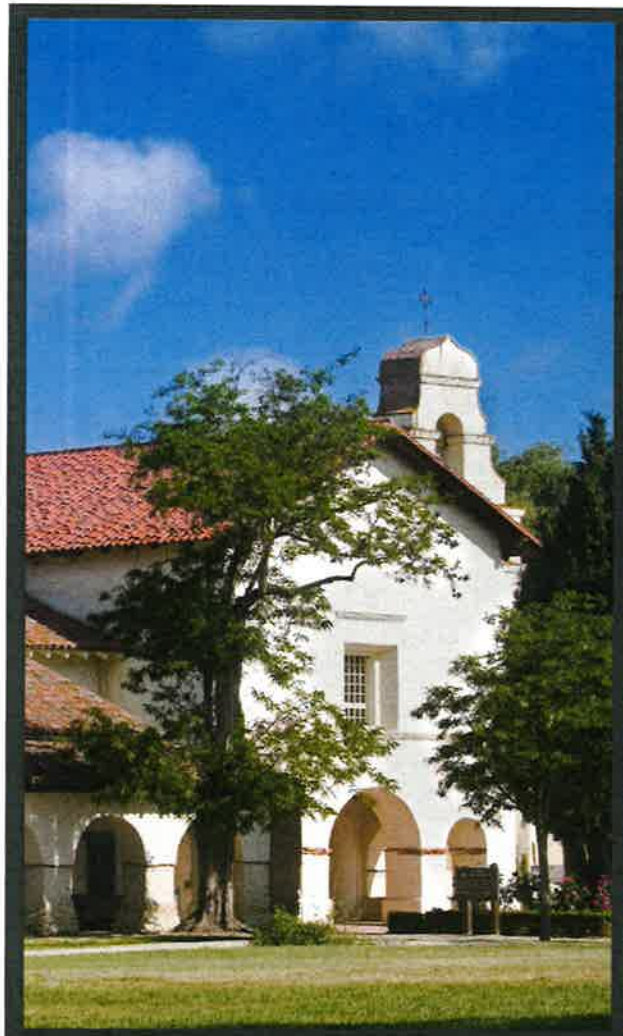
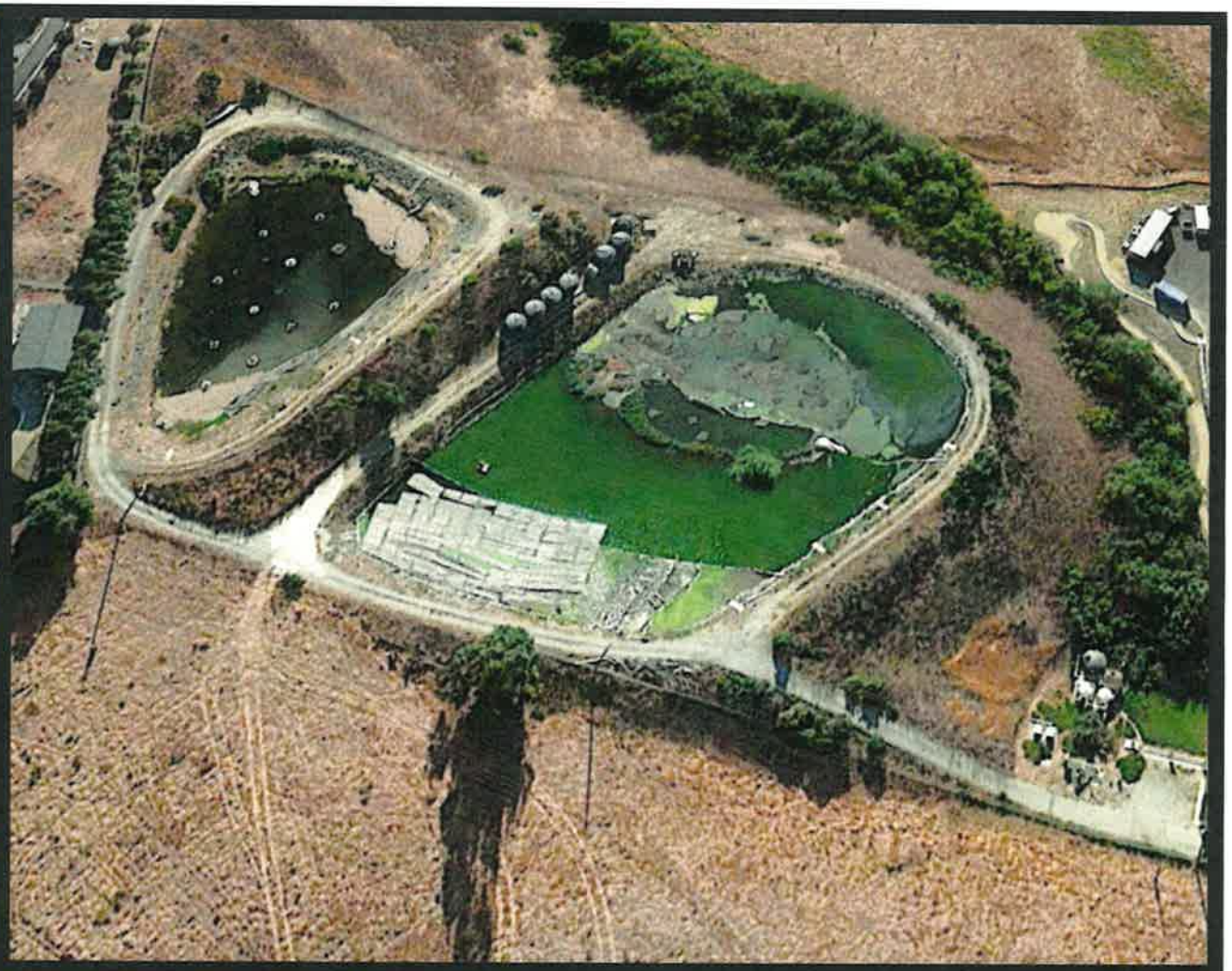




San Juan Bautista

Water and Wastewater Town Hall Meeting

October 6, 2020

Presentation Outline

1. Welcome – Mayor Vasquez Edge
2. Introduction – City Manager
3. Background and Current History – City Manager
4. Compliance with Regulations – City Manager
5. Salinity Sources and Balance - Stantec
6. Industrial Sampling and Source Control - Stantec
7. Wastewater Improvements - Stantec
8. Recommended Project - Stantec
9. Proposed Schedule - Stantec
10. Next Steps – City Manager
11. Questions?

Background

- Our system has 4 Parts:
  - 1.A Water source
  - 1.B Water distribution
  - 2.A Wastewater Collection
  - 2.B Wastewater Treatment
- Paid by residents through monthly rates (Enterprise Funds)

Town Hall Meeting About Its Water

- February/March Resident Opinion Survey
- 150 replies
- #1 Strength, our "Small and Historic Town Character"
- Biggest Need- maintaining the City's Infrastructure
- City Staff's top Priority? WATER!

Current History

- Since 2000, the focus has been "1.A"- Fixing the Water Source
  - ✓ Delivering clean healthy water is and will always be "Priority 1"
  - ✓ Experience Licensed, Operator
  - ✓ Daily testing and monitoring,
  - ✓ Good working relationship with the State Drinking Water Division
- Between 1990 and 2018, City closed two Wells, ("2" and "3"), added two new Wells, ("5" and "6"), built a 1.2 million-gallon reservoir and booster station
- The Distribution System ("1.B") underwent a few upgrades to serve the new homes
- Aged pipes and valves continue to plague the oldest parts of the City, and
- Iron in these pipes that has rusted, will cause the water to turn brown following a repair, or maintenance

Water Status

- Carrying Debt for the next 27 years, that can be refinanced in 5-years
- City's Iron and Manganese Plant is fully operational
- Well 1 and Well 5 are the two primary sources of water
- Well 6 went into reserve status in March due to high Nitrates
- Attempting to replace 10-valves per year
- Approximately 10 breaks occur annually for various reasons
- An attempt at monthly flushing of the lines caused excessive brown water- need to re-group and re-start this practice
- Water Master Plan is complete with digital mapping

Wastewater Status

- Invested $600,000 in the Treatment Plant past two-years
- Replaced the old Operator with a new licensed Operator (2018)
- Repaired the Plant to a level of service (volume capacity and discharge quality) equal to its original design
- 2019 Implemented a Lift Station Monitoring and SOP program
- Wastewater master Plan is complete with digital mapping

Regulatory Framework

- Permits for Water issued by State Water Resources Control Board Division of Drinking Water
- Permits for Wastewater issued by the State Regional Water Quality Control Board (Clean Water Act)
- State monitors all City lab tests, monthly and annual quality assurance reports
- Federal EPA works with the State when discharge water is sent to a public water-way (a Creek)
- The National Pollution Discharge Elimination System Act (NPDES permit) monitors the City's discharge water being sent to the creek

Compliance with Regulations

- Since 1987, and between 200-2002, and in particular since 2007, the wastewater discharge has degraded the water quality in the Creek
- After making improvements to the Plant, only Salts remain as a compliance issue
- The Plant is not designed to remove salts
- The Well Water is hard, and is the source for most of the Salt
- Residents rely on water softeners that discharge salt
- Industrial users send very salty water to the City

Compliance with Regulators

- Regulators advanced their compliance tactics in 2018 and 2019
- Unannounced Inspections in June 2019- led to compliance orders being drafted and harsh penalties threatened in 2020
- In April 2020, Vice Mayor Jordan and Council Member Freeman appointed as the Water Subcommittee,
- Between March and October Council received weekly Water Updates
- February began bi-weekly meetings with EPA and Water Board
- August 26, 2020, City Executed an EPA Administrative Order of Consent ("AOC")
- Ongoing negotiations with the Water Board (confidential) are in process
  - Household Income Survey is part of this- please reply!

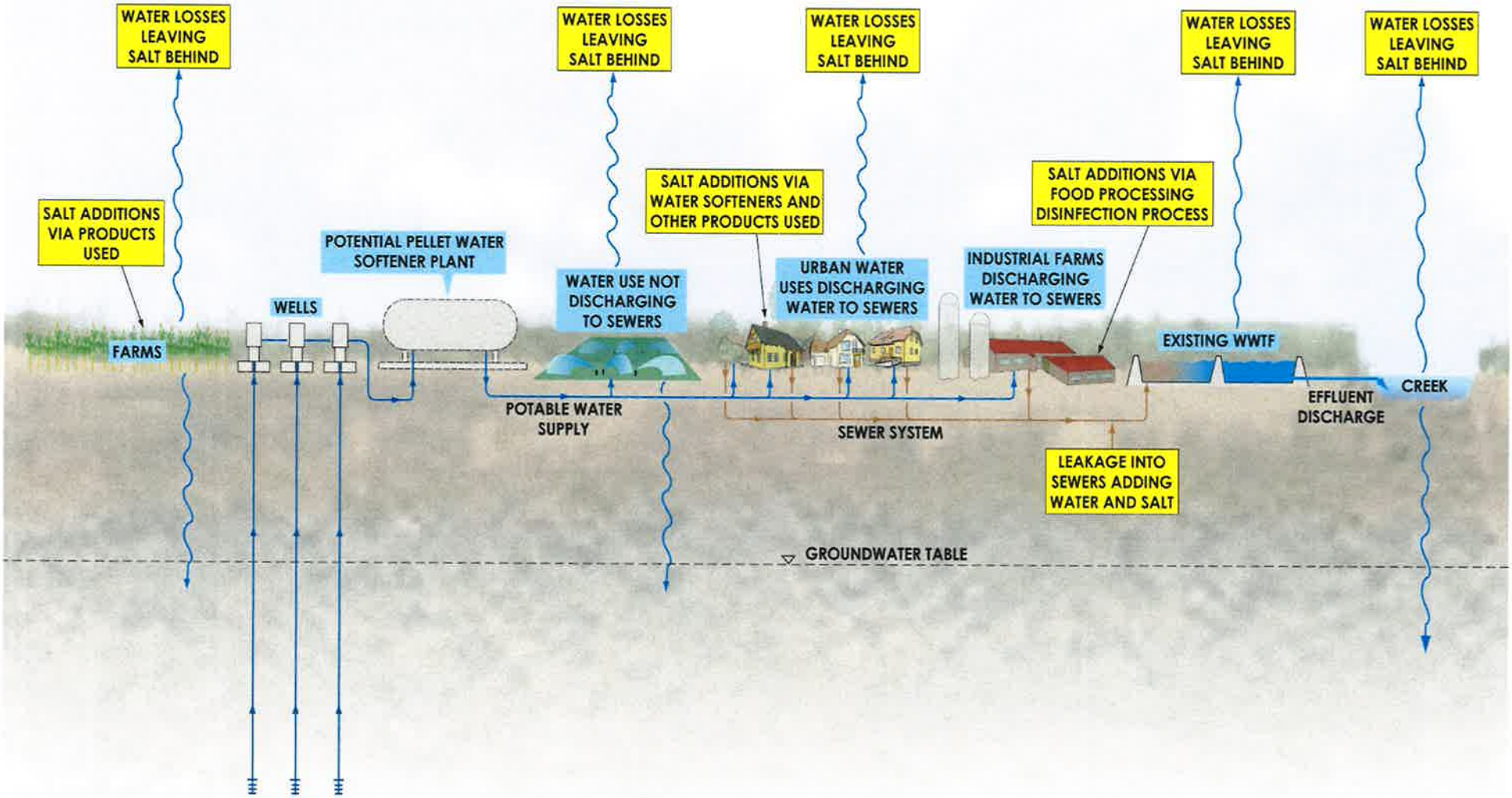
EPA AOC

- Compelled to meet the milestones and dates established in the AOC
  - ✓ Transmittal Letter from the EPA August 26, 2020 :
  - ✓ Key compliance deadlines associated with the AOC include:
  - ✓ August 24, 2020 – AOC signed by EPA; Done
  - ✓ September 1, 2020 – Certify baffles in Pond 2 have been repaired; Done
  - ✓ September 1, 2020 – Certify that UV disinfection system is functioning at full capacity; Done
  - ✓ September 15, 2020 – Submittal of Master Plan; Done
  - ✓ October 15, 2020 – Submittal of a proposed Compliance Project; Now!
- The City has completed its Water and Wastewater Master Plans

EPA COMPLIANCE PROJECT(S)

- Compliance strategy is in the "Preliminary Engineer's Report" or "PER"
- City has a 4-Part System, Compliance requires 2-Parts to be fixed:
  - ✓ Water Source
  - ✓ Treated Water Discharge Quality
- PER defines these issues, and provides several choices for the City
- Industrial Pre-treatment Permit System is being explored concurrently

Sources for Salinity Balance



WWTP Influent Salinity Balance (Average Daily Loads)

Salt Contributors to Total WWTP Influent	TDS	Chloride	Sodium
SALINITY LOADING, lb/d			
Well No. 1 (Raw Water)[1]	948	116	91
Diet and Personal Care Products[2]	400	27	19
Self-Regenerating Water Softeners[3]	545	327	218
Industrial User[4]	878	373	219
Inflow and Infiltration[5]	0	60	0
TOTAL WWTP INFLUENT, lb/d	2,772	904	546
SALINITY CONCENTRATION, mg/L			
Well No. 1 (Raw Water)[1]	628	77	60
Diet and Personal Care Products[2]	265	18	12
Self-Regenerating Water Softeners[3]	361	217	144
Industrial User[4]	582	247	145
Inflow and Infiltration[5]	0	40	0
TOTAL WWTP INFLUENT, mg/L	1836	600	362

TABLE FOOTNOTES

1. Based on average well data: 0.18 Mgal/d and TDS 628 mg/L, Chloride 77 mg/L, and Sodium 60 mg/L.
2. Dietary and Personal Care Products: TDS concentration of 265 mg/L based on Central Valley Clean Water Association "Salinity Management Practices for POTWs" 2012. Chloride and sodium concentrations based on "Chloride Contributions from Water Softeners and Other Domestic Sources" University of Minnesota 2019 and "Characterizing and Managing Salinity Loading in Reclaimed Water Systems" by AWWA & Thompson 2006.
3. Water softener efficiency based on 3300 grains hardness per pound NaCl (and average hardness 425 mg/L $CaCO_3$) in accordance with historical and current California efficiency standards and half the influent flow rate is being treated by ion exchange water softeners. Calculation assumes 40% of households have water softeners (approximately 350 softeners in use).
4. Industrial sampling from June 2020 on Taylor Farms wash water discharge (27,600 gal/d and concentrations of 3816 mg/L TDS, 1623 mg/L chloride, and 950 mg/L sodium). To corelate these values to total influent flow concentration, the sample concentrations were multiplied by 15% (27,600gpd ÷ 180,000gpd = 15%)
5. To account for missing salinity, inflow and infiltration (I/I) based loading (salinity from agricultural runoff and natural erosion/weathering of rock minerals) was calculated by taking the difference between historical influent loads and total other loads contributors identified herein.

Industrial Sampling Data

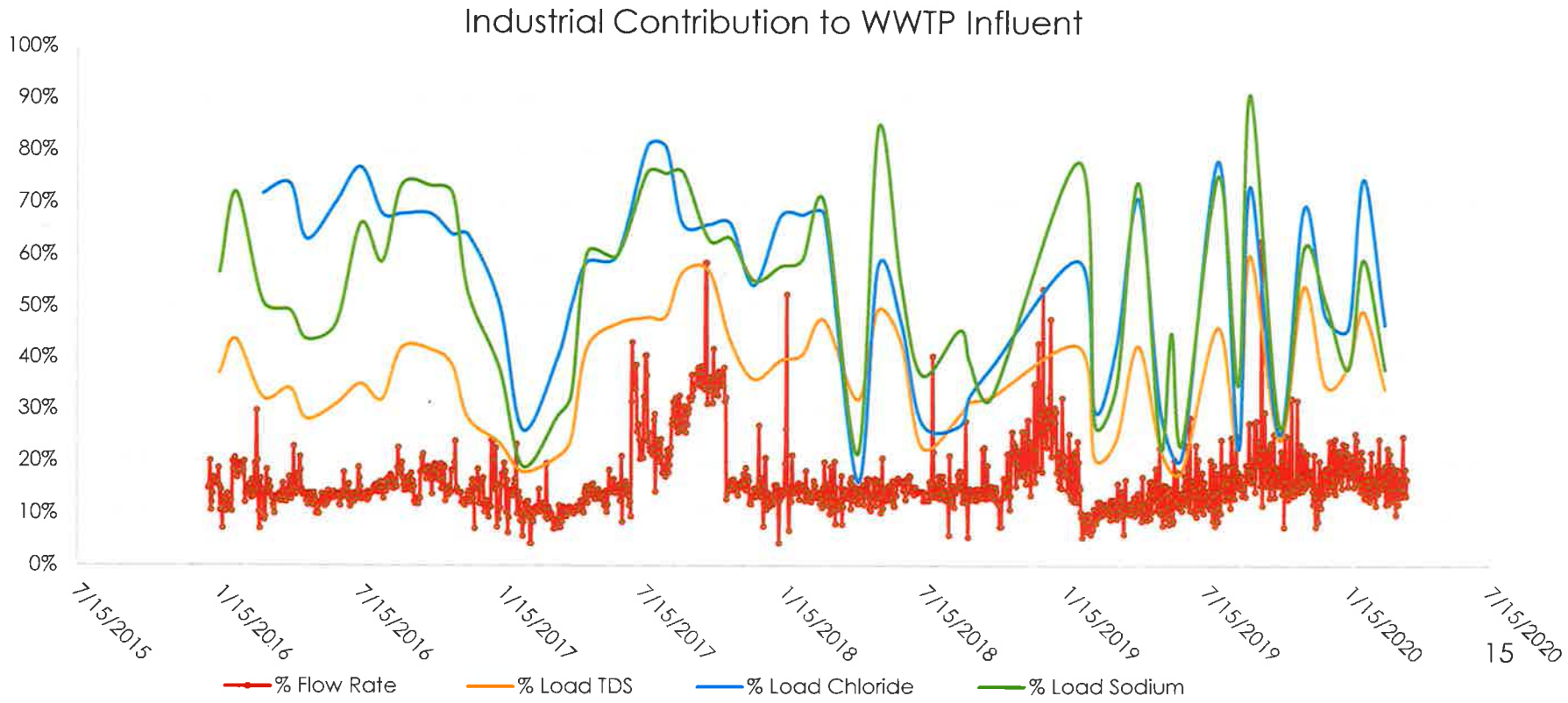
Constituent	Concentration[1], mg/L	Average Load, lb/d [2]	Peak Load, lb/d[3]
TDS	3816	878	1910
Chloride	1623	373	812
Sodium	950	219	475

- Concentrations based on composite sampling event from 6/26/2020 to 7/9/2020
- Average load based on average flow rate of 27,600 gpd
- Peak load based on average load and max month daily flow rate of 60,000 gpd

Industrial Contribution to WWTP

Flow: 15% avg (33% peak month, 44% peak week)

Load: 30% avg (50% peak month)



Source Control Options

CO2 pH Adjustment Tank

Pellet Reactor Column

Lime Storage Silo

Multimedia Filters

- Option A: Pellet Water Softening Plant Rehabilitation
- Option B: Domestic Cartridge Water Softeners
- Option C: Importing Water From West Hills WTP
- Option D: New WTP "Blue Valve" Not Evaluated

Source Control Options Life Cycle Cost Summary

Description	Option A: Pellet Plant	Option B: Cartridge Softener	Option C: West Hills WTP
Source Control Costs			
Construction Costs	$1,800,000	$455,000 [1]	$5,200,000 [2]
Engineering/CM Costs [3]	$450,000	$68,000	$1,300,000
Annual O&M	$115,200	$154,300	$168,000 [4]
Present Worth O&M, 20-years @ 3%	$1,710,000	$2,290,000	$2,500,000
Domestic Softener Buyback	$193,000	$193,000	$193,000
Source Control, Total Life Cycle Cost	**$4,153,000**	**$3,006,000**	**$9,193,000**
Water Security Costs[5]			
Construction/Engineering/CM Costs	$5,010,000	$5,010,000	---
Annual O&M[6]	$44,800	$44,800	---
Present Worth O&M, 20-years @ 3%	$670,000	$670,000	---
Water Security, Total Life Cycle Cost	**$5,680,000**	**$5,680,000**	---
TOTAL LIFE CYCLE COST (Source Control & Water Security)	***$9,840,000***	***$8,690,000***	***$9,193,000***
Salinity Reduction			
Removal Rate, mg/L (Chloride, Sodium, TDS)	203, 135, 338	271, 181, 452	203, 135, 663

1. Based on replacing 350 water softeners (half the sewer connections assumed to have softeners).
2. Based on a 12-inch diameter pipe in a 6.0-mile long alignment
3. Engineering/CM fees are estimated to be 25% of construction costs, except for Option B (assumed to be 15%).
4. Based on $1500/acre-feet (West Hills wholesale fee schedule), purchasing 200,000 gpd, and saving $168,000/yr in existing water system operating costs (by not running/ maintaining the wells as frequently).
5. Water security costs are for developing the Betable Rd Well (for Options A & B) or connecting to West Hills WTP (Option C).
6. Based on $200/acre-feet, purchasing 200,000 gpd

Source Control Options Selection Matrix

		Comparative Score (Score Total Must Equal 10)			Criterion Score (Relative Weight Times Comparative Score)		
Criteria	**Relative Weight**	**Pellet Plant**	**Cartridge Softener**	**West Hills WTP**	**Pellet Plant**	**Cartridge Softener**	**West Hills WTP**
Life Cycle Costs (Capital and O&M)	*21*	3.3	3.5	3.2	69	74	67
Footprint	*10*	3	4	3	30	40	30
Ease of O&M	*15*	2	4	4	30	60	60
Reliability	*21*	3.5	3	3.5	74	63	74
Upstream/ Downstream Effect	*17*	4	3	3	68	51	51
Water Security	*23*	3.3	3.3	3.3	77	77	77
Flexibility (Future Regulations)	*19*	4	2	4	76	38	76
			TOTAL SCORE		**423**	**402**	**434**

Regional Connection Map

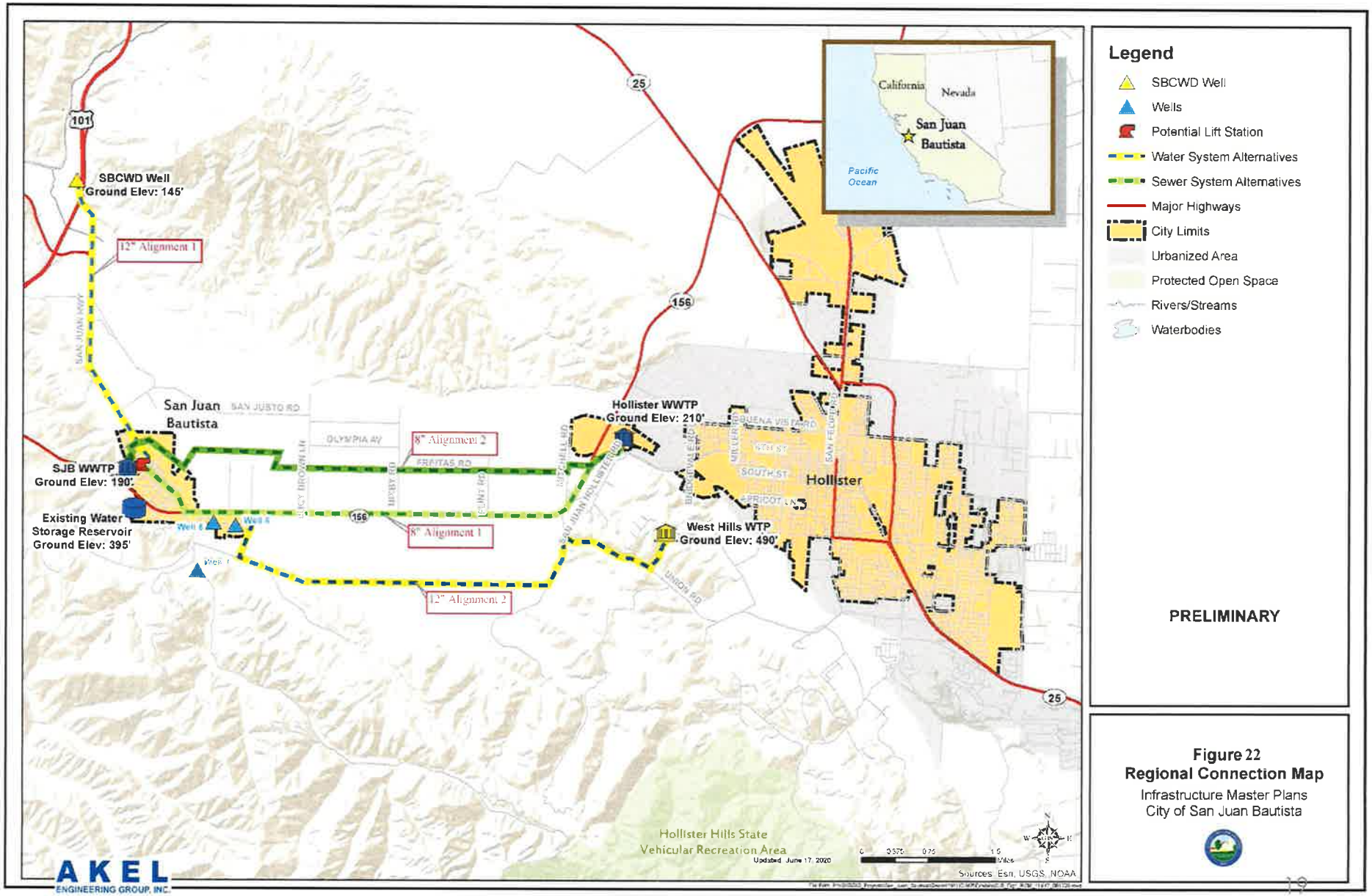


Figure 22
Regional Connection Map
Infrastructure Master Plans
City of San Juan Bautista

AKEL
ENGINEERING GROUP, INC.

Wastewater Improvement Alternatives

- **Alternative 1:** On-site WWTP upgrades (MBR plant) & Off-Site Salinity Control
- **Alternative 2:** On-site WWTP upgrades (MBR plant) & On-Site Salinity Control (RO or EDR)
- **Alternative 3:** Off-site WWTP upgrades (Hollister WWTP) & Off-Site Salinity Control

Alternative Options Life Cycle Costs Summary

Description	Alternative 1: On-Site WWTP Upgrades & Off-Site Source Control (MBR & West Hills WTP)	Alternative 2: On-Site WWTP Upgrades and On-Site Source Control (MBR+RO)	Alternative 3: Regionalization with Hollister WWTP & Off-Site Source Control (Hollister WWTP & West Hills WTP)
Source Control Costs			
Construction Costs [1]	$5,200,000		$5,200,000
Engineering/CM Costs [2]	$1,300,000		$1,300,000
Present Worth O&M, 20-years @ 3% [3]	$2,500,000		$2,500,000
Domestic Softener Buyback	$193,000		$193,000
Source Control, Total Life Cycle Cost	**$9,193,000**		**$9,193,000**
Water Security Costs			
Construction/Engineering/CM Costs [4]	---	$5,010,000	---
Present Worth O&M, 20-years @ 3% [5]	---	$670,000	---
Water Security, Total Life Cycle Cost	---	**$5,680,000**	---
WWTP Upgrade Costs			
Construction Costs	$7,300,000	$12,100,000 [6]	$10,940,000 [7]
Engineering/CM Costs	$1,825,000	$3,025,000	$1,570,000
Present Worth O&M, 20-years @ 3%	$1,100,000	$2,900,000 [8]	$3,550,000 [9]
WWTP Upgrade, Total Life Cycle Cost	**$10,225,000**	**$18,025,000**	**$16,060,000**
IMPROVEMENT PROJECT TOTAL LIFE CYCLE COST	***$19,418,000***	***$23,705,000***	***$25,253,000***

1. Based on a 12-inch diameter pipe in a 6.0-mile long alignment
2. Engineering/CM fees are estimated to be 25% of construction cost
3. Based on $1500/acre-feet (West Hills wholesale fee schedule), purchasing 200,000 gpd, and saving $168,000/yr in existing water system operating costs (by not running/maintaining the wells as frequently).
4. Based on a 12-inch diameter pipe in a 3.5-mile long alignment and cost of iron/manganese filter
5. Based on $200/acre-feet, purchasing 200,000 gpd
6. Includes cost to purchase 6-acres for brine storage/drying (at $85,000 per acre)
7. Includes City of Hollister connection fee calculated at $27.9/gpd (totaling $4.7M)
8. Includes brine hauling costs of $50/ton, dried to 50-percent concentration
9. Includes City of Hollister monthly service fee at $8.7/HCF (minus the cost savings for decommissioning the SJB WWTP, assumed to be half the existing service fees), and new regional pump station power costs
10. Construction costs based on ENR of 13,000

Improvement Projects Options Selection Matrix

		Comparative Score (Score Total Must Equal 10)			Criterion Score (Relative Weight Times Comparative Score)		
Criteria	**Relative Weight**	**MBR & West Hills WTP**	**MBR/ RO**	**Hollister WWTP & West Hills WTP**	**MBR & West Hills WTP**	**MBR/ RO**	**Hollister WWTP & West Hills WTP**
Life Cycle Costs (Capital and O&M)	*12*	3.6	3.3	3.1	43	40	37
Footprint	*5*	4	2	4	20	10	20
Operational Simplicity	*14*	3	2	5	42	28	70
Reliability	*13*	3	3	4	39	39	52
Future Regulations Compliance	*16*	3	3	4	48	48	64
			TOTAL SCORE		**192**	**165**	**243**

Improvement Project Recommendations

- Implement an industrial pre-treatment program for salinity control
- Install a new raw sewage pump station and 8-inch wastewater pipeline to the Hollister WWTP
- Decommission the existing sequencing batch reactor (SBR) pond and convert to an equalization basin.
- Install a 12-inch potable water line from the West Hills WTP to the City of San Juan Bautista
- Begin domestic water softener buy-back program

Preliminary Project Schedule

Task	Completion Date
Preliminary Engineering Report	August 2020
Submit Construction Funding Application	August 2020
Implement Pre-Treatment Program	October 2020
Design & Project Management Consultant Selection	October 2020
Collect Samples at Industrial Discharge	April 2021
NEPA and CEQA permitting process	February 2022
Final Design (Plans and Specs)	March 2022
Bidding Process	May 2022
Construction NTP	June 2022
Construction Substantially Complete	July 2023
Final Startup, Testing, and Operations	November 2023

NEXT STEPS

- Key compliance deadlines associated with the AOC include (Continued):
  - ✓ November 15, 2020 – Submittal of schedule for Phase I of Compliance Project;
  - ✓ December 31, 2020 – Submittal of schedule for Phase II of Compliance Project;
  - ✓ August 1, 2022 – Submittal of schedule for Phase III of Compliance Project; and
  - ✓ December 21, 2023 – Final deadline for compliance with the Permit.

EPA AOC PHASES

- Phase 1 Deadline- November 15, 2020
  - ✓ Select Compliance Project by October 15, 2020
  - ✓ Establish a Finance Plan by November 15
  - ✓ Qualifying for every grant and loan possible; USDA application submitted September 30, 2020
  - ✓ Partnering with the San Benito Water District
- Phase 2 Deadline- December 2020
  - ✓ Submit a schedule to include fiscal feasibility study, design, third party agreements, CEQA and build-out
- Phase 3- August 1, 2021- Project Design Completed
- Phase 4- December 23, 2023- Project Built and Operating

WHO PAYS THE COST?

The users of the water systems- residents, business owners and industrial contributors

How to reduce the impact-

- ✓ Making these deadlines will lower costs and avoid penalties
- ✓ Qualifying as a "disadvantaged community" will open new grant opportunities (turn in your household income survey!)
- ✓ Establishing Regional Partnerships with the San Benito Water District, City of Hollister, the County, and private industrial users
- ✓ Extend the time needed to repay any new debt
- ✓ Take advantage of low interest rates, re-finance old debt in 5-years

OTHER POTENTIAL OUTCOMES

- Better Water
- Higher monthly water bills
- More Secure Water Sources
- Simplifies the City's Operation
  - ✓ Reducing O&M burden from a 4-part System to a 2-Part System (reducing the burden of managing the "source" and "water treatment")
- Focusing on aging pipes, pumps and valves
- CAUTION- may increase the City's municipal services capacity
  - ✓ CEQA process will ask if the compliance projects will "induce growth"

QUESTIONS?

- Please raise your hand, or
- Select Control 9 to Raise your hand
- Type questions into the Chat
- State to whom the question is being asked

Council will be asked to make a final decision and select the Compliance Projects on October 13, 2020

THANK YOU! WE ARE ALL IN THIS TOGETHER