Water's Edge
ECOLOGICAL ENGINEERING

JENNIFER A. BROPHY, P.E., LEED® AP

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CERTIFICATIONS:

Professional Engineer, Maine #11901
Virginia #042500
Maryland #38062
LEED® Accredited Professional
Registered Maine Guide
Wilderness First Responder

EDUCATION:

Cornell University, Ithaca, New York, 2005
Master of Engineering in Biological and Environmental Engineering
Virginia Polytechnic Institute & State University, Blacksburg, Virginia, 2001
Bachelor of Science in Civil Engineering

AFFILIATIONS AND MEMBERSHIPS:

American Society of Civil Engineers, Member
Maine Rivers, Member

CONSULTING EXPERIENCE:

President, Water's Edge Ecological Engineering, Portage, ME, 2013-Present
Associate Engineer, Wetland Studies and Solutions Inc., Gainesville, VA, 2004-2012
Civil Engineer, Shumaker Engineering, Binghamton, NY, 2002-2003

OTHER EXPERIENCE:

Engineering Instructor, Maine School of Science and Mathematics, Limestone, ME, 2012-Present

WETLAND MITIGATION AND STREAM RESTORATION EXPERIENCE:

Ms. Brophy has designed wetland mitigation projects ranging in size from 7 acres to approximately 70 acres and stream restoration projects for streams ranging in bankfull width from 5 feet to 35 feet. As part of the design process, Ms. Brophy has prepared hydrologic calculations, grading plans, planting plans, erosion and sediment control plans, and water budgets for these projects.

SUSTAINABLE STORMWATER EXPERIENCE:

Ms. Brophy has developed concept and final plans for sustainable stormwater techniques ranging from residential rain gardens to community master plans; she has also performed project management and design as part of a team implementing sustainable stormwater throughout the District of Columbia as part of the District of Columbia Water and Sewer Authority's Long-Term Control Plan.

CONSTRUCTION INSPECTION AND FIELD TESTING EXPERIENCE:

Ms. Brophy has performed construction inspection, Stormwater Pollution Prevention Plan (SWPPP) preparation, subsoil and topsoil testing, and erosion and sediment control inspection for wetland mitigation projects and sustainable stormwater projects. She has also has performed feasibility and diagnostic testing including in-situ infiltration testing and soil media filtration rate testing.

COMPUTER EXPERIENCE:

Ms. Brophy is adept with Autodesk CAD products, Adobe Photoshop, Microsoft Office products, and website design including HTML, CSS, and Wordpress products. She also has extensive experience with Bentley Microstation, Flowmaster, Culvert Master, TR-55, HEC-RAS, and database management.

CONTINUING EDUCATION:

Low Impact Development Application for Water Resource Management, 2012
Chesapeake Bay Total Maximum Daily Load and Virginia's Watershed Implementation Plan, 2012
Retrofit This: A Guide to Retrofitting the World, Center for Watershed Protection, 2012
Stormwater Management Regulation in Virginia, 2012
Land Development and the New World of Wetland and Stream Permitting, 2011
Design, Installation, and Maintenance of Constructed Wetlands and Regenerative Stormwater Conveyance Systems, Center for Watershed Prtection, 2011
Designing the Next Generation Stormwater Controls, Chesapeake Stormwater Training Partnership, 2010
Rainwater Harvesting and Water Efficient Landscaping, Virginia Cooperative Extension, 2010
Fundamentals of Sustainable Engineering, ASCE, 2010
Rain Water Harvesting, Lorman Education Services, 2010
Stormwater Management for TMDLs, Lorman Education Services, 2010
Stormwater Quality Treatment Design Guidelines Seminar, Glen Payton/Filterra Bioretention Sytems, 2009
WSSI StreamDesigner v2.0 Intermediate Training Course, Graphics Solution Providers, 2009
AutoCAD Civil 3D Essentials Training Course, Graphics Solution Providers, 2008
Advanced HEC-RAS Short Course, Arthur C. Miller, Ph.D., P.E., 2008
Basic Confined Space Training, Steve Hollinger/Construction Options, Inc., 2008
HEC-HMS Short Course, Arthur C. Miller, Ph.D., P.E., 2008
HEC-RAS Short Course, Arthur C. Miller, Ph.D., P.E., 2008
Advanced Techniques in AutoCAD Civil 3D, Graphics Solution Providers , 2006
Designing Bio-Infiltration BMPs for Stormwater Quality, University of Wisconsin- Madison, 2006
River Restoration and Natural Channel Design (Level IV), Dave Rosgen/Wildland Hydrology, 2005
River Assessment and Monitoring (Level III), Dave Rosgen/Wildland Hydrology, 2005
River Morphology & Application (Level II), Dave Rosgen/Wildland Hydrology, 2005
Applied Fluvial Geomorphology (Level I), Dave Rosgen/Wildland Hydrology, 2004

SPEAKING ENGAGEMENTS:

Engineering Exploration, full-year class for 10-12th grade at the Maine School of Science and Mathematics. 2012-2014. Limestone, ME.
Technical Performance of an Integrated LID Site, presented at the Philadelphia Low Impact Development Symposium. September 25, 2011. Philadelphia, PA.
The Virginia Watershed Implementation Plan and Stormwater Management Regulations, presented at the NAIOP Chapter Leadership and Legislative Retreat. February 8, 2011. Washington, D.C.
Chesapeake Bay TMDL and Virginia Stormwater Regulations, presented as part of the Engineers and Surveyors Institute continuing education series. March 2, 2011. Chantilly, VA.
Sustainable Stormwater Regulation and Implementation, presented as part of the Engineers and Surveyors Institute continuing education series. May 27, 2010. Gainesville, VA.
Green Stormwater Practices, presented at Half Moon Seminars' Stormwater Management Seminar #10030. January 28, 2010. Fairfax, VA.
Low Impact Development at Wetland Studies and Solutions, Inc., presented to:
The MAC-ISA Annual Meeting. October 2, 2007. Hagerstown, MD.
The Soil and Water Conservation Society Spring Meeting. June 25, 2007. Short Pump, VA.
The 2nd National Low Impact Development Conference. March 15, 2007. Wilmington, NC.
Leadership in Energy and Environmental Design at Wetland Studies and Solutions, Inc., presented to:
The American Institute of Architects National Convention. May 4, 2007. San Antonio, TX.

SELECTED PUBLICATIONS:

"Treating Urban Stream Syndrome: The Relationship Between Population Density and Impervious Surfaces." Article in Land Development, National Association of Home Builders, Spring 2012.

"Stormwater Regulation Effects on the Building Industry." Article in Commonwealth Contractor, Associated Builders and Contractors- Virginia Chapter, March 2010.

"Low Impact Developemt: A Case Study on Protecting Urban Streams." Article in Land Development, National Association of Home Builders, Fall 2007.

"An Analysis of Impervious Area vs. Population Growth in the Chesapeake Bay Watershed Between 1990 and 2000." Report from Wetland Studies and Solutions, Inc., 2010.

"Fall Foliage: The Science Behind the Phenomenon." Article in Our Maine Street Magazine, Fall 2012

"Spring on the Lake: What Drives Lake Turnover?" Article in Our Maine Street Magazine, Spring 2013

REGULATORY PROCESS EXPERIENCE:

Fairfax County LID Stakeholders Committee meetings, 2005

Northern Virginia Regional Commission LID Technical Advisory Committee, 2006/2007

Virginia Chesapeake Bay Total Maximum Daily Load Stormwater Advisory Group meetings, 2010/2011

Virginia Stormwater Regulatory Advisory Panel meetings, 2010/2011

SELECTED WEBSITE DESIGNS:

www.redrivercamps.com: Design, text, HTML, CSS, and photography.

reston.wetlandstudies.com: Design, text, HTML, and CSS.

www.mainesportingcamps.org: Design, text, HTML, CSS, Wordpress, and some photography.

www.lumbermensmuseum.org: Design, text, HTML, CSS, and Wordpress.