

EXPRESSION OF INTEREST  
CITY OF WHEELING LANDFILL  
CLOSURE CAP

NOVEMBER 22, 2016

submitted to the  
STATE OF WEST VIRGINIA  
PURCHASING DIVISION

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DIVISION

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**DISQUALIFIED**

**HULL**  
we know the way

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November 22, 2016

State of West Virginia  
Department of Environmental Protection  
Office of Environmental Remediation  
601 57<sup>th</sup> Street SE  
Charleston WV 25304

RE: Expression of Interest City of Wheeling Site Characterization, Leachate Management and Closure Cap; WCO002.100.0002

To whom it may concern:

Hull & Associates, Inc. (Hull) is pleased to present to the State of West Virginia the following Expression of Interest (EOI) for landfill site investigation, leachate management, engineering and design of the capping system, construction contract drawings and specifications, applicable permit applications and construction quality assurance (CQA) work for the City of Wheeling Landfill.

#### **Project Understanding and Approach**

The purpose of the project is to provide services for the West Virginia Department of Environmental Protection's Landfill Closure Assistance Program (LCAP) at the City of Wheeling Landfill. We understand that the State of West Virginia Department of Environmental Protection (WVDEP) is seeking an engineering firm to provide the services stated above for the City of Wheeling Landfill.

Based on our comprehensive landfill engineering, facility characterization study and surveying experience, we are confident that our team can perform the work required and work with the WVDEP as a partner along with other applicable regulatory agencies. We believe our team is well suited for this project and can bring our assessment, design and construction expertise to assist the WVDEP in determining the appropriate path moving forward for closure of the facility.

We understand the services will include, but not necessarily be limited to, the following:

- Review of governing documents and initial meeting with WVDEP;
- Develop a detailed scope of services and associated costs, and effectively manage the projects to minimize change orders;
- Perform field assessments and site investigations, including surveying/mapping; soil and water laboratory testing; subsurface investigations to determine horizontal limits and depth of waste; and the identification of potential borrow areas on-site or nearby;
- Develop a closure capping system design, including grading plans and cross-sections, leachate collection and storage systems, and sediment and erosion control plans (including required ponds);
- Prepare required permit applications;
- Prepare bid package and construction drawings/specifications, and solicit/evaluate bids;
- Perform construction quality assurance services during construction activities; and
- Meetings with the WVDEP, as necessary, during implementation of the project.

The initial step of the project will be to have Hull's key team members meet with the WVDEP's team to discuss the project and develop a thorough understanding of the objectives, constraints and desired schedule. Following this initial meeting, Hull will develop a detailed scope of services, cost estimate and schedule to present to the WVDEP. Upon receiving any feedback, Hull will update these documents (as needed) and begin project implementation once approval is given on the agreed-upon approach.

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**Hull Team's Strengths:**

The Hull team is an absolute fit based on our ability to perform the requirements of this EOI and work with the State of West Virginia as a partner, along with other applicable regulatory agencies. We would like to note the following key strengths of the Hull team related to this project:

1. Hull is a recognized leader in the waste management area. We have been working in West Virginia for over 12 years and Ohio for over 30 years, and have provided landfill engineering and science services to greater than 160 landfill facilities in over 12 states. We have provided various services for over 180 acres of landfill cells within West Virginia. In addition, our experience with varying types of facilities and different design components allows us to quickly integrate into a site. Many of the projects that we have successfully completed required our quickly becoming familiar with site design, permitting and construction requirements, and helping the site transition from a previous consultant. We are confident that we can do the same for this project, and work as an effective team with the State of West Virginia to thoroughly assess site conditions and develop an environmentally sound and cost-effective closure design that meets all requirements.
2. The Hull team consists of highly-skilled professionals composed of seasoned industry experts with significant experience and proven results providing engineering and environmental solid waste management services. The team members possess high competency as indicated by their experience, technical knowledge, training, and education. Hull's team of waste management experts dedicated to this project have a combination of private and public sector experience, and understand the opportunities and challenges with a project such as this. In recognition that the project team is not familiar with the Landfill's design and construction information, **we will not charge any of the time needed to review the basic historic site design and permit information needed to familiarize ourselves with the site. Hull has various offices in the Midwest Region and commits to bill from the closest office for their respective personnel for travel-related work, regardless of which home office personnel reside.**
3. Hull has a local presence with our St. Clairsville, Ohio office, which is approximately 12 miles from the landfill. This will be valuable during the site investigation work as well as general support for future tasks such as design, permitting, construction contract, and construction CQA.
4. We understand the very real challenges of plan implementation and construction that can result in indirect costs associated with cap design choices, leachate management, stormwater management, borrow soils, etc. We will consider constructability and sustainability (and relative cost) in every stage of design, which should minimize overall closure construction and post-closure care costs.
5. Hull has a strong track record for delivering high quality work product. We achieve this through understanding and anticipating the client's need and expectations, and through proper planning, management, and execution of the work. We believe ongoing, open communication with all team members during the project and providing experienced, appropriate personnel at all levels are the best steps to ensure successful project completion. We will follow this approach by providing the State of West Virginia up-to-date information regarding the status of the project tasks and budget to assist with proper management and implementation of the project.

As demonstrated within this EOI, the Hull team has the personnel resources, technical knowledge, geographical location, and experience needed to successfully complete the site investigation and engineering & design closure cap work required. We are confident we can provide a valuable service and

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look forward to meeting the State of West Virginia team, further discussing the details of this project, and refining the scope and costs. If you have any questions or need additional information to help the strategically address challenges and achieve your project goals, please contact either of the undersigned at 419-385-2018 or by email at [agerdeman@hullinc.com](mailto:agerdeman@hullinc.com) or [fcamargo@hullinc.com](mailto:fcamargo@hullinc.com).

Sincerely,



Angle Gerdeman, P.E.  
Sr. Project Manager  
Landfill Engineering Practice Leader



Fernando Camargo, P.E.  
Project Manager

## SECTION 1 | PROJECT APPROACH

### HULL TEAM'S SERVICES AND GENERAL APPROACH

We understand that WVDEP is seeking an engineering firm to provide professional consulting services including site investigation, engineering and design of the capping system, construction contract drawings and specifications, applicable permit applications and construction quality assurance (CQA) work for the City of Wheeling Landfill. We believe our team is well suited for this project and can bring our assessment, design and construction expertise to assist the WVDEP in determining the appropriate path moving forward for the closure of the facility. Hull has significant landfill experience in the following areas that will prove beneficial to the City of Wheeling Landfill project:

- We have designed numerous landfill cap systems, evaluated existing in-place capped landfills, and provided construction quality assurance/quality control (QA/QC) during construction of composite cap systems;
- We have provided technical review of information for a class-action lawsuit related to closure and evaluated closure cost estimates and scenarios for multiple landfills in multiple states;
- We have successfully designed and implemented alternative caps using Subtitle D standards;
- We have significant experience with West Virginian geology, as well as laboratory and field testing of soils;
- We have worked closely with regulatory agencies on past projects to determine effective environmental controls using sound engineering and science, and doing so in a cost-effective manner.

The initial steps of the project will be to have Hull review the governing documents for the City of Wheeling Landfill, and then meet with the WVDEP team to discuss the project and develop a thorough understanding of WVDEP's objectives, constraints and desired schedule. It will be essential to review all relevant permitting, construction, operational, and analytical information that is available for the site to have a clear understanding of known site conditions and challenges, which will allow us to develop appropriate and cost-effective leachate and cap controls. Following the initial meeting, Hull will develop a detailed scope of services, cost estimate and schedule to present to WVDEP. Upon receiving any feedback from WVDEP, Hull will update these documents (as needed) and begin project implementation.

After completing the upfront planning discussed above, the Hull team will execute the work, which is anticipated to include, but may not be limited to, the following:

- Pro-actively communicating with WVDEP throughout the project, including attending meetings as needed, and effectively managing the project to minimize change orders. Communications protocol will be established with WVDEP at the onset of the project to ensure expectations are known.
- Performing field assessments and site characterization including surveying the landfill and surrounding areas; performing subsurface investigations to evaluate potential soil borrow sources and obtain soil samples for testing, and determine the horizontal and vertical limits of waste; performing laboratory analysis of soil and water; and performing environmental monitoring that may be needed to fully evaluate the site characteristics.
- Developing the closure design including: the grading plan and cap cross-section; the leachate collection and storage systems; and the surface water management components and erosion control features including sediment ponds, drainage ditches, erosion control terraces, etc. Conceptual design information will be submitted to WVDEP for input and approval at the frequency agreed upon with WVDEP.
- Preparing the appropriate permit applications including right-of-ways, right of entries, etc.
- Assisting the WVDEP with selecting a contractor including preparing the bid package, construction contract drawings and specifications; soliciting the bids; evaluating the bids received; and securing the contract, as needed.
- Performing construction quality assurance during construction activities.

## SECTION 2 | FIRM OVERVIEW



Hull & Associates, Inc. (Hull) is a project development and engineering company that helps business and government solve complex challenges related to land, energy, and the environment – transforming undervalued resources into viable community assets.

We leverage our expertise in infrastructure, environmental and energy services to design solutions that meet our client's needs. We develop an integrated plan based on our client's specific objectives and assist with execution and oversight of those strategies through project completion.

Our technical, engineering, and construction staff offer the following services:

- Landfill Engineering
- Ecology and Wetlands
- Geoenvironmental
- Site Assessment and Remediation
- Liability Assessment
- Surveying
- Environmental Monitoring
- Construction Services
- Risk Assessment
- Geographic Information Systems (GIS)
- Civil Engineering

Specific to landfills, Hull has provided waste management solutions for over 30 years, including participating in the development and implementation of related technology and regulatory programs from their inception. We have worked on over 120 landfills. In fact, our company was originally founded on waste management solutions service offerings. We evaluate each client's objectives, activities and needs to prepare a comprehensive strategy. Our team then prioritizes steps to minimize waste generation, beneficially reuse waste where feasible, and identify responsible, efficient management of residuals. Hull's expertise in other areas such as environmental compliance, urban redevelopment and conservation, general land use practice, and our alternative energy and power help us identify innovative solutions to waste management that can also address other public and business objectives. Our experience also recognizes the benefits of including community outreach and the concept of public-private partnerships to achieve success in waste management initiatives.

We help our clients identify risk and evaluate alternative approaches to risk management. Where appropriate, we will partner with our clients to address long-term risks and help them remain in compliance with applicable regulations. A strategic waste management plan will reduce business risks and operating costs while improving the environment.

### LANDFILL ENGINEERING

Hull offers several services related to solid waste management. Landfill siting, design, permitting, and operations usually involve several stages of work, as well as regulatory agencies and the general public. Hull's diversity allows for a widespread service package for nearly every possible project scenario. Careful planning and execution of all aspects of landfill development are paramount in today's regulatory environment. Some of the related landfill engineering services include: regulatory assistance; active participation in the rule revision process; identifying changes in regulations and evaluating impact to clients; and assisting clients with evaluating Findings & Orders and negotiating with regulatory agencies.

### ENVIRONMENTAL MONITORING

Hull provides permitting, design and environmental monitoring services required to maintain regulatory compliance for all media, including air, wastewater, stormwater, ground water and other regulated media. We also develop the plans required to maintain compliance with applicable regulations to document that the performance of engineered systems are working or to identify, assess or correct potential impacts.

GEOENVIRONMENTAL

Hull's geoenvironmental engineers solve environmental challenges within a multidisciplinary setting for industrial developments, as well as waste containment facilities and brownfield projects. We have a diverse staff of geotechnical engineers, civil engineers, hydrogeologists, as well as supporting staff with science-based disciplines (e.g., soil scientists, ecologists, biologist, etc.) who understand the full spectrum of project implications including: site characterization, environmental management and risk assessment, waste management solutions, soil and groundwater remediation, and infrastructure development.

**Jobes Henderson & Associates, Inc. (JHA)**, a wholly-owned subsidiary of Hull, is an ODOT prequalified, civil engineering and surveying firm in Newark, Ohio with approximately 35 professionals providing high quality services to state, municipal, federal and private sector clients.

JHA has served Ohio and surrounding states since 1965 and has built a reputation for being a quality-oriented, dependable, and client-focused firm. JHA services are provided by trained personnel with excellent management skills and the required technical knowledge to complete your projects efficiently and accurately.

JHA is continuing to operate under the Jobes Henderson & Associates, Inc. name to preserve their strong reputation and brand, but the companies are well integrated and will operate seamlessly to provide services. Together, Hull and JHA have approximately 150 employees providing diversified professional services for the infrastructure, environmental, and energy markets and can provide all of the design services for this project.



## SECTION 3 | RELEVANT PROJECT EXPERIENCE

Below are project write-ups for specific projects similar to the City of Wheeling Landfill Closure Cap Design project. We have also included a comprehensive matrix at this end of this section that includes a list of Hull's solid waste experience.

### ■ LITTLE BROAD RUN LANDFILL | Landfill Siting, Design, Permitting, CQA and Operational Assistance | New Haven, West Virginia

Client Name: American Electric Power  
 Project Duration: 2004 – Present  
 Contact: Pedro Amaya, PE | 614.716.2991  
 Type of Project: Comprehensive landfill design/permitting, construction drawings and specifications, construction QA/QC and compliance services.  
 Project Goals & Objectives: To complete liner and leachate collection system design and permitting on a compressed timeline. During this, we identified design improvements and also pursued a vertical expansion to increase disposal capacity at a reduced overall cost.

Hull assisted our client by providing **comprehensive engineering design, permitting, construction planning, construction quality assurance (CQA), and operational assistance** at this existing Class F Industrial Landfill facility in West Virginia.



The projects included:

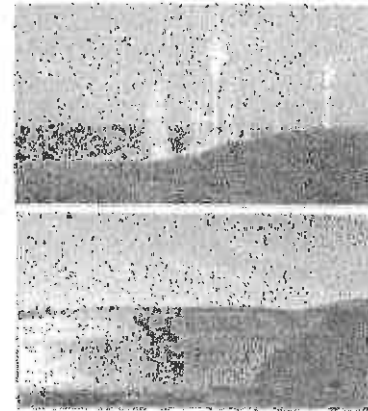
- Preparing **permit redesign drawings** for multiple disposal areas (~ 50 acres) to provide stable slopes along the valley fill, minimizing significant cuts in the existing grade;
- **Designing a composite soil and PVC geomembrane liner and leachate collection systems;**
- Incorporating a unique design feature that included the use of fly ash as structural fill;
- Developing an **alternate geomembrane material performance evaluation report** for using 30-mil PVC geomembrane in lieu of 60-mil HDPE liner, which was approved;
- Preparing a **vertical expansion feasibility study** and follow-up **vertical expansion permit documents** that provided environmental improvements and obtained significant additional airspace over a 210-acre landfill area;
- Designing new leachate management system upgrades includes a new leachate forcemain and pumping system, a new leachate conveyance pipe that provide flexibility for system management and cleanout, a new leachate collection pond, and modifications to the existing leachate collection pond.
- Preparing a **siting study;**
- Preparing leachate surge pond design documents, construction drawings and bid documents;
- Updating the QA/QC plan to incorporate landfill components;
- Designing sedimentation ponds and other drainage and erosion control structures, and preparing comprehensive stormwater pollution prevention plans;
- Preparing detailed construction cost estimates and construction drawings for multiple landfill areas, leachate ponds, sediment ponds, vertical expansion development, etc.;
- Performing detailed soils and fly ash laboratory testing to assist in preparing the landfill design and operational plans;
- Performing comprehensive soil borrow investigations;
- Performing landfill CQA services for construction of a 90-acre portion of the landfill and the initial two vertical expansion phases (totaling approximately 25 acres), and preparing construction certification reports for submittal to WVDEP; and

- Developing long-term operational construction and sequencing plans that include stormwater diversions to reduce run-on and contact water management system components to separate and convey contact water to the leachate management structures.

#### ■ **JOHN E. AMOS PLANT LANDFILL | Construction Quality Assurance/Quality Control** | Winfield, West Virginia

Client Name: American Electric Power  
 Project Duration: 2010 – Present  
 Contact: Pedro Amaya, PE | 614.716.2991  
 Type of Project: Multi-year landfill cell QA/QC and certification services.  
 Project Goals & Objectives: To complete construction QA/QC services and obtain approval for multiple landfill cells. We identified borrow sources and developed processing techniques for weathered shales to improve construction and testing, and provided comprehensive on-site observation and testing services. The certification report was prepared and submitted in a timely manner.

Hull is teaming with our client to provide construction Quality Assurance/Quality Control (QA/QC) activities to comply with West Virginia Department of Environmental Protection at this existing Class F Industrial Landfill facility in West Virginia during a three-year construction period for development of Sequence 18 (approximately 13 acres) and Sequence 2 (approximately 25 acres). The work will also include the construction of supporting sedimentation ponds, soils precharacterization, borrow site development and stockpiling.



The activities include:

- Reviewing manufacturer's data for geosynthetic materials, coordinating the pre-construction testing of geosynthetic materials, reviewing the data, and evaluating the laboratory data for compliance with permit and construction documents;
- Reviewing historic soils data, collecting new soil samples from the designated borrow areas, performing laboratory tests on soil samples, and determining the required compaction specifications needed to meet project requirements;
- Observing and documenting overall construction activities including groundwater interceptor drains, subgrade preparation, structural fill construction, clay liner placement and compaction, geosynthetic materials installation (PVC geomembrane, geotextile and geocomposite), leachate collection system installation, sedimentation basin construction, and installation of erosion and sediment controls;
- Attending regular project meetings, reviewing contractor submittals, and performing other project management activities; and
- Preparing construction certification reports and annual construction summary reports.

#### ■ **EVERGREEN RECYCLING AND DISPOSAL FACILITY | Landfill Design, Permitting, Construction Quality Assurance/Quality Control, and Compliance | Northwood, Ohio**

Client Name: Waste Management  
 Project Duration: 1999 – Present (Expansion Permit 2007)  
 Contact: John Randolph, PE | 419.466.5136  
 Type of Project: Comprehensive landfill design/permitting, construction drawings and specifications, construction QA/QC and compliance services.

**Project Goals & Objectives:** To perform in-situ permeability testing of completed clayey soil liner, and to vertical expansion permit for the landfill. During the vertical expansion, we identified a design change that provided significant additional disposal volume while significantly reducing the quantity of soils needed for construction.



Ohio engineering design/permitting, landfill gas and control system design, construction document preparation, construction quality assurance, construction engineering support. Hull assisted Evergreen Recycling and Disposal Facility (RDF) with verification of a constructed clayey soil liner's in-situ permeability. **After successfully completing the field verification project and receiving certification approval from Ohio EPA, Hull began engineering design, permitting, and construction, Quality Assurance/Quality Control (QA/QC) services, as well as support for ongoing**

**compliance issues.**

**Hull's comprehensive services included:**

- Preparing the **vertical expansion permit**;
- Preparing **construction drawings, specifications and supporting contract documents** for numerous construction projects including cell, cap, forcemain, leachate tank, gas system and surface water improvements;
- Performing extensive **soil borrow characterizations**;
- Testing and documenting in-situ permeability of test pads;
- Assisting with compliance issues, including annual report preparation and asbestos mapping;
- Providing construction QA/QC services and preparing certification reports for construction of several landfill cells, closure over a portion of the landfill, construction of two new storm water basins, installation of a leachate forcemain, and upgrades to the gas management system;
- Quarterly in-place density determinations to assist the landfill with assessing operational issues; and
- Other miscellaneous site improvements.

**During the vertical expansion permitting process, Hull provided several value-added services, including:**

- Design recommendations that would allow flexibility for future landfill development;
- Identification of design changes that would improve overall quality and constructability while reducing construction costs; and
- Identification of design components to increase the landfill disposal volume.

**■ WOOD COUNTY LANDFILL | Engineering Design, Construction Observation, Environmental Monitoring, and Operations Support | Wood County, Ohio**

Client Name: Wood County Solid Waste Management District  
 Project Duration: 1980s – Present (Currently Permitting an Expansion)  
 Contact: Ken Vollmar | 419.352.0180  
 Type of Project: Comprehensive hydrogeological, landfill design/permitting, construction drawings and specifications, construction QA/QC, assessment and compliance services.

**Project Goals & Objectives:** To provide forward-thinking landfill design and permitting services on time and on budget. This has been accomplished by actively partnering with Wood County to assist them with effective long-term planning, phasing, operations and construction of the landfill.



The Wood County Landfill in Bowling Green, Ohio was one of Hull's first clients. Hull provided general engineering support beginning in the early 1980s and has been assisting them with **design/permitting, environmental monitoring, landfill gas and control system design, construction document preparation, construction quality assurance, construction engineering support, operations support, and compliance issues ever since.**

**Hull assisted the landfill to obtain a Permit-to-Install in 1991** that utilized the construction of a new Best Available Technology (BAT) landfill cell between the two existing landfill areas (North Area and South Area) to combine the landfill area into one common footprint. The innovative design also included the installation of a separatory liner system over the North and South Areas that serves as a cap to the existing waste and a base liner for the new waste that incorporated an effective leachate collection system that directed leachate from unlined to lined areas of the landfill.

Hull also designed a vertical expansion of the facility with the permit being issued in July 2003. During the vertical expansion permitting process, Hull provided several value-added services. Hull was an active participant in the rule revision process and provided feedback to the Ohio EPA during the rule development that became effective in August 2003. Although the expansion PTI was prepared and submitted prior to the change in Ohio solid waste regulations, Hull followed Ohio EPA's draft design requirements (e.g., settlement analyses, geotechnical testing parameters, etc.). This allowed Hull to provide design recommendations that would allow flexibility for future landfill development, identified design changes that would improve overall quality and constructability (while reducing construction costs), and identified design components that increased the landfill disposal volume. Hull is currently preparing a vertical and lateral expansion PTI package that will provide the County a long-term and sustainable solution for waste management for the local community for years to come.

In addition to preparing the permit applications and providing design services, Hull has provided construction observation and QA/QC services, prepared construction specifications and bid documents, performed extensive soil borrow characterizations, tested and documented in-situ permeability for a test pad, and assisted with compliance issues such as preparation of annual reports and operating records. Hull has also provided construction observation, testing and documentation services for the construction of composite liner system, separatory liner, final cover placement, and other miscellaneous site improvements. Construction observation and QA/QC services included geomembrane installation observation, non-destructive field testing of placement of the flexible membrane liner, soils and geosynthetics laboratory testing, review of all field and laboratory QA destructive and conformance seam testing results, and moisture/density testing of compacted soil.

Groundwater monitoring at the facility has included: regulatory review; preparation of groundwater sampling and analysis plans; sample preparation, collection, documentation; and data entry/reduction and statistical analyses. Hull managed the landfill's ground-water program through two different changes in the applicable regulations, collecting and/or analyzing more than 30 sets of analytical data over 20 years. Hull successfully demonstrated that the elevated concentration of one parameter was the result of the suspended solids in the sample and not due to activities at the facility. In addition to sampling and analysis plans, Hull assisted in the development of a hydrogeological and groundwater monitoring plan, certified the groundwater statistical reports, detection sampling, and analysis plan.

Hull also prepared a Solid Waste Management Plan for the Wood County Solid Waste Management District and assisted with plan implementation. As part of the preparation of the District Plan, Hull evaluated county-wide waste generation and completed characterization activities for preparation of a general district solid waste management plan. Activities included identifying and completing preliminary assessments of abandoned dumps and active landfills within the county and involving close coordination with local, county, and state government representatives.

Hull also conducted an initial feasibility study and is currently performing a pilot study for a gas-to-energy system and assisted the Wood County Landfill in public relations and a number of other environmental monitoring and compliance programs including, but not limited to:

- Leachate monitoring; storm water/National Pollutant Discharge Elimination System (NPDES) monitoring;
- Spill Prevention Control and Countermeasures Plan (SPCC), Stormwater Pollution Prevention Plan development and employee training;
- Composting compliance;
- Fugitive dust permitting;
- Beneficial use of materials for various applications;
- Methane gas monitoring; and,
- Closure plan and economic analysis for post-closure monitoring.

#### ■ WILMINGTON SANITARY LANDFILL [ Vertical Expansion ] [ Wilmington, Ohio

Client Name: City of Wilmington, Ohio  
 Project Duration: January 2009 – Present (Vertical Expansion in 2010)  
 Contact: Braden Dunham  
 Type of Project: Comprehensive hydrogeological, landfill design/permitting, construction drawings and specifications, construction QA/QC, monitoring, assessment and compliance services.  
 Project Goals & Objectives: To obtain a vertical expansion over the existing landfill footprint in a timely manner and minimize the need for additional permitting and construction costs. This was accomplished through pro-active and regular communications with Ohio EPA during the design and permitting process.

Hull teamed with the City of Wilmington to **design a vertical expansion** over the existing waste area to extend the life of Wilmington Landfill, which was scheduled to be closed in first quarter of 2009. Hull's activities included:

- An expansion design consisting of placing a separatory liner system and developing disposal areas for future operation;
- Designing a leachate collection system for the expansion area to use gravity to convey the leachate to the existing sump; and
- Designing the soil barrier layer portion of the cap to serve as the soil liner of the expansion area, since the majority of the site has an existing single composite soil liner system.



Hull's expansion design extended the life of the landfill by approximately 14 years and enabled the City to continue utilizing the existing facility for solid waste disposal. The expansion permit was reviewed and

approved by the Ohio Environmental Protection Agency (EPA) in less than 12 months after the submittal. The shortened permitting timeframe was accomplished by regularly communicating with Ohio EPA personnel to have them actively involved in the design process.

■ **HOFFMAN ROAD LANDFILL** | Landfill Engineering, Compliance Monitoring, Leachate Management, and Landfill Gas | Toledo, Ohio

Client Name: City of Toledo, Ohio  
 Project Duration: 1995 – Present  
 Contact: Scott Lockhart, PE | 419.936.2642  
 Type of Project: Engineering design, construction drawings and specifications, construction QA/QC, environmental monitoring and assessment, and compliance services.  
 Project Goals & Objectives: To provide forward-thinking landfill design, monitoring, assessment and compliance services on time and on budget.



Hull partnered with the City of Toledo in providing extensive services for the Hoffman Road Landfill. Our work at this site includes:

- **Development of conceptual design alternatives for a vertical expansion** designed to maximize disposal footprint, extend the time frame for new cell development, and minimize the per cubic yard disposal cost;
- Preparation of construction documents for Phase II Cells 3 and 4 construction, including drawings of compacted clay liner and geomembrane liner plans; leachate collection, removal, and storage systems; and ancillary support items such as perimeter roads and surface water management controls.
- Construction Quality Assurance services for Phase II Cell 5 construction and Phase II Cell 3 closure including additional construction level documents requested by the City; the City continued operations uninterrupted through this process because Hull Cell 5 construction documentation was completed in two phases and coordinated closely with the Ohio EPA. Hull was able to conduct all activities, including additional efforts, within the original budget limits.
- Preparation of construction level staking drawing for the first phase of the proposed expansion at the facility. The Ohio EPA issued an ORC3734.02(G) exemption to the City of Toledo, allowing them to move forward with additional filling of solid waste prior to issuance of the Permit-to-Install application. Tasks included interpretation of design documents, coordination with the City of Toledo, establishing construction control points, and preparing construction staking drawings.
- Third party engineering, consulting evaluation to review feasibility of transporting landfill gas from the Hoffman Road Landfill to the Bay View Waste Water Treatment Plant (WWTP) and preliminary environmental assessment.
- Preparation of a Spill Prevention Control and Countermeasures (SPCC) Plan, Storm Water Pollution Prevention Plan (SWPPP), PCB / Hazardous Waste Management Plan, and assistance with employee training;
- Assistance in the analysis of the potential all-in-cost to the City if the landfill were to be employed in the management of the dredge material, including valuation of airspace reflecting all total capital, operational and financial assurance costs, post closure obligations, etc.

- Assistance with oversight and compliance issues related to management of dredge material at the landfill;
- Evaluation of renewable energy credits, carbon offset, or potential energy sales from the ongoing management of landfill gas at the facility and identification of potential grants that might apply to the gas-to-energy project.
- Assistance with preparation of public education / information publication;
- A leachate recirculation feasibility study to increase/enhance gas from the facility and potentially increase the energy production that will be supplied to the City of Toledo's Waste Water Treatment Plant.
- A review of the facility's operations to analyze leachate generation rates and provided the tools needed to decrease it and thereby reduce costs.

Ecological services Hull provided at the Hoffman Road Landfill include:

- A surface water delineation in the western portion of the facility for relocation of a petroleum pipeline that runs through the area. Hull identified six wetlands totaling approximately three acres and was confirmed by a representative from the U.S Army Corps of Engineers (USACE).
- Completing a Clean Water Act permit associated with the emergency repair of a broken City of Toledo waterline in a wetland adjacent to Mud Creek. Hull responded promptly by immediately visiting the site of the repair, documented the appropriate information and submitted an after-the-fact Section 404 Clean Water Application to the USACE. A Nationwide Permit 12 for the waterline repair was subsequently issued to the City of Toledo by USACE.

Hull's additional environmental compliance activities included managing all aspects of environmental compliance associated with groundwater monitoring for the Hoffman Road Landfill. These activities include:

- Preparation and implementation of a detection monitoring sampling and analysis plan to bring the facility into compliance with the Ohio Administrative Code (OAC) regulations;
- Negotiations with the Ohio EPA on behalf of the City, resulting in reductions of fines assessed to City allowances;
- Technical evaluations to support City's position;
- Assistance to the City of Toledo in reducing the current groundwater monitoring well network, resulting in significant cost savings to the City;
- A detailed review of all available hydrogeologic information available for the facility to assist in the development of a state-of-the-art groundwater monitoring well network;
- A comprehensive monitoring well field evaluation to determine the yield characteristics of each monitoring well installed in three water-bearing zones at the facility;
- Monitoring well installation activities;
- Bid package development;
- Assistance in the selection of the analytical laboratory;
- Management of the large database of groundwater quality data associated with three water-bearing zones;
- Reports of Groundwater Quality consistent with the OAC Regulations;
- Storm water monitoring and reporting in accordance with the facility's NPDES permit; and
- Leachate and explosive gas monitoring, reporting and compliance activities.

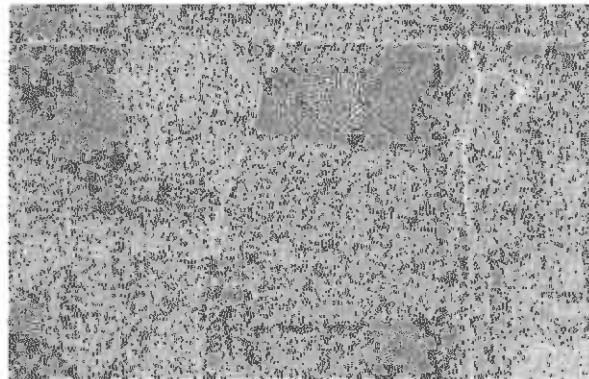
Hull also developed a conceptual model for a Municipal Solid Waste Landfill (MSWL) using hydrogeologic, geochemical, mineralogical, and climatological data to simulate precipitation infiltration and subsequent chemical reaction pathways. The objective of this model was to serve as a tool to demonstrate the expected geochemical results of a leachate release in lieu of statistically evaluating groundwater quality data, where limitations in the methodology often results in "false positive" triggers. As part of the groundwater monitoring program, Hull made successful demonstrations to Ohio EPA to verify that the statistical significances were attributed to a source other than landfill operations.

**FRONTIER RECYCLING AND DISPOSAL, LLC | Landfill Siting, Design and Permitting | Richland County, Ohio**

Client Name: Frontier Recycling and Disposal, LLC  
Project Duration: 2012 – Present  
Contact: Grant Milliron | 419.747.6522  
Type of Project: Comprehensive hydrogeological, ecological, and landfill design/permitting services.

Project Goals & Objectives: To provide forward-thinking landfill design and permitting services on time and on budget. Pro-active planning allowed the facility to be sited as a captive municipal waste landfill, which had some added benefits to the client.

Hull is working with Frontier Recycling and Disposal, LLC, an entity of Milliron industries, to site, design and permit the Frontier Recycling and Disposal Facility. This 33-acre solid waste landfill will exclusively accept auto shredder residue from Milliron Industries. It is designed to provide a total gross airspace of approximately 5.2 million cubic yards and is anticipated to be operational for 26 years.



Hull completed the initial siting and feasibility studies. We also completed engineering analyses and design and prepared the required permits for the facility. Hull's work included the hydrogeologic and subsurface investigations; a Landfill Stability Analysis Report that included a hydrostatic uplift analysis, static stability analysis, seismic stability analysis, and settlement analysis; leachate and surface water management plans and engineering designs (including design of two sedimentation ponds); groundwater monitoring and explosive gas monitoring plans; construction quality assurance/quality control plan; and a final closure/post-closure plan. Hull also prepared and submitted to Ohio EPA a National Pollution Discharge Elimination System (NPDES) Permit, air permit, Isolated Wetland Permit, Landfill Permit to Install (PTI), and Nationwide Permit/Jurisdictional Determination for the U.S. Army Corps of Engineers. Hull participated in Ohio EPA's informational meetings about this project and other stakeholder meetings to gain input from the community and to share information about project plans.

Hull continues to participate in ongoing discussions with Ohio EPA as they review the PTI and all wetlands issues have been resolved with Ohio EPA and the U.S. Army Corps of Engineers. Pending agency approval, it is anticipated that landfill construction could begin in 2016.

**FLINTY CREEK POWER PLANT LANDFILL | Landfill Design and Permitting | Arkansas**

Client Name: American Electric Power  
Project Duration: 2009 – Present  
Contact: Pedro Amaya, PE | 614.716.2991  
Type of Project: Comprehensive hydrogeological, landfill design/permitting, construction drawings and specifications, and construction QA/QC.

Project Goals & Objectives: To complete liner and leachate collection system design and permitting on a compressed timeline. During this, we identified design improvements that reduced overall construction costs and timeframe.



Hull prepared a **permit modification** for an existing Class 3 Non-Commercial Landfill in Arkansas to incorporate an intermediate liner system and leachate collection system over the existing fill area. The project design and permit document preparation work included:

- Performing a **site investigation** including drilling soil borings outside the landfill limits to obtain in-situ soil samples for geotechnical testing, and drilling borings inside the landfill limits to determine in-situ fly ash and set piezometers;
- Evaluating existing siting criteria;
- Designing intermediate liner system grades to optimize regrading efforts and work within the existing facility's design structure, while also incorporating design features that will be conducive with a potential future horizontal and/or vertical expansion;
- Designing the leachate collection system, storage pond and forcemain;
- **Preparing the permit modification application, design report and plan set** that incorporates a vertical expansion and changes in waste stream;
- **Preparing the quality assurance/quality control plan**, operations plan and hazardous waste exclusion plan;
- **Preparing detailed construction cost estimates and landfill volumes**;
- Preparing stormwater pollution prevention plans and designing erosion and sediment control structures;
- Designing contact water management structures and pond;
- Evaluating the reuse of dredged ash from the ash pond and the relocation and placement of the dredge material within the landfill, including the construction of a test fill and development of material placement specifications;
- Performing comprehensive borrow investigations to identify borrow soils for long-term planning purposes;
- Preparing construction drawings, specifications and other supporting documents required for bidding.
- Performing landfill CQA services for construction of the intermediate liner and leachate collection system, final cover system, sedimentation basins, leachate and contact water ponds, contact water conveyance pipe, and landfill stormwater control structures.
- Providing engineering assistance during construction.
- Preparing operations plan designed to provide guidance for initial phase of filling, including separation of stormwater and contact water.

#### ■ **KYGER CREEK LANDFILL** | Landfill Siting, Design, Permitting and Construction Support | Cheshire, Ohio

Client Name: American Electric Power  
 Project Duration: 2005 – 2013  
 Contact: Pedro Amaya, PE | 614.716.2991  
 Type of Project: Comprehensive hydrogeological, landfill design/permitting, construction drawings and specifications, construction QA/QC and compliance services.  
 Project Goals & Objectives: To complete the design and permitting on the greenfield site in a timely manner while negotiating the complex hydrogeology and topography at the site. Hull was able to reclassify three aquifers to significant saturated zones through detailed investigations and demonstrations. In addition, we designed a temporary storage area to assist with disposal challenges at the plant and meet client needs.

Hull assisted our client by providing **comprehensive engineering design, permitting, construction planning, and engineering support** to develop a new Class III Residual Waste Landfill in Ohio.

The projects have included:

- Performing a final **site selection study** to assist in determining the most suitable site for development from the previously two selected two possible sites;

- Performing **comprehensive hydrogeological and geotechnical investigations** including hydrogeological field investigations, geotechnical laboratory analyses and slope stability and settlement analyses;
- Preparing the **design and permit documents** for the main landfill area, as well as a temporary storage area wastewater treatment permit that was needed to provide a disposal area prior to receipt of the final Class III residual waste permit;
- Designing the groundwater interceptor, liner and final cover systems;
- Designing the leachate collection system and storage ponds;
- Designing the surface water management structures including sedimentation ponds, drainage ditches, culverts and rock letdowns;
- Developing the groundwater monitoring program;
- Preparing the quality assurance/quality control plan;
- Assisting with the design of the main asphalt haul road;
- Performing site-wide geotechnical investigations and laboratory testing to assist with the long-term borrow development and construction planning;
- Preparing detailed construction cost estimates and construction drawings for the temporary storage area, phase I of the landfill development; and the haul road;
- Preparation of a detailed, four-year stormwater pollution prevention plan to identify appropriate sediment and erosion control measures during development of the temporary storage area, haul road and initial landfill construction activities;
- Preparation of **construction documents for cell extension and leachate pond construction**, and providing engineering support during construction.

By demonstrating yields of less than 0.1 gallons per minute, we were able to obtain a reclassification of three aquifers to significant saturated zones. In addition, Hull has also provided general engineering and operational during landfill development activities, including developing a plan to manage contact water during different stages of operation.

### ■ NOBLE ROAD LANDFILL | Greenfield/Municipal Solid Waste Landfill | Richland County, Ohio

Client Name: Milliron Industries  
 Project Duration: 1992 – 2003  
 Contact: Grant Milliron | 419.747.6522  
 Type of Project: Comprehensive hydrogeological, ecological, landfill design/permitting, construction drawings and specifications, construction QA/QC and compliance services.  
 Project Goals & Objectives: To complete the design and permitting on the greenfield site in a timely manner while negotiating through the complex hydrogeological and ecological challenges at the site.

Hull partnered with this client to provide siting and overall design of a new solid waste landfill including a four stage hydrogeologic study, an archaeological study, and a comprehensive wetland mitigation process. Unique features included the establishment of a facility footprint that minimizes impacts on wetlands and an adjoining State Nature Preserve. As a greenfield development, public opposition was great, and Hull was therefore involved in many public information meetings and public hearings.

As part of the wetland permitting process, Hull:

- completed an Alternative Site Analysis as part of the Federal Clean Water Act Section 404 permit application;
- provided wetland mitigation design services as part of federal and state requirements; and
- attended many meetings with U.S. Army Corps of Engineers and Ohio EPA officials.

The composite liner system contained five feet of recompacted clayey soils, a 60 mil HDPE flexible membrane liner and a granular leachate collection system. The facility is adjacent to a State Nature Preserve that caused significant public opposition. The facility design considered the sensitivity of the Nature Preserve along with high quality wetland habitat. We successfully provided a 102-acre landfill footprint with a minimum of impact (less than five acres) on wetland communities. The wetland mitigation, accomplished on-site, is considered a model for this part of Ohio by regulatory agencies. Hull provided QA/QC services for the placement of 100,000 cy of added geologic materials, approximately 200,000 cy of recompacted soil liner, the installation of approximately 1,000,000 sq. ft. of 60 mil HDPE liner, and the installation of the leachate collection system. Hull oversaw and documented the construction of the facility infrastructure including a 30,000 gallon leachate conveyance and storage system, approximately 2,000 feet of a full depth asphalt haul road, a state of the art tire wash, and the office/maintenance facilities. Hull also observed, documented and implemented all of the construction and environmental monitoring programs for this "Greenfield" landfill.

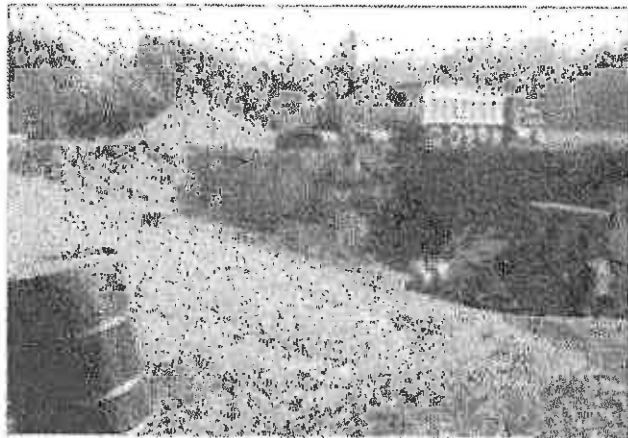
### ■ CITY OF TIFFIN LANDFILL | Environmental Assessment and Corrective Action | Tiffin, Ohio

Client Name: City of Tiffin, Ohio  
 Project Duration: 1999 – Present  
 Contact: Brent Howard | 419.447.2521  
 Type of Project: Comprehensive site assessment/corrective actions, ecological, cap and surface water management system design, construction drawings and specifications, construction QA/QC and compliance services.  
 Project Goals & Objectives: To negotiate a responsible assessment and corrective measures strategy for a historic closed landfill, and implement the strategy in a cost-effective manner.

Hull partnered with the City of Tiffin to negotiate a responsible site assessment and corrective measures strategy at a pre-1976 closed landfill owned by the City. This was in response to Clean Water Act violations issued by Ohio EPA as a result of a verified citizen's complaint.

Hull negotiated a responsible site assessment and corrective measures strategy at the closed landfill. As part of the assessment, Hull completed:

- Site-specific and regional groundwater studies to establish a baseline understanding of site conditions and potential environmental impacts; conceptual site model;
- A groundwater monitoring program to monitor water quality and flow data, subsequently used in modeling and risk assessment studies;
- Surface water studies to model storm water flow and quality and its relationship to groundwater, as well as wetlands determinations/delineations, biotic integrity reviews and an assessment of the water quality and aquatic indicators in the Sandusky River; and
- Studies to develop a conceptual model of how the landfill was constructed, materials managed at the site, and current conditions within the landfill, including leachate distribution, quality and physical landfill cap characteristics, storm water and surface water runoff, and the overall relationship between the landfill and its surrounding environs.



Hull also negotiated an innovative corrective measures strategy that has been implemented and is currently pending final approval from Ohio EPA. This strategy includes risk-based target cleanup standards for groundwater and alternate criteria for surface water discharges to wetlands. Also, the strategy focused on appropriateness and cost and equivalency of the corrective measures, considering that it was an unregulated landfill with minimal cap design requirements.

Corrective measures implemented at the site included:

- Targeted landfill cover (cap) improvements to minimize infiltration of surface water runoff and to minimize leachate migration;
- Surface water and stormwater management to improve drainage to minimize ponding of water;
- Landfill gas management to relieve gas pressure within the landfill;
- Wetland maintenance, monitoring and development of alternate discharge criteria to address surface and groundwater discharges to the wetland; and
- Institutional control to provide access and to allow a buffer zone between waste and adjacent properties.

Cap enhancements focused on establishing positive drainage and were designed to make improvements away from areas where mature vegetation was present (materials were only added to achieve a 1976 OAC cap thickness). Also, monitoring programs for various media were established to evaluate the performance of the corrective measures, and a contingency plan was developed.

Due to the high level of interest by the local media and residents living near the landfill, Hull directed several events to help inform residents about results of landfill investigations and helped correct misinformation being disseminated in the community. Hull established and maintained an information repository at the local library, held press conferences, a public meeting, and responded to media inquiries on behalf of the City.

## **BDM WARREN STEEL, LLC. (FORMER WARREN STEEL FACILITY IN WARREN, OHIO)**

### **Assessment and Remediation | Warren, Ohio**

Client Name: BDM Warren Steel, LLC  
 Project Duration: 2014 – Present  
 Contact: Chuck Betters | 724.375.6170  
 Type of Project: Site Assessment & Remediation, Engineering and Permitting  
 Project Goals & Objectives: To place back into a the tax base an underutilized former industrial property

The BDM Warren Steel Site is an approximately 1,200 acre brownfield located on the west side of Pine Avenue SE, approximately 0.25 miles south of South Street SE. The property, which began steel-making operations around 1912, has changed ownership and names multiple times over the years and has been known as Republic Steel Corporation, LTV Steel Company, WCI Steel, RG Steel, and BDM Steel. Steel production at the mill has ceased and BDM has demolished most of the buildings for site redevelopment. Site redevelopment will occur in multiple phases and is currently in progress.

The Facility manufactured hot rolled strip steel, pickled and oiled hot rolled steel strip, cold rolled steel, and coated flat steel products. Spent pickle liquor, mill scales, metallic sludges, process wastewaters, waste oil, basic oxygen furnace (BOF) slag, BOF precipitator dust, and galvanized lime baghouse dust have been generated during manufacturing operations.

Hull is currently providing multiple-disciplinary services at the Site that includes our Infrastructure and Environmental Market Areas.

**Environmental:**


- Assessment - The Site is entered into the Ohio Voluntary Action Program (VAP) Memorandum of Agreement (MOA) track and a VAP Phase I Property Assessment has been completed. Phase II Property Assessment activities are planned to commence in the first quarter of 2016.
- Surface Water Impoundments - Two surface water impoundments, named Pond #5 and the 56-inch Hot Mill Lagoon, are actively being closed in accordance with an approved Closure Plan that follows Ohio EPA Closure Plan Review Guidance for RCRA Facilities (October 2009). As part of this impoundment closure, several million gallons of water was monitored and discharged to the City of Warren Wastewater Treatment Plant under an activity-specific Order issued by the City of Warren. In addition, several thousand cubic yards of sediments in the base of both ponds was mixed with weathered slag material located on the Property and was placed and compacted within the footprint of Pond #5 under an Integrated Alternative Waste Management Plan (IAWMP) that was approved by the Ohio EPA in December 2016. These alternative management approaches to both the liquids and semi-solid materials located in the ponds resulted in the savings of over \$5 million. The ponds are anticipated to be backfilled to surrounding grade by the end of the first quarter of 2016.
- RCRA Closure - A former area of the Site was formerly used to recycle spent pickle liquor. The process results in the regeneration of the hydrochloric acid used in the steel making process and iron oxide fines. Because spent pickle liquor is a listed hazardous waste and iron oxide fines are generated through the acid regeneration process, the iron oxide is a regulated material if it is not beneficially used. Ohio EPA approved the RCRA Closure Plan in December of 2015 and closure activities are planned to be completed by the end of the first quarter of 2016. Closure activities include the removal of underground lines formerly used to convey spent pickle liquor to the acid regeneration area and the removal of approximately 170,000 gallons of liquid from the former acid storage basin.
- NPDES Program Management - The Site is located adjacent to the Mahoning River and several outfall to the river are monitored under a NPDES permit with the Ohio EPA. On the behalf of our client, Hull negotiated a revised permit with Ohio EPA that reduced the number of outfalls being monitored and the parameters that were included as part of the monitored points. Hull is currently involved with the monthly monitoring and reporting components of the NPDES program.


**Engineering:**

- Specification Preparation and Bid Process Assistance - Hull has prepared demolition specifications for the removal, processing and beneficial use of approximately \$6.5 million of concrete slabs and footers. In addition to the preparation of the bid document, Hull provided bid process assistance that included attending a pre-bid site walk, answering contractor questions through the preparation of addenda to the bid document, and recommendation of a contractor.
- Conceptual Site Layout - Hull prepared for the client a conceptual site layout for approximately 400 acres of the Site. The layout included several medium to large parcels and proposed internal infrastructure.
- Landfill Material Reclamation - On behalf of the Client, Hull is currently negotiating with Ohio EPA on the drawdown strategy of an established escrow account (established by a previous property owner). The escrow account will be used to fund active mining and beneficial use of landfilled materials on the Site and will be based on meeting certain performance standards. The end result will be the beneficial use of a majority of the landfilled materials currently located within a permitted landfill at the south end of the Site.

In addition to these activities, Hull is providing value-added services that includes public relations and funding. To date, Hull has coordinated and led site tours with regulatory entities and local and regional development groups, conducted stakeholder outreach, and coordinated dialogue on funding and grant opportunities.

# HULL'S LANDFILL EXPERIENCE

 Project Name	Civil/Industrial/Other/Other	Municipal/County/State/Other	Environmental Engineering	Regulatory/Permitting/Other	Remediation/Investigation/Other	Air Quality/Noise and Vibration	Environmental Impact Assessment	Other/Other/Other/Other	Other/Other/Other/Other	Other/Other/Other/Other
ACT Landfill, Ohio						X				
ACT Ohio Road and Landfill, New River, West Virginia	X			X	X	X	X			
ACT Landfill, Winton, West Virginia				X	X					
ACT Central Landfill, Bolivar, Ohio				X	X					
ACT Greenville						X				
ACT Royal Oak Landfill, Ravenna, Ohio	X			X		X	X			
ACT White Landfill, Mansfield, West Virginia					X					
ACT Quaker Landfill, Winton, West Virginia					X					
Allied Landfill, Celina Landfill, Ohio	X		X	X	X	X	X		X	X
Allied Landfill, Columbus, Franklin County, Ohio	X		X	X	X	X			X	X
Allied Ohio via Landfill										
Allied Landfill, New River, Lincoln County, West Virginia	X		X	X	X	X	X	X	X	X
Allied (Spartan) Cleveland North Landfill, Shaker City	X	X	X	X	X	X	X	X	X	X
Allied County Landfill, Alliance, Ohio	X	X	X	X	X	X	X	X	X	X
Ames Township, Summit County, Ohio		X	X	X	X	X	X			
Ashtabula Heights Landfill, Ohio						X				
AT Industrial Waste Facility, Sevier, Ohio				X		X		X		
Aurora Ohio Highway Construction Landfill, Masson, Ohio	X		X	X	X	X		X	X	
Avonwood, Ohio					X					
Avonwood Road C&P Landfill, Cuyahoga County, Cleveland, Ohio	X	X		X		X	X		X	
Baker-Warrior Landfill, Wayne Landfill, Wayne, Ohio	X	X			X	X	X	X	X	
BAR Environmental, Ohio	X		X		X	X	X			
Baymont Road Landfill Superfund Site, Kentucky, Ohio										X
City of Cleveland, Ohio						X				
City of Garfield Heights, Ohio						X				
City of Greenburg, Ohio		X		X	X	X		X		
City of Independence, Ohio	X	X	X	X	X	X		X	X	
City of Mansfield, Ohio	X	X	X	X	X	X		X	X	
City of Sandusky, Ohio						X				

 Project Name	Was the project included in the RIP/IR?	Was the project included in the RIP/IR? (If not, why not?)	Environmental Sensitivity	Regulatory Compliance	Regulatory Compliance	Regulatory Compliance	Regulatory Compliance	Regulatory Compliance	Regulatory Compliance	Regulatory Compliance	Regulatory Compliance
City of Marysville, Ohio	X	X	X	X	X	X	X	X	X	X	X
City of Marion, Ohio	X	X	X	X	X	X	X	X	X	X	X
City of Marietta, Ohio	X	X	X	X	X	X	X	X	X	X	X
City of Massillon, Ohio	X	X	X	X	X	X	X	X	X	X	X
City of Newburg, Ohio	X	X	X	X	X	X	X	X	X	X	X
City of North Canton, Ohio	X	X	X	X	X	X	X	X	X	X	X
City of North Olmsted, Ohio	X	X	X	X	X	X	X	X	X	X	X
City of Parma, Ohio	X	X	X	X	X	X	X	X	X	X	X
City of Piquette, Ohio	X	X	X	X	X	X	X	X	X	X	X
City of Solon, Ohio	X	X	X	X	X	X	X	X	X	X	X
City of Warren, Ohio	X	X	X	X	X	X	X	X	X	X	X
City of Wooster, Ohio	X	X	X	X	X	X	X	X	X	X	X
City of Youngstown, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Adams, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Ashtabula, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Cuyahoga, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Franklin, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Hamilton, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Hancock, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Harrison, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Licking, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Logan, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Madison, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Meigs, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Miami, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Monroe, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Morgan, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Murray, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Pickaway, Ohio	X	X	X	X	X	X	X	X	X	X	X
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County of Ross, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Scioto, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Shelby, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Summit, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Tipton, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Warren, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Wayne, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Wood, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Woodhull, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of York, Ohio	X	X	X	X	X	X	X	X	X	X	X
County of Adams, West Virginia	X	X	X	X	X	X	X	X	X	X	X
County of Boone, West Virginia	X	X	X	X	X	X	X	X	X	X	X
County of Cabell, West Virginia	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Kentucky	X	X	X	X	X	X	X	X	X	X	X
County of Boone, North Carolina	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Tennessee	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Missouri	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Iowa	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Arkansas	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Louisiana	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Mississippi	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Alabama	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Georgia	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Florida	X	X	X	X	X	X	X	X	X	X	X
County of Boone, South Carolina	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Texas	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Oklahoma	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Kansas	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Nebraska	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Colorado	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Arizona	X	X	X	X	X	X	X	X	X	X	X
County of Boone, New Mexico	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Idaho	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Utah	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Nevada	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Wyoming	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Montana	X	X	X	X	X	X	X	X	X	X	X
County of Boone, North Dakota	X	X	X	X	X	X	X	X	X	X	X
County of Boone, South Dakota	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Minnesota	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Wisconsin	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Illinois	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Indiana	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Michigan	X	X	X	X	X	X	X	X	X	X	X
County of Boone, Ohio	X	X	X	X	X	X	X	X	X	X	X

\* \* \* ERROR REPORT ( NOV. 22. 2016 1:30PM ) \* \* \*

FAX HEADER 1: WV DIV OF PURCH  
FAX HEADER 2: 3045583970

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PAGE NOT RECEIVED      QUICK SERVICE CODE  
P. 49                      00-23

# : LATCH  
M : MEMORY TX  
S : STANDARD  
U : SUPER FINE  
\* : LAN-FAX

C : CONFIDENTIAL  
L : SEND LATER  
D : DETAIL  
X : EXTRA SUPER FINE  
+ : ROUTING

J : TRANSFER  
@ : FORWARDING  
F : FINE  
b : COLOR  
Q : RECEPT. NOTICE REQ.

P : POLLING  
E : ECM  
O : 300dpi  
!\$ : REMOTE TRANSFER  
A : RECEPT. NOTICE





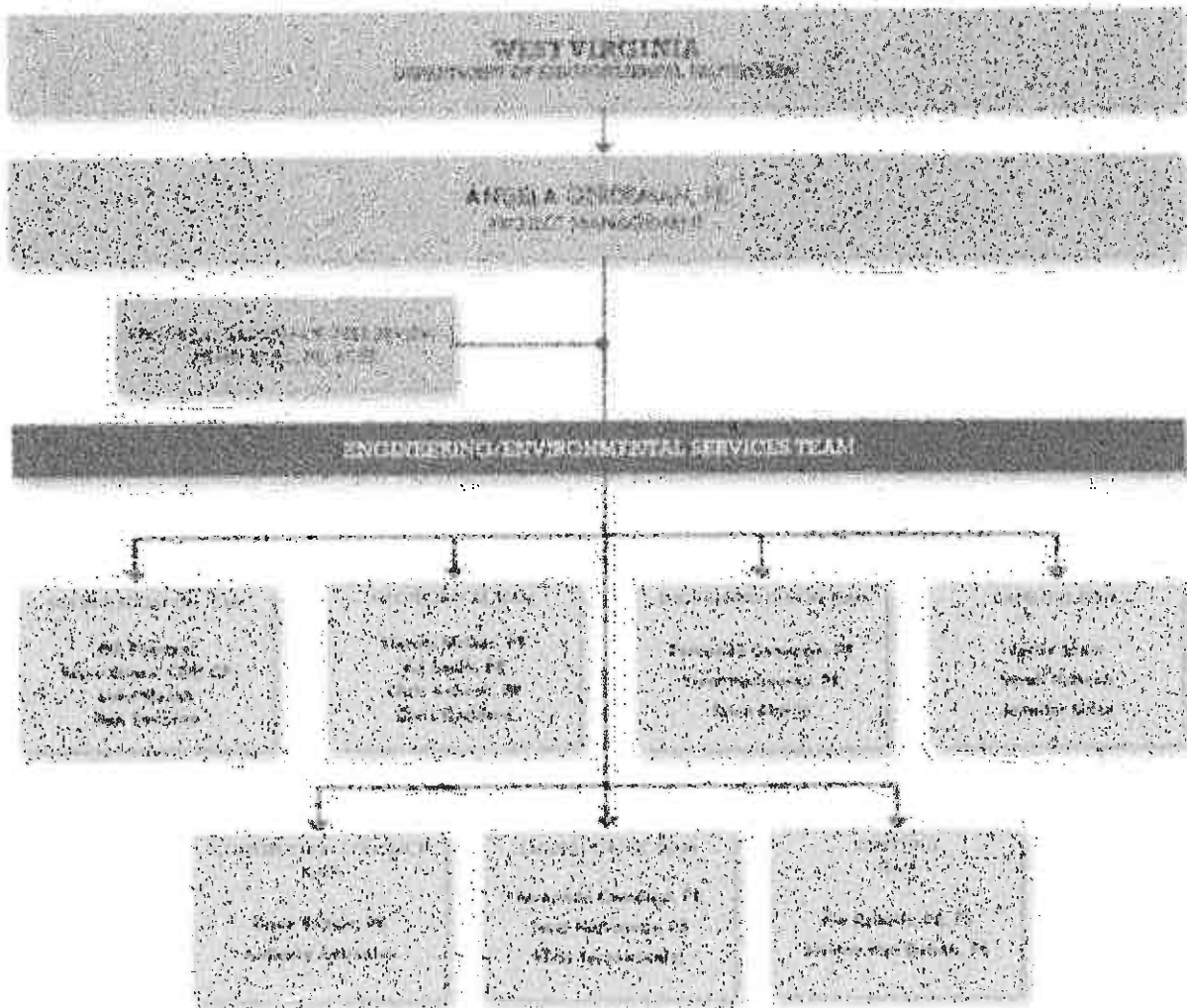


Project Name	Clear Contract Closure Proj. Status	Regulatory Approval / Participation in a Permitting Process	Final Approval / Disposal	Final Regulatory Approval / Disposal	Final Regulatory Approval / Disposal	Final Regulatory Approval / Disposal	Final Regulatory Approval / Disposal	Final Regulatory Approval / Disposal	Final Regulatory Approval / Disposal	Final Regulatory Approval / Disposal	Final Regulatory Approval / Disposal	Final Regulatory Approval / Disposal
Port Clinton Sanitary Landfill, Michigan			X	X								
Waukegan Transfer Station, Michigan				X	X							
Algonquin Landfill, Michigan					X	X						
Lyons & Landfill, Michigan				X	X							
Lyons Landfill, Michigan				X	X							
Smith Creek Landfill, Michigan					X	X						
Easton Landfill, Michigan					X	X						
Franklin Regional Landfill, North Carolina												
Rocky Mountain Landfill, North Carolina			X	X								
Wilmington Landfill, North Carolina			X	X								
Erwin Landfill, North Carolina	X		X									
Little Ferry, Pennsylvania	X											
Franklin, Pennsylvania	X											
Del City, Pennsylvania	X											
WV State Landfill, West Virginia	X			X	X							
Richmond Landfill, West Virginia		X	X									

\* This spreadsheet includes open permits, are designed for regulatory and similar records.  
 \*\* These projects are sponsored by current Hull staff with working for a previous employer.

# SECTION 4 | KEY PERSONNEL

## 4.1 | ORGANIZATIONAL CHART



## 4.2 | RESUMES OF LEAD TEAM MEMBERS

### ■ ANGELA GERDEMAN, PE | Senior Project Manager | PROJECT MANAGEMENT

**HULL**

**EDUCATION**

- Bachelor of Science, Civil Engineering, The University of Toledo, 1992

**TRAINING**

- Landfill Construction Services Refresher (2012)
- Geosynthetic Liner, Compacted Clay Liner, and GCL seminar (2012)
- Landfill CQA Training Refresher (2012)
- Landfill Construction Services Training (2008)
- The Engineer as Leader Seminar, Engineer Foundation of Ohio (2005)
- Comprehensive Nutrient Management Planning Seminar, EMS Solutions (2003)
- Short Course on Embankment Dams, Including Safety of Existing Dams (1999)
- Project Management for Design Professionals (1997)
- Construction Project Administration & Claim Avoidance Seminar (1997)
- OSHA 1910.120 40-Hour Training Course, 8-Hour Refresher Course
- Nuclear Decommissioning Trained Technician (1989)

**CERTIFICATIONS**

- Registered Professional Engineer - Ohio, West Virginia, Pennsylvania, Arkansas, and Kentucky
- Certified CQA, Geosynthetic Material, and Compacted Clay Liner Inspector
- Mine Safety and Health Administration, Impoundment Inspection Certification (2012)

**AFFILIATIONS**

- National Society of Professional Engineers
- Engineers Without Borders
- Ohio Dam Safety Organization, Water Management Association of Ohio
- American Coal Ash Association (Associate Member)

Angie is a senior project manager and the Landfill Engineering Practice Leader for Hull. She has more than 25 years of consulting experience. Angie's expertise includes municipal, industrial, residual, and construction and demolition debris (C&DD) landfill siting, design, permitting, subsurface investigations, laboratory analyses, construction quality assurance (CQA), planning, operations, and closure. She is additionally experienced at dam/impoundment design, permitting, and CQA for water-supply reservoirs and waste settling ponds.

#### Angie's expertise includes:

##### **Landfill Construction Quality Assurance (CQA) Services and Support**

- Manages the construction quality assurance of landfill components such as landfill cells, landfill caps, stormwater sediment ponds and support structures, test pads, leachate collection systems, and protective cover placement.
- Evaluates landfill capacity needs and prepares detailed construction phasing drawings that effectively handle potential surface water runoff, contact water, and leachate generated by construction.
- Performs geotechnical explorations and laboratory testing; observes/tests pads and fills; develops soil processing plans; prepares CQA Plans, construction SWPPPs, and construction reports; and manages CQA services.
- Prepares bid/construction documents, reviews and analyzes bids, and prepares engineer's estimates of probable construction costs.
- Has lead CQA field teams in the construction of double-composite cells, test pads, and composite cap systems at a variety of landfill types.

##### **Landfill Design, Operations, and Supporting Services**

- Manages the design and permitting of municipal, industrial, residual, and C&DD landfills in multiple states; experience includes performing siting studies to identify and rank possible sites, preparing design and Permit-to-Install (PTI) packages; preparing final closure/post-closure plans; developing explosive gas and groundwater monitoring plans; and hydrogeological investigations including wetland and stream evaluations.
- Assists clients with developing long-term phasing and operational plans for landfill development based on planned tonnage, location of access roads, clean and contact water management structures, and interim cover placement. Assists with regulatory compliance.
- Manages the preparation of annual operational and quarterly asbestos reports, operating record updates, quarterly in-place density calculations, and bioremediation of contaminated soils.
- Prepares 10-year best available technology reviews of existing permit documents to assess compliance with existing regulations.

##### Select Project Experience

- Hoffman Road Landfill | Toledo, Ohio
- Multiple AEP Landfill Projects | Ohio, West Virginia, and Arkansas
- Waste Management Stony Hollow Landfill | Dayton, Ohio
- Waste Management Evergreen RDF | Northwood, Ohio
- Stickney Recycling C&DD | Toledo, Ohio
- Wilmington Sanitary Landfill | Wilmington, Ohio
- Milliron Industries | New Greenfield ASR Landfill | Mansfield, Ohio

## ■ JOHN HULL, PE, DCEE | Technical Assistance



**EDUCATION:**

- Master of Science, Civil Engineer, Stanford University, 1976
- Bachelor of Science, Civil Engineer, Ohio Northern University, 1975

**REGISTRATIONS:**

- Registered Professional Engineer - Ohio, Michigan, Pennsylvania, Indiana, New Hampshire, Kentucky, West Virginia, Texas, Connecticut, Vermont, Illinois, Alabama, Massachusetts, Maine
- Board Certified Environmental Engineer Solid Waste Management (AAEE)

**PROFESSIONAL AFFILIATIONS:**

- Permanent Certified UST Professional
- American Academy of Environmental Engineers
- American Society of Civil Engineers
- Association of Soils and Foundation Engineers
- National Society of Professional Engineers
- Ohio Environmental Health Association
- Order of the Engineer
- Water Environment Federation
- Western Dredging Association
- National Water Well Association/National Ground Water Association

**U.S. PATENT NOS:**

- 5,082,500 | 5,538,787
- 5,897,946 | 6,386,796
- 6,558,081 | 7,071,766
- 5,763,724 | 6,024,971

*John is the founder and Chairman of Hull with more than 30 years of experience with a wide variety of engineering and environmental issues. He serves on governor-appointed committees, advises clients on complicated challenges, and provides strategic planning experience to current staff and assists Hull's clients achieve environmentally protective and cost-effective solutions. He is also a Trustee of Ohio Northern University and is a member of the Nature Conservancy (Ohio) board of trustees. John is a registered Professional Engineer in 14 states and is recognized as a Board Certified Environmental Engineer in solid waste management by the American Academy of Environmental Engineers.*

### John's expertise includes:

#### **Solid Waste Management Planning**

- Helped solid waste management districts develop and draft solid waste plans including waste composition studies, waste generation projections, financial budgeting,, recycling and composting programs, disposal capacity projections, and required regulatory update reports. Also assisted with public meetings and communications.
- Directed a recycling study of 12 state universities in Ohio for Ohio DNR.
- Participated in multiple beneficial use projects and delisting of waste streams

#### **Landfill Siting, Design, and Construction**

- Conducted feasibility studies of alternative landfill options for municipalities, counties, and private waste management companies.
- Assisted developers with siting or expanding more than 20 residual/industrial waste sites, construction and demolition debris, and municipal solid waste landfills; Permits-To-Install, wetlands and NPDES (surface water discharge and stormwater) permitting, Clean Air Act Title V permit applications, landfill cell designs, and public relations activities.
- Managed the engineering design of new landfills or landfill expansions and obtained regulatory approval for construction activities at 40+ landfills; diverse designs included integrated stormwater management systems, environmental monitoring, final closure, and QA/QC plans.

#### **Environmental Monitoring Programs for Landfills**


- Provided guidance and oversight for environmental monitoring activities for ongoing operations and post-closure monitoring plans for groundwater, surface water, explosive gas, surface water, and leachate collection systems at more than 60 active and closed landfills.
- Oversaw investigation of potential remedial actions for leachate transport/methane generation at sanitary landfills and closed dumps; also provided remediation, construction services, and litigation support.

#### Selected project experience:

- Multiple AEP Waste Management Projects | Landfills, Permitting, and Construction | West Virginia and Ohio
- Toledo Harbor Sustainable Dredge Management Plan | Identification and evaluation of multiple alternatives for 1,000,000 cy/year sustainable dredge management | Toledo, Ohio
- Milliron Industries | New Greenfield ASR landfill | Mansfield Ohio



**■ WILLIAM PETRUZZI, PG | SITE CHARACTERIZATION AND COMPLIANCE TEAM LEAD**



**EDUCATION:**

- Coursework toward Master of Science in Geology, University of Toledo
- Bachelor of Science in Geology, Youngstown State University, 1986

**TRAINING:**

- OSHA 1910.120, 40-Hour Hazardous Waste Training Course and Annual 8-Hour Refresher
- State of Michigan Storm Water Management at Construction Sites

**CERTIFICATIONS:**

- Registered Professional Geologist - State of Kentucky
- Registered Professional Geologist - State of Pennsylvania
- Radiation Safety and Use of Nuclear Soil Gauges Certification

**AFFILIATIONS:**

- Association of Ground Water Scientists and Engineers, National Ground Water Association
- Ohio Water Pollution Control Association/Water Environmental Federation
- International Association of Hydrologists
- University of Toledo Earth, Environment & Energy Committee
- National Solid Waste Management Association
- American Coal Ash Association

*Bill's areas of expertise include solid waste management; environmental monitoring and compliance programs; hydrogeochemical evaluations; remedial investigations; and special regulatory and research and development projects. He is responsible for project management; solid waste permitting, closure and post-closure programs; life cycle analyses and financial evaluations; environmental monitoring and statistical evaluations for a variety of waste and process materials; beneficial use and conservation projects; storm and waste water programs; project development and strategic planning; and regulatory programs.*

**Bill's expertise includes:**

**Solid Waste Management and Solutions**

- Responsible for leading solid waste management initiatives with private and public sector clients.
- Completes audits, waste characterization, and profiles to evaluate best material management alternatives, including beneficial uses, waste to energy, leachate recirculation, land applications, and waste/storm water management strategies.
- Conducts financial analyses incorporating risk assessment and liability management issues as well as regulatory compliance and life cycle analyses. Supports financial assurance reviews.
- Participates in strategic planning, multi-party negotiations and public relations, expert witness and litigation support, policy analysis, technical studies and rule making processes.

**Compliance Projects**

- Works on remedial system installation/O&M projects; responsibilities include installing system piping, assisting with clients in meeting applicable state and federal regulations, negotiating findings and orders for public and private clients, evaluating draft findings and orders, and assisting legal counsel with technical aspects of settlement negotiations, including risk evaluations, environmental impacts, cost-benefit analyses, alternate criteria or variances, and fate and transport models.

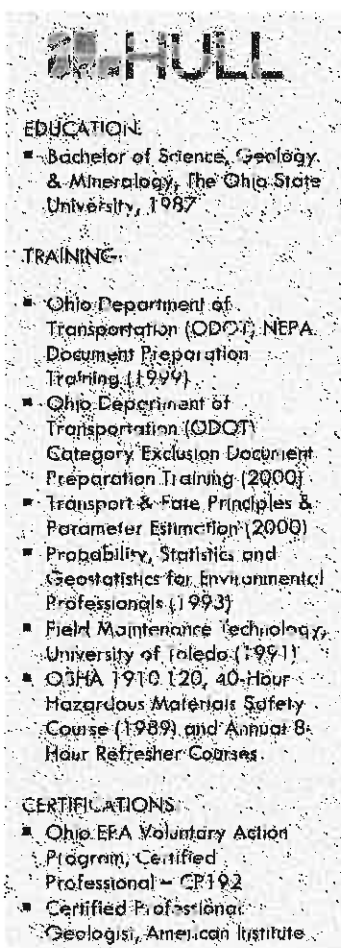
**Environmental Monitoring Programs for Landfills**

- Provided guidance and oversight for environmental monitoring activities for ongoing operations and post-closure monitoring plans for groundwater, surface water, explosive gas, surface water, and leachate collection systems at more than 60 active and closed landfills.
- Oversaw investigation of potential remedial actions for leachate transport/methane generation at sanitary landfills and closed dumps; also provided remediation, construction services, and litigation support.

**Selected project experience:**

- Groundwater, Leachate, Surface Water and Explosive Gas Projects for the City of Toledo, Ohio including: Stickney Avenue and Tyler Street Landfills, Hoffman Road Landfill, Dura Landfill and Former XXKem Facility
- Multiple Republic Services, Inc. Projects | Kentucky and North Carolina

## ■ STEVEN M. GROSS, CPG, CP | HYDROGEOLOGICAL TEAM LEAD



Steven is a Senior Project Manager with over 28 years of experience in environmental consulting. He has been responsible for managing and implementing numerous site assessment investigations and remedial activities in different and complex hydrogeologic environments. Steven's experience includes working with solid and hazardous waste landfill sites, brownfield sites, industrial and commercial properties, assessment and remediation under the guidance RCRA and CERCLA regulations, Ohio Voluntary Action Program (VAP) regulations and BUSTR.

### Steven's expertise includes:

#### **Environmental Assessment**

- Has served as project manager and lead for over 200 Phase I/Phase II Environmental Site Assessments at facilities including small to large retail facilities, commercial storage facilities, manufacturing facilities in the automotive parts/repair and metal processing industry, medical facilities, former industrial sites, and undeveloped property.
- Conducts on and off-site file reviews, site inspections, interviews, intrusive site investigations, and report preparation while ensuring that work is compliant with regulations and client objectives; has also conducted several projects through legal counsel.
- Conducts hydrogeologic investigations and groundwater monitoring using technologies such as ground recovery, soil vapor extraction, bioventing and air sparging, stabilization, and insitu and exsitu bioremediation.

#### **Site Remediation**


- Responsible for managing and implementing site investigations and remedial activities by acting as an Ohio VAP Certified Professional; defining project scopes to meet client needs; providing technical oversight and guidance; reviewing assessment Work Plans; reviewing and comparing data with risk-based VAP standards; and assisting in the development of remedial alternatives.
- Experience includes Superfund/CERCLA Removal Actions; RCRA Remedial Investigations, Corrective Actions, and Closures; NEPA assessments and documentation; U.S. EPA Brownfield Pilot Grant projects; and emergency response.

#### Selected project experience:

- Anchor Hocking Plant No. 2 | Phase I and Phase II Environmental Assessment and Remedial Action Plan | Lancaster, Ohio
- Closed Municipal Landfill Remediation | Superfund Removal Actions | Ashtabula County, Ohio
- Due Diligence Investigation of Waste Disposal Facilities | Multiple Locations, Ohio and Michigan
- Coal Tar Release Emergency Response | Pond Sediment Assessment & Remediation | Bank Stabilization | Northwest Ohio
- Greenfield FGD Landfill Hydrogeological Investigation and Assessment/Southeast Ohio
- Prepared 17 No Further Action Letters under the Ohio VAP, 14 of which have received a Covenant Not to Sue from Ohio EPA



## SHAWN MCGEE, PE | GEOTECHNICAL TEAM LEAD



**EDUCATION:**

- Master of Science, Civil Engineering, University of Toledo, 2003
- Bachelor of Science, Civil Engineering, University of Toledo, 1998

**TRAINING:**

- Managing and Understanding Sediments in Your Watershed (2011)
- ODOT Geotechnical Consultants Workshops (2004-2012)
- NHI Subsurface Investigation Workshop (2006)
- Earth Retaining Structures (2005)
- Watershed and Stream Investigation, Stabilization and Restoration Workshop (2005)

**CERTIFICATIONS:**

- Registered Professional Engineer, Ohio, Pennsylvania, and West Virginia
- American Society of Civil Engineers
- Ohio Dam Safety Organization/ Water Management Association of Ohio
- American Coal Ash Association (Affiliate Member)
- Mine Safety and Health Administration Impoundment Inspection Certification (2012)

**ACCOMPLISHMENTS:**

- 2007 Ohio Society of Professional Engineers Young Engineer of the Year
- 2006 ASCE, Toledo Section Young Engineer of the Year
- 2006 Toledo Young Engineer of the Year, National Engineer's Week
- Chi Epsilon (National Civil Engineering Honor Society)

Shawn specializes in geoenvironmental engineering, which includes traditional geotechnical and slope stability analyses for waste containment facilities. He has performed numerous geotechnical explorations and forensic investigations across the Midwest, planned comprehensive subsurface investigations, and performed a diverse variety of slope stability and hydrogeologic/subsurface analyses. He is experienced with a wide range of construction projects, including residual waste and municipal waste landfills, landslide stabilization/remediation, brownfield redevelopment projects, dams/levees, reservoirs, roads and bridges, and multi-story structures. Shawn is also the manager of Hull's AASHTO Accredited Geotechnical/Materials Testing Laboratory.

### Shawn's expertise includes:

#### **Geotechnical Explorations and Evaluations**

- Performed comprehensive geotechnical explorations and borrow source investigations for cell construction and final capping projects.
- Performed seepage, bearing capacity, settlement and slope stability analyses for several reservoir expansions, levees, dams, and O&G Pads.
- Performs evaluations of subsurface conditions and provides foundation and pavement design considerations and construction recommendations.

#### **Landfill Design and Permitting**

- Lead engineer for permitting and design of residual (CCRs), industrial, municipal solid, and construction and demolition debris landfills. Lead geotech engineer for slope stability and settlement analyses to evaluate landfills and subsurface during various phases of construction and operation, hydrostatic uplift calculations, seepage, detailed hydrogeologic and geotechnical investigations, and haul road designs. Beneficially used shredded tire chips as leachate drainage layer.
- Project Manager for several closed landfill sites to provide negotiations and design support related to Ohio EPA Findings and Orders.
- Designed composite liner and cap systems, landfill gas collection systems and supporting structures. Prepared bid/construction documents, reviewed and analyzed bids, managed construction QA/QC services, and monitored the construction and testing of soil liners; 60 mil HDPE, 40 mil LDPE and PVC geomembrane; GCL, geonets, geocomposite, non-woven geotextile, and geogrids.
- Prepared a permit to install package for a Corrective Action Management Unit for closure of a historic industrial waste lagoon. Designed a constructible separatory liner and leachate management system over the soft and inundated sediment.

#### Select Project Experience:

- ODOT Geohazard Explorations, Landslide Remediation Monitoring and Slope Stabilizations | Statewide
- Multiple AEP Waste Management Projects | Landfills, Permitting, and Construction | West Virginia, Arkansas and Ohio
- Wood County Landfill Engineering, Construction, and Operations Support | Bowling Green, Ohio
- Milliron Industries | New Greenfield ASR landfill | Mansfield Ohio
- Port and Cleveland and Toledo Port Authority | Dredged Material Management Strategies | Cleveland and Toledo, Ohio

**A.J. SMITH, PE | Senior Project Manager**



**EDUCATION:**

- Master of Science, Civil Engineering specializing in Geotechnical Engineering, The Ohio State University, 2009
- Bachelor of Science, Civil Engineering, Ohio Northern University, 2002

**TRAINING:**

- OSHA 40-Hour Health and Safety Training, (2013)
- Erosion and Sediment Control in ODOT Environment, (2012)
- Construction BMP Workshop, (2012)
- Pump Training for Engineers, (2010)
- Stormwater Regulation, (2008)
- GCL University Workshop, (2007)
- ASDSO Regional Dam Safety Workshop, (2002, 2002)

**CERTIFICATIONS:**

- Professional Engineer, Ohio (2007)
- Professional Engineer, Kentucky (2012)
- Certified Professional in Erosion and Sediment Control (CPESC), 2007
- Certified Erosion, Sediment and Stormwater Inspector (CESSWI), 2010
- Certified Floodplain Manager (CFM), 2011

**AFFILIATIONS:**

- American Society of Civil Engineers (ASCE) Secretary, Central Ohio Section (2012-13)
- Association of State Dam Safety Officials (ASDSO)
- Association of State Floodplain Managers, Inc.
- Central Ohio Rain Garden

AJ has 11 years of engineering experience in the design of geotechnical and water resource projects, including earthen dams. His areas of expertise include hydraulics and hydrology (H&H), geotechnical engineering, and erosion and sediment control. AJ manages design projects and the preparation of construction plans and specifications. He has worked with ODNR on the investigation and rehabilitation of multiple state-owned dams.

AJ's expertise includes:

**Dam Investigation and Design**

- Directs geotechnical subsurface investigations for dam and reservoir design projects.
- Prepares reservoir routing models to evaluate storage and discharge capacity of dams based on storm events.
- Performs condition surveys and core sampling of concrete spillway structures.
- Performs slope stability analyses of earthen embankments for dams and up-ground reservoirs.
- Designs abandonment and decommissioning of dams no longer in use.
- Performs dam breach analyses using HEC-RAS and prepares Emergency Action Plans (EAPs) and inundation maps.
- Performs hydrologic analyses to design dam spillway channels and pipes, lake drains, drainage ditches, and impoundment closures.
- Oversees soil embankment construction and the testing of cohesive fill.
- Performs periodic dam and levee inspections.
- Prepares erosion & sediment control plans and SWPPPs for construction sites and performs inspections during construction.

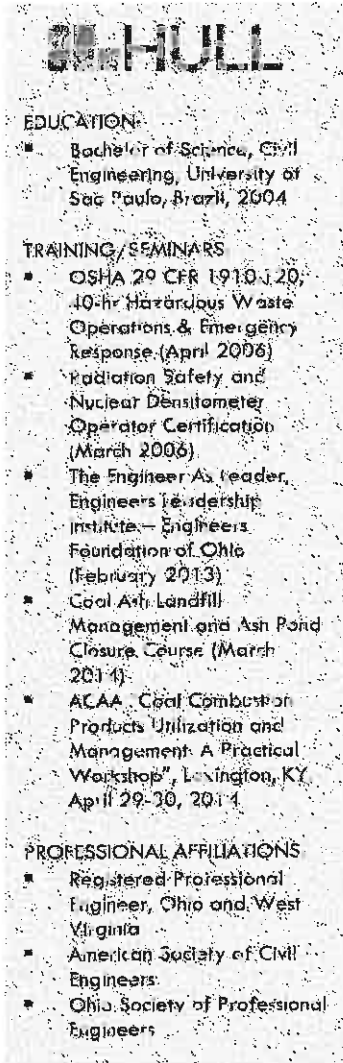
**Shale Oil and Gas**

- Erosion and Sedimentation Inspection and Documentation
- Pre-Drill Water Supply Baseline Sampling
- Water Resource Planning
- Shale Gas Pad Design and RUMA
- Geotechnical Exploration and Impoundment Dam Design

Selected project experience:

- ODNR Statewide Dam Safety Design Services | Various Counties, Ohio
- Glass Rock Plant Dam Abandonment | Perry County, Ohio
- Millwood Plant Dams Inspections & Decommissioning | Knox County, Ohio
- Lake Choctaw Dam Investigation & Modification | Madison County, Ohio
- Tanglewood Lake Dam Improvements | Geauga County, Ohio
- Lake Lucerne Dam Investigation and EAP | Geauga County, Ohio
- Stroman Lake Dam Improvements | Champaign County, Ohio
- Glass Rock Plant Dam Abandonment | Perry County, Ohio
- Millwood Plant Dams Inspections & Decommissioning | Knox County, Ohio
- Mills Pride Floodwall and Levee Inspections | Pike County, Ohio
- City of Wellington Upground Reservoir EAP | Lorain County, Ohio
- City of Columbus 9.3 bgal Upground Reservoir | Delaware Co., Ohio
- City of Lima Upground Reservoirs EAPs | Lima, Ohio
- USACE Hurricane Protection Project, Canal Floodwalls | New Orleans, LA
- Miami & Erie Canal Tow Path Repair | Auglaize County, Ohio

## ■ FERNANDO CAMARGO, PE | ENGINEERING DESIGN & CQA TEAM LEAD



Fernando is a Project Manager and has eight years of experience that includes permitting, construction and operation support, and closure/post-closure care of several landfills in Ohio, West Virginia, and Arkansas. Fernando has also contributed to the development of a long-term harbor dredging plan for a significant port in Ohio. Fernando is a registered Professional Engineer in Ohio and West Virginia.

### Fernando's expertise includes:

#### **Landfill Design, Permitting and Compliance**

- Assists with the preparation of Permit-to-Install and Permit Modification Application packages for residual and solid waste landfills; responsibilities include overall landfill design, leachate generation analysis, comprehensive design for leachate collection and management systems, surface water management system design, and preparing QA/QC, Closure and Post-Closure plans, and Explosive Gas Management Systems.
- Generates preliminary evaluations and cost estimates to support design of several components of landfill construction and operation structures.

#### **Landfill QA/QC Services and Construction Support**

- Acts as the lead QA/QC officer for the construction and expansion of landfills and landfill components such as leachate forcemains, explosive gas monitoring systems, and municipal and residual waste landfills. Work has included overall construction oversight and preparation of Construction Certification Reports.

#### **Landfill Operations and Compliance Support**

- Prepares interim filling plans, annual operational reports and operating record updates, quarterly in-place density calculations for several municipal solid waste landfills in Ohio, regulatory compliance support for closed landfills in Ohio.

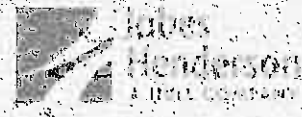
#### **Dredge Material Management Plan**

- Assisted in the development of a plan that evaluated relative costs, feasibility, and environmental, ecological and human impacts/benefits for several different options for long-term sediment management and use of dredge material from Lake Erie.

### Selected project experience:

- Little Broad Run Landfill | Construction and Operations Support | New Haven, West Virginia
- Flint Creek Power Plant Landfill | Permit Modification and Construction Support | Gentry, Arkansas
- AEP Mitchell Landfill | Moundsville, West Virginia
- Evergreen RDF, Inc. | Construction and Operations Support | Northwood, Ohio
- Toledo-Lucas County Port Authority | Toledo Harbor Sediment Management and Use Plan | Toledo, Ohio
- Frontier Recycling and Disposal Facility | Mansfield, Ohio

**Justin Lowe | Director of Land Development**



**EDUCATION**

- Technology Education College
- Associate Degree in Engineering Drafting and Design, CAD 2009

**SOFTWARE EXPERIENCE**

- AutoCAD releases from R14 through C3D 2015
- Storm and Sanitary Sewer Analysis
- PondPack
- Autoturn
- M-Color
- ArcGIS

Years with JHA: 5  
Other: 8

Justin Lowe is Director of Land Development at JHA. He is responsible for overseeing civil design from concept through construction documents and management of project schedules and budgets. Mr. Lowe is experienced in providing residential, commercial, and industrial site planning and design. His ability to organize and discuss future project needs, competency in grading and utility design, and understanding of various agency codes and design criteria provide a background yielding with excellent design skills.

As Project Manager for all of JHA's Oil and Gas Industry development projects, Mr. Lowe has much experience in the design of well pads, pipelines, and impoundments. Supplemental tasks include access road design; water withdrawal and pump design; containment/berm drainage design; right-of-way designation; permitting; construction documents; bidding services; stream crossings, wetland and stream designation, and environmental impact identification; material and construction specifications; utility coordination; and pipeline alignment walks. Mr. Lowe has also managed constructability and handheld ArcPad/GPS with mapping and data collecting in the field.

Justin's expertise includes:

**Oil and Gas Industry**

- Watson Pad, Guernsey County, Ohio
- Silfstone to Wampum, Guernsey County, Ohio
- Wampum to Rector Pipeline, Guernsey County, Ohio
- Wampum Impoundment, Guernsey County, Ohio
- Wampum Connector, Guernsey County, Ohio
- Wampum Pad, Guernsey County, Ohio
- Hall Pad, Guernsey County, Ohio
- Jenkins to Grunder Waterline, Carroll County, Ohio
- Ocel to Jenkins Waterline, Carroll County, Ohio
- Salineville to Ocel Waterline, Carroll County, Ohio
- CDC Take Point, Ohio
- Ursa Major Well Pad, Ohio
- J. Hall Well Pad, Ohio
- Pennsboro Well Pads, Pennsylvania

**Commercial/Industrial Site Development**

- Halliburton Field Camp, Muskingum County, Ohio
- Zanesville Muskingum County Port Authority Rail Spur, Muskingum County, Ohio
- MPW Hebron Campus, Hebron, Ohio
- Southgate Corporation Industrial Sites, Licking County, Ohio
- Prologis Park 70, Etna, Ohio
- Eastpointe Business Park, Zanesville, Ohio
- Heartland Bank, Newark, Ohio
- North Canton Assisted Living Facility, North Canton, Ohio
- Condos at Northtowne, Newark, Ohio
- Market Street/Canal Street Farmer's Market, Newark, Ohio
- Chancellor Health Campus
- John Hinderer Honda Site Building and Parking Additions, Heath, Ohio
- Newark Fire Station, Newark, Ohio
- McClain Office Building, Newark, Ohio
- Williamson Insurance Building
- Community Bank Expansion

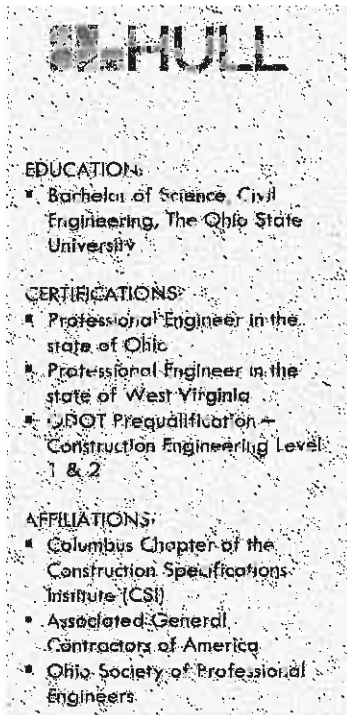
**Communication Towers**

- Harrison County, Ohio
- Clinton County, Ohio
- Mt. Gilead, Ohio
- Putnam County, Ohio
- Licking County, Ohio
- Agile Statewide Towers, Statewide, Ohio
- Bluffton, Ohio

**Parks/Trails/Environmental**

- Hocking Hills State Park A-Frame Bridge, Logan, Ohio
- ODNR Old Man's Cave Trail, Hocking Hills State Park, Ohio
- Stream + Wetlands Foundation Environmental Assistance, Statewide, Ohio
- Statewide Dam Safety Services, Statewide, Ohio
- Dawes Arboretum ADA Trail, Newark, Ohio
- Fetters Run Stream Restoration, Lancaster, Ohio

**■ DAVID BALTZER, CSI, PE | Construction Contract Team Lead**



David Baltzer is the leader of Hull's Construction Services practice. With over 29 years of experience in the construction and development arena, he has lead and managed projects pertaining to energy, waste management, urban revitalization, industry, shale oil & gas, educational facilities, commercial office buildings, treatment facilities and infrastructure. David has established long and respected relationships with public and private owners, contractors, and other consultants, and serves in the lead construction management role for many complex, multidisciplinary projects.

Dave's expertise includes:

**Municipal Wastewater/Stormwater Collection Systems and Water Distribution**

- Acted as project manager and monitored CA/RPR tasks for wastewater/stormwater collection systems (i.e. ditch improvements, box culverts, tunnel culverts, gravity sewers, pump stations, and force mains).
- Acted as project manager and monitored CA/RPR tasks for water distribution projects including installation and testing of water main lines, service connections, valves, hydrants and other water line appurtenances.

**Landfill Engineering**

- Senior Project Manager responsible for providing a constructability review of Closure Plans for a private landfill designed by a Design-Build entity. Also provided limited construction administration and coordinated/scheduled Hull's project representative to monitor construction progress and quality and develop the associated punch list.
- Experienced acting as a Senior Project Manager responsible for providing funding assistance during closure and post closure activities on public landfill sites; managing internal and external resources regarding QA/QC services (soils, concrete, asphalt) for haul roads on a private landfill projects; and coordinating/peer reviewing engineers' opinions of probably construction costs at a private residual waste landfill project.

Selected project experience:

- Demolition and UST Closure: Indian Meadow and Tiffin River Service Plazas | Ohio Turnpike Commission Milepost 20.8
- East 44<sup>th</sup> Street Roadway & Utility Improvements | Cuyahoga County, Ohio
- Water Line and Sewer Inspection | Northwestern Water & Sewer District
- Pilkington Glass Facility Powerhouse Demolition Project | Ottawa, IL
- ODNR Muskingum River Lock Repairs | Zanesville, Ohio
- 52-Story High Rise Office Building | Construction Management | Indianapolis, Indiana
- Rio Grande University Campus Building Project | Construction Management | Rio Grande, Ohio
- Former Frick Gallagher | Ray O Vac Site Demolition and Remediation Project | Lancaster, Ohio
- Cardinal Haul Road | Quality Assurance/Quality Control | Brilliant, Ohio
- Countywide RDF West Haul Road Project | East Sparta, Ohio
- Franklin County Metroparks | Glacier Ridge Metro Park Roadway Project | Jerome Township in Union County, Ohio

**JAMES G. ROBERTS, P.E. | President**



Jim Roberts is President and Manager of James Henderson & Associates, Inc. (JHA.) He is a Registered Professional Engineer in Ohio, West Virginia, Pennsylvania, and Indiana and a Registered Professional Surveyor in West Virginia. He oversees all engineering operations of the company, serving all projects in a quality assurance/quality control position. Under his direction, the company emphasizes strong client relations and project efficiency.

**EDUCATION:**

- Bachelor of Science, Civil Engineering, The Ohio State University

**PROFESSIONAL REGISTRATION:**

- Ohio Professional Engineer No. [REDACTED]
- Pennsylvania Professional Engineer No. [REDACTED]
- Indiana Professional Engineer No. [REDACTED]
- West Virginia Professional Engineer No. [REDACTED]
- West Virginia Professional Surveyor No. [REDACTED]

**AFFILIATIONS:**

- National Society of Professional Engineers
- Ohio Society of Professional Engineers
- American Society of Civil Engineers
- American Public Works Association
- Chi Epsilon Civil Engineering Honorary
- American Water Works Association
- American Society of Highway Engineers
- Licking County Planning Commission Member

Years with JHA: 22  
Other: 10

Mr. Roberts came to JHA in June 1994 after eight years in the Engineering Division of the City of Newark, the last three of which were served as City Engineer. Under his direction Newark took giant strides forward in many areas. Mr. Roberts was responsible for all engineering and capital works in a city with over 200 centerline miles of streets, 79 bridges, and many miles of sanitary sewers, storm sewers, and water lines. He was responsible for an annual capital improvements budget of nearly \$3,000,000.

Since Mr. Roberts took over the Engineering Division of JHA in 1994, the firm has grown dramatically. An operation that once specialized in private development has expanded that service and added municipal engineering; wetlands/environmental design; transportation, traffic and roadway projects; and many other areas of expertise to become a full service, highly diversified operation.

**Selected project experience:**

**Roadway**

- GUE-Southgate Parkway Enhancements | Cambridge, Ohio
- GUE-Oakland Blvd Improvements | Cambridge, Ohio
- LIC-79-11.45 Safety Study and Improvements | Heath, Ohio
- LIC-CR79-0.89 High Street Improvements | Hebron, Ohio
- GUE-8th Street Improvements | Cambridge, Ohio
- LIC-SR13D Mount Vernon Road Improvements | Newark, Ohio
- Taylor/Palmer Road Improvements | Etna, Ohio
- Church St/30th St Intersection Improvements | Newark, Ohio
- Smothers/Harlem Road | Delaware County, Ohio
- S.R. 146/S.R. 60 Connector Road | Zanesville, Ohio

**Stormwater**

- Garfield McKinley Area Drainage Study and Improvements | Newark, Ohio
- Union/Mulberry Street Drainage Study and Improvements | Lancaster, Ohio
- Gambier Stormwater Utility Development | Gambier, Ohio
- Nancy Ave. Storm Sewer | Zanesville, Ohio
- Greenwood Revitalization Project Phase II | Zanesville, Ohio
- Citywide Drainage Master Plan | Heath, Ohio
- Newark Stormwater Utility Development | Newark, Ohio
- Sheridan and Hoffman Drives Storm Water Improvements | Lancaster, Ohio
- Forest Hills Drainage Study | Heath, Ohio
- NPDES Annual Storm Water Management Program | Heath, Ohio

**Water**

- Lancaster Industrial Park Waterline | Lancaster, Ohio
- PIME/Seminary Road Water System Improvements / Extension | Heath, Ohio

- 30th Street Waterline | Newark, Ohio
- SR 79 Waterline | Heath, Ohio
- Flying J Travel Plaza, System Analysis and Upgrade | Heath, Ohio
- East Heath Water System Upgrade | Heath, Ohio
- Village Of Granville/Longaberger Waterline Upgrade | Granville, Ohio
- Leisure Village Mobile Home Park | Buckeye Lake, Ohio

#### **Sanitary Sewer**

- Fox Run Sewer System | Heath, Ohio
- Hainesview Estates Treatment Plant | Licking County
- Forest Hills Sewer Lining | Heath, Ohio
- Lake Allen Sewer Separation | Lancaster, Ohio
- East College Street Sewer Replacement | Granville, Ohio
- Buckeye Lake Infiltration/ Inflow Study | Buckeye Lake, Ohio
- Southwest Licking Community Water & Sewer District | Pataskala Ohio
- Dawes Arboretum Sewer System | Heath, Ohio
- Forest Hills Lift Station and Sewer Extension | Heath, Ohio
- Thornwood Drive Sewer Extension | Heath, Ohio
- Greenbriar Pump Station | Heath, Ohio

#### **Bridge**

- PAU-49-7.22 Bridge Replacement | Paulding County, Ohio
- MAR-23-7.66 Bridge Replacement | Marion County, Ohio
- DEL-CR215-1.15 Bridge Replacement | Delaware County, Ohio
- WAS-124-3.50 Bridge Improvements | Washington County, Ohio
- VAR-District 6 US33 and IR270 | ODOT District 6, Ohio
- HAM-71-5.71 Bridge Rehabilitation, ODOT District 8 | Hamilton County, Ohio
- CLA-04-23.12 Bridge Replacement, ODOT District 7 | Clark County, Ohio
- 21st Street Bridge Rehabilitation | Newark, Ohio
- Newark Bridge Inspections | Newark, Ohio
- Heath Bridge Inspections | Heath, Ohio
- Zanesville Bridge Inspections | Zanesville, Ohio
- HNLCPA Bridge Inspections | Heath, Ohio

#### **Oil and Gas Industry**

- Watson Pad | Guernsey County, Ohio
- Siltstone to Wampum | Guernsey County, Ohio
- Wampum to Rector Pipeline | Guernsey County, Ohio
- Wampum Impoundment | Guernsey County, Ohio
- Ursa Major Well Pad | Ohio
- J. Hall Well Pad | Ohio
- Jenkins to Grunder Waterline | Carroll County, Ohio
- Ocel to Jenkins Waterline | Carroll County, Ohio
- Salineville to Ocel Waterline | Carroll County, Ohio
- Ceritas Site Selection Analysis | Tuscarawas County, Ohio

#### **Business Site Development**

- GUE- Halliburton Field Camp | Zanesville, Ohio
- Etna Corporate Park | Licking County, Ohio
- Newark Industrial Park | Hebron, Ohio
- Mid-Ohio Industrial Park | Heath, Ohio
- Eastpointe Business Park | Zanesville, Ohio
- D.O. Hall Business Park | Cambridge, Ohio
- Central Ohio Aerospace and Technology Center | Heath, Ohio
- Prologis Park 70 | Etna, Ohio



- Lancaster Industrial Park | Lancaster, Ohio
- Logan Hocking Industrial Park | Logan, Ohio

**Paths and Trails**

- Dawes Arboretum ADA Trail | Newark, Ohio
- Camp Chase Bike Path | Columbus, Ohio
- Darby Creek Trail | Franklin County, Ohio
- Kane's Crossing Bridge Rehabilitation | Galena, Ohio
- FRA-Scioto Bikeway Connector | Columbus, Ohio
- Hocking Hills State Park A-Frame Bridge | Logan, Ohio
- Holmes County Trail, Phase 5C | Holmes County, Ohio
- Northwest Athens Bikeway Spur | Athens, Ohio
- LIC-Irving Wick Drive West Pedestrian Bridge Design | Heath, Ohio
- Marietta River Trail Phase III, V | Marietta, Ohio
- Riverfront Walkway/Bikeway Corridor | Heath, Ohio
- LIC-Heath Bikeway-Shared Use Path | Heath, Ohio
- LIC-Bike Tunnel-Shared Use Path | Heath, Ohio
- Bikeway Master Plan | Heath, Ohio
- Olentangy Trail Improvements, Phase I | Columbus, Ohio
- HAM-71-5.71 | Hamilton County, Ohio
- Downtown Church Street Bike Trail | Newark, Ohio
- Toledo Area Metro Parks Trail and Trail Rest Stops | Toledo, Ohio
- Licking County Health Department Walking Trail | Newark, Ohio
- Ludowici Trail | New Lexington, Ohio

**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
CONSULTANT QUALIFICATIONS QUESTIONNAIRE**

<b>PROJECT NAME:</b> Site Characterization Study, Leachate Management and Closure Cap for City Wheeling Landfill		<b>DATE (DAY, MONTH, YEAR):</b> 22 November 2016		<b>FEIN:</b> 34-1549829			
<b>1. FIRM NAME</b> Hull & Associates, Inc.		<b>2. HOME OFFICE BUSINESS ADDRESS</b> 219 South Erie Street Toledo, Ohio 43604		<b>3. FORMER FIRM NAME</b> Not Applicable			
<b>4. OFFICE TELEPHONE</b> 614.793.8777	<b>5. ESTABLISHED</b> 1980		<b>6. TYPE OF OWNERSHIP</b> Corporation		<b>6A. WV REGISTERED DBE</b> NO		
<b>7. PRIMARY OFFICE: ADDRESS   TELEPHONE   PERSON IN CHARGE   NO. PERSONNEL EACH OFFICE</b>  219 South Erie Street   Toledo, Ohio 43604   419.385.2018   Michael Coonfare   28 employees 6397 Emerald Parkway, Suite 200   Dublin, Ohio 43016   614.793.8777   Dave Mustafaga   44 employees 4 Hemisphere Way   Bedford, Ohio 44146   440.232.9945   Eric Wilburn   24 employees 300 Business Center Drive, Ste 320   Pittsburgh, Pennsylvania 15205   412.446.0315   Dom Anselmo   10 employees 4770 Duke Drive, Suite 300   Mason, Ohio 45040   513.459.9677   Eric Montgomery   9 employees 146 West Main Street, Second Floor   St. Clairsville, Ohio 43950   800.241.7173   AJ Smith   9 employees 126 Margaret Circle   Austin, Texas 78737   800.241.7173   Lance Turley   1 employee 59 Grand Street   Newark, Ohio 43055   740.344.5451   Jim Roberts   31 employees							
<b>8. NAME   TITLE   TELEPHONE NUMBER OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM</b>  <table style="width:100%; border:none;"> <tr> <td style="width:50%; border:none;"> <b>Craig A. Kasper, PE</b>   CEO   Director   614.793.8777  <b>John H. Hull, PE</b>   Chairman   Director   419.385.2018  <b>Bradford S. White, Ph.D.</b>   Director   513.459.9677                 </td> <td style="width:50%; border:none;"> <b>David L. Richards, PE</b>   COO   Director   614.793.8777  <b>David B. Mustafaga, CPG</b>   Director   614.793.8777  <b>Eric H. Wilburn, PE</b>   Director   440.232.9945                 </td> </tr> </table>						<b>Craig A. Kasper, PE</b>   CEO   Director   614.793.8777 <b>John H. Hull, PE</b>   Chairman   Director   419.385.2018 <b>Bradford S. White, Ph.D.</b>   Director   513.459.9677	<b>David L. Richards, PE</b>   COO   Director   614.793.8777 <b>David B. Mustafaga, CPG</b>   Director   614.793.8777 <b>Eric H. Wilburn, PE</b>   Director   440.232.9945
<b>Craig A. Kasper, PE</b>   CEO   Director   614.793.8777 <b>John H. Hull, PE</b>   Chairman   Director   419.385.2018 <b>Bradford S. White, Ph.D.</b>   Director   513.459.9677	<b>David L. Richards, PE</b>   COO   Director   614.793.8777 <b>David B. Mustafaga, CPG</b>   Director   614.793.8777 <b>Eric H. Wilburn, PE</b>   Director   440.232.9945						
<b>9. NUMBER OF PERSONNEL BY DISCIPLINE (Bold Lettering Indicates Minimum Design Team Members)</b> Detailed information on Team to be included							
<u>14</u> <b>Administrative</b>	<u>8</u> <b>Ecologists</b>	<u>    </u> <b>Landscape Architects</b>	<u>1</u> <b>Structural Engineers</b>				
<u>    </u> Architects	<u>    </u> Economists	<u>    </u> Mechanical Engineers	<u>9</u> <b>Surveyors</b>				
<u>2</u> <b>Biologists</b>	<u>    </u> Electrical Engs	<u>    </u> Mining Engineers					
<u>4</u> <b>CADD Operators</b>	<u>19</u> <b>Environmentalists</b>	<u>    </u> Photogrammetrists	<u>15</u> <b>Others</b>				
<u>    </u> Chemical Engineers	<u>2</u> <b>Estimators</b>	<u>    </u> Planners:Urban/Regional					
<u>26</u> <b>Civil Engineers</b>	<u>23</u> <b>Geologists</b>	<u>    </u> Sanitary Engineers					
<u>6</u> <b>Construction Inspectors</b>	<u>    </u> Historians	<u>9</u> <b>Soils Engineers</b>					
<u>5</u> <b>Designers</b>	<u>10</u> <b>Hydrologists</b>	<u>    </u> Specification Writers					
<u>    </u> Draftsmen			<u>153</u> <b>Total Personnel</b>				
<b>TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: 3</b> * RPEs other than Civil must provide supporting documentation that qualifies them to supervise and perform this type of work.							
<b>10. If submittal is by a joint venture, list participating firms and outline specific areas of responsibility (including administrative, technical and financial) for each firm. Each participating firm must complete a "Consultant Confidentiality Qualification Questionnaire".</b> Not Applicable							
<b>10a. HAS THIS JOINT VENTURE WORKED TOGETHER BEFORE?</b> YES NO							
<b>11. OUTSIDE KEY CONSULTANTS/SUB-CONSULTANTS ANTICIPATED TO BE USED:</b>							
<b>NAME AND ADDRESS:</b>		<b>SPECIALITY:</b>		<b>WORKED WITH BEFORE:</b>			

**12A. Is your firm experienced in SOLID WASTE LANDFILL CLOSURE DESIGN?****YES – Description and Number of Projects**

Hull has provided waste management solutions to municipal and private clients for over 30 years. Our chief practitioners have over 150 years of combined experience in waste management. In fact, our company was originally founded on waste management solutions service offerings. Included in Hull's EOI is a Landfill Experience Matrix that provides a comprehensive list of projects and services. We have provided closure design services at over 40 landfills. At many of these landfills we have also prepared construction documents (bid/construction drawings, specifications and detailed cost estimates) and provided construction quality control/quality assurance (QA/QC) at many of these landfills. Our involvement in the construction process has provided experience essential to developing sound and cost-effective closure designs.

**12B. Is your firm experienced in SOLID WASTE LANDFILL SITE CHARACTERIZATION ASSESSMENT AND EVALUATION?****YES – Description and Number of Projects**

Hull has performed site characterization assessment and evaluation work at over 50 landfills. We have successfully assisted our clients with responsible site characterization, assessment and corrective measures strategies at active and closed solid waste and residual waste landfills. We have conducted site-specific and regional groundwater studies to establish a baseline understanding of site conditions and potential environmental impacts; developed conceptual site models; established groundwater monitoring programs to monitor water quality and flow data; completed groundwater modeling and risk assessment studies; conducted surface water studies to model storm water flow and quality and its relationship to groundwater; conducted studies to assess groundwater impact on receiving streams; and conducted studies to develop models to evaluate how the landfill was constructed, materials managed at the site, current conditions within the landfill, and the overall relationship between the landfill and its surrounding environs.

**12C. Is your firm experienced in LANDFILL CLOSURE CONSTRUCTION INSPECTION?****YES – Description and Number of Projects**

Hull has provided landfill construction QA/QC services for approximately 50 municipal, residual, industrial and construction and demolition debris landfills. Services have included: preparing construction documents; performing soil borrow investigations and laboratory testing; constructing soil test pads (as needed); providing field representatives to observe and document construction activities, and perform field testing of soil and geosynthetic materials; providing office technical guidance and support during construction activities; providing certification surveying during construction to verify compliance with the design/permit requirements; and preparing the construction certification report for submittal to the appropriate regulatory agencies. We have also provided comprehensive services to many clients that included overall project management and planning, providing multi-person field teams on large projects involving year-round construction for several years, and setting up field laboratories for soils testing.

**12D. Is your firm experienced in AERIAL PHOTOGRAPHY and the Development of CONTOUR MAPPING?****YES – Description and Number of Projects**

ARM/Noble Pipeline – Noble, WV  
 Parkersburg Riverfront Park As-Built – Parkersburg, WV  
 Denison University Topo – Granville, Ohio  
 21<sup>st</sup> Street Topo – Newark, Ohio  
 East Main Street Topo and Boundary – Newark, Ohio  
 Thornville Topo and Boundary – Thornville, Ohio  
 Ashland Chemical Co. Topo – Ashland, Ohio  
 Centenary United Methodist Church Topo and Boundary  
 Brookside Apartment Complex Topo and Boundary  
 Cleveland Hall Topo – Granville, Ohio  
 Ecology Row Topo  
 Encore Plastics Topo  
 Glad Rd and SR 16 Topo and Boundary  
 GE Newark Quartz Plant Topo – Newark, Ohio  
 Good Samaritan Medical Center Topo and Boundary  
 Heath Church of Christ Topo – Heath  
 KOCH Plant Topo  
 Mt. Vernon Nazarene University Student Center Topo – Mt. Vernon, Ohio

Newark Airforce Base Topo – Newark, Ohio  
Newark Bike Path Topo – Newark, Ohio  
Newark Granville Road Topo and Boundary – Newark, Ohio  
Newark Granville Road 100-Acre Site Topo – Newark, Ohio  
Ohio Eastern Star Homes Topo – Mt. Vernon, Ohio  
Pearson Metro Park Topo – Oregon, Ohio  
Pike Avenue Topo and Boundary – Heath, Ohio  
Quentin Road Topo  
Ramp Creek Phase IV Topo  
River Road Handel Property Topo  
Settlement at Pataskala Topo – Pataskala, Ohio  
SR 310 Topo – Etna, Ohio  
Zanesville City Schools Topo – Zanesville, Ohio  
Marne Road Topo  
Raccoon Valley Road Topo  
Cedar Run and Bike Path Topo  
SR661 Topo  
Church Street Topo – Newark, Ohio  
US 40 Topo  
University Estates Development Aerial Topo Control  
US23 & SR750 Topo  
Wabash Topo – Zanesville, Ohio  
Waterworks Road Topo of Newark Dam – Newark, Ohio  
West Main Street Topo – Newark, Ohio

**12E. Is your firm experienced in EVALUATING GROUNDWATER CONTAMINATION, such as may be associated with landfills?**

**YES – Description and Number of Projects**

Hull has evaluated groundwater contamination for more than 50 landfills. Our team has extensive experience in evaluating groundwater monitoring programs, conducting assessment investigations to determine potential groundwater contamination, and determining the most efficient and effective corrective measures, if merited. As part of these evaluations, we have completed detailed geochemical demonstrations including geochemical modeling to determine if a potential release of leachate-derived constituents to the groundwater has occurred. The Hull team has extensive experience with geochemical modeling to support/assist in these analyses. We have completed geochemical conceptual models, using hydro geologic, geochemical, isotopic, mineralogical, and climatological data to simulate precipitation infiltration and subsequent chemical reaction pathways to serve as a tool to determine the expected geochemical results of a leachate release to groundwater. Our understanding of groundwater geochemistry has proved invaluable to our clients in preventing some sites from going into assessment, effectively conducting assessment investigations to understand the potential groundwater contamination in others, and selecting the most effective corrective measures.

**12F. Is your firm experienced in LANDFILL CLOSURE COST ESTIMATING?**

**YES – Description and Number of Projects**

Hull is very experienced in preparing detailed engineer's estimates of probable construction costs for landfill closure and development projects, and have provided related services for more than 50 landfills. Our team of professionals is experienced in performed detailed quantity take-offs. We have an internal database that we regularly update that contains construction pricing for projects we have been involved with, and also have strong relationships with many contractors that we reach out to, as needed, to help refine our estimates. We work closely with our clients to assist them with forecasting costs, and also phasing projects to match the client's budgetary constraints.

**13. Personal History Statement of Principals and Associates responsible for overall LANDFILL CLOSURE DESIGN project**

NAME & TITLE (Last, First, Middle Initial)	YEARS OF EXPERIENCE		
	Years of Landfill Closure Design Experience	Years of Landfill QA/QC Experience	Years of Heavy Earthwork Construction Experience
Gerdeman, Angie M., P.E.	25	28	28

**Brief Explanation of Responsibilities:**

Angie will be the project manager for the City of Wheeling Landfill project. She is a Senior Project Manager with more than 28 years of experience and is the Landfill Engineering Practice Leader for Hull. She started at Hull in our in-house soils laboratory and performed construction quality assurance activities in the field on numerous landfill test pads, cells, cap systems, which provided practical experience to base future design work upon. Her years of landfill consulting experience include municipal and industrial landfill siting, design and permitting of new landfills and landfill expansions, construction quality assurance, test pad evaluations, compliance, operations, closure, subsurface investigations and laboratory analyses. Additional experience includes dam design, permitting, and construction for water-supply reservoirs and lime residual waste settling ponds.

**Education (Degree, Year, Specialization):** B.S., Civil Engineering, 1992 – University of Toledo

**Membership in Professional Organizations:**

- National Society of Professional Engineers
- American Coal Ash Association
- Engineers Without Borders

**Registration (Type, Year, State):**

- Registered PE, West Virginia #017858
- Registered PE, Arkansas, Kentucky, Pennsylvania, and Texas, Ohio
- Certified CQA Geosynthetic Materials and Compacted Clay Liner Inspector (2013)
- Mine Safety and Health Administration, Impoundment Inspection Certification (2012)
- Radiation Safety and Use of Nuclear Soil Gauges Certification

**13. Personal History Statement of Principals and Associates responsible for overall LANDFILL CLOSURE DESIGN project**

NAME & TITLE (Last, First, Middle Initial)	YEARS OF EXPERIENCE		
	Years of Landfill Closure Design Experience	Years of Landfill QA/QC Experience	Years of Soils Laboratory Experience
Hull, John H., P.E.	36	36	36

**Brief Explanation of Responsibilities:**

John will be a technical resource for the City of Wheeling Landfill project. He is the founder and Chairman of Hull with more than 41 years of experience with a wide variety of engineering and environmental issues. He is a registered Professional Engineer in 14 states and is recognized as a Board Certified Environmental Engineer in solid waste management by the American Academy of Environmental Engineers. John serves on governor-appointed committees, advises clients on complicated challenges, and provides strategic planning experience to current staff and assists Hull's clients achieve environmentally protective and cost-effective solutions.

**Education (Degree, Year, Specialization):**

<p><b>Membership in Professional Organizations:</b></p> <ul style="list-style-type: none"> <li>▪ Permanent Certified UST Professional (#0255)</li> <li>▪ American Academy of Environmental Engineers</li> <li>▪ American Society of Civil Engineers</li> <li>▪ Association of Soils and Foundation Engineers</li> <li>▪ National Society of Professional Engineers</li> <li>▪ Ohio Environmental Health Association</li> <li>▪ Order of the Engineer</li> <li>▪ Water Environment Federation</li> <li>▪ Western Dredging Association</li> <li>▪ National Water Well Association/National Ground Water Association</li> </ul>	<p><b>Registration (Type, Year, State):</b></p> <ul style="list-style-type: none"> <li>▪ Registered PE, West Virginia #011340</li> <li>▪ Registered Professional Engineer (PE), Ohio</li> <li>▪ Registered PE, Michigan, Pennsylvania, Indiana, New Hampshire, Kentucky, Texas, Connecticut, Vermont, Illinois, Alabama, Massachusetts, Maine</li> <li>▪ Board Certified Environmental Engineer Solid Waste Management (AAEE)</li> </ul>
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**13. Personal History Statement of Principals and Associates responsible for LANDFILL CLOSURE and GEOTECHNICAL TASK**

NAME & TITLE (Last, First, Middle Initial)	YEARS OF EXPERIENCE		
	Years of Landfill Closure Design Experience	Years of Geotechnical Engineering Experience	Years of Soils Laboratory Experience
McGee, Shawn, P.E.	18	18	18

**Brief Explanation of Responsibilities:**

Shawn McGee will lead the geotechnical efforts for the City of Wheeling Landfill project. He is a Senior Project Manager for Hull, and the leader of Hull's Geotechnical practice. He has over 18 years of diverse experience in landfill and geotechnical engineering. His experience focuses on municipal, industrial, and construction and demolition debris landfills which includes siting; design and permitting of new landfills and expansions; Quality Assurance/Quality Control (QA/QC) services and construction support; planning; test pad evaluations; compliance; operations; and closure. Shawn has also planned comprehensive subsurface investigations and borrow investigations, and conducted a diverse variety of slope stability and landfill stability analyses, which includes staged loading analysis. He is currently the manager of Hull's AASHTO Accredited Geotechnical/materials Testing Laboratory.

**Education (Degree, Year, Specialization):**

<p><b>Membership in Professional Organizations:</b></p> <ul style="list-style-type: none"> <li>▪ American Society of Civil Engineers</li> <li>▪ National Society of Professional Engineers</li> <li>▪ Ohio Dam Safety Organization/ Water Management Association of Ohio</li> </ul>	<p><b>Registration (Type, Year, State):</b></p> <ul style="list-style-type: none"> <li>▪ Registered PE, Ohio</li> <li>▪ Radiation Safety and Use of Nuclear Soil Gauges Certification</li> <li>▪ Mine Safety and Health Administration, Impoundment Inspection Certification (2012)</li> </ul>
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13. Personal History Statement of Principals and Associates responsible for LANDFILL CLOSURE AND QA/QC			
NAME & TITLE (Last, First, Middle Initial)	YEARS OF EXPERIENCE		
	Years of Landfill Closure Experience	Years of Landfill QA/QC Experience	Years of Heavy Earthwork Construction Experience
Camargo, Fernando, P.E.	10	10	10
<b>Brief Explanation of Responsibilities:</b>  Fernando will assist with both the landfill closure design and QA/QC portions of the project. He is a Project Manager at Hull and has prepared Permit-To-Install (PTI) applications for municipal and residual solid waste landfills in West Virginia, Ohio, and Arkansas; prepared closure plans and corrective measures plan for closed landfills; managed QA/QC projects; observed and documented field activities and prepared construction documentation reports for landfill cell, capping and infrastructure projects; prepared detailed landfill phasing plans; and prepared detailed engineer's estimates of probable construction costs for landfill development and closure.			
<b>Education (Degree, Year, Specialization):</b>			
<b>Membership in Professional Organizations:</b> <ul style="list-style-type: none"> <li>▪ American Society of Civil Engineers</li> <li>▪ Ohio Society of Professional Engineers</li> </ul>		<b>Registration (Type, Year, State):</b> <ul style="list-style-type: none"> <li>▪ Registered PE, Ohio</li> <li>▪ Registered PE, West Virginia #020254</li> <li>▪ Radiation Safety and Use of Nuclear Soil Gauges Certification</li> </ul>	
13. Personal History Statement of Principals and Associates responsible for LANDFILL CLOSURE AND QA/QC			
NAME & TITLE (Last, First, Middle Initial)	YEARS OF EXPERIENCE		
	Years of Landfill Experience	Years of Hydrogeological Experience	Years of Site Assessment Experience
Petruzzi, William G.	29	29	29
<b>Brief Explanation of Responsibilities:</b>  William (Bill) will lead Hull's site characterization/environmental monitoring and compliance team for the City of Wheeling landfill project. His areas of expertise include: solid waste management and solutions; environmental monitoring and compliance programs; hydrogeochemical evaluations; remedial investigations; and special regulatory and research development projects. He is responsible for project management; solid waste permitting, closure and post-closure programs; life cycle analyses and financial evaluations; environmental monitoring and statistical evaluations for a variety of waste and process materials; beneficial use; conservation/restoration projects; storm and wastewater programs; and project development, strategic planning and regulatory advocacy and outreach programs.			
<b>Education (Degree, Year, Specialization):</b>			
<b>Membership in Professional Organizations:</b> <ul style="list-style-type: none"> <li>▪ Association of Ground Water Scientists and Engineers, National Ground Water Association</li> <li>▪ Ohio Water Pollution Control Association/Water Environmental Federation</li> <li>▪ International Association of Hydrologists</li> <li>▪ University of Toledo Earth, Environment, &amp; Energy Committee</li> <li>▪ National Solid Waste Management Association</li> <li>▪ American Coal Ash Association</li> </ul>		<b>Registration (Type, Year, State):</b> <ul style="list-style-type: none"> <li>▪ Registered Professional Geologist – State of Kentucky</li> <li>▪ Registered Professional Geologist – State of Pennsylvania</li> <li>▪ Radiation Safety and Use of Nuclear Soil Gauges Certification</li> </ul>	

13. Personal History Statement of Principals and Associates responsible for HEAVY EARTH WORK CONSTRUCTION PROJECTS			
NAME & TITLE (Last, First, Middle Initial)	YEARS OF EXPERIENCE		
	Years of Heavy Construction Experience	Years of Contract Document Prep Experience	Years of Project Estimator Experience
Baltzer, Dave, P.E.	30	30	30
<b>Brief Explanation of Responsibilities:</b>  Dave will lead the construction contract team for the City of Wheeling Landfill project. He is a Senior Project Manager for Hull, and the leader of Hull's Construction Services practice. He has established respected relationships with public and private owners, contractors, and other consultants. He has served the lead role on many multidisciplinary projects, which includes the management of a wide range of project issues, including the avoidance of potential litigious situations. With over 30 years of experience in the construction and development arena, he has lead and managed projects pertaining to energy, waste management, urban revitalization, industry, educational facilities, commercial office buildings and utility infrastructure. Dave manages Hull's construction cost database and is very experienced in preparing engineer's estimates of probable construction costs.			
<b>Education (Degree, Year, Specialization):</b>			
<b>Membership in Professional Organizations:</b> <ul style="list-style-type: none"> <li>▪ Columbus Chapter of the Construction Specifications Institute (CSI)</li> <li>▪ Associated General Contractors of America</li> <li>▪ Ohio Society of Professional Engineers</li> </ul>		<b>Registration (Type, Year, State):</b> <ul style="list-style-type: none"> <li>▪ Registered PE, West Virginia and Ohio</li> <li>▪ ODOT Prequalification – Construction Engineering Level 1 &amp; 2</li> </ul>	



**14. Provide a list of SOFTWARE AND EQUIPMENT available in the primary office which will be used to complete this project – Site Characterization Study, Leachate Management and Closure Cap for City of Wheeling Landfill.**

**FACILITIES AND EQUIPMENT**

Hull has the computer software programs essential to maintain a successful engineering and consulting business. We use Microsoft Office products including Word, Excel, Adobe Acrobat, and Outlook. Most of our senior staff members have laptop computers with high speed networking capabilities in their homes that can support remote office work or telecommuting capabilities.

Hull has a state-of-the-art communications network that allows for the efficient use of internal resources and provides the capability to transfer electronic data with clients as requested. Hull maintains a wide-area network with dedicated data lines between all offices. The communications network is protected by a firewall and dedicated virus scanning software for all incoming and outgoing email, Internet, and FTP traffic. All file and print servers as well as email servers have redundant architecture such as RAID 5 hot-swappable hard drives and power supplies and all data is backed up daily for disaster recovery. Hull maintains an in-house Intranet site as well as an external web site at [www.hullinc.com](http://www.hullinc.com). If document files are too large for emails, we frequently place those documents on our FTP site or web site for password protected uploading/downloading capabilities.

Hull uses state-of-the-art software for engineering planning and design including:

- Autodesk Land Development Desktop
- HydroCAD
- Haestad Methods WaterCAD, StormCAD, SewerCAD, and FlowMaster
- Scientific Software Group HydraFlow
- GeoSlope International Ltd. SLOPE/W Version 4
- AutoCAD Civil 3D with AutoTURN
- STABL Version WV-2008 Slope Stability Software"
- Bentley® MicroStation Version 8 and gINT Professional Version 8i
- Benkley CulvertMaster (V3.3), FlowMaster (V8i), PondPak (V8i)
- XP-SWMM (V12.1-2010)
- Hydrologic Evaluation of Landfill Performance Version 3.07
- Hydrograph Hydrawflow (V9.22)
- Pile Buck International, Inc. SPW 911 Sheet Pile Design Software
- Ensoft, Inc., LPILE
- Microsoft Project 2013
- WinEst Version 11 with accompanying database packages (Echos Environmental Remediation, RS Means Civil Composite with Assemblies, and RS Means Electrical Cost with Assemblies)

This software runs on networked IBM-compatible PCs. Large-format black-line and color plotting capabilities are present in all Hull offices. By utilizing this communications network, Hull maintains efficient use of internal resources as well as provides the capability to transfer electronic data with clients as requested.

Hull maintains a significant inventory of equipment and materials (field, lab, and office) used to satisfy project objectives. In instances where Hull does not directly own equipment or materials, we maintain agreements with vendors and suppliers who can supply them to Hull within a day's notice.

**MATERIALS TESTING LABORATORY**

Hull's Soils Laboratory is capable of performing a wide range of field and laboratory tests. Our laboratory is AASHTO accredited to perform in depth testing for a variety of clientele. Our lab serves as resources for our engineers and project representatives who perform tests both in the field and in the lab to best serve our clients' needs.

The Hull team possesses expertise in every facet of material and laboratory testing and are trained to industry standards in these disciplines. We pride ourselves on being a partner in projects and providing excellent service and testing results.

Sealed Bid: Hull & Associates, Inc.  
Buyer: Jessica Chambers  
Solicitation No.: CEOI DEP1700000002  
Bid Opening Date: November 22, 2016  
Bid Opening Time: 1:30 PM (EST)  
Fax Number: (304) 558-3970

**14. Provide a list of SOFTWARE AND EQUIPMENT available in the primary office which will be used to complete this project – Site Characterization Study, Leachate Management and Closure Cap for City of Wheeling Landfill.**

**FACILITIES AND EQUIPMENT**

Hull has the computer software programs essential to maintain a successful engineering and consulting business. We use Microsoft Office products including Word, Excel, Adobe Acrobat, and Outlook. Most of our senior staff members have laptop computers with high speed networking capabilities in their homes that can support remote office work or telecommuting capabilities.

Hull has a state-of-the-art communications network that allows for the efficient use of internal resources and provides the capability to transfer electronic data with clients as requested. Hull maintains a wide-area network with dedicated data lines between all offices. The communications network is protected by a fire-wall and dedicated virus scanning software for all incoming and outgoing email, Internet, and FTP traffic. All file and print servers as well as email servers have redundant architecture such as RAID 5 hot-swappable hard drives and power supplies and all data is backed up daily for disaster recovery. Hull maintains an in-house Intranet site as well as an external web site at [www.hullinc.com](http://www.hullinc.com). If document files are too large for emails, we frequently place those documents on our FTP site or web site for password protected uploading/downloading capabilities.

Hull uses state-of-the-art software for engineering planning and design including:

- Autodesk Land Development Desktop
- HydroCAD
- Haestad Methods WaterCAD, StormCAD, SewerCAD, and FlowMaster
- Scientific Software Group HydraFlow
- GeoSlope International Ltd. SLOPE/W Version 4
- AutoCAD Civil 3D with AutoTURN
- STABL Version WV-2008 Slope Stability Software"
- Bentley® MicroStation Version 8 and gINT Professional Version 8i
- Bentley CulvertMaster (V3.3), FlowMaster (V8i), PondPak (V8i)
- XP-SWMM (V12.1-2010)
- Hydrologic Evaluation of Landfill Performance Version 3.07
- Hydrograph Hydrawflow (V9.22)
- Pile Buck International, Inc. SPW 911 Sheet Pile Design Software
- Ensoft, Inc., LPILE
- Microsoft Project 2013
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The Hull team possesses expertise in every facet of material and laboratory testing and are trained to industry standards in these disciplines. We pride ourselves on being a partner in projects and providing excellent service and testing results.

Materials Testing and Laboratory Expertise:

- Geosynthetics CQA inspection
- Concrete testing and inspection
- Soil testing and inspection
- Aggregate testing and inspection
- Mortar and grout
- Asphalt
- Subsidence testing
- Engineering during construction
- Regularly scheduled progress meetings
- Daily logs and progress sheets
- Digital photo logs
- Cut sheets
- Quantity tracking

15. Current activities on which your firm is the DESIGNATED ENGINEER OF RECORD associated with or relating to LANDFILL CLOSURE OR CONSTRUCTION.				
PROJECT NAME TYPE   LOCATION	OWNER NAME AND ADDRESS	Nature of your firm's RESPONSIBILITIES	Estimated Construction Cost	Percent Complete
Moraine Properties Landfill Closure Design and Construction, Moraine, Ohio	Moraine Properties LLC Moraine, Ohio	We negotiated closure requirements with the regulatory agency, performed a waste characterization, provided waste removal, consolidated the on-site material, prepared the design of the cap system, installed the cap system, and provided construction QA/QC.	\$800,000	Cap QA/QC is 95%
Little Broad Run Landfill Design and Cell Construction, New Haven, West Virginia	American Electric Power 1 Riverside Plaza Columbus, Ohio	We designed and prepared the expansion permit for the liner and final cover system of the industrial waste landfill; prepared construction documents; provided overall engineering planning and determined landfill phasing; prepared construction cost estimates, drawings and specifications; provided construction QA/QC and prepared certification reports.	\$2.3 million	Engineering support is ongoing;
Flint Creek Power Plant Landfill Intermediate Liner, Leachate Collection System and Final Cover System Design and Construction QA/QC, Gentry, Arkansas	American Electric Power 1 Riverside Plaza Columbus, Ohio	We designed and prepared the expansion permit for the liner and final cover system of the industrial waste landfill; prepared construction documents; provided overall engineering planning and determined landfill phasing; prepared construction cost estimates, drawings and specifications; provided construction QA/QC and prepared certification reports.	\$8.9 million	Cell and Cap QA/QC is 75% complete; engineering support is ongoing
<b>TOTAL NUMBER OF PROJECTS:</b>		<b>TOTAL ESTIMATED CONSTRUCTION COSTS:</b>		
3		\$12,000,000		

16. Current activities on which your firm is serving as a SUB-CONSULTANT to others relating to LANDFILL CLOSURE OR CONSTRUCTION.					
PROJECT NAME TYPE   LOCATION	Nature of your firm's RESPONSIBILITIES	OWNER NAME AND ADDRESS	Estimated Completion Date	Estimated Construction Cost	
				Entire Project	Your Responsibility
None					

<b>17. Completed work within last 5 years on which your firm was the DESIGNATED ENGINEER OF RECORD (list 5 to 7).</b>				
<b>PROJECT NAME TYPE   LOCATION</b>	<b>OWNER NAME AND ADDRESS</b>	<b>Estimated Construction Cost</b>	<b>Year</b>	<b>Constructed (YES or NO)</b>
Little Broad Run Landfill Liner and Final Cover System Design, New Haven, West Virginia	American Electric Power 1 Riverside Plaza Columbus, Ohio	Over \$50 million	2004- current	YES (portions completed)
Flint Creek Power Plant Landfill Intermediate Liner, Leachate Collection System and Final Cover System Design and Construction QA/QC, Gentry, Arkansas	American Electric Power 1 Riverside Plaza Columbus, Ohio	\$15 million	2009- present	YES (ongoing)
Moraine Properties Landfill Closure Design and Construction, Moraine, Ohio	Moraine Properties, LLC Moraine, Ohio	\$500,000	2007- 2016	YES
Frontier Recycling and Disposal, Inc., Richland County, Ohio	Milliron Industries 2395 Springmill Road Mansfield, Ohio 44903	Over \$10 million	2012- present	NO
Pine Grove Landfill Modified Final Cover Design Permit Modification, Amanda, Ohio	Republic Services 5131 Drinkle Road SW Amanda, Ohio 43102	Over \$10 million	2006- 2013	NO
Wilmington Sanitary Landfill Modified Final Cover/Cap Design Permit Modification, Wilmington, Ohio	City of Wilmington 397 S. Nelson Avenue Wilmington, Ohio 45177	Over \$5 million	1990s- present	YES
Kyger Creek Landfill Liner and Final Cover System, Cheshire, Ohio	American Electric Power 1 Riverside Plaza Columbus, Ohio	Over \$30 million	2005- 2013	YES

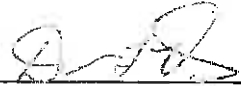
**18. Completed work within last 5 years in which your firm has been a SUB-CONSULTANT to other firms (indicate phase of work which your firm was responsible for) (list 5 to 7)**

PROJECT NAME TYPE   LOCATION	OWNER NAME AND ADDRESS	Estimated Construction Cost of Your Firm's Portion	Year	Constructed (YES or NO)	Firm Associated With
Goodyear Seiberling Street Landfill; Hull provided QA/QC and certification services for the contractor during closure activities; Akron, Ohio	City of Akron Akron, Ohio	Hull's services were \$200,000	2012-2014	YES	Sitotech, Inc. (earthwork contractor)

**19. Use this space to provide any additional information or description of resources supporting your firm's qualifications to perform work for the WV Department of Environmental Protection.**

Please see attached *Expression of Interest for the City of Wheeling Landfill Closure Cap*

**20. The forgoing is a statement of facts:**

Signature: 

Title: COO

Printed Name: David L. Richards, PE

Date: November 22, 2016

# REQUESTED FORMS

STATE OF WEST VIRGINIA  
Purchasing Division

## PURCHASING AFFIDAVIT

**MANDATE:** Under W. Va. Code § 21-2-13, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor until the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and (4) the debt owed is an unpaid employer, contractor, franchisee, dealer, or other obligation of the vendor or prospective vendor.

**EXCEPTION:** This provision does not apply when a vendor has provided acceptable evidence of payment to the vendor or prospective vendor of any debt owed to the state or any of its political subdivisions, or when the vendor has provided a payment plan or agreement and the vendor is not a debtor of any of the providers of such plan or agreement.

### DEFINITIONS:

**"Cost"** means any assessment, burden, penalty, fine, tax or duty, amount of money used by the state or any of its political subdivisions because of a judgment, final court judgment, agreed assessment, assessed tax, or other obligation, penalty or other assessment or penalty, including interest and required to be paid to the state or any of its political subdivisions, including any interest or other penalty beyond interest.

**"Employment debt"** means a debt arising out of an employment relationship between the employer and the employee, including but not limited to any debt arising out of a contract of employment, including but not limited to any debt arising out of a contract of employment, including but not limited to any debt arising out of a contract of employment.

**"Related party"** means a party, whether an individual, corporation, partnership, association, trust, or other entity, or any other form of partnership, association, or other entity, or any other person, who is related to the vendor or prospective vendor by blood, marriage, cohabitation, or other relationship, including but not limited to any other person who is related to the vendor or prospective vendor by blood, marriage, cohabitation, or other relationship, including but not limited to any other person who is related to the vendor or prospective vendor by blood, marriage, cohabitation, or other relationship.

**ATTENTION:** By signing this form, the vendor or prospective vendor certifies and acknowledges under penalty of law for false swearing by W. Va. Code § 21-2-13 that it has no vendor or any related party who is a debtor as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or amount for payment is satisfied under the exception above.

### WITNESS THE FOLLOWING SIGNATURE:

Vendor Name: HULL ASSOCIATES, INC.

Authorized Signature: [Signature] Date: 11/22/16

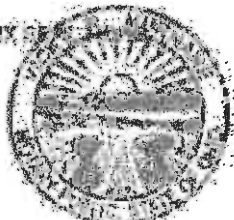
State: West Virginia

County: Putnam

County addresses and records to be reviewed: 1000 1/2 West of Wheeling, WV

City Commission or City Council: Putnam County

APPROVED BY: [Signature]  
NOTARY PUBLIC: Walter D. Husk  
NOTARY PUBLIC: Walter D. Husk  
By Commission Expires: April 12, 2017





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**DESIGNATED CONTACT:** You designate the individual identified in this Section as the project Administrator and the initial point of contact for matters relating to this Contract.

\_\_\_\_\_  
 (Name, Title)  
 \_\_\_\_\_  
 (Printed Name and Title)  
 \_\_\_\_\_  
 (Address)  
 \_\_\_\_\_  
 (Phone Number) / (Fax Number)  
 \_\_\_\_\_  
 (e-mail address)

**CERTIFICATION AND SIGNATURE:** By signing below, or submitting a representative through my DECIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that the bid, offer or proposal complies in all respects with the terms that cannot be unilaterally withdrawn; that the product or service will be provided in accordance with the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation; unless otherwise noted herein, that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute, address, addressee, office, or other related information stated herein; that I am authorized to sign the vendor as a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

\_\_\_\_\_  
 (Signature)  
 \_\_\_\_\_  
 (Printed Name and Title of Authorized Signatory)  
 \_\_\_\_\_  
 (Date)  
 \_\_\_\_\_  
 (Phone Number) / (Fax Number)

REVISED 07/17/2016

**ADDITIONAL MATERIALS SUBMITTAL FORM  
(REQUIREMENTS)**

This additional material submittal form is to be used to request additional information by completing this additional material submittal form. Check the box next to each additional material and specify the additional material to be submitted for the submittal.

Additional materials should be submitted in accordance with the requirements and specifications necessary to meet the project, plans and/or specifications.

**Additional Material Submittal**  
(Check the box next to each additional material request)

- |                                     |                  |                          |                  |
|-------------------------------------|------------------|--------------------------|------------------|
| <input checked="" type="checkbox"/> | Attachment No. 1 | <input type="checkbox"/> | Attachment No. 2 |
| <input checked="" type="checkbox"/> | Attachment No. 2 | <input type="checkbox"/> | Attachment No. 3 |
| <input type="checkbox"/>            | Attachment No. 3 | <input type="checkbox"/> | Attachment No. 4 |
| <input type="checkbox"/>            | Attachment No. 4 | <input type="checkbox"/> | Attachment No. 5 |
| <input type="checkbox"/>            | Attachment No. 5 | <input type="checkbox"/> | Attachment No. 6 |

I understand that there is a risk that the information provided in this form may be used for purposes other than those intended. I warrant that the information provided is accurate and complete and is not being provided for any other purpose. I warrant that the information provided is true and correct and is not being provided for any other purpose. I warrant that the information provided is true and correct and is not being provided for any other purpose.

Hull & Associates, Inc.  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**NOTE:** This additional material submittal should be submitted with the bid to provide documents and drawings.

# HULL & ASSOCIATES, INC.

1 HEAUNTERS WAY / CLEVELAND, OHIO 44116  
 2101 MADISON PARKWAY, SUITE 200 / COLUMBUS, OHIO 31016  
 27 FORDING DRIVE, SUITE 100 / MASON, OHIO 45040  
 29 GREAT STREET / NEWARK, OHIO 43055  
 300 BUSINESS CENTER DRIVE, SUITE 300 / PITTSBURGH, PA 15205  
 144 WEST MAIN STREET, 2ND FLOOR / STEUBENVILLE, OHIO 43950  
 27 N. S. ERIE STREET / TOLEDO, OHIO 43604  
 126 MARGARET CIRCLE / AUSTIN, TEXAS 78737



Sealed Bid: Hull & Associates, Inc.  
Buyer: Jessica Chambers  
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