



City of Santa Barbara  
Public Works Department

***Memorandum***

**DATE:** January 20, 2022  
**TO:** Water Commission  
**VIA:** Joshua Haggmark, Water Resources Manager  
**FROM:** Matt Ward, Water System Manager  
**SUBJECT:** Annual Water System Presentation

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**RECOMMENDATION**

That the Water Commission receive a presentation providing an overview of the Water System including, major initiatives, system performance highlights, and capital improvement project updates.

**DISCUSSION**

The City of Santa Barbara's water system represents one of the largest investments in public infrastructure in the City, playing a critical role in providing the foundation for our community to thrive. The staff presentation is meant to be informative and aid in decision making by providing insights into asset conditions and activities that are driving operations of the City's water system. The City's water system includes the following key assets:

- Gibraltar Reservoir
- Treatment Plants
  - Cater Water Treatment Plant
  - Ortega Groundwater Treatment Plant
  - Charles Meyer Desalination Plant (Contract Operated)
  - Recycled Water Treatment Plant
- 300+ miles water system
- 13 pump stations
- 14 reservoirs
- 18 pressure reducing stations
- 27,500+ metered service connections

With a dedicated staff of 55 full-time employees, the City provides approximately 2.5 billion gallons of potable water to its customers annually (and additional 1.8 billion gallons to the neighboring water districts of Montecito and Carpinteria). For City customers this works out to be approximately 250 gallons per service connection per day (equivalent to nearly 2,000 pound of water to each service every day).

The City's Water System has entered a prolonged period where capital improvement will be an increasing priority as a significant portion of our infrastructure are reaching the end of their useful life. To address this priority, we have completed a comprehensive [Asset Management Program](#) and developed a 30-year Water Distribution Improvement Plan. With this planning work complete our current operations and programs have a framework for sustaining safe drinking water and long-term water system reliability.

Water Resources takes tremendous pride in finding innovative solutions to stay ahead of key challenges. We believe in a transparent work culture that engages our decision makers and community, providing them with valuable information. This annual presentation is intended to be a part of that continuing effort. Please find attached a draft of the presentation.

**ATTACHMENTS:** 1. Fiscal Year 2021 Water System Performance Measure Results  
2. Draft Water System Annual Report Presentation



## City of Santa Barbara

### Fiscal Year 2021 Performance Measure Results

Reporting Period: From 7/1/2020 to 6/30/2021

**Department:** Public Works

**Division:** Public Works-Water Resources

**Program Name and Number:** Gibraltar Dam (4621)

**Program Owner:** Rabi Days

**Program Mission:** Operate and maintain Gibraltar Dam and Reservoir in accordance with all dam safety standards and to maximize the City's water supply.

**5/7, 71%  
Objectives  
Achieved**

**Program Activities:**

1. Regulate water flow from Gibraltar Dam; observe and record reservoir levels, water flow, evaporation rate, temperature and rainfall.
2. Operate and maintain reservoir equipment including recorders, rainfall gauges, weirs, pumps, motors, boats, generators, flood gates, access roads, and drains; inspect, clean, and perform minor repair activities; and open flood gates.
3. Maintain reservoir and dam site security.
4. Monitor available water storage capacity of the reservoir.
5. Collect water and silt samples; perform routine tests on samples; analyze data from testing procedures.
6. Work with a variety of agencies on operations and activities and resolve issues on reservoir activities.
7. Successfully pass the Division of Safety of Dams Annual Inspection.

✓ Status	Project Objectives
<input checked="" type="checkbox"/> Complete	1. Assist with repairs on dam spillway.
<b>Comments: Mid-Yr:</b>	Project has been completed.
<b>Yr-End:</b>	
<input checked="" type="checkbox"/> Complete	2. Conduct bathymetric survey to continue tracking the diminishing capacity of the reservoir.
<b>Comments: Mid-Yr:</b>	Completed in July 2020.
<b>Yr-End:</b>	
<input checked="" type="checkbox"/> Complete	3. Complete survey of septic system to Gibraltar Dam caretaker's residence.
<b>Comments: Mid-Yr:</b>	
<b>Yr-End:</b>	Survey completed and project has moved into construction phase.
<input type="checkbox"/> Deferred	4. Scope and design the replacement of the reservoir that supplies water to the dam caretaker's residence.
<b>Comments: Mid-Yr:</b>	Currently evaluating the capacity needs.
<b>Yr-End:</b>	Determination was made to look at all of the needs of the dam caretaker's residence, including the water supply reservoir in FY22.

Status	Measurable Objectives	Metric
On Target 100.% of Target	1. Repair and restore closed roadways within three days.	Days to repair and restore closed roadways.
<b>FY2021</b>		
✓	UM	
	Target	Qtr1 Actual
		Qtr2 Actual
		Mid-Year Actual
		Qtr3 Actual
		Qtr4 Actual
		Year-to-Date
<input checked="" type="checkbox"/>	3	3
	3	3
	3	3
	3	3
	3	3
	3	3
	3	3
<b>Previous FY2020</b>		
	3	3
	3	3
	3	3
	3	3
	3	3
	3	3
	3	3
<b>Comments: Mid-Yr:</b>		
<b>Yr-End:</b>		

Status	Measurable Objectives	Metric						
Ahead of Target 130.5% of Target	2. Log and report daily observation readings 200/220 reporting days.	Daily readings reported (days).						
FY2021								
✓	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date
<input checked="" type="checkbox"/>		200	67	66	133	64	64	261
Previous FY2020								
		200	65	66	131	64	65	260
Comments: Mid-Yr:					Yr-End:			
Status	Measurable Objectives	Metric						
Behind Target 83.3% of Target	3. Ensure a bi-monthly inspection of the Gibraltar Dam and Reservoir by City engineering.	Bi-monthly inspections.						
FY2021								
✓	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date
<input type="checkbox"/>		6	2	0	2	1	2	5
Previous FY2020								
		6	2	1	3	1	2	6
Comments: Mid-Yr:		Inspection rescheduled due to equipment repairs.			Yr-End:	Testing and monitoring equipment had to be repaired and calibrated mid-way through Q3.		



# City of Santa Barbara

## Fiscal Year 2021 Performance Measure Results

Reporting Period: From 7/1/2020 to 6/30/2021

**Department:** Public Works  
**Division:** Public Works-Water Resources  
**Program Name and Number:** Recycled Water (4622)  
**Program Owner:** Rabi Days  
**Program Mission:** Provide cost-effective treatment and distribution of recycled water in accordance with State regulations in order to conserve the City's potable water supplies.

**5/5, 100%  
Objectives  
Achieved**

### Program Activities:

1. Operate and maintain the City's recycled water distribution system comprised of distribution pipelines, pump stations, a reservoir, pressure reducing stations and metered service connections.
2. Provide assistance and ensure compliance on the proper setup on new recycled water sites.
3. Ensure compliance with required agreements and state regulations for users on the recycled water distribution system.
4. Provide guidance, training education materials, and signage for landscape and toilet flushing uses of recycled water.

✓ Status	Project Objectives						
✓ Complete	1. Scope isolation valve replacement needs for remaining valves in Phase 1 of the recycled water system.						
Comments: Mid-Yr:		Phase 1 completed.			Yr-End:		
Status	Measurable Objectives					Metric	
On Target 100.% of Target	1. Perform 100% of site inspections for all active recycled water users, up for renewal, to ensure compliance with Title 22 regulations.					Percent of Site Inspections.	
FY2021							
✓	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual
✓		100%	25%	25%	50%	25%	25%
Previous FY2020							
		100%	25%	25%	50%	25%	25%
Comments: Mid-Yr:					Yr-End:		
Status	Measurable Objectives					Metric	
On Target 100.% of Target	2. Perform maintenance on recycled water fill stations.					Number of recycled water fill stations with maintenance needs.	
FY2021							
✓	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual
✓		12	4	3	7	2	3
Previous FY2020							
		12	3	3	6	2	4
Comments: Mid-Yr:					Yr-End:		

Status	Measurable Objectives						Metric	
On Target 72.% of Target	3. Exercise 118 valves (100%) in the recycled water distribution system, annually.						Number of valves exercised.	
-----								
FY2021								
✓	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date
✓		118	22	22	44	22	19	85
-----								
Previous FY2020								
-----								
Comments: Mid-Yr:		Target number inaccurate; actual Total number of valves = approx. 85.  Status would be "On Target" or even slightly "Ahead of Target" with accurate Target number.			Yr-End: Target number inaccurate. Actual Total number of valves in system = 85. Objective achieved; all recycled water valves were exercised.			

Status	Measurable Objectives						Metric	
On Target 100.% of Target	4. Exercise 12 recycled water fill station shut-off valves (100%), annually.						Number of shut-off valves exercised.	
-----								
FY2021								
✓	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date
✓		12	4	3	7	2	3	12
-----								
Previous FY2020								
-----								
Comments: Mid-Yr:					Yr-End:			



<input type="checkbox"/>	6.0	1.7	0.3	2.0	0.8	0.0	2.8
	<i>Previous FY2020</i>						
	6.0	1.0	1.7	2.7	1.0	0.0	3.7
<b>Comments: Mid-Yr:</b>		Main replacement funding was cut in half this year due to financial impacts from COVID. Therefore we are only planning to replace 3 miles of water main.			<b>Yr-End:</b>		Updated year-end projection to 3 per budget cuts. Although we are behind the adopted target, we achieved our revised target projected at mid-year.





# City of Santa Barbara

## Fiscal Year 2021 Performance Measure Results

Reporting Period: From 7/1/2020 to 6/30/2021

**Department:** Public Works  
**Division:** Public Works-Water Resources  
**Program Name and Number:** Water Distribution (4635)  
**Program Owner:** Rabi Days  
**Program Mission:** Convey water to customers in a reliable cost-effective manner and provide drinking water that meets all State and Federal regulations.

**9/12, 75%  
Objectives  
Achieved**

### Program Activities:

1. Operate and maintain the City's potable water distribution system comprised of distribution pipelines, pump stations, reservoirs, pressure reducing stations and metered service connections.
2. Meet 100% of all applicable State and Federal requirements.
3. Operate and maintain the groundwater well system.
4. Implement and oversee the cross connection control program.
5. Serve as primary dispatch for all Water and Wastewater emergencies and secondary back-up for all Streets emergencies.

✓ Status	Project Objectives							
✓ Complete	1. Redevelop flushing program to incorporate valve exercising, fire hydrant maintenance and new No Des equipment for unidirectional flushing method.							
Comments:	Mid-Yr: <input type="text"/>	Yr-End: Staff have been cross-trained in the use of the No Des equipment and have developed a system for planning flushing work and recording results in our work order management system.						
✓ Complete	2. Assist with rehabilitation of Tunnel Pump Station and Reservoir.							
Comments:	Mid-Yr: <input type="text"/>	Yr-End: Project completed in May 2021 and included repainting of the reservoir, installation of a new water quality mixing system, and replacement of three turbine pumps. These improvements allow for better system reliability and water quality.						
✓ Complete	3. Assist with constructing FY20 A and B water main replacement projects.							
Comments:	Mid-Yr: <input type="text"/>	Yr-End: FY20 A has been completed. FY20 B is wrapping up construction.						
✓ Complete	4. Assist with designing FY21 A and B water main replacement projects.							
Comments:	Mid-Yr: <input type="text"/>	Yr-End: FY21 A has been awarded. FY21 B is nearing final design.						
✓ Complete	5. Provide water main design and construction support for City bridge replacement projects.							
Comments:	Mid-Yr: <input type="text"/>	Yr-End: Arroyo Burro Bridge is currently in construction.						
Status	Measurable Objectives		Metric					
Ahead of Target 101.3% of Target	1. Exercise 4,450 valves (60%) in the Water Distribution system annually.		Number of valves exercised.					
FY2021								
✓	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date

<input checked="" type="checkbox"/>	4,450	1,091	1,537	2,628	933	946	4,507
<b>Previous FY2020</b>							
	4,450	778	734	1,512	879	969	3,360
<b>Comments: Mid-Yr:</b>				<b>Yr-End:</b> Cross-training rotations allowed for more staff to be trained. New work order management system also captures valves exercised via shutdowns related to water main replacement. System flushing added to totals. Moving towards goal of 100% annual exercising.			

Status	Measurable Objectives	Metric														
On Target 100.% of Target	2. Respond to all reported customer concerns related to Water Distribution within one working day.	Percent of field responses in one working day.														
<b>FY2021</b>																
<input checked="" type="checkbox"/>	UM	<table border="1"> <thead> <tr> <th>Target</th> <th>Qtr1 Actual</th> <th>Qtr2 Actual</th> <th>Mid-Year Actual</th> <th>Qtr3 Actual</th> <th>Qtr4 Actual</th> <th>Year-to-Date</th> </tr> </thead> <tbody> <tr> <td>100%</td> <td>100%</td> <td>100%</td> <td>100%</td> <td>100%</td> <td>100%</td> <td>100%</td> </tr> </tbody> </table>	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date	100%	100%	100%	100%	100%	100%	100%
Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date										
100%	100%	100%	100%	100%	100%	100%										
<b>Previous FY2020</b>																
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100%	100%	100%	100%	100%	100%	100%										
<b>Comments: Mid-Yr:</b>				<b>Yr-End:</b>												

Status	Measurable Objectives	Metric														
On Target 100.% of Target	3. Distribute 100% of work requests from the public to Water, Wastewater, and Streets within one working day.	Percent of work requests created for various groups.														
<b>FY2021</b>																
<input checked="" type="checkbox"/>	UM	<table border="1"> <thead> <tr> <th>Target</th> <th>Qtr1 Actual</th> <th>Qtr2 Actual</th> <th>Mid-Year Actual</th> <th>Qtr3 Actual</th> <th>Qtr4 Actual</th> <th>Year-to-Date</th> </tr> </thead> <tbody> <tr> <td>100%</td> <td>100%</td> <td>100%</td> <td>100%</td> <td>100%</td> <td>100%</td> <td>100%</td> </tr> </tbody> </table>	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date	100%	100%	100%	100%	100%	100%	100%
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100%	100%	100%	100%	100%	100%	100%										
<b>Previous FY2020</b>																
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100%	100%	100%	100%	100%	100%	100%										
<b>Comments: Mid-Yr:</b>				<b>Yr-End:</b>												

Status	Measurable Objectives	Metric														
Behind Target 95.6% of Target	4. Repair water main breaks within 12 hours, 90% of the time.	Percent of water main breaks repaired.														
<b>FY2021</b>																
<input checked="" type="checkbox"/>	UM	<table border="1"> <thead> <tr> <th>Target</th> <th>Qtr1 Actual</th> <th>Qtr2 Actual</th> <th>Mid-Year Actual</th> <th>Qtr3 Actual</th> <th>Qtr4 Actual</th> <th>Year-to-Date</th> </tr> </thead> <tbody> <tr> <td>90%</td> <td>59%</td> <td>100%</td> <td>80%</td> <td>95%</td> <td>90%</td> <td>86%</td> </tr> </tbody> </table>	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date	90%	59%	100%	80%	95%	90%	86%
Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date										
90%	59%	100%	80%	95%	90%	86%										
<b>Previous FY2020</b>																
		<table border="1"> <tbody> <tr> <td>70%</td> <td>97%</td> <td>95%</td> <td>96%</td> <td>100%</td> <td>95%</td> <td>97%</td> </tr> </tbody> </table>	70%	97%	95%	96%	100%	95%	97%							
70%	97%	95%	96%	100%	95%	97%										
<b>Comments: Mid-Yr:</b> Q1 data results skewed by larger breaks with added tasks related to right-of-way and private property damage.				<b>Yr-End:</b> On Target in Q2, Q3, and Q4. Larger breaks with added tasks related to right-of-way and private property damage in Q1 skewed year-end results.												

Status	Measurable Objectives				Metric			
Behind Target 35.9% of Target	5. Replace all remaining meters to be Advanced Metering Infrastructure (AMI) compatible.				Number of remaining meters to be AMI compatible.			
FY2021								
✓	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date
<input type="checkbox"/>		1,581	330	172	502	35	31	568
Previous FY2020								
Comments: Mid-Yr:		Target number inaccurate; actual Total number of remaining meters = 813  Status would be "Ahead of Target" with accurate Target number.			Yr-End:		A variable staff rotation and prioritization on training efforts, along with emergency responses, limited staff and resources available. COVID-19 caused difficulties in maintaining meter inventory, and limited scheduling shutdowns to multi-unit services.	
Status	Measurable Objectives				Metric			
Behind Target 51.7% of Target	6. Unidirectionally flush 60 miles of water main, annually.				Number of miles of water main flushed.			
FY2021								
✓	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date
<input type="checkbox"/>		60	13	1	14	11	6	31
Previous FY2020								
Comments: Mid-Yr:		During Q1, the No-Des truck was sent out for repairs for approx. 6 weeks (originally estimated time = 2 weeks).  During Q2, the No-Des truck was used to verify low fire flow conditions assessed by the Water Distribution infrastructure plan.			Yr-End:		During Q3 and Q4, a variable staff rotation and prioritization on training efforts, along with emergency responses, limited staff and resources available.	
Status	Measurable Objectives				Metric			
Ahead of Target 166.7% of Target	7. Perform preventative maintenance on Pressure Reducing Valves (PRV) in the water distribution system.				Percent of preventative maintenance performed on PRV's.			
FY2021								
✓	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date
<input checked="" type="checkbox"/>		30%	13%	15%	28%	9%	13%	50%
Previous FY2020								
Comments: Mid-Yr:					Yr-End:			

			FY2021						
Status	Other Program Measures	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date
Exceeds Projections	1. Number of calls dispatched to Water Distribution Customer Service Rep		750	274	229	503	169	189	861
114.8% of Target			Previous FY2020						
			750	438	353	791	231	183	1205
			FY2021						
Status	Other Program Measures	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date
Below Projections	2. Number of calls dispatched to Wastewater section		200	18	13	31	15	16	62
31.% of Target			Previous FY2020						
			200	23	21	44	11	8	63



# City of Santa Barbara

## Fiscal Year 2021 Performance Measure Results

Reporting Period: From 7/1/2020 to 6/30/2021

**Department:** Public Works  
**Division:** Public Works-Water Resources  
**Program Name and Number:** Water Treatment (4631, 4632)  
**Program Owner:** Andrew Rhodes  
**Program Mission:** Provide safe drinking water that is treated in a cost-effective manner and complies with State and Federal regulations.

**3/3, 100%  
Objectives  
Achieved**

### Program Activities:

1. Operate and maintain the Cater Water Treatment Plant to achieve compliance with State and Federal drinking water regulations.
2. Provide regional water treatment for the City of Santa Barbara, Montecito Water District and Carpinteria Valley Water District, supplying drinking water to the communities of Santa Barbara, Montecito, Summerland, and Carpinteria.
3. Operate and maintain the Ortega Groundwater Treatment Plant in accordance with State and Federal regulations.
4. Operate and maintain City's hydroelectric plant to generate electricity and offset City demand with diversions from Gibraltar Reservoir.

✓ Status	Project Objectives								
✓ On Target	1.	Transition to Maintenance Connection computerized maintenance management system (CMMS) software.							
Comments: Mid-Yr:		Transitioned to Maintenance Connection and are actively using software to track preventative maintenance activities.			Yr-End:	Continue to refine and improve database and functionality of new CMMS program. Working on reports and currently waiting for new version update with the QR code issue addressed. Expanding Wi-Fi for better coverage.			
Status	Measurable Objectives					Metric			
On Target 100.% of Target	1.	Maintain 100% compliance with California Division of Drinking Water (DDW) Primary Water Quality Regulations.					Rate of compliance with state drinking water quality regulations		
								FY2021	
✓	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date	
✓		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
								Previous FY2020	
		100.0%	100.0%	100.0%	99.5%	100.0%	100.0%	99.7%	
Comments: Mid-Yr:		100 % compliance with state drinking water regulations			Yr-End:	100% compliance with state drinking water regulations.			

Status	Measurable Objectives						Metric	
On Target 99.% of Target	2. Perform 100% of preventative maintenance in accordance with the annual preventative maintenance plan at the Cater Water Treatment Plant and Ortega Groundwater Treatment Plant.						Percentage of preventative maintenance completed	
----- FY2021 -----								
✓	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date
☑		100%	98%	98%	98%	100%	100%	99%
----- Previous FY2020 -----								
		100%	100%	100%	100%	100%	100%	100%
Comments: Mid-Yr:			Slight lag on getting every preventative maintenance (PM) work order completed before the end of the month.		Yr-End:		Refinement of PM work order distribution and assignment to staff has improved completion in timely manner.	

			FY2021						
Status	Other Program Measures	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date
Exceeds Projections 123.5% of Target	1. Million gallons (MG) of water treated (Cater)		4,500	1,601	1,232	2,833	1,109	1,616	5,558
			Previous FY2020						
			4,500	1,401	1,053	2,454	723	1,110	4,287
			FY2021						
Status	Other Program Measures	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date
Below Projections 83.5% of Target	2. Cost per million gallons (Cater)		\$850	\$615	\$853	\$719	\$789	\$639	\$710
			Previous FY2020						
			\$950	\$612	\$942	\$754	\$1,290	\$834	\$865
			FY2021						
Status	Other Program Measures	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date
Below Projections 63.9% of Target	3. Chemical cost per million gallons (Cater)		\$180	\$116	\$117	\$117	\$116	\$112	\$115
			Previous FY2020						
			\$200	\$123	\$123	\$123	\$128	\$127	\$125
			FY2021						
Status	Other Program Measures	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date
Exceeds Projections 155.% of Target	4. Unscheduled work orders		100	42	38	80	35	40	155
			Previous FY2020						
			150	21	16	37	27	33	97
			FY2021						
Status	Other Program Measures	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date
Below Projections 66.7% of Target	5. Percent of work orders that were emergency		3%	8%	2%	4%	1%	1%	2%
			Previous FY2020						
			3%	2%	1%	2%	2%	3%	2%
			FY2021						
Status	Other Program Measures	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date
Below Projections . % of Target	6. Million gallons (MG) of water treated (Ortega Groundwater Treatment Plant)		95	0	0	0	0	0	0
			Previous FY2020						
			180	88	7	95	0	0	95
			FY2021						
Status	Other Program Measures	UM	Target	Qtr1 Actual	Qtr2 Actual	Mid-Year Actual	Qtr3 Actual	Qtr4 Actual	Year-to-Date
As Projected 147.8% of Target	7. Megawatt hours per year produced from hydroelectric plant		1,000	823	581	1,404	68	5	1,478
			Previous FY2020						
			1,000	547	556	1,103	301	674	2,078
<b>Comments:</b> 1. Mid-Yr: Slightly higher than forecast likely due to a dry start to winter. Yr-End: Dry winter, higher than forecasted deliveries to JPA members (Montecito Water District and Carpinteria Valley Water District) along with desal production issues related to offshore pump failure and algae, resulted in increased production at Cater WTP. 2. Mid-Yr: Improved surface water quality has allowed a reduction in chemical usage. Additionally, slightly higher									

than anticipated production help drive down the fixed unit costs.

Yr-End: Improved surface water quality has allowed for a reduction in chemical usage. Additionally, slightly higher than anticipated production helped to drive down the fixed unit costs

- 3. Mid-Yr:** Improved surface water quality allows for reduction in chemicals needed to treat to regulatory compliance.

Yr-End: Improved surface water quality allowed for reduction in chemicals needed to treat to regulatory compliance. Even with significant surcharges related to CO2 deliveries and a several month long force majeure, we ended the year lower than projected.

- 4. Mid-Yr:** Includes all unscheduled (corrective) work orders. These work orders are further refined into three categories; Emergency, Urgent and Routine.

Yr-End: I believe my initial target number was low for FY21. As I become more familiar with our new CMMS program, the number of Unscheduled Work Orders submitted is fairly consistent and I will increase my target in future years.

- 5. Mid-Yr:** Includes both emergency and urgent designated corrective work orders. 1 emergency and 17 urgent corrective work orders out of 456 total work orders at the mid-year point.

Yr-End: Includes both Emergency and urgent designated work orders. 3 urgent work orders were submitted for quarters 3 and 4 for a yearly total of 1 emergency and 20 urgent work orders out of 979 total work orders.

- 6. Mid-Yr:** Resting the groundwater aquifers allowing for recovery/recharge after heavy pumping during the drought.

Yr-End: Resting the groundwater aquifers allowing for recovery/recharge after heavy pumping during the drought.

- 7. Mid-Yr:** Gibraltar reservoir filled and spilled last winter allowing for consistent diversions and power generation. Without rain this winter, diversions will stop and so will power generation. Gibraltar is currently at ~ 10% capacity.

Yr-End: A dry winter resulted in nearly no runoff into Gibraltar Reservoir. Diversions and power generation continued to 10% remaining reservoir capacity and then were halted due to declining water quality.





PUBLIC WORKS DEPARTMENT  
**WATER RESOURCES DIVISION**

# WATER SYSTEM ANNUAL REPORT

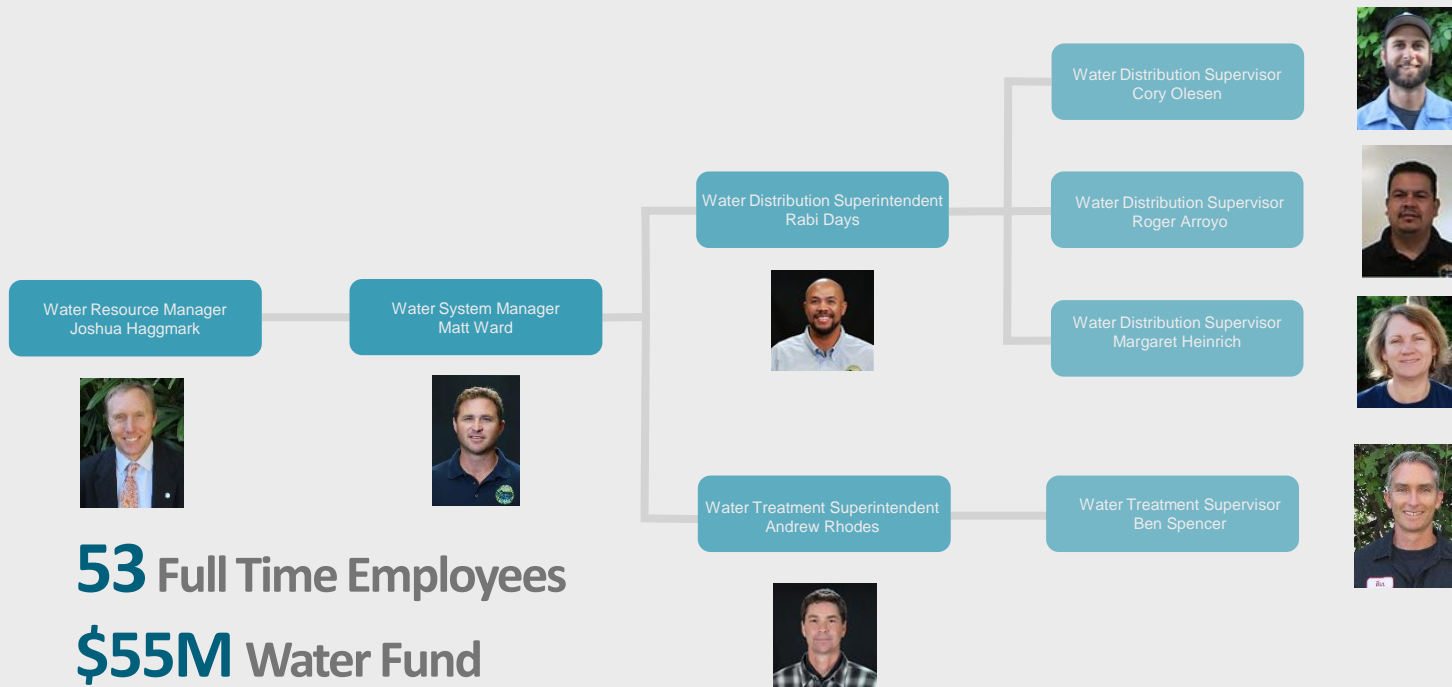
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January 20, 2022

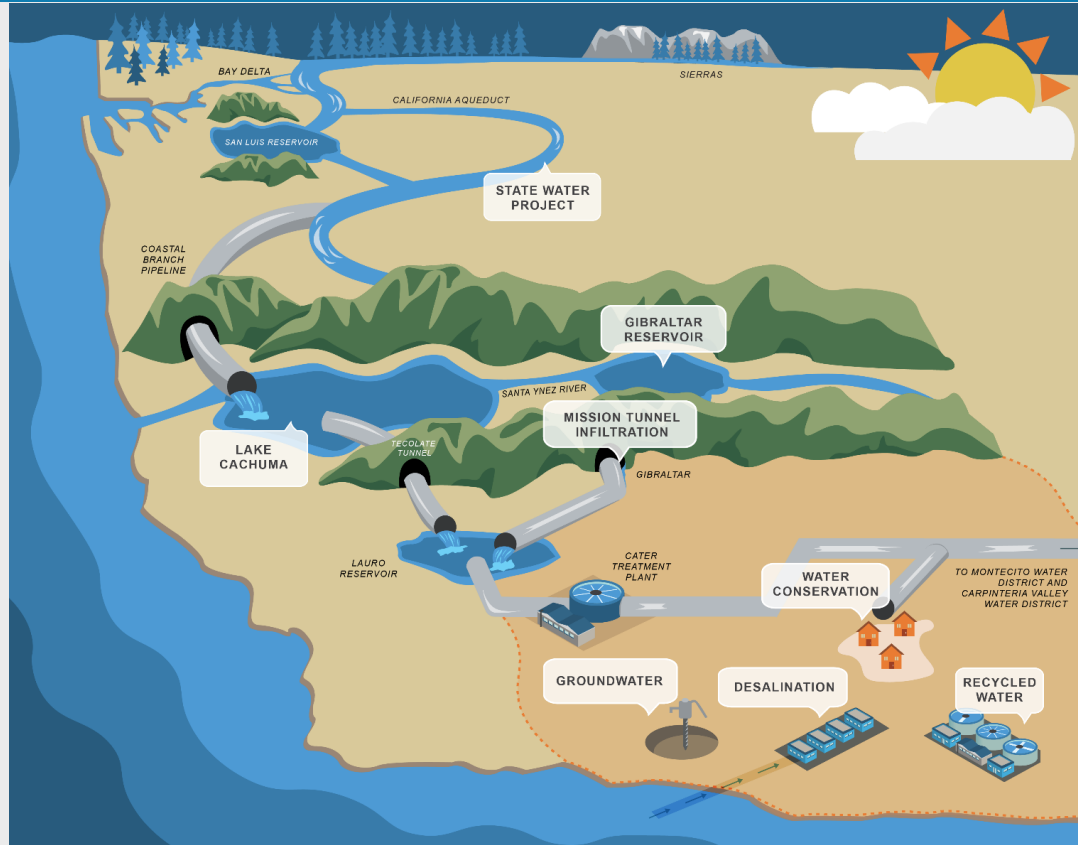
# Outline

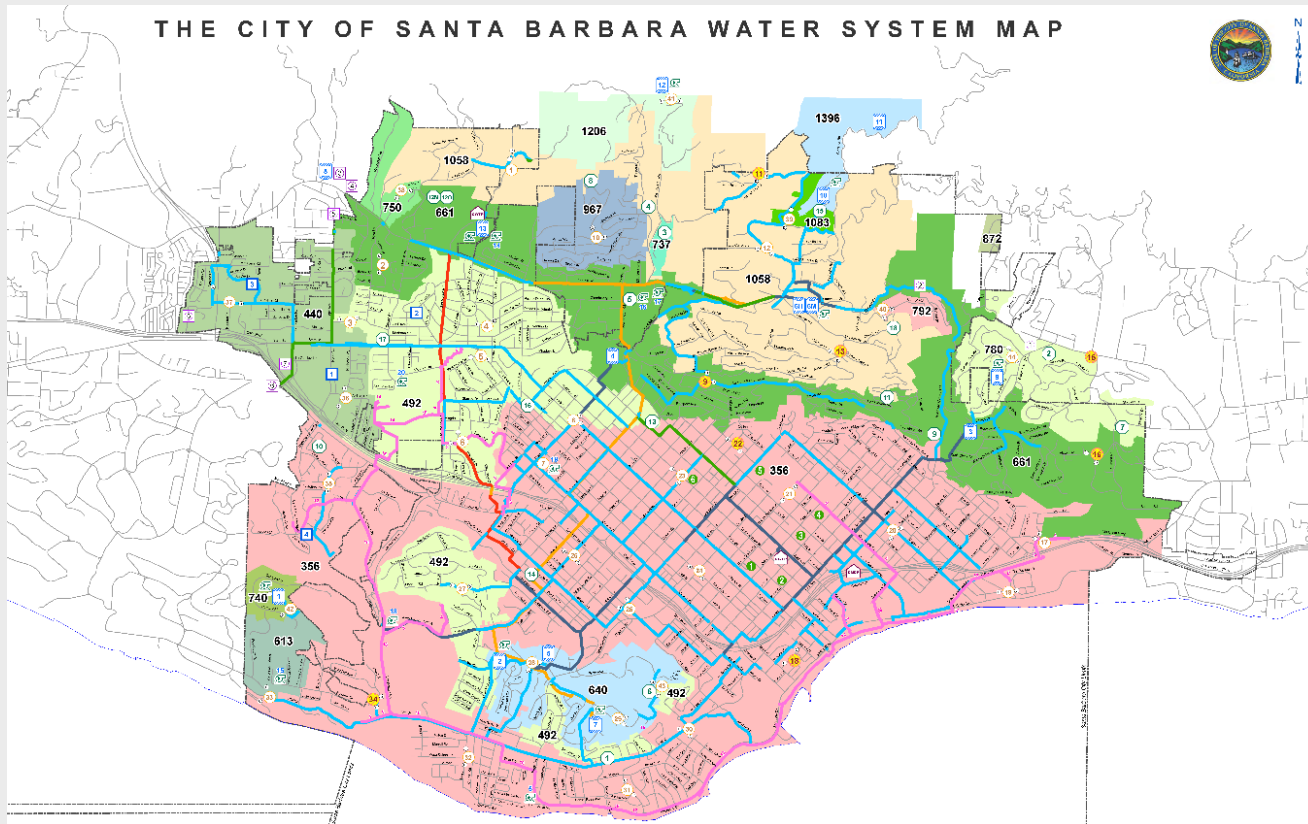
- Water System Overview
- Treatment and Distribution Program Updates
- Capital Improvement Project Updates

# Santa Barbara Water System Org Chart



# Water Sources









PUBLIC WORKS DEPARTMENT  
**WATER RESOURCES DIVISION**

# WATER TREATMENT

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# Water Treatment

- **Responsible for:**
  - Drinking Water Quality
  - Supporting Water Supply Management
    - *Consulting on Desal*
  - **Coordinating with member and neighboring agencies:**
    - *Cachuma Operations and Maintenance Board (COMB)*
      - Cachuma, Laurel Reservoir, and South Coast Conduit
    - *Joint Powers Agreement (JPA) Members*
      - Montecito and Carpentaria
    - *La Cumbre Mutual Water Company (LCMWC)*
    - *Goleta Water District (GWD) as needed*



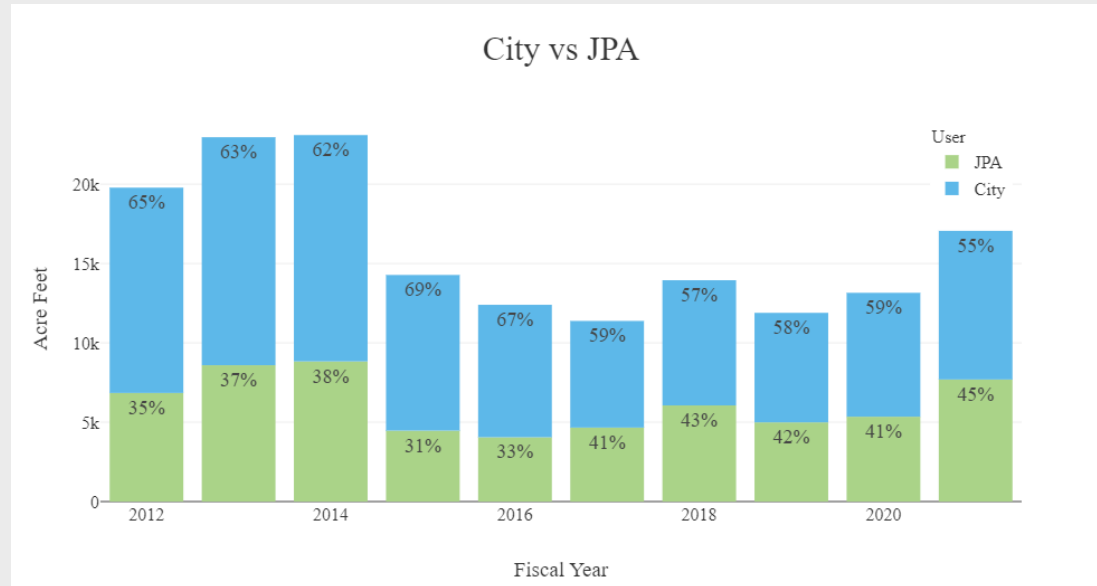
# Water Treatment Cont.

- **Programs**
  - Cater Water Treatment Plant (Cater)
  - Ortega Groundwater Treatment Plant (OGTP)
    - 4 downtown wells
  - Hydro-electric Plant
    - Conveyance from Gibraltar Dam
    - offset electrical consumption
- **Performance Highlights**
  - Surface Water Production
  - Energy Production
  - GW Production

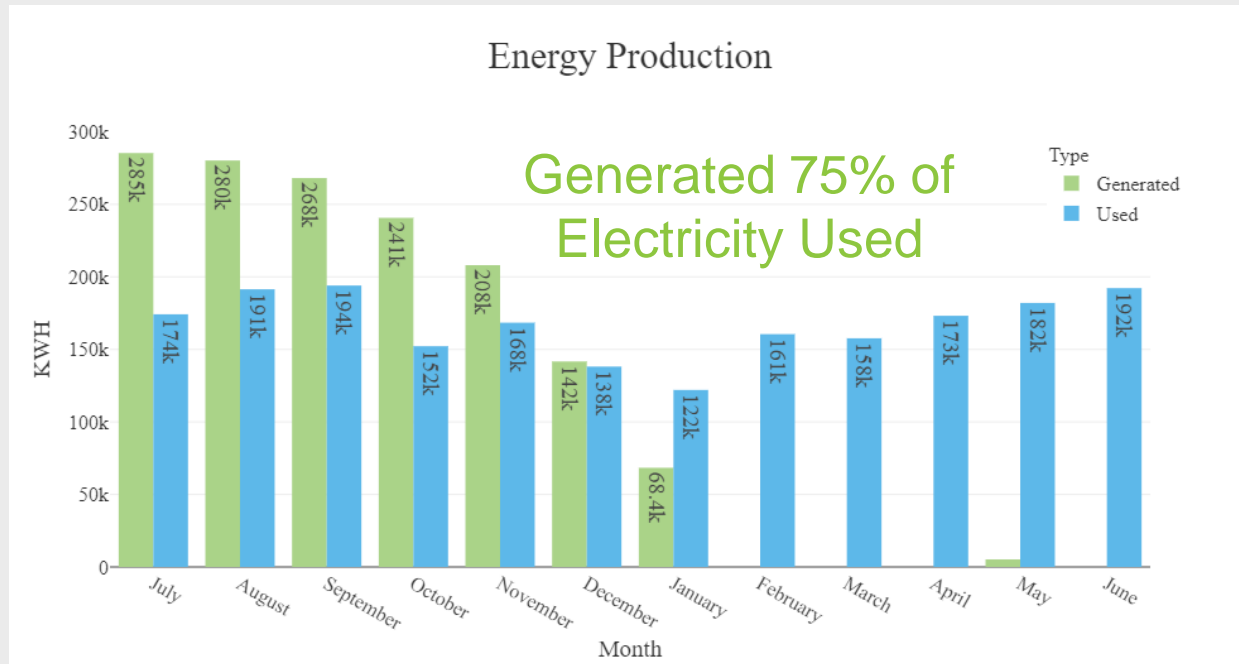




# Surface Water Production



# Energy Production from Gibraltar (FY-21)



# Groundwater Production: Wells



## Ortega GW Production (FY-21)

July	0
August	0
September	0
October	0
November	0
December	0
January	0
February	0
March	0
April	0
May	0
June	0
<b>FY-21 Total (AF)</b>	<b>0</b>





PUBLIC WORKS DEPARTMENT  
**WATER RESOURCES DIVISION**

# WATER DISTRIBUTION

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# Water Distribution

- **Responsible for:**
  - Potable and recycled water system maintenance and repair
  - Metering and Customer Service
  - Water storage and water quality control
  - Coordination with other agencies and work groups (public and private)
    - City PW Permits Counter/ Land & Development (LDE)
    - City Water Engineering, Waste Water, Transportation and Streets Divisions
    - Goleta Water District (GWD), Montecito Water District (MWD), La Cumbre Mutual Water Company (LCMWC)
    - So. Cal Gas, Frontier, So. Cal Edison, Caltrans





# Water Distribution

Programs are divided between three internal work groups:

## 1) Pipeline Operations

- *Emergency Water Main Break Response*
- *Water Main Flushing (NO-DES)*
- *Valve Maintenance*
- *Meter Replacement*
- *Customer Service*
- *Fire Hydrant Maintenance (ISO)*
- *New Service Installation (Construction)*



# Water Distribution

## 2) Pumps and Reservoir Operations:

- *Pump Station and Reservoir Maintenance*
- *Groundwater Well Production*
- *Pressure Reducing Valve/Station Maintenance (PRV)*
- *Water Quality Sampling and Residual Monitoring*
- *Gibraltar Dam Operations*
- *SCADA Troubleshooting, Repair and Management*



# Water Distribution

## 3) Planning and Coordination

- *Dispatch (Now w/Services)*
- *Metering (Now w/Services)*
- *Admin Support*
- *CMMS (Cartegraph OMS) Digital Asset Management*
- *GPS Data Collection and Management*
- *New Service Installations (Coordination)*
- *Utility Coordination and Plan Review*
- *Enforcement*
- *Cross-Connection Prevention*
- *Recycled Water User Agreements and System Maintenance*





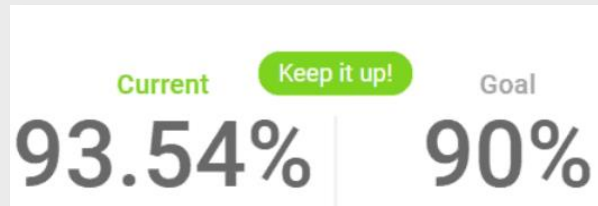
# Performance Highlights

- Emergency Main Repair
- Valve Maintenance
- Customer Service Response
- Fire Hydrant Inspections

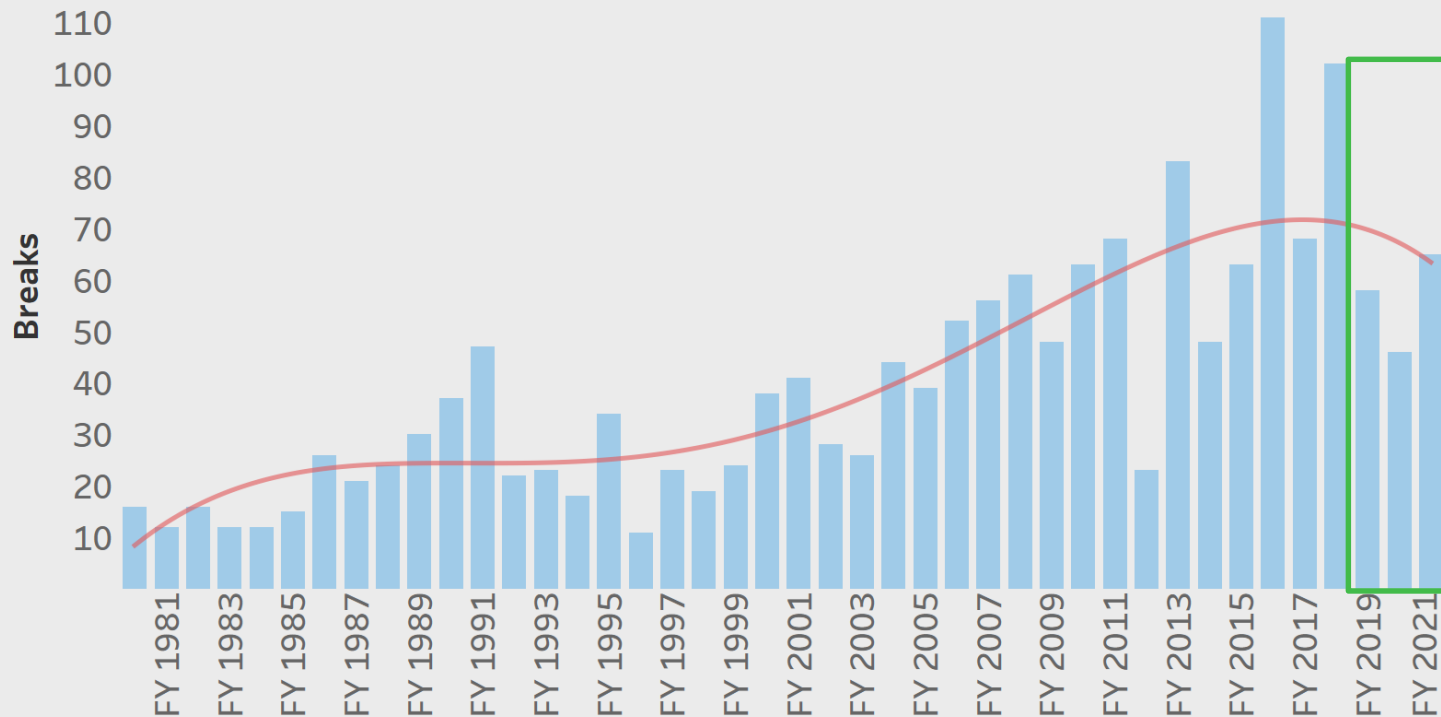


# Water Distribution Key Performance Metrics

GOAL – Repair 90% of water main breaks within 12-hours. (FY21)

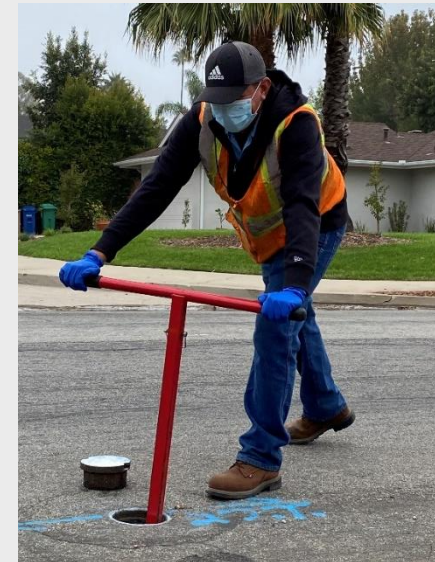
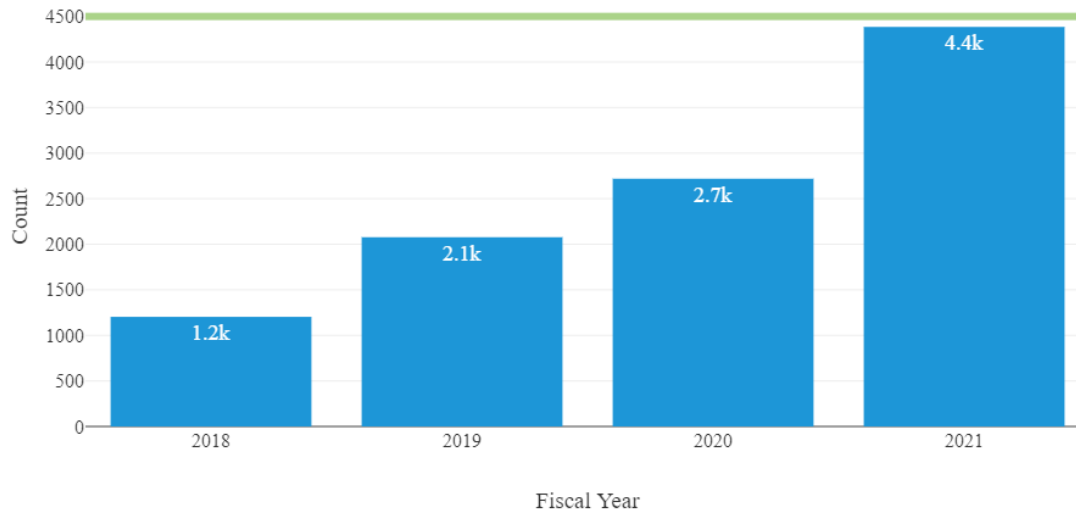


# Water Main Breaks Since 1980 by Fiscal Year



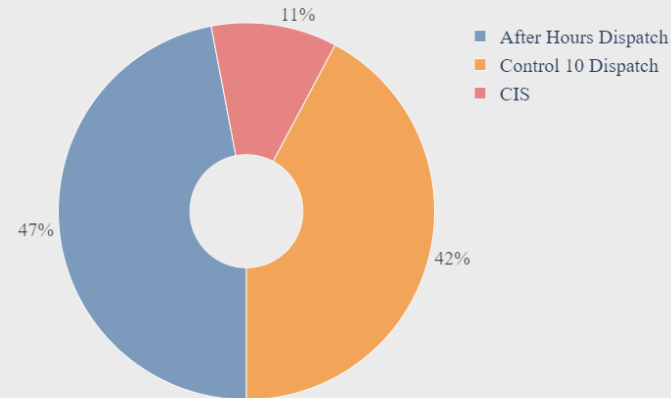
# Water Distribution Key Performance Metrics - Valves

Exercise 60% of Valves Annually

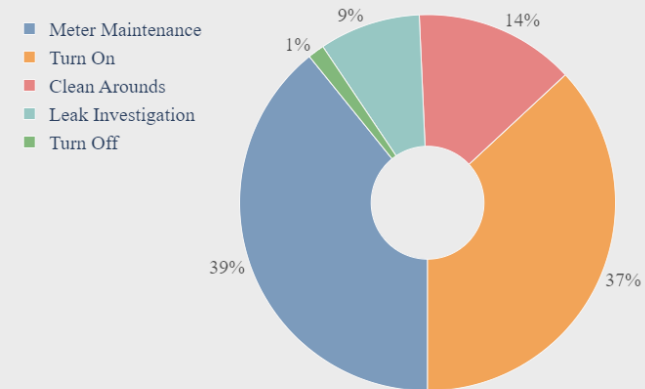


# Water Distribution Key Performance Metrics – Service Calls

**FY21 Water Distribution Service Calls**

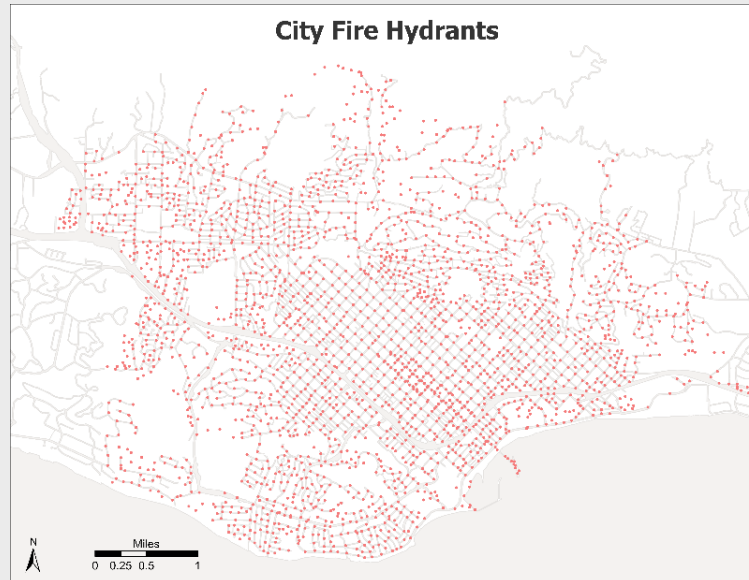


**FY21 Customer Service Calls**



# Hydrant Inspections (ISO requirement)

- 2,325 total hydrants every 3 years







PUBLIC WORKS DEPARTMENT  
**WATER RESOURCES DIVISION**

# WATER SYSTEM CAPITAL IMPROVEMENT PROJECT UPDATES

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# Water Distribution Capital Projects

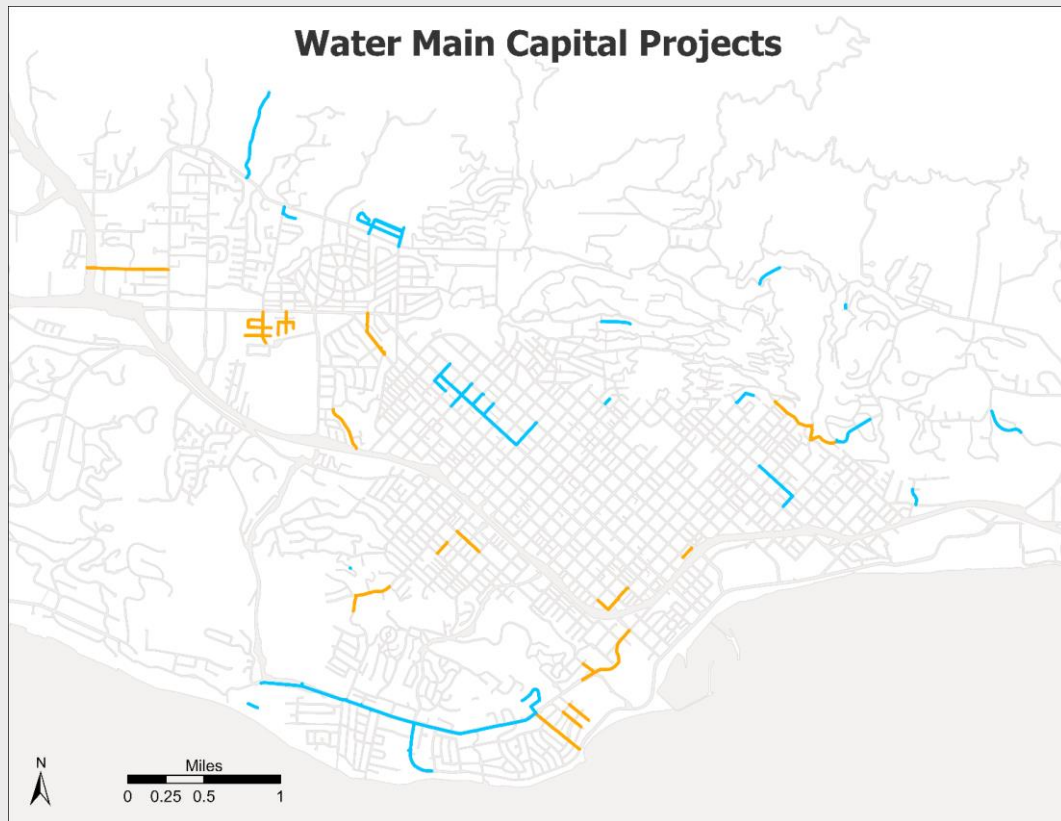
- Annual Water Main Replacement
- Transmission Main Renewal (Phase 1)
- Desal Link





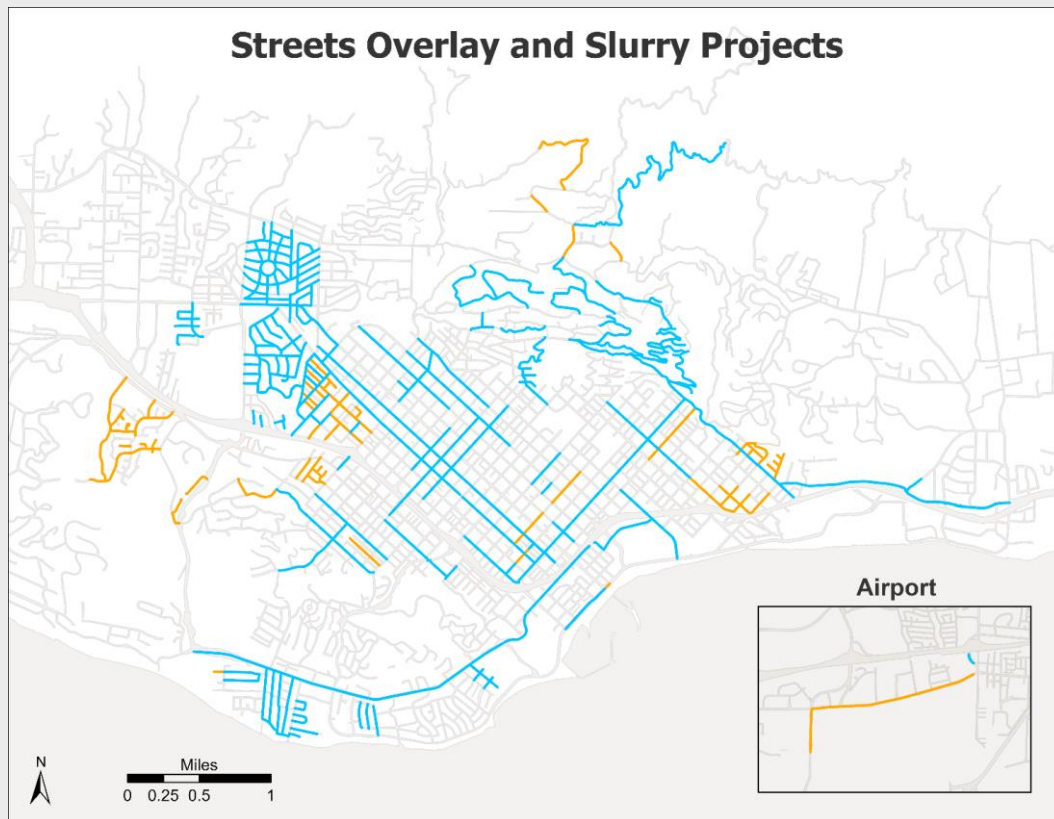
# Annual Water Main Replacement

- Construction
- Planned

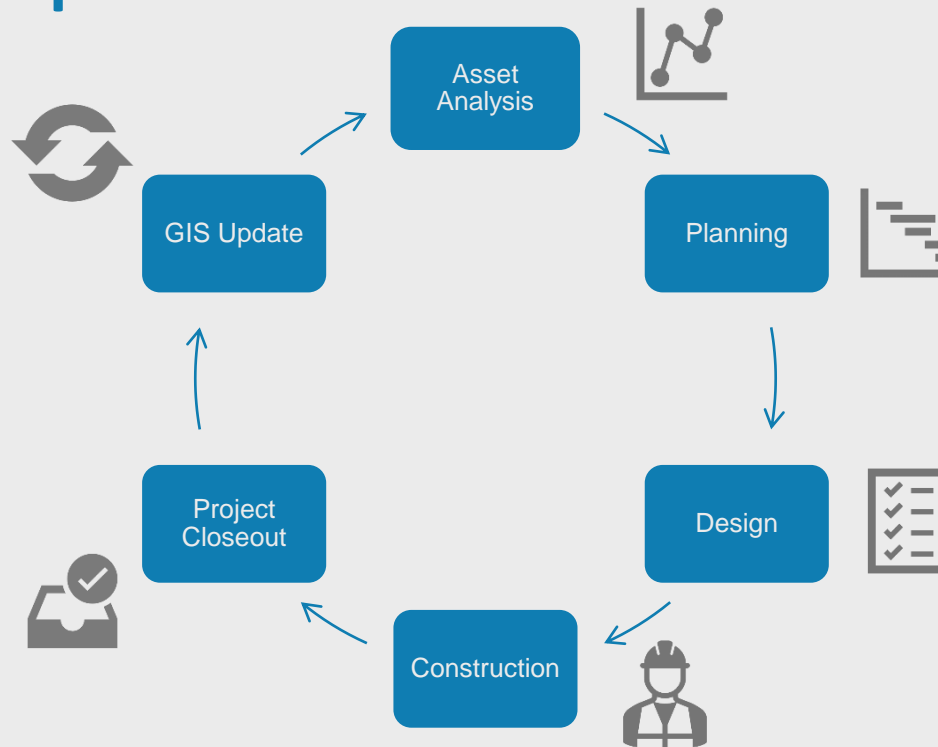


# Annual Pavement Maintenance Projects

- **Construction**
- **Planned**



# Water Main Replacement Process



# Transmission Main Renewal (Phase 1)



- Rehabilitate existing transmission main and maintain effective operation
- Construction summer 2022
- Completes connection of Desalinated water source

# Desal Link Project

- Enhanced regional and system resiliency
- Extends Desal H2O to full Water Service Area
- Improved Water Quality
- In construction through Fall 2022



# Recycled Water Capital Projects

- Recycled Water Distribution Pump Upgrades
  - All of recycled supply
  - Replace mechanical/electrical equipment
  - Favorable bids





# Water Treatment Capital Projects

- Cater Finished Water Reservoir Resiliency Project
  - Add CT Reservoir
  - Work needed for Clearwell
  - Design began June 2021





# Reservoir Capital Projects

- Vic Trace Reservoir Replacement
  - Critical storage
  - Coordinate with Cater
  - In Planning phase



# Desal Capital Projects

- Product Water Pump Station Upgrades
  - Moves water
  - Design complete
  - Construction this summer



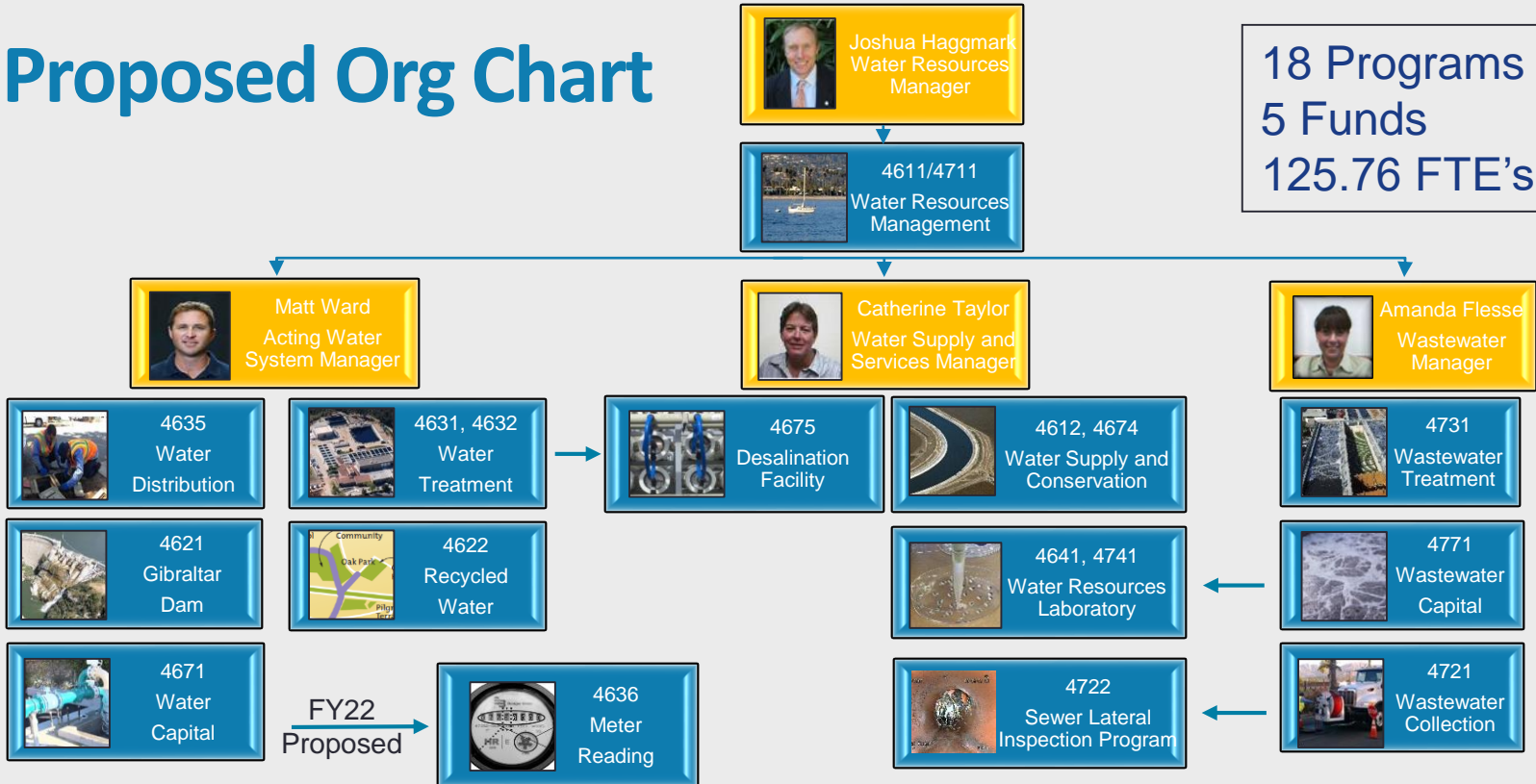
# Other Water System Program Highlights

- Customer Service
  - *New Work Group*
  - *Automated Metering Infrastructure*
- Desal
  - *Contract Operations*



# Proposed Org Chart

18 Programs  
5 Funds  
125.76 FTE's





# Water Service/Customer Service Program

- New Water Service Superintendent and Water Service Supervisor roles filled as of Nov 2021
- Team is currently focusing on how AMI implementation will assist with
  - Customer Communication
    - *Outreach, Noticing, Bill & Usage Explanations*
  - Internal Operational Needs
    - *Water Loss, Demand Management*

# AMI Project Status

- Alpha Phase
- Beta Phase

City of Santa Barbara AMI Implementation Project Project Schedule	2021												2022												2023											
	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec					
Notice To Proceed																																				
Alpha Phase																																				
Beta Phase																																				
Full Deployment																																				

# Desal Operations

- IDE Contract expires Sept 2024
- Evaluating future operations





# Questions?