

EXPERIENCE SUMMARY

Jon has more than 6 years of consulting experience applying hydrology and hydraulic engineering to a wide variety of water resources and civil engineering projects. Areas of specialized expertise include the hydrology and hydraulics of rivers and streams, and stormwater quantity and quality management. Jon has particular interest in analyzing and designing infiltration systems and developing new methods for evaluating infiltration practice performance in this emerging field.

EXPERTISE

Stormwater Management Analysis & Design
Floodplains
Erosion and Restoration
Recharge Analysis & Design
Stream Analysis & Design
Watershed Planning

REGISTRATION

Professional Engineer
Wisconsin 37793
Indiana 10606785
Illinois 062.059388

EDUCATION

BS – Civil Engineering, 1999
Calvin College
Grand Rapids, MI

MS – Civil Engineering, 2001
University of Wisconsin-Madison

PROFESSIONAL HISTORY

Montgomery Associates: Resource Solutions,
LLC: Project Engineer, 2001 - Present

SELECTED PROJECT EXPERIENCE

Deerfield School District Stormwater Management Analysis and Design, Deerfield, WI, (MARS Project Manager/Engineer).

- Completing hydrologic and hydraulic analysis and design of the stormwater management plan performance
- Developing innovative methodology to analyze infiltration practices within XP-SWMM
- Obtaining Village approval for the analysis and design which consisted of several public meetings to address stakeholder concerns
- Providing construction time oversight and direction to adjust design to field conditions

Indianford Dam and Lake Koshkonong, Rock, Dane, and Jefferson Counties, WI, (MARS Project Engineer).

- Prepared unsteady-state, calibrated HEC-RAS model of Indianford Dam, Rock River, and Lake Koshkonong
- Evaluated various dam management alternatives as compared to historical records and current operation scenarios
- Monitored real-time dam flow in coordination with USGS

Compensatory Recharge Analysis and Design for Token Creek Conservancy Estates, Sun Prairie, WI (MARS Project Manager/Engineer).

- Directed soil investigation and characterization to evaluate site suitability for distributed infiltration (recharge) practices
- Developed a soil moisture model based on the USGS PRMS model to estimate annual groundwater recharge under existing and various site development alternatives
- Prepared preliminary design drawings and stormwater management plan to meet City, County, and State requirements
- Assisted in City approval process for General Development and Preliminary and Final Plats
- Preparing (in process) construction drawings for Phase 1 and 2 of the development

PUBLICATIONS & PRESENTATIONS

Lefers, JD, RJ Montgomery, JM Hruby, KW Potter, 2005. *Stormwater Management Criteria and Design to Address Downstream Flooding Concerns on Lake Mendota, Dane County, Wisconsin*, Paper and Presentation at ASCE Watershed Management Conference.

Lefers, JD, JM Hruby, 2004. *Stormwater Management Design in a Watershed Context*, Presentation at ASCE Wisconsin Annual Meeting and at UW-Platteville Engineering Seminar.

Lefers, JD, 2004. *Evaluating Stormwater Ordinances in a Watershed Context*, Presentation at UW-Madison Civil Engineering Seminar.

Lefers, JD, RJ Montgomery, 2004. *Using Raingardens on a Large Scale and for Groundwater Recharge*, Presentation.

Lefers, J, N Miller, D Rupke and M Walhout, 2002. *Direct Measurement of the Metastable ³P₂ Decay Rate of Krypton*. Physics Review A, Vol. 66.

Allis Chalmers Reorganization Trust Water Quality Stormwater Basin, West Allis, WI, (MARS Project Engineer).

- Completed detailed XP-SWMM model of storm sewer network and water quality basin performance
- Submitted and obtained approval from WDNR and MMSD for the analyzed performance of the basin for water quality and peak attenuation
- Prepared construction drawings and specifications for construction of the water quality basin
- Provided construction-time input during site visits and weekly construction meetings

Arrowhead to Weston 345-kV Transmission Line Erosion Control Plans, Northern Wisconsin, (MARS Project Manager/Engineer)

- Developed technically-based approach for field implementing erosion control measures on 200-mile transmission line.
- Prepared and obtained NOI approvals from Wisconsin DNR with minimal comments for each of the nine segments of the transmission line.

Stricker and Tiedeman Ponds Stormwater Management Plan, Middleton, WI (UW-Madison Graduate Student).

- Developed a continuous hydrologic budget model for the two kettle hole ponds
- Evaluated impacts of urban development on water level fluctuations within the ponds
- Compared performance of diversion management strategies and watershed-wide infiltration practices
- Presented findings at Water Resources Commission meetings

Fish Creek Hydraulic Analysis, Bayfield, WI, (MARS Project Engineer)

- Provided QA/QC of HSPF modeling
- Modeled creek and railroad crossing using unsteady-state HEC-RAS
- Completed flood frequency analysis of existing and proposed conditions
- Evaluated changes in shear stress due to flow regime change

Nor-X-Way Channel Regional Detention Analysis, Germantown, WI, (MARS Project Engineer)

- Assembled a regional XP-SWMM hydrologic and hydraulic model for the Nor-X-Way Channel
- Evaluated and analyzed various strategies for regional detention in the watershed to meet MMSD detention requirements

JONATHAN D. LEFERS, P.E.
PROJECT WATER RESOURCES ENGINEER

**Stormwater Management Ordinance
Development and Training, Sheboygan County,
WI, (MARS Project Manager/Engineer)**

- Developed a stormwater management and erosion control ordinance tailored to the County's needs and requirements
- Prepared a training and guidance manual for use by County staff and the private sector
- Trained County staff, stakeholders, and consultants in the use of the manual and in the requirements of the ordinance

**Rock River and Unnamed Tributary Floodplain
Delineation, Dodge and Jefferson Counties, WI,
(MARS Project Manager/Engineer)**

- Assembled hydraulic model using HEC-GeoRAS and ArcGIS.
- Completed 100-year flow estimates on the Unnamed Tributary and Rock River.
- Prepared report documenting analysis and conclusions.

**Dam Breach Analysis for Two Proposed Dams
on Unnamed Tributary to Little Green Lake,
Green Lake County, WI, (MARS Project
Manager/Engineer)**

- Assembled existing conditions hydraulic model using HEC-GeoRAS and ArcGIS.
- Input County-designed dam geometry for the two dams (one located downstream of the other).
- Completed analysis of various breach scenarios including single dam breaches and double dam breaches.
- Prepared report documenting analysis and conclusions.

**UW-Madison Arboretum Johannsen Pond
Outfall Improvements, Madison, WI, (MARS
Project Manager/Engineer)**

- Prepared and obtained approval for a Non-Point Source DNR Grant Application.
- Completed hydraulic modeling of semi-offline stormwater management retro-fit for a 42-inch storm sewer outfall
- Designed prairie/wetland basin that provides water quality improvement and approved by the Wisconsin DNR.
- Prepared construction plans and specifications for the wetland basin

**Fitchburg Center East Cheryl Parkway
Extension Conservation Design Roadway,
Fitchburg, WI, (MARS Project Engineer).**

- Coordinated with landscape architects, civil engineers, and city staff in designing a conservation design roadway.
- Completed infiltration testing using various methods and compared the results of the various test methods.
- Designed several raingardens in the median of the expansive boulevard.

**Cedar Ridge Substation, Fond du Lac County,
WI, (MARS Project Manager/Engineer).**

- Completed floodplain delineation for unnamed tributary that was located near the proposed substation site that included a split-flow analysis due to the complicated geometry of the tributary and floodplain overbanks.
- Prepared erosion control, stormwater management, and grading plans for substation.
- Coordinated with project team and client on inclusion of the erosion control, stormwater management, and grading plans into the substation construction documents.

JONATHAN D. LEFERS, P.E.
PROJECT WATER RESOURCES ENGINEER

**Jamestown Basin and Goose Lake Monitoring,
Fitchburg, WI, (MARS Project Manager/
Engineer).**

- Installed and maintained water level and rainfall monitoring equipment for a period of approximately one year.
- Conducted public hearing to obtain stakeholder input on concerns related to water quality and quantity in Goose Lake.
- Prepared memorandum documenting the data collected and conclusions made from the data.

**Grey Hawk Meadows Stormwater Management
Plan, Mukwonago, WI, (MARS Project
Manager/Engineer).**

- Developed criteria for stormwater management plan performance to address stakeholder concerns regarding potential impacts to Jericho Creek and the Mukwonago River.
- Completed analysis and design of the stormwater management features that accounted for a large off-site watershed draining through stormwater management features.
- Presented at public and stakeholder meeting and obtained approval of the innovative stormwater management approach.

**Lake Summerset Water Quality Improvement
Basin, Lake Summerset, IL, (MARS Project
Engineer).**

- Directed wetland delineation and site survey of the proposed project area.
- Completed hydrologic and hydraulic analysis and preliminary design of proposed semi-offline water quality basin upstream of Lake Summerset

**Black River Floodplain Impact Analysis,
Greenwood, WI, (MARS Project Manager/
Engineer).**

- Completed hydraulic analysis of existing and proposed conditions at a proposed bridge crossing.
- Evaluated conceptual level approaches to mitigating the floodplain impacts for the proposed bridge crossing.