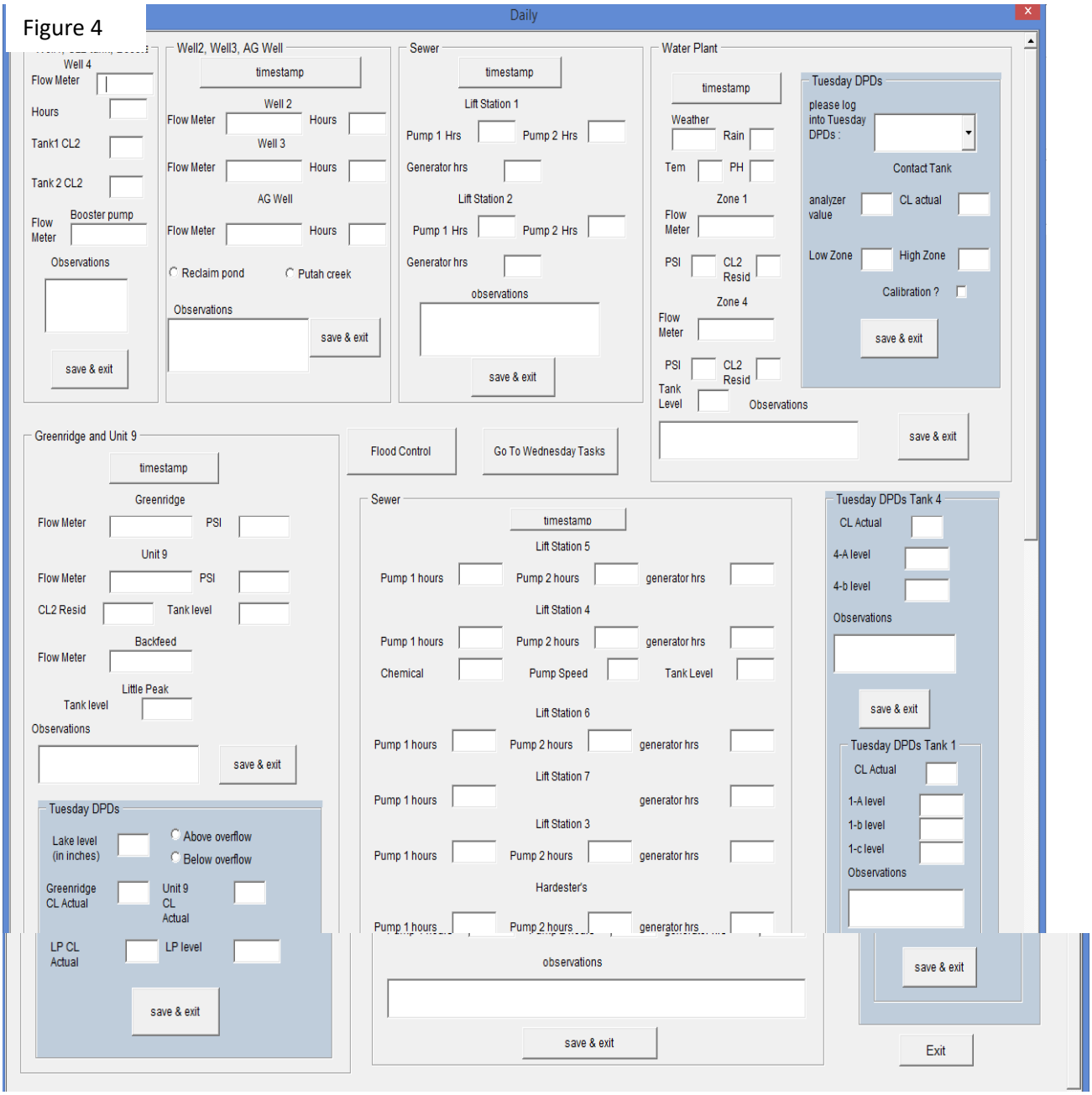

Daily
Well 4
Flow Meter
Hours
Tank1 CL2
Tank 2 CL2
Booster pump
Flow Meter
Observations
save & exit
Well2, Well3, AG Well
timestamp
Well 2
Flow Meter
Hours
Well 3
Flow Meter
Hours
AG Well
Flow Meter
Hours
Reclaim pond
Putah creek
Observations
save & exit
Sewer
timestamp
Lift Station 1
Pump 1 Hrs
Pump 2 Hrs
Generator hrs
Lift Station 2
Pump 1 Hrs
Pump 2 Hrs
Generator hrs
observations
save & exit
Water Plant
timestamp
Weather
Rain
Tem
PH
Zone 1
Flow Meter
PSI
CL2 Resid
Zone 4
Flow Meter
PSI
CL2 Resid
Tank Level
Observations
save & exit
Tuesday DPDs
please log into Tuesday DPDs :
Contact Tank
analyzer value
CL actual
Low Zone
High Zone
Calibration ?
save & exit
Greenridge and Unit 9
timestamp
Greenridge
Flow Meter
PSI
Unit 9
Flow Meter
PSI
CL2 Resid
Tank level
Backfeed
Flow Meter
Little Peak
Tank level
Observations
save & exit
Tuesday DPDs
Lake level (in inches)
Above overflow
Below overflow
Greenridge CL Actual
Unit 9 CL Actual
LP CL Actual
LP level
save & exit
Flood Control
Go To Wednesday Tasks
Sewer
timestamp
Lift Station 5
Pump 1 hours
Pump 2 hours
generator hrs
Lift Station 4
Pump 1 hours
Pump 2 hours
generator hrs
Chemical
Pump Speed
Tank Level
Lift Station 6
Pump 1 hours
Pump 2 hours
generator hrs
Lift Station 7
Pump 1 hours
generator hrs
Lift Station 3
Pump 1 hours
Pump 2 hours
generator hrs
Hardester's
Pump 1 hours
Pump 2 hours
generator hrs
observations
save & exit
Tuesday DPDs Tank 4
CL Actual
4-A level
4-b level
Observations
save & exit
Tuesday DPDs Tank 1
CL Actual
1-A level
1-b level
1-c level
Observations
save & exit
Exit

Figure 5

Static

Monitoring Well Static Levels

Treatment plant

Feet inches

1
2
3

Grange Road Well Easement

Feet inches

A
B

American Rock Well

Feet inches

A
B

spyglass #7 Well

Feet inches

A
B

Luchetti Well

Feet inches

A
B

#18th Tee Well

Feet inches

1

OK

Lake

HVL level

Below Overflow

above overflow

inches

OK

Exit

Pump Test

Monthly pump test

Well 3

Feet inches

static level

GPM

Drawdown

Recovery

	Drawdown Feet	Drawdown inches	Recovery Feet	Recovery inches
1 min				
3 min				
5 min				
10 min				
15 min				
30 min				

fLOWMETER READ START

fLOWMETER READ FINISH :

HOUR METER READ

HOUR METER READ FINISH

OK

Well 2

Feet inches

static level

GPM

Drawdown

Recovery

	Drawdown Feet	Drawdown inches	Recovery Feet	Recovery inches
1 min				
3 min				
5 min				
10 min				
15 min				
30 min				

fLOWMETER READ START

fLOWMETER READ FINISH :

HOUR METER READ

HOUR METER READ FINISH

OK

Well 4

Feet inches

static level

GPM

Drawdown

Recovery

	Drawdown Feet	Drawdown inches	Recovery Feet	Recovery inches
1 min				
3 min				
5 min				
10 min				
15 min				
30 min				

fLOWMETER READ START

fLOWMETER READ FINISH :

HOUR METER READ

HOUR METER READ FINISH

OK

AG Well

Feet inches

static level

GPM

Drawdown

Recovery

	Drawdown Feet	Drawdown inches	Recovery Feet	Recovery inches
1 min				
3 min				
5 min				
10 min				
15 min				
30 min				

fLOWMETER READ START

fLOWMETER READ FINISH :

HOUR METER READ

HOUR METER READ FINISH

OK

Certification of Water & Energy Conservation (Clean Water Act, 603(d)(1)(i)(III))

In the geologically diverse area of Hidden Valley Lake, any measure of water efficiency or water resiliency will inherently conserve water & energy. Booster pump stations deliver water from an elevation of 900MSL to as high as 2000MSL. When there is better storage or delivery of water, less water is used and less energy is consumed. The desired output then is that the booster stations will not be pumping as much water, and therefore not using as much electricity.

Hidden Valley Lake Community Services District hereby certifies that the Fiscal Sustainability Plan for Drinking Water Operations will include water and energy conservation efforts as part of this plan.

Maintenance/Repair Plan with Funding (Clean Water Act, 603(d)(1)(i)(IV))

The evaluation of assets has led to certain Capital Improvement projects as outlined in HVLCSD's Five year CIP[3]. In concert with a consulting firm commissioned to develop a Rate Study analysis, HVLCSD has an immediate, mid, and long-term plan for funding. Depending on the results of the analysis, HVLCSD is likely to implement rate increases through the Proposition 218 process over the mid and long term.

The day to day operational expenses are budgeted for each fiscal year. The water maintenance and repair line items are in place to fund the immediate needs.

A Local Hazard Mitigation Plan (LHMP) is currently in the planning phase, and will also help the District move forward to protect its assets against disasters precipitated by climate change. The following is an excerpt from the Hazard Identification section of the LHMP.

1. *"Climate change – Weather systems worldwide are changing, and have significant impacts locally. Extreme weather has increased in the number of occurrences, and severity. Severe storms, floods, droughts, heat waves, and the likelihood of wildfire are increasing, and impact the people and ecosystems. Specific mitigation action plans for the following listed hazards are expected to improve HVLCSD's resilience and recovery from climate change."*

[3] Appendix A

Appendix A – Capital Improvement Plan

Category	Item/Project	Cost Year 1	Cost Year 2	Cost Year 3	Cost Year 4	Costs Year 5	
Wastewater	CS Line replacement	$ 70,000.00	$ 70,000.00	$ 70,000.00	$ 70,000.00	$ 70,000.00	
Water	CCTV	$ 15,000.00	$ 30,000.00	$ 30,000.00	$ 30,000.00	$ 30,000.00	
Split	Dump Truck		$ 150,000.00				
Split	Construction Truck	$ 85,000.00					
Water	Vacc Truck	$ 335,000.00					
Split	SCADA replacement	$ 60,000.00	$ 60,000.00	$ 60,000.00	$ 60,000.00	$ 60,000.00	
Wastewater	Backhoe						
Split	IT Updgrades	$ 50,000.00	$ 20,000.00	$ 10,000.00	$ 20,000.00	$ 20,000.00	
Wastewater	Manhole rehab	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	
Wastewater	Pump replacement/Overhaul	$ 22,500.00	$ 22,500.00	$ 22,500.00	$ 22,500.00	$ 22,500.00	
Water	Water Plant VFDs	$ 12,000.00	$ 12,000.00	$ 12,000.00	$ 12,000.00	$ 12,000.00	
Wastewater	Sample stations	$ 2,000.00	$ 2,000.00	$ 2,000.00	$ 2,000.00	$ 2,000.00	
Water	Well	$ 728,400.00	$ 728,400.00	$ 728,400.00	$ 728,400.00	$ 728,400.00	
Water	Tanks	$ 979,800.00	$ 979,800.00	$ 979,800.00	$ 979,800.00	$ 979,800.00	
Water	DS Line replacement	$ 541,800.00	$ 541,800.00	$ 541,800.00	$ 541,800.00	$ 541,800.00	
Water	Generators	$ 434,400.00	$ 434,400.00	$ 434,400.00	$ 434,400.00	$ 434,400.00	
Water	Hydrants	$ 748,400.00	$ 748,400.00	$ 748,400.00	$ 748,400.00	$ 748,400.00	
Stormwater	Tideflex	$ 131,600.00	$ 131,600.00	$ 131,600.00	$ 131,600.00	$ 131,600.00	
		$ 4,265,900.00	**$ 3,980,900.00**	**$ 3,820,900.00**	**$ 3,830,900.00**	**$ 3,830,900.00**	**$ 19,729,500.00**