

MISSION-CRITICAL PROFILE

Name: Maurice Harper

Organization: San Francisco Public Utilities Commission - Wastewater Enterprise



Job Category (Check one below):

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| <input type="checkbox"/> Water Treatment | <input type="checkbox"/> Electronic Maintenance Technician/ Instrument Technician |
| <input type="checkbox"/> Water Distribution | <input type="checkbox"/> Electrician/Electrical Line Worker |
| <input checked="" type="checkbox"/> Wastewater Treatment | <input type="checkbox"/> Machinist/Mechanic |
| <input type="checkbox"/> Wastewater Distribution | <input type="checkbox"/> Other |

1. Please describe the work you do:

I am a wastewater treatment plant operator for the SFPUC. As a wastewater treatment operator, I spend the majority of my time observing process flows, recording data, and looking for ways to improve upon process efficiency. I keep a watchful eye on plant processes through use of computer software and making rounds by walking and inspecting each piece of equipment and process. I also perform routine and emergency maintenance tasks including pump maintenance, plumbing repairs, and electrical control diagnostics. I routinely work with a small team of wastewater operators to successfully and efficiently operate the treatment facility.

2. What combination of education, vocational training, apprenticeship, experience, and/or skill did you obtain in order to be qualified and selected for your job?

I have a Bachelor's of Science degree in Geography with a minor in Environmental Studies. It was during my studies that my interest in the environment grew. I began my wastewater career path as a pre-apprentice for the City and County of San Francisco. I subsequently completed a 4-year apprenticeship as a Wastewater Operator at Stationary Engineers Local 39. The apprenticeship was truly where I learned the fundamentals of the trade. The apprenticeship included coursework in wastewater theory, machinery, HVAC and controls, welding, boiler operations, and electricity. A vital component of the apprenticeship was the time spent in the field, working at various wastewater treatment facilities for the SFPUC. The on-the-job training through the apprenticeship provided a detailed and comprehensive exposure to the types of work being performed on a day to day basis by wastewater treatment plant operators.

3. What do you like best about your job?

The aspect that I enjoy most about my job is the direct and immediate impact of my work on the public. The treatment of wastewater has always played a vital role in the safety and health of the public. I believe that the increased understanding of wastewater treatment processes and theories have had direct and powerful influence on the populations and day to day lifestyles of humankind worldwide. I appreciate the fact that I am essentially giving mother-nature a helping hand. I also enjoy the troubleshooting aspect of my job. I like the challenges associated with the discovery process involved in finding out why a piece of equipment has failed or how to make it operate more efficiently.

4. Please tell us about the projects and activities you have enjoyed most in your work in the water/wastewater field, and what made them rewarding.

I currently work as the lead operator for the Living Machine Wastewater System at the SFPUC Headquarters- a LEED Platinum facility. The Living Machine is an energy-efficient and high performance de-centralized wastewater treatment system that treats wastewater utilizing a two-stage constructed wetland process and disinfection system. This process allows the reclaimed water to be reused within the building. Being a part of a system that encourages water conservation and reuse is very rewarding. I believe in the concept that each user can be responsible for the efficient treatment of wastewater within a facility and ultimately find a way to reuse the water to benefit the environment.

5. What qualities and capabilities are needed in order for a person in your area of expertise to be successful in the water/wastewater industry?

To be a successful wastewater treatment operator, an individual must have a keen attention to detail and be willing to work as part of a team. Teamwork is the key to efficiently operating a wastewater facility, and each operator on the team must rely on others to successfully process the water. An individual must learn to rely on all five senses to troubleshoot equipment or find ways to improve efficiency. Additionally, an individual must be creative and flexible. Solutions to wastewater treatment process problems oftentimes require operators to think "outside the box" to find solutions.

6. Do you have any advice for an individual who is considering pursuing a career in your field in the water/wastewater industry?

There will always be a need for wastewater treatment operators. The field of wastewater treatment is evolving and new technologies are being designed and implemented all over the world. My advice is to begin learning the fundamentals of wastewater treatment and reading about the historical and current impacts of wastewater treatment on public health and safety. I would also suggest beginning coursework in mathematics to help prepare for the mathematical calculations required to operate a treatment facility. Lastly, I would suggest visiting your local wastewater treatment facility and checking for internships or other programs that allow you to get a first-person perspective into the world of wastewater treatment.