Marie A. Forney, EIT

Environmental Engineer

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Area of Specialization

- Environmental remediation
- Ecological restoration
- Stream restoration
- Erosion and sediment (E&S) control design, permitting, and compliance
- Environmental monitoring, including soil, groundwater, and surface water sampling
- Passive treatment systems
- Wastewater treatment
- Environmental sustainability analysis
- AutoCAD Civil 3D

Overview of Experience

- **Utility Construction Stormwater Permitting and Design (PA) –** Prepared erosion and sedimentation control (E&S) and NPDES (PA Chapter 102) permit applications for electric, oil, and gas utilities, as well as land development and ecological restoration projects, including associated permit applications, reports, stormwater designs, and AutoCAD Civil 3D drawings. All E&S BMPs were designed in accordance with the PADEP Erosion and Sediment Pollution Control Program Manual. Also prepared associated PennDOT permits (Minimum Use Driveway, Temporary Driveway, and Highway Occupancy) for utility construction and maintenance projects

- **Preliminary Project Impact Assessment (PA) –** Utilized state GIS databases to identify the presence of and possible impacts to environmental features surrounding project areas, including streams, stream quality and classification, wetlands, protected lands, and sensitive species. Assessments also included drainage area analysis, and determination of state and local road, railroad, and other rights-of-way. Data from these assessments was used to determine the permitting requirements for utility development projects.

- **Stormwater Compliance Inspection (PA) –** Inspected installed post-construction stormwater management (PCSM) BMPs at electrical substations to maintain permit compliance. Recommended and designed repairs of damaged BMPs as needed. Also inspected E&S BMPs at ongoing utility installation sites for adherence to permit requirements, and for opportunities for permit closeout.

Education

M.S., Ecological Engineering
State University of New York College of Environmental Science and Forestry (SUNY-ESF), 2016

B.S., Environmental Engineering
Saint Francis University, 2013

Certifications

Certified Pennsylvania Engineer in Training (ET028340)

OSHA HAZWOPER 40-Hour Certified & 8 Hour Refresher

Affiliations

American Ecological Engineering Society (AEES)

Society of Women Environmental Professionals (SWEP)

Overview of Project Experience (continued)

- **Water Quality Monitoring (PA & NJ) –** Managed subcontractor and volunteer sample collection, data analysis, reporting, and client contact for several stream and lake monitoring projects supervised by nonprofit organizations. Also regularly performed water sampling, data analysis, and data reporting for a watercourse within a Superfund site to determine levels of arsenic, lead, SVOCs, and VOCs; this included the installation of several Teledyne ISCO auto-samplers and flow meters throughout the watershed.

- **Urban Lake Restoration (NJ) –** Performed sediment sampling and bathymetric surveying in preparation of improvements to an urban lake in New Jersey. Utilized data from these preliminary investigations to determine NJDEP Flood Hazard Permit requirements and improvement design criteria. Designed the future conditions in AutoCAD Civil 3D for the dredging of the lake.

- **Streambank Stabilization Permitting and Design (PA) –** Designed and completed waterway impact (PA Chapter 105) permits for an eroding streambank, and subsequent utility relocation within the floodway. Utilized AutoCAD Civil 3D to regrade and tie in the bank, perform cut/fill analysis, and design plan and profile schematics for the associated permitting.

- **Vegetation Management and Restoration (PA) –** Designed and monitored a pilot test for utility right-of-way pollinator-friendly seed mixes. Managed the planting and herbicide treatment of multiple commercially-prepared seed mixes, and monitored the growth, resistance to disturbance, and pervasiveness of invasive species. Also assisted with coordination of a client's community outreach program involving native tree distribution to local nonprofit organizations and schools. Designed educational material to accompany the distribution.

- **Ecological Restoration Analysis (NY) –** Designed and conducted an experiment investigating the mycorrhizal fungal colonization of a shrub willow evapotranspiration cover over saline-alkaline chemical waste settling basins. The research involved environmental sampling, microscopic analysis, and molecular biology techniques to determine the percent colonization and taxonomic preferences of the constructed ecosystem restoration.

- **Passive Treatment of Extreme Abandoned Mine Drainage (Bolivia)** – Monitored the pre- and post-construction conditions of multiple sites in the Bolivian highlands that are impacted by extreme abandoned mine drainage. Monitoring included the collection of surface water samples, and data collection with water quality probes. Passive treatment included the installation of limestone-lined swales to reduce pH.