

**BEISY POWERS, PE****E d u c a t i o n**

B.S., Civil and Environmental Engineering, University of Wisconsin-Madison,  
1993

**P r o f e s s i o n a l L i c e n s e s**

Professional Engineer – Wisconsin

**P r o f e s s i o n a l A f f i l i a t i o n s**

Solid Waste Association of North America – Badger Chapter

Associated Recyclers of Wisconsin, Board of Directors

Wisconsin Association for Floodplain, Stormwater, and Coastal Management, Newsletter Chair

**P r o f e s s i o n a l E x p e r i e n c e**

Ms. Powers is a Senior Project Manager/Civil Engineer in the Madison, Wisconsin office. She has more than 20 years of experience in civil/environmental consulting, including landfill design and permitting, landfill construction, site development, regulatory compliance, and erosion control and storm water management. Below are examples of her project experience.

**L a n d f i l l E n g i n e e r i n g**

**Chilton, Wisconsin, Advanced Disposal Services Hickory Meadows Landfill.** Project manager for Phase 7A liner construction project. Responsibilities included preparation of project manual, coordination and review of construction drawings, project bidding and bid evaluation, contracting, budget and schedule tracking, managing contractor questions, leading and documenting progress meetings, and reviewing construction documentation report and drawings.

Project manager for construction of 2015 blower/flare improvement construction project. Work included preparation of specifications and bidding documents, coordination and review of construction drawings, project bidding and bid evaluation, contracting, budget and schedule tracking, managing contractor questions, leading and documenting progress meetings, and reviewing construction documentation report and drawings.

Project manager for 2016 landfill gas system construction project. Work included preparation of specifications and bidding documents, coordination and review of construction drawings, project bidding and bid evaluation, contracting, budget and schedule tracking, managing contractor questions, leading and documenting progress meetings, and reviewing construction documentation report and drawings.

Project manager for 2016 composite cover construction project. Work included preparation of specifications and bidding documents, coordination and review of construction drawings, project bidding and bid evaluation, contracting, budget and schedule tracking, managing contractor questions, leading and documenting progress meetings, and reviewing construction documentation report and drawings.

Lead engineer for design and permitting of the current vertical and horizontal landfill expansion. Responsibilities included preparation of Initial Site Report, Feasibility Report, and Plan of Operation Report, including design and permitting of a composite liner, composite final cover, leachate collection system, storm water management, liner underdrain system, gas collection system, storm water management, and erosion control.

Staff engineer for design and permitting of original landfill. Landfill design work included storm water management, leachate collection system, and landfill gas system.

**Horicon, Wisconsin, Advanced Disposal Services Glacier Ridge Landfill.** Lead engineer for design and permitting of the Southeast Expansion. Responsibilities included preparation of Initial Site Report, Feasibility Report, and Plan of Operation Report, including design and permitting of an underdrain system, composite liner, composite final cover, leachate collection system, storm water management, and landfill gas collection system. The project also involved mining of a former landfill to create space for the proposed expansion and included obtaining a wetland fill permit from WDNR and the U.S. Army Corps of Engineers.

**Wisconsin Rapids, Wisconsin, Advanced Disposal Services Cranberry Creek Landfill.** Project engineer for a feasibility report and plan of operation for the current horizontal expansion. The landfill expansion is located near surface water bodies and wetlands, which involved navigability issues, surface water balancing, and practicable alternative wetland analysis. Landfill design work included underdrain system, composite liner, final cover, landfill gas collection system, leachate collection, storm water management, and erosion control.

Project engineer for the design for a rail solid waste transfer station, which consisted of an elevated platform constructed adjacent to a rail spur to facilitate transfer of waste from rail cars to trucks for hauling to the adjacent landfill.

**Dane County, Wisconsin, Dane County Landfill No. 2.** Project manager for evaluation of final cover system design alternatives. Evaluated regulatory and technical feasibility, environmental benefits, and construction and maintenance costs for various cover design alternatives and implementation strategies.

**Portage, Wisconsin, Columbia Ash Landfill.** Lead engineer for preparation of the 10-year Plan of Operation Update. Permitting and design work included landfill master planning, composite liner, final cover, contact water management, leachate management, storm water management, and erosion control.

**Beloit, Wisconsin, Rock River Ash Landfill.** Senior engineer for final closure of an ash landfill and sluice pond. The project involved updating the landfill final closure plan, preparation of design and construction documents for ash relocation, GCL and geomembrane composite final cover, storm water management, and erosion control.

Project manager for a utility scale photovoltaic system installed on top of the ash landfill final cover system. Project included preparing civil site design drawings and specifications for the PV ballast system, storm water management, and erosion control; and preparation of the construction documentation report related to the project impacts to the final cover system.

**Watertown, Wisconsin, Deer Track Park Landfill.** Resident project representative for construction of composite liner system. The project included documentation and testing of general fill and clay for establishment of subbase and base grades, geosynthetics (geomembrane and geotextile), and

leachate drainage layer; coordination and communication with construction contractor and owner; and preparation of construction documentation report.

**Wabash, Indiana, Wabash Alloys Industrial Landfill.** Resident project representative for construction of a double-composite liner system and associated peripheral equipment for a new industrial waste landfill. Documented installation of clay liners, geocomposite, geotextile, geonet, and geomembrane layers, as well as the leachate collection system features and a passive pressure air venting system. Prepared the construction documentation report.

Lead office engineer for construction of double-composite liner system. The project included preparation of construction documents, reviewing field data for compliance with construction documents, reviewing submittals, answering construction questions, tracking budget and schedule, and preparation and review of construction documentation report.

Performed geomembrane installation documentation support for several other landfill liner construction projects in Wisconsin and Michigan.

### Land fill Gas

**Hilbert, Wisconsin, Hickory Meadows Landfill.** Project manager for a landfill gas improvement project that included header improvements, condensate sump and knockout installation, new primary and backup blower installation, new blower building construction, new flare installation, connection to landfill gas to energy facility, electrical upgrades, instrumentation and controls upgrades, and related site improvements. Project included preparation of construction drawings, specifications, and project manual documents, and contract administration.

Performed landfill gas modeling using KYPipe to evaluate the vacuum at the furthest well and system performance under four scenarios.

**Horicon, Wisconsin, Advanced Disposal Services Glacier Ridge Landfill.** Lead engineer for Draft Landfill Gas Collection and Control System (GCCS) Design Plan in 2015.

### Electric Utilities

**Ottumwa, Iowa, Ottumwa Midland Landfill.** Lead engineer for design and permitting of horizontal and vertical expansion of a coal combustible residue (CCR) landfill. Project involved permitting and design of composite liner and final cover systems, leachate collection system, contact water management, storm water management, and erosion control. This work also included preparation of a joint 401/404 permit application for wetland impacts and stream realignment through the Iowa Department of Natural Resources and U.S. Army Corps of Engineers.

**Lumberton, North Carolina, Weatherspoon Steam Electric Plant.** Project manager for third party engineering review for Issue WSPN-5, related to the outlet structure analysis of the 1979 Ash Pond, proposed improvements to the outlet structure, and a hydrologic and hydraulic (H&H) study to verify the ash pond has enough storage capacity for the design storm with the proposed outlet structure modifications. Work included reviewing the design consultant's report; H&H model and construction drawings; and summarizing of findings, conclusions, and recommendations.

**Cassville, Wisconsin, Nelson Dewey Generating Station.** Design engineer for the permitting and decommissioning of the former coal yard, a fly ash settling and coal yard runoff pond, a slag settling pond, and a slag handling area. Permitting work included solid waste and wastewater closure plan approvals, dewatering treatment system approval, erosion control and storm water management

permits, and waterway permits for aspects of the decommissioning work near the Mississippi River. The project also included the development of specifications and drawings for closure construction bidding, assisting the owner with obtaining and evaluating bids, and construction oversight/construction quality assurance.

Evaluated alternative methods for disposing of ash generated from a coal power generating facility in Iowa. Alternatives included filling a ravine, expanding an existing ash landfill, filling a wetland, and expanding an existing ash sluice pond. Project involved evaluating alternatives and developing detailed cost estimates.

**Cedar Rapids, Iowa, Sixth Street Generating Station.** Design engineer for the design and permitting of a CCR pond final cover system. The project involves the design of a 10-acre soil cap for a series of four CCR settling ponds located beneath an interstate bridge. The soil cap system incorporates a geosynthetic clay liner (GCL) in select locations where structural elements of the bridge limited the placement of fill materials. Structural fill limitations required that the design incorporate a new, smaller pond in the interior or the final cover area that discharged via an outlet swale to an adjacent wetland. Permitting activities include state approvals from the Department of Natural Resources and Department of Transportation for the closure design and state/local approvals for construction site and long-term erosion control and storm water management. Additional state and local agency coordination was required for floodplain and wetland issues.

**Portage, Wisconsin, Columbia Ash Landfill.** Design engineer for 10-year plan of operation update. Permitting and design work included landfill master planning, composite liner, final cover, contact water management, leachate management, storm water management, and erosion control.

Storm/contact water engineer for landfill liner design and construction projects. Design work included contact water pond capacity evaluation, diversion of runoff, rain cover design, and storm water management system design and modeling.

**Beloit, Wisconsin, Rock River Ash Landfill.** Design engineer for final closure of an ash landfill and sluice pond. The project involved updating the landfill final closure plan, preparation of design and construction documents for ash relocation, GCL and geomembrane composite final cover, storm water management, and erosion control.

Project manager for a utility scale photovoltaic (PV) system installed on top of the ash landfill final cover system. Project included preparing civil site design drawings and specifications for the PV ballast system, storm water management, and erosion control.

#### Collection and Transfer Station Facilities

**Muskego, Wisconsin, Advanced Disposal Services Transfer Station.** Project manager for a Plan of Operation Modification to modify the facility classification to a large facility (> 100 tons per day) and to address operational changes.

**West Allis, Wisconsin, Advanced Disposal Services West Allis Transfer Station.** Project manager for a Plan of Operation Modification to address operational changes and facility information.

**Town of Nasewaupsee (Door County), Wisconsin, Advanced Disposal Services Door County Transfer Station.** Lead engineer for Plan of Operation for new transfer station facility. Prepared Environmental Assessment and Plan of Operation reports.

## Sustainable Materials Management

**Madison, Wisconsin, Dane County Construction & Demolition (C&D) Waste Recycling Facility.** Project manager for the expansion and modification of an existing construction and demolition (C&D) waste transfer station to create a C&D waste recycling facility with the capacity to process 75,000 tons per year. Project included assembling and managing team of architects, structural, mechanical, electrical, and plumbing subconsultants for full project design. Also performed construction administration services including leading project progress meetings during construction, reviewing pay requests, reviewing submittals, and coordinating owner and contractor requests.

**Beloit, Wisconsin, Solar System on Closed Rock River Landfill.** Project Manager for civil design components for development of a utility-scale solar power photovoltaic (PV) system on top of a landfill final cover system. Project included preparing civil site design drawings and specifications for the PV ballast system, storm water management, and erosion control while minimizing impacts to the landfill final cover. Provided construction observation services and prepared construction documentation report for impacts to landfill cover system.

**Lake Mills, Wisconsin, Yard Waste Management Alternatives Evaluation.** Project manager for evaluation of current and future yard waste management strategies. Worked with public works staff, City manager and public works committee to evaluate future options and locations for a new yard waste collection/drop-off location and improved operations.

**Germantown, Wisconsin, Orchard Ridge RDF Organics Recycling Facility.** Senior engineer for permitting of a new source separated yard and food waste compost facility at a landfill in Wisconsin. Prepared storm water and leachate management system design. Performed associated construction site erosion control and storm water management permitting for the facility.

**Lafayette, Wisconsin, Construction & Demolition Waste Processing Facility.** Project manager for professional engineering review for construction and demolition (C&D) processing facility. Provided comments on conformance with requirements of NR 502.08, Wisconsin Administrative Code, and technical issues.

**Cassville, Wisconsin, DTE Woody Biomass Storage and Processing Facility.** Project manager for storage and processing of wood to be used as fuel at electrical generating stations. Prepared Plan of Operation and Environmental Assessment, and negotiated through various site constraints to meet client and WDNR needs.

**Dickeyville, Wisconsin, DTE Woody Biomass Storage and Processing Facility.** Project manager for storage and processing of wood to be used as fuel at electrical generating stations. Prepared Plan of Operation and Environmental Assessment, and negotiated through various site constraints to meet client and WDNR needs.

**Horicon, Wisconsin, Glacier Ridge Landfill Food Material Composting Pilot Project.** Senior engineer on permitting project for a food material composting pilot project at an existing yard waste composting facility. Established design and operational criteria for the pilot project.

**Muskego, Wisconsin, Emerald Park Landfill Food Material Composting Pilot Project.** Senior engineer on permitting project for a food material composting pilot project at an existing yard waste composting facility. Established design and operational criteria for the pilot project.

## Environmental or Other Services

**Town of Cross Plains, Wisconsin, Zander Quarry Nonmetallic Mining WPDES Permit and SWPPP Amendment.** Project manager to convert existing nonmetallic mining WPDES General Permit to allow for exterior discharge. Worked with state agency staff to evaluate options and associated sampling requirements to determine the best discharge location. Amended the facility's SWPPP to reflect the external discharge option and associated requirements.

**Hilbert, Wisconsin, Advanced Disposal Services Hickory Meadows Landfill.** Project manager for WPDES Tier 2 Industrial Storm Water General Permit coverage, including preparation of Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) update.

Lead engineer for Phase 5C/6 construction permits, including WPDES pit/trench dewatering permit for the underdrain system discharge, WPDES permit for Construction Site Storm Water Runoff, and Chapter 30 Permit for storm water pond construction.

Project manager providing operational assistance for a variety of tasks including preparation of Notice of Noncompliance response for contact water release, storm water and contact water management, and well abandonment for dug well in Sedimentation Basin 2R.

**Horicon, Wisconsin, Advanced Disposal Services Glacier Ridge Landfill.** Project manager for WPDES Tier 2 Industrial Storm Water General Permit coverage, including preparation of NOI and SWPPP.

**Chilton, Wisconsin, Advanced Disposal Services Hauling Company.** Lead engineer on request for WPDES Tier 2 Industrial Storm Water General Permit coverage, including Notice of Intent and Storm Water Pollution Prevention Plan (SWPPP) update.

**Chilton, Wisconsin, Advanced Disposal Services Material Recovery Facility.** Lead engineer on request for WPDES Tier 2 Industrial Storm Water General Permit coverage, including Notice of Intent and Storm Water Pollution Prevention Plan (SWPPP) update.

**Madison, Wisconsin, Multiple Properties, Annual Storm Water Certifications.** Project manager for preparing annual storm water certifications required by municipality to document that storm water management practices are being maintained in accordance with maintenance agreements.

## General Civil Engineering

**Madison, Wisconsin, Edgewater Hotel Redevelopment.** Senior engineer for a high profile hotel redevelopment adjacent to Lake Mendota in Madison, Wisconsin. Project involved finding creative solutions to meet City storm water and erosion control requirements on a site with limited space directly adjacent to a highly used lake. Worked closely with the City to create a site design that met the needs of the developer while achieving the City's performance standards. Performed site grading, erosion control, storm water and waterway permitting services.

**Brookfield, Wisconsin, Acura of Brookfield Expansion.** Project manager for an expansion of a car dealership. Led the project from the conceptual design phase through final design, permitting, and construction. Worked around site constraints including a wetland and a storm water easement. Attended town committee and council meetings and worked closely with town representatives to create a design that met the needs of the dealership while also satisfying town requirements.

**Madison, Wisconsin, Holiday Inn Express & Suites Development.** Senior engineer for development of a new hotel on a brownfield site. Performed site grading, erosion control, storm water services, and permitting.

**Monona, Wisconsin, Belle Isle Street Reconstruction.** Senior engineer for the conceptual design of a street reconstruction project. The neighborhood streets were unique due to their proximity in location and elevation to Lake Monona. The neighborhood experienced frequent flooding. Worked closely with City staff and residents to develop a design that would meet the goals of the project and utilize and maximize the existing limited infrastructure. Led public meetings throughout the process. Work also led to the final design and permitting of the project. Performed erosion control and storm water management permitting and chapter 30 permitting.

### Drainage District Compliance

**Multiple locations in Wisconsin.** Project manager for preparation of specifications for 27 drainage districts throughout Wisconsin, including Jefferson, Outagamie, Green, Waukesha, and Sauk counties. Also prepared benefit reassessments for three drainage districts and a Compliance Plan for one drainage district. Made presentations at several drainage district public meetings. Assisted numerous drainage boards in complying with state regulations and daily operations as a State Drainage Engineer in a position with the Wisconsin Department of Agriculture, Trade and Consumer Protection.

### Publications and Presentations

“The State of Storm Water.” Storm Water Solutions magazine, October 2018.

“What You Need to Know: Landfills and the WPDES Tier 2 Industrial Permit,” American Society of Civil Engineers Wisconsin Section 2017 Spring Technical Conference, Madison, Wisconsin, March 30, 2017.

“What You Need to Know: Landfills and the WPDES Tier 2 Industrial Permit,” Wisconsin Integrated Resource Management Conference, Elkhart Lake, Wisconsin, March 2, 2017.

“Landfill Final Covers: State of the Practice,” 2017 Iowa Recycling & Solid Waste Management Conference, Iowa City, Iowa, October 4, 2017.

“Landfill Drainage and Runoff Control,” Solid Waste Landfill Design Short Course. University of Wisconsin-Madison, Madison, Wisconsin, March 24, 2016.

“Landfill Drainage and Runoff Control,” Solid Waste Landfill Design Short Course. University of Wisconsin-Madison, Madison, Wisconsin, March 9, 2017.

“Landfill Drainage and Runoff Control,” Solid Waste Landfill Design Short Course. University of Wisconsin-Madison, Madison, Wisconsin, March 21, 2018.

“Landfill Final Covers: State of the Practice,” 2017 Wisconsin Integrated Resource Management Conference, Elkhart Lake, Wisconsin, March 2, 2017.

“Rising to the Challenge: How Dane County Leads C&D Recycling in Wisconsin,” 2018 Iowa Recycling and Solid Waste Management Conference, Council Bluffs, Iowa, October 9, 2018.

“2017 Iowa Statewide Waste Characterization Study,” 2018 Recycling Association of Minnesota/Solid Waste Association of North America (RAM/SWANA) Conference, North Brooklyn Park, Minnesota, October 16, 2018.

“2017 Iowa Statewide Waste Characterization Study,” 2018 Wisconsin Integrated Resource Management Conference, Elkhart Lake, Wisconsin, March 1, 2018.