Jessie Powell, E.I.T.
Associate Engineer

Education and Credentials

B.A., Environmental Engineering, Cornell University, Ithaca, New York, 2020

Engineer-in-Training, Oregon (License No. 96700EI)

Continuing Education and Training

Wilderness First Aid/CPR/AED and Use of Epinephrine Certified (2018)

EHS Online Lab Safety and Chemical Waste Disposal Training (2019)

AutoCAD Civil 3D Essentials Training (2020)

Professional Profile

Ms. Jessie Powell is an associate engineer with a focus in environmental engineering processes, remediation efforts, and water quality. She is a recent graduate from Cornell University in Ithaca, New York, with a bachelor's degree in environmental engineering, where she focused on wetland restoration, water treatment processes, and water resource management.

Relevant Experience

Water Resources

Outfall Replacement and Beaver Control Retrofit Plan, Sapsucker Woods, New York—Aided in a graduate thesis project of wetland site analysis and helped conduct a site characterization assessment, including watershed delineation, historical uses, soil characteristics, and wetland status. Researched potential solutions for ongoing beaver problems and redesign of water exit system for onsite pond. Final report and presentation included components such as water flow and buoyancy calculations, design storms and watershed analyses, cost estimate, permitting requirements, construction sequence, and construction site plans.

Assessment and Comparison of Various Infiltration Models, Ithaca, New York—Compared four soil filtration models (Philips, Horton, Kostiakov, and Green-Ampt) with experimental data of sands, clays, and vertisols, ploughed and unploughed. Calculated the relative errors of each from observed and calculated flow rates. Using Python, analyzed and determined the optimal models for water management uses.

Salinization of Charcoal for Water Filtration, Ithaca, New York—Challenged research and doomsday bloggers on low-technological charcoal activation for water treatment and air filtration using a salt solution. Compared adsorption of dye using activated carbon, charcoal soaked in sodium chloride, plain charcoal, and sand as a control. Analyzed differences in breakthrough times to determine if non-commercial carbon or charcoal was effective.

Data Analysis

Laboratory of Aquaculture, Ithaca, New York—As Lead Student Project Support Specialist for aquaponics and hydroponic research,

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led a team of undergraduate students through task delegation, weekly meetings, and laboratory testing. Analyzed lettuce growth and development from aquaponics wastewater. Assisted in biweekly harvest of various varieties of day-neutral strawberries, data entry, and analysis, and performed hands-on testing to determine levels of acidity and sugar content in produce, as well as marketable quantities. Aided in building and maintaining aquaponics and hydroponic systems in the laboratory.

Allocation Support

Portland Harbor Superfund Site, Steel Mill, Portland, Oregon—Supported senior engineers in allocation efforts for sediment remediation within the Portland Harbor Superfund site. Reviewed historical records for sources of contamination in sediments, including PCBs, PAHs, metals, and other focused contamination. Other cost allocation support included cost estimation analysis, data analysis, and research of relevant industry sectors.