

RACHEL WHITEHEART

324 W 30th St., Baltimore, MD 21211 | C: 859-608-8709 | whiteheart121@gmail.com

Summary

Ms. Whiteheart is a diligent and passionate PE-certified environmental engineer with 6+ years of experience in the design of complex projects. Ms. Whiteheart has served as a design engineer for a variety of ecological restoration and low impact design (LID) projects. She has led engineering design for integrated stormwater management facilities, stormwater drainage systems, stream restoration efforts, wetland designs, and erosion and sediment control designs. Ms. Whiteheart has been involved in many phases of the design process, including watershed-scale investigations, field reconnaissance and surveying, restoration design, permitting, and construction supervision.

Skill Areas

- Familiarity with ArcGIS, AutoCAD, Microstation, SketchUp, HEC-RAS 1-D and 2-D, SWMM, Hydraulic Toolbox, TR-20, TR-55, TVHG, Wetbud, Microsoft Suite
- Technical report writing
- Presentations and public speaking
- Computer modeling and analysis

Experience

Water Resources Engineer **April 2016 – July 2021**
BIOHABITATS, INC **Baltimore, MD**

- Developed designs for wide variety of ecologically-centered projects, including stream restorations, wetland mitigation designs, Environmental Site Design (ESD) facilities, and stormwater management ponds
- Coordinated all parts of the design and submittal process, including initial field assessments, hydrologic and hydraulic modeling, restoration design, erosion and sediment control design, permitting, and construction supervision
- Served as an elected member of Leadership Council, a group that guides financial, organizational, and other company-wide decision-making
- Received internal “Golden Acom” award in 2018 in recognition of exceptional work ethic and unrelenting passion for restoration

Civil Engineer **June 2014 – March 2016**
RJM ENGINEERING **Ellicott City, MD**

- Designed stormwater management facilities, including submerged gravel wetlands, micro-bioretentions, and stormwater ponds, and roadway drainage designs for the capture and treatment of runoff in Maryland and Virginia
- Prepared submissions involving technical reports, cost estimates, design plans and details, and compliance documents for government agencies

Research Assistant **November 2012 – May 2014**
CORNELL UNIVERSITY- ARISTILDE LABORATORY **Ithaca, NY**

- Explored interactions between soil bacteria and pesticides
- Mastered laboratory techniques and contributed data to support lab grants
- Managed fellow undergraduate researchers in maintaining lab

Student Intern **June 2012 – May 2014**
CORNELL SMALL FARMS PROGRAM **Ithaca, NY**

- Revised Cornell Small Farms Program (CSFP) educational publications, maintained website, compiled bimonthly program update, prepared for several educational farm field days
- Composed human interest pieces on small farmers in New York, three of which have been published by CSFP and two of which have been published by additional organizations

Youth Educator **June 2013 – August 2013**
GROUNDWORK SOMERVILLE **Somerville, MA**

- Directed youth team in managing several urban gardens and one urban farm, removing invasive species, and selling produce at farmers markets in under-served food deserts
- Developed and enacted lesson plan introducing students to concepts like food access, urban agriculture, and climate change

Research Assistant **June 2012 – December 2012**
CORNELL UNIVERSITY- SOIL AND WATER LABORATORY **Ithaca, NY**

- Through funding from prestigious Engineering Learning Initiative grant, quantified greenhouse gas emissions from detention basins and investigated concentrations of metal contaminants in detention basins as part of larger watershed analysis

Education

Bachelor of Science: Environmental Engineering **May 2014**
CORNELL UNIVERSITY **Ithaca, NY**
Cumulative GPA: 3.56
Dean's List: Spring 2012, Fall 2012, Spring 2013, Fall 2013, Spring 2014

Volunteer/Community Experience

- Neighborhood Design Center** *Baltimore, MD – Design Consultant Fall 2020-Present*
- Esperanza Center** *Baltimore, MD – ESOL Tutor Spring 2020-Present*
- Blue Water Baltimore and Baltimore Tree Trust** *Baltimore, MD – Regular Volunteer Fall 2014-Present*
- MVBA Trees** *Baltimore, MD – Regular Volunteer, Event Coordinator, TreeKeeper Spring 2015-Present*
- Refugee Youth Project** *Baltimore, MD – Mentor Spring 2017-Fall 2018*

Affiliations and Certifications

- Professional Engineering Certification, Maryland, May 2019
- Rosgen Level I, Wildland Hydrology, 2018
- Maryland Stream Restoration Association*, Current Member
- Society of Women Engineers*, Current Member
- American Institute of Architecture, Baltimore Chapter* CivicLAB participant, Spring 2021
- American Association of Environmental Engineers, Cornell Chapter*, Co-President (Fall 2013-Spring 2014)