



# Water and Wastewater Technology Occupations Labor Market Information Report Las Positas College

Prepared by the San Francisco Bay Center of Excellence for Labor Market Research  
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## Recommendation

Based on all available data, there appears to be an “undersupply” of Water and Wastewater Technology workers compared to the demand for this cluster of occupations in the Bay region and in the East Bay sub-region (Alameda and Contra Costa counties). There is a projected annual gap of about 171 students in the Bay region and 49 students in the East Bay Sub-Region.

## Introduction

This report provides student outcomes data on employment and earnings for TOP 0958.00 - Water and Wastewater Technology programs in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at Las Positas College and in the region.

This report profiles Water and Wastewater Technology Occupations in the 12 county Bay region and in the East Bay sub-region for a proposed new program at Las Positas College.

- **Water and Wastewater Treatment Plant and System Operators (51-8031):** Operate or control an entire process or system of machines, often through the use of control boards, to transfer or treat water or wastewater.  
 Entry-Level Educational Requirement: High school diploma or equivalent  
 Training Requirement: Long-term on-the-job training  
 Percentage of Community College Award Holders or Some Postsecondary Coursework: 42%

## Occupational Demand

**Table 1. Employment Outlook for Water and Wastewater Technology Occupations in Bay Region**

Occupation	2019 Jobs	2024 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Water and Wastewater Treatment Plant and System Operators	2,368	2,418	50	2%	1,147	229	\$ 32.43	\$ 41.56
<b>Total</b>	<b>2,368</b>	<b>2,418</b>	<b>50</b>	<b>2%</b>	<b>1,147</b>	<b>229</b>	<b>\$32.43</b>	<b>\$41.56</b>

Source: EMSI 2020.4

**Bay Region includes:** Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

**Table 2. Employment Outlook for Water and Wastewater Technology Occupations in East Bay Sub-region**

Occupation	2019 Jobs	2024 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Water and Wastewater Treatment Plant and System Operators	523	529	6	1%	246	49	\$ 34.07	\$ 43.99
<b>Total</b>	<b>523</b>	<b>529</b>	<b>6</b>	<b>1%</b>	<b>246</b>	<b>49</b>	<b>\$34.07</b>	<b>\$43.99</b>

Source: EMSI 2020.4

**East Bay Sub-Region includes:** Alameda and Contra Costa Counties**Job Postings in Bay Region and East Bay Sub-Region****Table 3. Number of Job Postings by Occupation for latest 12 months (Feb 2020 - Jan 2021)**

Occupation	Bay Region	East Bay
Water and Wastewater Treatment Plant and System Operators	219	61

Source: Burning Glass

**Table 4a. Top Job Titles for Water and Wastewater Technology Occupations for latest 12 months (Feb 2020 - Jan 2021) Bay Region**

Title	Bay	Title	Bay
Water Operator	10	Technician - Water	5
Wastewater Operator II	10	Water Treatment Technician	4
Water Treatment Operator	9	Wastewater Operator III	4
Lead Water Technician	8	Wastewater Operator I	4
92W Water Treatment Specialist	8	Wastewater Operator-Systems Commissioning	4
Water Treatment Plant Operator	7	Waste Treatment Operator	4
Waste Management Technician	7	Senior Scada Specialist	4
Water Technician	6	Water Treatment Specialist	3
Scada Specialist	6	Water Operator In Training	3

Source: Burning Glass

**Table 4b. Top Job Titles for Water and Wastewater Technology Occupations for latest 12 months (Feb 2020 - Jan 2021) East Bay Sub-Region**

Title	East Bay	Title	East Bay
Water Treatment Operator	6	Wastewater Plant Operator I	2
SCADA Specialist	6	Wastewater Operator/Oit	2
Lead Water Technician	5	Wastewater Operator III	2
Senior SCADA Specialist	4	Wastewater Operator	2
Waste Management Technician	3	Technician - Water	2
Water Treatment Technician	2	Water Treatment Specialist	1
Water Treatment Plant Operator	2	Water Treatment Plant Trainee/Operator	1
Water Management Technician	2	Water Treatment Plant Operator I	1
Wastewater Treatment Plant Operator II	2	Water Treatment Plant Chief Plant Operator	1

Source: Burning Glass

## Industry Concentration

**Table 5. Industries hiring Water and Wastewater Technology Workers in Bay Region**

Industry – 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2019)	Jobs in Industry (2024)	% Change (2019-24)	% Occupation Group in Industry (2019)
Local Government, Excluding Education and Hospitals	1,743	1,734	-1%	74%
Water Supply and Irrigation Systems	303	338	12%	14%
Solid Waste Landfill	29	27	-8%	1%
Sewage Treatment Facilities	27	36	31%	1%
Federal Government, Military	20	20	1%	1%
Steam and Air-Conditioning Supply	37	22	-40%	1%
Engineering Services	16	16	0%	1%
Remediation Services	11	11	1%	0%
Natural Gas Distribution	NA	NA	NA%	0%
Water and Sewer Line and Related Structures Construction	NA	NA	NA%	0%

Source: EMSI 2020.4

**Table 6. Top Employers Posting Water and Wastewater Technology Occupations in Bay Region and East Bay Sub-Region (Feb 2020 - Jan 2021)**

Employer	Bay	Employer	East Bay
Veolia North America	18	Pacific Gas and Electric Company	7
Operational Technical Services Ots	9	Veolia North America	4
Walsh Group	7	Operational Technical Services Ots	4
Pacific Gas and Electric Company	7	Lawrence Berkeley National Laboratory	3
Veolia North America, Llc	6	East Bay Municipal Utility District	3
TTM Technologies	6	Veolia North America, Llc	2
Lawrence Berkeley National Laboratory	6	Tesla	2
Western Digital	5	Restoration Management Company	2
Restoration Management Company	5	Ebmud	2
Webuild Services Llc	4	East Bay Regional Park District	2

Source: Burning Glass

## Educational Supply

There are three (3) community colleges in the Bay Region issuing 58 awards on average annually (last 3 years ending 2018-19) on TOP 0958.00 - Water and Wastewater Technology. In the East Bay Sub-Region, there are no community colleges issuing awards on average annually (last 3 years) on this TOP code.

**Table 7a. Community College Awards on TOP 0958.00 - Water and Wastewater Technology in Bay Region**

College	Subregion	Associate	Certificate Low	Total
Gavilan	Silicon Valley	6	6	12
Santa Rosa	North Bay	6	21	27
Solano	North Bay	11	8	19
<b>Total</b>		<b>23</b>	<b>35</b>	<b>58</b>

Source: Data Mart

Note: The annual average for awards is 2016-17 to 2018-19.

## Gap Analysis

Based on the data included in this report, there is a labor market gap in the Bay region with 229 annual openings for the Water and Wastewater Technology occupational cluster and 58 annual (3-year average) awards for an annual undersupply of 171 students. In the East Bay Sub-Region, there is also a gap with 49 annual openings and no annual (3-year average) awards for an annual undersupply of 49 students.

## Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0958.00 - Water and Wastewater Technology**

Metric Outcomes	Bay All CTE Programs	Las Positas All CTE Programs	State 0958.00	Bay 0958.00	East Bay 0958.00	Las Positas 0958.00
Students with a Job Closely Related to Their Field of Study*	75%	72%	76%	62%	N/A	N/A
Median Annual Earnings for SWP Exiting Students	\$45,864	\$44,276	\$53,248	\$61,344	N/A	N/A
Median Change in Earnings for SWP Exiting Students	31%	30%	22%	52%	N/A	N/A
Exiting Students Who Attained the Living Wage	53%	52%	81%	84%	N/A	N/A

Source: Launchboard Strong Workforce Program from version 2018-19).\* Data from version 2017-18

## Skills, Certifications and Education

**Table 9. Top Skills for Water and Wastewater Technology Occupations in Bay Region (Feb 2020 - Jan 2021)**

Skill	Posting	Skill	Posting
Repair	98	Water Distribution	29
Water Treatment	77	Interpret Gauges	28
Wastewater Treatment	72	Power Tools	28
Water Quality	49	Quality Assurance and Control	28
Chemistry	36	Occupational Health and Safety	22
Predictive / Preventative Maintenance	36	Biology	21
Process Control	36	Cleaning	21
Forklift Operation	35	Waste Treatment	21
Laboratory Testing	33	Hazardous Waste	19
Machinery	33	Hand Tools	18
Plumbing	33	Environmental Health and Safety	17
SCADA	33	Equipment / Instrument Sterilization	17
Calculation	31	Data Entry	16
Painting	29	Public Health and Safety	16

Source: Burning Glass

**Table 10. Certifications for Water and Wastewater Technology Occupations in Bay Region (Feb 2020 - Jan 2021)**

Certification	Posting	Certification	Posting
Driver's License	82	Operations Certification	2
Wastewater Treatment Plant Operator	60	Backflow Prevention Certification	2

Certification	Posting	Certification	Posting
Wastewater Treatment Certification	7	Wastewater Treatment Plant Operator Grade III	1
Cdl Class B	6	Wastewater Treatment Plant Operator Grade II	1
Cdl Class C	5	Wastewater Collection License	1
Hazardous Materials Technician	4	OSHA Forklift Certification	1
Environmental Protection Agency Certification	4	First Aid Cpr Aed	1
Asbestos Worker	4	Air Brake Certified	1
Licensed Professional Engineer	3	Backflow Prevention Certification	2

Source: Burning Glass

Note: 47% of records have been excluded because they do not include a certification. As a result, the chart below may not be representative of the full sample.

**Table 11. Education Requirements for Water and Wastewater Technology Occupations in Bay Region**

Education (minimum advertised)	Latest 12 Mos. Postings	Percent 12 Mos. Postings
High school or vocational training	100	80%
Associate's degree	2	2%
Bachelor's degree	22	18%

Source: Burning Glass

## Methodology

Occupations for this report were identified by use of skills listed in O\*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCCCO Data Mart.

## Sources

O\*Net Online

Labor Insight/Jobs (Burning Glass)

Economic Modeling Specialists International (EMSI)

CTE LaunchBoard [www.calpassplus.org/Launchboard/](http://www.calpassplus.org/Launchboard/)

Statewide CTE Outcomes Survey

Employment Development Department Unemployment Insurance Dataset

Living Insight Center for Community Economic Development

Chancellor's Office MIS system

## Contacts

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