



PROFESSIONAL PROFILE



Meredith Harris, PE, LSRP

Principal Engineer

EXPERIENCE SUMMARY

Over twenty-five years' experience: Principal Engineer, Senior Engineer, Project Engineer, and Staff Engineer with Roux; Field Engineer with Geotech, Inc.

TECHNICAL SPECIALTIES

Design, permitting, and construction expertise for civil/environmental remediation projects, Brownfields redevelopment, wetlands mitigation, ecological risk assessment, Engineered Natural Systems, stormwater, and wastewater management systems.

REPRESENTATIVE PROJECTS

Stormwater Design and Engineered Natural Systems

- Stormwater and process water investigation and design for active secondary metals refining facility in Pennsylvania. Activities include investigation of existing, aging sewer system to determine flows and outlets, feasibility study to evaluate cost-effective stormwater and process water remedies and BMPs and prepare document to satisfy obligation under a USEPA Consent Decree.
- Stormwater permitting, Stormwater Pollution Prevention Plan and Spill Prevention, Control and Countermeasures Plan and for heavy marine construction and dredging company in southern New Jersey. Included stormwater flow analysis, inspection of site operations and recommendations for upgrades/procedures for stormwater and hazardous material management.
- Stormwater flow analysis, runoff modeling and best management practice design for petroleum refinery in Pennsylvania. Activities performed to determine causes of NPDES surface water discharge permit excursions. Identified most appropriate stormwater management practices, presented to client and prepared stormwater management plan for submission to PADEP.
- Assist Delaware steel mill facility with development of a flooding emergency response and preparedness procedures and recommended facility upgrades. Report prepared for submission to facility's insurance carrier.
- Prepare SPCC plans for multiple transportation/packaging facilities along the east coast.
- Design, construction management and O&M support for constructed treatment wetlands system at a manufacturing facility to treat facility stormwater runoff and non-contact cooling water with high zinc concentrations. The constructed treatment wetlands system design was retrofitted into existing lagoons for cost savings.
- O&M, performance tracking and repair/upgrade design for a 100,000 gpd constructed wetland that treats zinc-impacted leachate. The constructed wetland system has been operating since 2000 and was hit by several named hurricanes. In order to repair hurricane damage and increase the treatment capacity of the constructed wetland, major repairs and upgrades were performed including enhanced collection and distribution systems, replenished treatment media, and repairs to hydraulic control structures.
- Design, PADEP Water Quality Management Part II permitting and construction support for sanitary wastewater constructed treatment wetland system at a large research/development and office facility in western Pennsylvania. The constructed wetland system was installed to replace an aging traditional sanitary WWTP that was failing.

CONTACT INFORMATION

Main: (856) 423-8800
Direct: (856) 832-3750
Email: mharris@rouxinc.com
Website: www.rouxinc.com

402 Heron Drive
Logan Township, NJ 08085

EDUCATION

BS, Civil and Environmental
Engineering, Villanova
University, 1995

PROFESSIONAL LICENSES

Licensed Professional Engineer
in New Jersey, Alabama,
Florida, Maryland,
Pennsylvania, Tennessee,
West Virginia
Licensed Site Remediation
Professional in New Jersey

- Design, construction, permitting, O&M, and performance tracking for 15-acre alternative landfill cover system that included phytotechnology plantings to manage stormwater infiltration. The phyto alternative cover saved millions of dollars when compared to a traditional RCRA landfill cap.
- Engineering design to integrate innovative stormwater management techniques into site design for an aluminum smelter located in Iceland. Stormwater management techniques include engineered soil profiles, constructed wetlands and retention ponds to retain and treat industrial stormwater runoff.
- Conceptual design and evaluation to retrofit innovative stormwater management techniques at commercial sites in Philadelphia. The evaluations were performed in order to reduce the monthly stormwater surcharge fees which were as high as \$10,000/month at some sites. Stormwater best management practices included green roof, vegetated filter strips, constructed wetlands, extended detention ponds and rain harvesting.
- Conceptual design and evaluation to retrofit innovative stormwater management techniques at a 250-acre site with 24 outfall locations. Candidate technologies included constructed wetlands, phytotechnology, vegetated filter strips, biofilters, engineered soil profiles, porous pavement, green roofs, and structural modifications.
- Design, construction management, O&M, and performance tracking for 20-acre alternative cover system for a CERCLA site in southern New Jersey. Alternative cover system includes 15,000 phytotechnology plantings (hybrid poplars) and engineered soil profile to manage the site water budget and minimize stormwater infiltration.
- Site characterization, engineering design and pilot study for the use of innovative technologies to manage stormwater runoff and leachate from two landfills at a former manufacturing facility in Tennessee.
- Prepared/implemented a rooting test greenhouse study to evaluate the viability of several species under various soil and irrigation conditions for phytotechnology applications at a site in South Carolina. The objective of the irrigation was to consumptively utilize impacted stormwater and wastewater discharges.
- Prepared/implemented a greenhouse rooting test and toxicity study to evaluate several species under various soil and irrigation conditions at a site in Michigan. The objective of the irrigation was to consumptively utilize impacted stormwater discharges and recirculate/consumptively use impacted groundwater.
- Design, permitting and development of a stormwater management plan for recreation complex in Oxford Alabama. Remedy for site included capping with tennis courts and athletic fields to mitigate PCB-impacted soils.
- Design and construction activities for pilot scale constructed wetlands to treat landfill leachate for aluminum manufacturing company. This innovative technology utilized cattails, phragmites and selected media to treat leachate containing cyanide and fluoride. The design includes four double contained lagoons with selected wetlands vegetation.
- Prepared stormwater model for non-delineated waterway in northern New Jersey. Necessary to obtain Phase II Stream Encroachment Permit for construction activities relating to pumping station modifications.

Brownfields Redevelopment

- Engineering and ecological risk support for large Brownfields redevelopment over a solid waste landfill in northern New Jersey. Support includes solid waste permitting and ecological sampling plan design.
- Engineering and construction support for \$5MM dredge spoils remediation/capping project at one of the largest Brownfields redevelopment sites in New Jersey. Activities included preparation of detailed bid specification package, solicitation of contractor bids, construction engineering support, QA/QC, and post-construction reporting. The parcel is currently slated for donation to the county as green space.
- Engineering and construction support for \$30MM remediation project at one of the largest Brownfields redevelopment sites in New Jersey. The remediation includes a combination of excavation/disposal, soil blending and capping for soils and sediment impacted by naturally occurring radioactive materials (NORMs), PCBs and metals.
- LSRP of record for former agricultural distribution property under contract for residential redevelopment. Work with property owner and NJDEP to resolve NOV and historic UST cases to enable sale and redevelopment of property.
- Prepare Environmental Impact Statements for multiple redevelopment projects throughout New Jersey including industrial, commercial, and residential projects.
- Prepared Phase 1 Environmental Site Assessment for 2,200-acre former aluminum smelting and rolling facility in West Virginia to prepare the Site for sale and redevelopment. The Site operations dated back to the 1950s. Performed detailed Site inspection and evaluation of thousands of pages of environmental records and multiple releases and industrial operations.

- Investigation, remediation and permitting for former commercial and retail petroleum facility in Wildwood, NJ to be redeveloped for residential units. Project includes multiple areas of concern as well as an on-site landfill.
- Design, permitting and support for redevelopment of a closed landfill for warehousing in Woodbridge, New Jersey. Project includes design evaluation to ensure the cover system remains protective after redevelopment, solid waste permitting, and wetlands evaluation and permitting.
- Perform Phase I Environmental Site Assessments throughout New Jersey and Pennsylvania to support residential, commercial, and industrial redevelopment projects.

Site Remediation and Landfill Closure

- LSRP of record for remediation of former building materials research and development facility in Somerset County, New Jersey. Project includes sediment remediation, excavation, and various types of caps within an historic district and flood zone.
- Design, permitting, construction management and O&M for landfill closure at New York State Superfund Site involving large-scale waste consolidation, capping, wastewater ponds and sediment removal and wetlands mitigation.
- Remedial design for capping/lining 2 miles of PCB-impacted ditch sediments within a railroad right-of-way to comply with USEPA consent order. Design included selective excavation, regrading and shaping, lining with geosynthetic material and shotcrete.
- Design, permitting and construction management for sediment and soil removal and cap installation at a highly publicized coal tar site in northern New Jersey under Site Remediation Program.
- Engineering support for construction of a containment unit for PCB-impacted soils located adjacent to a creek and within the 100-year floodplain in Alabama. The cover system included vegetated topsoil, low-permeability soil, impermeable geomembrane, geosynthetic drainage layer and rip rap armor to protect against erosion during flood events.
- Engineering and technical support for Settling defendants for 200-acre Superfund site in Rhode Island. The Site includes two landfills, an island, various debris fields, old industrial buildings, and contaminated sediments within a National Park. Provide support to Settlement Defendants to evaluate creative and efficient approaches to site assessment and investigation, waste consolidation, sediment removal, landfill capping and O&M, and restoration of the landscape.
- Investigation and engineering design for landfill closure in northern New Jersey under Solid Waste Program. Numerous site permits were obtained including landfill disruption, wetlands, soil erosion, stormwater discharge and landfill closure approval.
- Design, permitting and construction management activities for sediment and soil capping and excavation at a manufacturing site under the New Jersey ISRA and Solid Waste programs. Developed Remedial Action Workplan which included landfill closure, "hotspot" excavation, installation of asphalt and soil caps, and bank stabilization.
- Engineering design, permitting and construction support for remediation of asphaltic product at an active manufacturing facility in central New Jersey under Site Remediation Program.
- Engineering and construction support for fast-paced remediation of PCB-impacted soils within the right-of-way of an interstate. Remedial activities were required to ensure clean working surfaces for contractors performing highway bridge expansion and lane expansion activities.
- Engineering, permitting and ecological risk support to attain remedial closure for a site in northern New Jersey. The Site contains extensive waste lagoons and fill areas. Support includes remedial investigation, engineering design for waste consolidation and capping systems, extensive wetlands permitting and ecological risk assessment.

Wetlands and Ecological Permitting, Restoration and Risk Assessment

- Tidelands support for a major retail center located in Port Authority NY-NJ. Prepared grant applications for filled tidelands on several lots. Supported counsel with title insurance claims for tidelands missed during property acquisition.
- Wetland and Coastal Zone Management permitting (including flood hazard area compliance) for large multi-phase rail expansion project at South Jersey petroleum terminal both with NJDEP Division of Land Use Regulation and U.S. Army Corps of Engineers.
- Prepared Freshwater Wetlands and Waterfront Development permits for remedial activities at a manufacturing facility in Morris County, New Jersey. Permits included mitigation plans for streambank restoration and in-place restoration of remediated wetlands as well as purchase of off-site mitigation bank credits.
- Coastal Zone Management general/nationwide permitting (including flood hazard area compliance) for bank stabilization project adjacent to a landfill along the Delaware River with NJDEP Division of Land Use Regulation and U.S. Army Corps of Engineers.
- Ecological Risk Assessment support for one of largest Brownfields redevelopment sites in NJ. Included

sediment/surface water sampling, fish tissue sampling, and development of the Tier II Ecological Risk Assessment (ERA).

- Delineated wetlands and obtained a Jurisdictional Determination for a vacant property in Texas along the Houston Bay in preparation for a property transaction. Worked with local USACE representatives and the regional manual to obtain the determination.
- Obtain Letters of Interpretation (LOI) pursuant to NJDEP's Freshwater Wetlands Protection Act rules throughout the State of New Jersey to facilitate property redevelopment and transactions.
- Ecological Risk Assessment large former industrial site in northern NJ. Included habitat assessment, surface water/sediment sampling program, exposure estimates and SLERA preparation.
- Ecological Risk Assessment for former industrial site in Pennsylvania. Included habitat assessment, surface water/sediment sampling program, exposure estimates and ERA report preparation.
- Ecological Risk Assessment for former industrial site in NJ. Included habitat assessment, surface water/sediment sampling program, bioavailability calculations, statistical analyses, exposure estimates and ERA report preparation.
- Delineation of wetlands and preparation of wetlands permits for multiple petroleum pipeline projects in order to perform pipeline maintenance/anode bed replacements.
- Assist petroleum pipeline with identification of land-use regulated areas for over 1,000 miles of pipeline in New Jersey. Created GIS-based maps that identify threatened/endangered species habitat, wetlands, floodplains, and coastal-regulated areas. These maps are used to determine regulatory requirements prior to performing maintenance activities such as right-of-way vegetation clearing and pipe inspection gage (PIG) excavations.
- Research viability of commercial wetlands mitigation bank in Virginia. Obtained information from United States Army Corps of Engineers, Virginia Department of Environmental Quality, other local mitigation banks, local environmental preservation groups and local planning boards regarding mitigation bank demand, market value, regulatory requirements, and future demand.
- Wetlands mitigation evaluation and regulatory negotiation for slope failure that resulted in wetlands fill at a site in West Virginia working with USACE Pittsburgh District and WVDNR. Evaluated several on-site and off-site wetlands mitigation options to determine the most cost-effective remedy.
- Negotiated favorable settlement with regulators and developed final mitigation plan for the site with violations or fines levied.
- Regulatory negotiations, delineation, and restoration work to resolve wetlands violation in central Pennsylvania. Work required "after-the-fact" delineation of wetlands that had been filled. Roux was able to re-establish the wetland boundary, develop a restoration plan and mitigate the wetland fill with no NOV from USACE.
- Secure tidelands license for closed manufacturing facility in Central Jersey to support property transfer. Project included coordination of survey, property deed research, coordination with NJDEP Bureau of Tidelands and tidelands license application.
- Preparation of Coastal Zone Management and Stream Encroachment permit applications for dock repair project along the Hackensack River in New Jersey. Applications included evaluations of tidelands claims status and impacts to wildlife; vegetation habitats; historic/archeologic resources; and navigation.
- Provide technical support for establishment of phytotechnology plot within the Pinelands to support a Superfund groundwater remedy. Technical support required to demonstrate that phytotechnology species would not displace or harm native vegetation or alter hydrology within Pinelands area.
- Prepared United States Army Corps of Engineers Nationwide Permit #38 for remedial activities within wetlands at a landfill site in Syracuse, New York. NWP #38 included negotiations with several state and federal agencies and a mitigation plan for in-place restoration of wetlands. Performed construction oversight to ensure that construction activities were performed in accordance with NWP #38.
- Prepared Coastal General permit and Freshwater Wetlands permit, including mitigation plan, for remedial activities at a former manufacturing site in Cape May County New Jersey. Permit application included a mitigation plan for in-place restoration of wetlands and evaluation of tidelands claims status.
- Wetlands permitting and invasive species analysis for a former railyard in NJ. The property formerly operated as a vermiculite manufacturing facility. Activities were part of a CERCLA removal action and included freshwater wetlands and site invasive species analysis, wetlands permitting analysis, preparation of NJDEP Wetlands Permit Equivalency and development of a wetlands mitigation and invasive species control plan.
- Wetlands permitting for a 37-acre former industrial facility and landfill property located in Middlesex County, NJ. Activities

included wetlands analysis, preparation of NJDEP Freshwater Wetlands Letter of Interpretation and General Permit, preparation of NJDEP Coastal General Permit and evaluation of NJDEP tidelands permit requirements.

- NJDEP permitting for a former electroplating facility that also manufactured cables for the aerospace industry. Activities included wetland assessment and preparation of Freshwater Wetlands General Permit, Stream Encroachment Permit, wetlands mitigation plan and NJ Highlands permitting.
- Permit evaluation for an inactive facility in Bergen County, NJ that manufactured specialty gases in NJ Meadowlands including Meadowlands Commission, NJDEP DLUR, USACE local building and demolition permit requirements and communication with local construction official and fire marshal.
- Wetlands permitting for remediation of a former orchard at a site in northern New Jersey including a mitigation plan for the wooded wetland area. Performed mitigation performance monitoring and negotiated with state to reduce wetlands monitoring period from five years to one year.
- Wetland delineation and procurement of a freshwater wetland General Permit No. 1 for repairs and enhancements to landfill cap in Camden County, New Jersey.
- Wetlands permitting for activities at a former industrial landfill in northern New Jersey. Permits were obtained for investigative activities and final landfill closure construction. Permit included mitigation for wooded wetland areas.
- Wetlands delineation and procurement of a freshwater wetlands General Permit No. 4 for remediation of an active porcelain manufacturing facility in Central Jersey. Project included on-site mitigation design and monitoring.
- Obtain coastal permit and evaluate tidelands claim status for large scale excavation/remediation adjacent to Barnegat Bay.
- Assist client with addressing a fish kill in a stormwater pond on a corporate campus. Activities included water quality monitoring and design of mitigation measures.
- Prepared Phase 1 Environmental Site Assessments for solar installations at seven Delaware River Port Authority facilities. Advise client on sampling, waste management, health & safety and intrusive work monitoring during solar panel installation.
- Prepared Phase 1 Environmental Site Assessments for solar installations at four Washington Metropolitan Area Transit Authority facilities. Advise client on sampling, waste management, health & safety and intrusive work monitoring during solar panel installation.
- Support for installation of solar panels at a former contaminated industrial Site. Prepared intrusive workplans, assisted with construction planning, performed inspections, prepared letter-reports for lender, and provided documentation that contaminated soils and engineering controls were properly managed.
- Support for development of solar project on a municipal landfill in southern New Jersey including solid waste permitting, Subsection t application, O&M plan preparation, Phase 1 Environmental Site Assessment for financing, evaluation of Site remediation needs and coordination with township officials, municipal and design engineers.
- Support for development of solar project on a former sand mine in southern NJ including review of community solar application support, historical documents, determine site remediation status, evaluate Pinelands requirements and coordination with township officials and municipal and design engineers.
- Support for development of solar projects in a dredge fill area and municipal landfill in southern NJ including development of remediation strategy, solid waste permitting and coordination with township officials and municipal and design engineers.

Renewable Energy Support Projects

- Support for redevelopment of a former contaminated industrial site for a solar field. Project included Phase 1 Environmental Site Assessment, wetlands and coastal zone permitting, design support to assist client with minimizing impacts to T&E species habitat. LSRP of record for ongoing environmental O&M activities and reporting.
- Support for feasibility of solar field construction on a closed industrial landfill in northern New Jersey. Evaluation included slope stability, usable space analysis, wetlands constraints and soil/waste management.

REPRESENTATIVE EXPERT RETENTIONS/APPEARANCES

East Cape May Associates v. State of NJ DEP; Civil Action Docket No. CPM L 1217-02, Superior Court of New Jersey, Appellate Division. Deposition March 12, 2019. Expert Report August 19, 2015.

High-profile regulatory takings case involving irreversible losses associated with flooding, wetland fill, habitat destruction, impacts to threatened/endangered species, migratory birds, saltwater intrusion, nonpoint source pollution, and ecological mitigation.

Tracy Tomlinson v. James Hands et al; Civil Action Docket No. CUM-L-800-14, Superior Court of New Jersey, Cumberland County Law Division. Expert Report October 27, 2016.

Assess water damage claims allegedly caused by multiple failing septic systems.



County of Bergen, Alexander Dingertopadre t/a View Auto Body, Persistent Construction, Inc, and John Doe 1-10, Civil Docket No. BER-L-002606-19, Superior Court of New Jersey, Bergen County Law Division. Retained as expert to assess flood damages allegedly caused by a faulty storm sewer repair.

Oras Bais Yaakov High School v. Jackson Township; Jackson Township Zoning Board of Adjustment Resolution #2014-35 and Agudath Israel of America v. Township of Jackson, New Jersey; Civil Action Docket No. 3:17-cv-03226. U.S. District Court, District of New Jersey. Retained as expert to assess appropriateness of septic and drinking water well design used as partial basis for denial of zoning board application for an all-girls Orthodox Jewish high school. As an extension of this case, the U.S. Department of Justice filed a complaint against the Township of Jackson for religious discrimination, United States of America v. Township of Jackson and Jackson Township Planning Board, Civil Case No. 3:20-cv-06109.

Valley Chabad, Inc. and Rabbi Dov Drizin v. Borough of Woodcliff Lake, N.J. and Zoning Board of Adjustment of the Borough of Woodcliff Lake, N.J., Carlos Rendo, individually and in his capacity as the Mayor of Borough of Woodcliff Lake, and Paul Bechtel, in his official capacity as Property Maintenance Officer of the Borough of Woodcliff Lake; Civil Action Docket No. 2:16-cv-08087-JLL-JAD. Retained as expert to assess appropriateness of stormwater design used as partial basis for denial of zoning board application for a Jewish Chabad.

Shoaf v. DEP, No. ELU 01313-2012 S; Appeal, Adjudicatory Hearing and Settlement Negotiations with NJ DEP and NJ Office of Administrative Law. Settlement Submission November 20, 2012. Provided settlement support for coastal wetlands violation in southern New Jersey.

Provided litigation support for cost allocation for landfill closure, remediation, and O&M at a contaminated industrial site in western Pennsylvania.

PROFESSIONAL TRAININGS

OSHA 40-Hour Health and Safety Training

Completed Wetland Delineation in New Jersey Continuing Professional Education Program

PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers

New Jersey Builders Association – Shore Builders

NJBA Shore Builders Environmental Committee

PRESENTATIONS

Conceptual Site Models in New Jersey, July 23, 2020, Licensed Site Remediation Professionals Association (LSRPA)

Impact to Groundwater: Default Criteria and Alternative (Site-Specific) Remediation Standard Development, January 24, 2018, New Jersey Site Remediation Conference

NJDEP Training: Impact to Ground Water Pathway, July 2014

The ABCs of ISRA, LSRPs and the NJDEP, The 2013 New Jersey Environmental Seminar, March 2013

Sayreville, NJ Site Redevelopment: A Unique and Challenging Brownfields Project, Business of Brownfields Conference, April 20, 2010

Practical Application of the NJ Soil Cleanup Standards (SESOL Modeling for Development of Site Specific Impact to Ground Water Standards for Soil), June 3, 2009, sponsored by the NJWEA

2002 National Brownfields Conference Poster Presentation – *Schuylkill Waterfront Redevelopment – A Success Story*

PUBLICATIONS

Article for NJ Builders Association spring 2019 Dimensions publication, *The Emerging Contaminant Challenge, How PFAS Can Impact Your Deals*,” George Tyler, Margaret Carmeli, and Meredith Harris.

PRESENTATIONS

Paper and presentation published at the 2003 Villanova Stormwater Management Symposium, “Constructed Treatment Wetlands for Stormwater Management: An Overview of the Technology and Two Case Studies”, Meredith Harris and Walt Eifert.

Paper and presentation published at the 2009 Tenth International In Situ and On-Site Bioremediation Symposium presented by Battelle, “Sustainable Leachate and Stormwater Management Using Biologically mediated Constructed Wetland and Phytotechnology Processes,” Tyler Schott, Meredith Harris, Walt Eifert and Joseph McKeon.

Presentation for 2010 NJ Environmental Law Forum, “Construction Stormwater Requirements Update, Turbidity Effluent Limitations.”

Presentation for 2017 NJ Environmental Law Forum, “Overview of NJDEP Division of Land Use Regulation Proposed Rule Modifications.”

Webinar, November 2017, “Renewable Energy Production on Contaminated Properties.”

Webinar, July 2020, “Talk About the Birds & the Bees, how Ecological Risk Assessment can save Remediation Costs.”

Presentation for NJ Bar Association, “NJ PACT: Effects, Predictions, & Incentives.”