

**CLARK E. McWILLIAMS, PE, MSc****Education**

MS – Civil Engineering (Geotechnical/Construction Materials),  
University of Arkansas, 1985  
BS – Civil Engineering, University of Arkansas, 1984

**Professional Licenses/Certifications**

Professional Engineer – Arkansas  
Environmental Professional Certification (Site Assessment)

**Professional Affiliations**

American Academy of Environmental Engineers and Scientists  
American Society of Civil Engineers  
Arkansas Environmental Federation  
Interstate Technology Regulatory Council

**Professional Experience**

Mr. McWilliams has myriad experience in solid waste management, landfill design, permitting, construction, monitoring and corrective action. He has managed and directed corrective actions at closed landfills for over thirty years, and overseen permitting and construction reviews for numerous operational landfills in Arkansas

Mr. McWilliams was a member of the state of Arkansas original Brownfields program development team and was heavily involved in legislation, regulations and guidelines as the program evolved. He also worked with the Environmental Protection Agency (EPA) regional office in Arkansas to increase awareness and participation in the voluntary assessment and cleanup program. He was also instrumental in developing and executing the Arkansas Landfill Post-Closure Trust Fund program which provided funding for several corrective actions and remediations. He has been involved in state mining reclamation projects funded by the federal Office of Surface Mining Reclamation and Enforcement Office.

His experience includes project management, procurement, and program and personnel development that includes investigations, remediation and reclamation/redevelopment of active and abandoned commercial and industrial facilities (including solar and other sustainability projects). He is experienced in environmental regulatory permitting, compliance and enforcement of active municipal, commercial and industrial facilities, and also has experience in civil engineering construction related to geotechnical and construction material services.

**Landfill and Mining Reclamation Engineering Design and Construction**

Mr. McWilliams has experience with multiple landfill and mine engineering designs and construction methods. Whether a new landfill cell construction, landfill closure, or abandoned mine site reclamation, Mr. McWilliams has overseen and managed some unique and noteworthy projects.

**Northeast Arkansas Solid Waste Landfill (Paragould, AR):** As the solid waste landfill for a four-county area, the Northeast Arkansas Regional Solid Waste District operates a roughly 200-acre disposal facility in Greene County. Effective utilization of air space capacity is a significant aspect for all landfills and often is the “driving factor” in landfill design.

At the Northeast Arkansas landfill site, landfill cell construction (Phase 4-1B – 6-acres) included in-filling between already constructed cells (“piggybacking”) in order to maximize the air space capacity. Unique design and construction aspects of such an expansion included differential settlement concerns, liner “tie-ins” and leachate collection system alternations. In addition, the Northeast Arkansas landfill “piggybacking” project presented construction quality assurance issues with subgrade preparation, clay liner compaction, flexible membrane liner deployment and installation.

**Varnadore Coal Mine Reclamation (Greenwood, AR):** Early last century, western Arkansas was a significant producer of anthracite coal (the best quality coal). Strip mining was prevalent in this region, and some companies failed to reclaim the excavation pits. Numerous abandoned strip mine pits remain in this part of the State, and the 15 acre, 4000-foot long Varnadore pit was one of them. Previous reclamation activities had left several physical and environmental issues unresolved at the site. The pit retained high-wall areas, which is a criterion for further reclamation, and the site exhibited marginal surface water run-off quality and thus impacted the receiving stream.

The reclamation included dewatering the pit to a level where reshaping the pit slopes could be safely performed. Excavation and filling construction flattened slopes around the pit. Over 150,000 cubic yards of material was balanced between cut and fill at the site, and stabilizing vegetation was established, including native grasses and trees in certain areas.

A unique element of the project included the site location; it shares a border with the military Fort Chaffee Joint Maneuver Training Center. The Fort Chaffee facility is home to the American burying beetle (a protected species), and several acres, including the acres that border the Varnadore site, are held in reserve as a protected area for the beetle. Special consideration for area reserves on the Varnadore site and reclamation construction sequencing were implemented in order to not disturb the beetle habitat during the reclamation process.

**C&L Landfill (Fayetteville, AR):** The C&L Landfill operated and closed during the early periods of solid waste disposal regulations (1960’s and 1970’s). Located just south of the City of Fayetteville in north Arkansas, it was a 40-acre landfill constructed into the hillside. Landfill construction technique of the time for landfilling on hilly terrain involved excavating into the sloped area and creating a more level operating area. The materials taken for the hillside provided ample quantities of cover soils. Upon closure, the landfill was superficially covered with soil.

Several years following the closure, urban development in the local area encompassed the site. The City of Fayetteville and the University of Arkansas hold land in and around the area. The City of Fayetteville actually holds title to the C&L property and numerous other adjacent properties, which were and are being developed as recreational areas.

C&L Landfill was exhibiting groundwater contamination and waste was exposure on the ground surface when assessed for development. Over the years, surface water run-off had gouged gullies in soil and waste, thereby impacting the surface water. The design and construction of the corrective action included installation of a landfill final cover (on steep slopes), installation of stormwater run-off controls to eliminate soil erosion, and installation of a leachate collection system and arranging for leachate disposal. Construction of the correction action encounter very soft waste subgrade, which inhibited the ability to adequately compact and soil final cover. Excavating the soft subgrade,

using geotextiles and “bridge lifting” were all use in order to achieve the compaction requirement. Leachate collection is still being performed; although, the quantity was significantly reduced with the construction of the proper final cover.

**DAMCO Tire Fill (Mountain Home, AR):** DAMCO, Inc was a privately held company which leased its property to the Northwest Arkansas Regional Solid Waste Management District for the purpose of processing and disposing of waste tires. Located north of Mountain Home, AR this waste tire project proposed by the District and approved by the State, involved baling waste tires and constructing a dam in order to provide a water reservoir for the property owner. At the time of this project waste tire disposal was an issue, and it remains a significant issue today. The site allowed innovative disposal options for waste tires via a dam construction project.

The early engineered dam construction included using waste tire bales to in-fill the downstream slope of the dam. The tire bales were not part of the dam’s impervious core or upstream slope. The project was abandoned after the operation of the tire processing ceased by the waste management district. When the site was abandoned there existed several thousand tire bales. However, the land owner did not comply with State orders to complete the dam construction.

By the time the dam construction ceased the dam was already impounding water and created a 5-acre lake. Due to the tire bale placement being incomplete, the stability of the dam was jeopardized, especially because of the impounded water. The dam had several seepage areas which were eroding the dam from within. The corrective action for this project included installing seepage collection elements to prevent further internal erosion, completing the dam with the remaining onsite waste tire bales, and installing a properly designed slipway. Rip-rap stone from onsite and offsite sources was also installed on the downstream tire-filled slope, because available of borrow soil was limited.

## Site Assessment and Remediation

**Lindsey Cotton Warehouse (Forrest City, AR):** As an underutilized industrial facility, this project included potential impacts to the municipal water supply due to chlorinated solvents discovered in the soils and groundwater. Active remediation was conducted by capping soil “hot spots” and human health risks were calculated with results indicating acceptable risk. Since, the mass of the chlorinated solvents was small, it was determined that natural attenuation would safeguard the city’s water supply. Execution of the assessment and remediation at this active facility was innovative, and the flexibility from all parties involved provided an effective sequencing of the remedy and still provides that for the current groundwater monitoring.

**Martindale Clinic Property (Hope, AR):** This abandoned commercial clinic and pharmacy in downtown Hope included asbestos containing material (ACM), regulated asbestos containing material (RACM), lead-based paint (LBP), and lead containing dust from the deteriorating LBP. A unique element of this project included the funding for assessment and remediation through a Brownfields sub-grant award to the city via the Arkansas Brownfields Revolving Loan Fund program. This allowed the city to use funding for the removal and disposal of the RACM and LBP. The completion of the remediation culminated in a Certificate of Completion from the Arkansas Department of Energy and Environment – Division of Environmental Quality. A dedication event was held at the property for the new Charitable Christian Medical Clinic of Hope with all the stakeholders attending.

**Red River Aluminum Facility and Adjacent Neighborhood (Stamps, AR):** Lowe Street in Stamps is located adjacently east of the former Red River Aluminum (RRA) dross processing industrial facility.

The aluminum dross facility significantly impacted the neighboring residences via stormwater and process water run-off and airborne particulates. The primary contaminant was sodium chloride, but other constituents included several heavy metal compounds. Lowe Street residential properties were excavated to remove the soil contamination and the houses were dismantled. The dismantled materials were repurposed for the local community.

RRA owners had filed bankruptcy when the site was abandoned, and the property was turned over to the State Land Commissioner. Later, the property was donated to the City of Stamps for redevelopment under the Brownfields program. The City of Stamps was accepted as a participant into the Brownfields program to officially acquire the RRA property and return it to productive use. An Implementing Agreement (IA) was executed, and through the State, the Property Development Decision Document (PDDD) was public noticed and executed.

**Other Areas of Experience**

<ul style="list-style-type: none"> <li>- Quality Assurance Management</li> <li>- Major Land Use Laws in Arkansas</li> <li>- Construction Contracting for Public Entities in Arkansas</li> <li>- Project Management</li> <li>- American Arbitration Association Construction</li> <li>- Environmental Enforcement Negotiations</li> <li>- Engagement and Leadership</li> <li>- Solid Waste Management Facility Operator License</li> <li>- RCRA (Subtitle C) Remediation and Corrective Action</li> </ul>	<ul style="list-style-type: none"> <li>- CERCLA 108(b) Financial Responsibility</li> <li>- Risk Based Corrective Action (RBCA)</li> <li>- Ecological and Human Health Risk Assessment</li> <li>- Risk Assessment and Risk Management</li> <li>- Procurement 101 and 201, Arkansas</li> <li>- National Incident Management System (NIMS)</li> <li>- Solid Water (Subtitle D) Corrective Action</li> <li>- Performance Based Environmental Management</li> </ul>
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