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| AREAS OF EXPERTISE  *Biomimicry in engineered designs*  *Sustainability planning and implementation*  *System design*  *Water and wastewater treatment design and operation*  *Government regulations and policy*  *Hazardous material replacement, handling and disposal*  *Solid waste management and elimination*  *Health and safety compliance*  *Project Management*  *Site inspections*  *Group facilitation and education*  PERSONAL SKILLS  *Innovative*  *Disciplined*  *Persistent*  *Self-motivated*  *Interpersonal sensitivity*  *Persuasiveness*  *Awareness of ethical issues*  *Practical, methodical, and accurate*  *Able to make good judgments*  *Creativity*  *Life-long learner*  PERSONAL DETAILS  Marie Zanowick Bourgeois  Helena, MT  [marie.zanowick@pro.biomimicry.net](mailto:marie.zanowick@pro.biomimicry.net)  Phone: 303-815-3004 | **Marie Zanowick Bourgeois**  Civil Engineer  PERSONAL SUMMARY  A creative civil engineer with 34 years of experience working for the U.S. Environmental Protection Agency in the areas of water and wastewater systems, site remediation, pollution prevention, sustainability and biomimicry. A graduate of the Biomimicry 2010 Masters Degree Program, Marie combines her educational background in Biology, Public Health, Civil Engineering, and the Biomimicry Professional Certification Program with her regulatory experience and facilitation skills to produce innovative solutions to a wide range of challenges. Marie uses biomimicry as the method of choice in solving environmental challenges.  CAREER HISTORY  CIVIL ENGINEER U.S. Environmental Protection Agency  1990 to 2015.  Pollution Prevention, Sustainability and Biomimicry Expert, developing and implementing sustainability plans and programs.  Duties:   * Provide technical P2, regulatory compliance, sustainability and biomimicry assistance to EPA, Federal, State and local governments and industry. * Develop and conduct biomimicry workshop to identify innovative solutions to advance sustainability. * Identify Federal and State regulations, executive orders and policies affecting federal agencies and work with facility engineers to develop methods to assure compliance and stewardship. * Develop and present courses on biomimicry, sustainability, systems approach, hazardous communication, pollution prevention, regulatory compliance, to government employees. * Develop and present information on environmental issues. * Serve as an international expert in compliance, pollution prevention and sustainability in support of EPA’s international activities to developing countries. * Serve as a member of Office of Research and Development Team for the project “San Luis Basin Sustainability Metrics Project: A Methodology for Evaluating Regional Sustainability.” * Serve as a member of the Forest Service Western Collective Board of Directors and provide technical information to Regional Foresters on environmental issues. * Establish and manage the EPA R8’s Hazardous Waste Minimization Program. Develop and implement a long-term program strategy and work plan for reductions in persistent, bioaccumulative and toxic chemicals. * Remedial Project Manager for a $40 million clean-up of a Superfund National Priority List site. * Serve as the EPA R8 Engineering Forum representative. Identify regional technology needs and locate expert assistance from Federal Agencies. Work with the EPA Office of Research and Development to secure assistance for use of innovative clean-up technology at the CERCLA Site.   ENGINEERING INSTRUCTOR Arizona State University and the Biomimicry Group 3.8 2012 – present  Develop and present on-line masters degree level classes for biomimicry students and conduct filed studies in biomimicry.  Duties:   * Develop course material and present using on-line platform * Serve as mentor to multi-discipline group of students * Provide in-person instruction directed to apply this knowledge in selected ecosystem.   CIVIL ENGINEER, South Carolina Department of Health and Environmental Protection,6/84 - 12/87  Review and approve design and construction of industrial waste water treatment plants.  Duties:   * Implement the CWA National Pollutant Discharge and Elimination System Program for regulating industrial facilities. Work with staff scientist to determine nutrient-related effects on the aquatic environment and use this information to develop discharge requirements. * Determine best available technology to remove contaminants and nutrients in wastewater. * Communicate best practices through published reports and presentation on complex and innovative projects to industry and the public. * Provide training to facilities on permit requirements and serve as mentor to new employees. * Conduct case development for enforcement action directed at non compliance activities. * Provide technical support for enforcement actions and provide oversight of compliance with settlement agreements. * Develop and implement South Carolina’s Land Application of Sludge Program which included writing the guidance document, developing chemical loading models for sludge application and development of a public acceptance of the Program.     ELECTED OFFICIAL: PineBrook Water District Board of  Directors, Boulder, CO. (1992 to 2013).  Duties:   * Oversee the upgrade of the water filtration system from sand filters to membrane filtration units. * Provide technical support for design and construction of a $5.5 million roller compacted concrete dam for a raw water storage reservoir and a $750,000 water plant upgrade using innovative technologies. * Hands-on experience in applying federal and state drinking water standards to a small community system.   KEY SKILLS AND COMPETENCIES  ***Civil engineering attributes***   * Knowledge of environmental regulations and their application to water and wastewater systems, hazardous materials, health and safety, cleanup and disposal. * Knowledge of contract technical specifications and their implementation. * Promoting the highest level of safety and safe chemical use on site. * Superb critical thinking skills and the ability to evaluate designs, plans and projects. * Knowledge of water and wastewater treatment systems design and operation.   ***Professional Attributes***   * Ability to develop, implement and support innovative solutions. * Able to supervise the work of others and to mentor less experienced staff. * Writing accurate technical reports and presenting findings to the public. * Capable of defining and leading assignments. * Experienced in supporting procurement and bureaucratic procedures   ***Personal Attributes***   * Good communication, planning and organizational skills. * Self motivated and ability to motivate others. * Keeping up to date with new innovations in engineering. * Ability to work on own initiative as well as being a team player.   ***Academic Qualifications***  Certified Biomimicry Professional Class of 2010  Biomimicry 3.8, Helena, MT  MS in Biomimicry, Arizona State University - pending  USDA Graduate School Executive Leadership Program  Class of 2001  M.S. Environmental Engineering from the Civil Engineering Department; Virginia Polytechncial Institute, 1983  B.S. Biology and Public Health (duel degree); University of Colorado, 1981  ***References:*** available upon request |