

---

## FLOYD COTTER, P.E.

### Education

B.S. Civil Engineering, University of Arkansas - Fayetteville, 1989

M.S. Civil Engineering, University of Arkansas - Fayetteville, 1990

### Professional Licenses

Professional Engineer in Arkansas, Illinois, Kansas, Missouri, and Oklahoma

### Professional Experience

Mr. Cotter specializes in solid waste management projects. His project work involves all areas of solid waste management including planning, permitting, transportation, landfill design, construction, and monitoring. Mr. Cotter is also experienced in general civil engineering, construction oversight, environmental site assessments, closure and post-closure plans, and permit and contract document preparation. In addition, Mr. Cotter has experience with environmental due diligence consulting as it relates to landfill acquisitions and other real estate purchases.

Example project experience includes:

#### Coal Combustion Residuals

**Sibley Fly Ash Landfill, Sibley, Missouri – Kansas City Power and Light:** Mr. Cotter served as the principal in charge for the Phase V Fly Ash Landfill construction project at this site. Responsibilities included preparation of plans and specifications for the fly ash pond clean-out and landfilling project; bid coordination and oversight; construction management and oversight; and final cap construction quality assurance.

**Ameren Venice Power Plant – Venice, Illinois:** Mr. Cotter served as principal in charge for the closure and final cover construction for Ash Ponds 2 and 3 that occupy approximately 58 acres. The final cover included 40-mil HDPE geomembrane liner, geocomposite, and 3 feet of protective soil, as well as storm water controls and two new pump stations that discharge to the Mississippi River. A CQA report and post-closure report were submitted to IEPA.

**Jordan Grove Coal Combustion Waste Disposal Facility – Marissa, Illinois:** Mr. Cotter served as principal in charge for the ongoing engineering and construction quality assurance (CQA) services during the design and construction of the new waste disposal facility. SCS completed the construction of approximately 20 acres of the waste disposal unit including the installation of new geosynthetic liner and geocomposite materials.

**Duck Creek Power Station CCB Landfill, Canton, Illinois – Dynegy Inc.:** Mr. Cotter served as the project director for the Significant Modification Permit application for the use of LiteEarth™ synthetic cover material as intermediate cover. The application was submitted to the

Illinois Environmental Protection Agency (IEPA) and included the design drawings, engineering report, and a material-specific Construction Quality Assurance (CQA) Plan.

**Riverton Generating Station, Fly Ash Landfill – Empire District Electric Company:** Mr. Cotter served as principal in charge to conduct volume calculations, prepare closure and post-closure cost estimates, prepare a plot plan and evaluate operational longevity of the fly ash landfill at Empire’s power plant in Riverton, Kansas.

Ash Pond Operation and Landfill Permitting Feasibility Study; Riverton, Kansas and Asbury, Missouri – Empire District Electric Co., Riverton and Asbury Power Stations: Mr. Cotter served as principal in charge for a feasibility study evaluating potential improvements to an existing fly and bottom ash disposal unit and the siting, permitting, operating, and closure/post-closure activities for future coal combustion residual (CCR) disposal in light of proposed regulatory requirements to be promulgated by the EPA. Conceptual level plans for enhancing operations at an existing fly and bottom ash landfill at the Riverton power station including dewatering methods, upgrades to the fly ash sluicing system, and earthwork to reconfigure the placement of fly ash disposal were developed. Mr. Cotter assisted in the development of conceptual-level plans for the development of a new CCR landfill at various sites on or near the Riverton and Asbury Power Stations. A cost analyses was performed for the Riverton landfill upgrade options presented and new CCR landfill options including the siting, permitting, construction, operations, and closure/post-closure activities.

### **Landfill**

**Jefferson City Landfill; Jefferson City, Missouri – Republic Services, Inc.:** Mr. Cotter serves as project manager for the closure for 20 acres of the Jefferson City Landfill. The project involves coordinating construction activities with the owner and the contractor, as well as providing all required testing and oversight to certify to the regulatory agency that the cap is constructed according to the permit, plans and specification, and applicable regulations.

**Show-Me Landfill; Warrensburg, Missouri – Republic Services, Inc.:** Mr. Cotter serves as project manager for the design, permitting, and construction of a landfill gas collection system for this facility. The system was mandated by the Missouri Department of Natural Resources (MDNR) in order to comply with NSPS requirements and to address a landfill gas migration problem. In addition to the gas system design, Mr. Cotter is providing consulting assistance on multiple projects that include CQA, hydrogeologic investigations, and compliance with internal environmental compliance audits.

**American Environmental Landfill, Sand Springs, Oklahoma.** Mr. Cotter provided engineering certification/oversight for construction documents, technical specifications, bid package, bid assistance, and construction associated with the installation of six vertical extraction wells, system piping and associated appurtenances in 2010.

**Fills and Landfill, Oklahoma City, OK.** Mr. Cotter was the certifying engineer for construction documents, technical specifications, bid package, and construction oversight associated with the installation of approximately 3,400 linear feet of header line and associated laterals, forcemain, air line, flanges, sumps, and valves in 2009.

**Wheatland Landfill – Galena, KS.** Mr. Cotter acted as the certifying engineer for construction documents, technical specifications, bid package, bid assistance, and construction oversight associated with the installation of 16 vertical extraction wells, approximately 5,000 linear feet of system piping, and associated appurtenances in 2010.

**Courtney Ridge Landfill – Sugar Creek, MO.** Mr. Cotter provided engineering certification/oversight for construction documents, technical specifications, bid package, bid assistance, and construction oversight associated with the installation of 12 vertical extraction wells, system piping and associated appurtenances in 2010.

**Butler County Landfill – Poplar Bluff, MO.** Prepared construction documents, technical specifications, bid package, bid assistance, and construction oversight associated with the installation of approximately 2,000 linear feet of horizontal collectors, system piping and associated appurtenances in 2010.

**Missouri Pass Landfill – Maryland Heights, MO.** Mr. Cotter was the certifying engineer for construction documents, technical specifications, bid package, bid assistance, and construction oversight associated with the installation of 61 vertical extraction wells, approximately 6,000 linear feet of system piping, and associated appurtenances in 2010.

**Jefferson City Landfill – Jefferson City, MO.** Mr. Cotter provided engineering oversight/certification for construction documents, technical specifications, bid package, bid assistance, and construction oversight associated with the installation of eight vertical extraction wells, approximately 2,000 linear feet of system piping, and associated appurtenances in 2010.

**Southeast Sanitary Landfill; Kansas City, Missouri – Republic Services, Inc.:** Mr. Cotter served as project director for various solid waste management projects at the Southeast Sanitary Landfill in Kansas City, Missouri. Recent projects include design and CQA for 103 acres of cap that constituted final closure of the site, evaluation and upgrading of the landfill gas collection system to address gas migration problems, hydraulic modeling of the Blue River for design of a levee extension, leachate system upgrades and many other projects.

**Vertical Expansion Design, Lemons Sanitary Landfill; Dexter, Missouri:** Mr. Cotter served as the principal-in-charge for the vertical expansion and facility upgrade of the Lemons Landfill. The re-design included a vertical expansion of the existing landfill, storm water improvement, footprint realignment, gas collection and control system design, leachate collection system.

**Solid Waste Master Plan – City of Columbia, Missouri:** Assistant project manager for the preparation of a Solid Waste Master Plan for the City of Columbia, Missouri, that presented information and recommendations regarding the feasibility and suitability of the City's potential landfill expansion. The plans also examined future solid waste disposal scenarios and estimated the impact of each scenario on City disposal and processing facilities.

**Columbia Sanitary Landfill – City of Columbia, Missouri:** Project manager for projects involving operational, design construction and compliance issues at the Columbia Sanitary Landfill. Recent projects have included design and construction of cell liner, preparation of a soil use master plan for the entire life of the site and vertical expansion of the old landfill.

Mr. Cotter acted as senior consultant for the City's landfill gas beneficial use study. The study was performed to evaluate the feasibility of using the LFG at local industrial facilities, on-site heeding and electrical generation. The study provided in depth financial analysis and comparison for the LFG utilization.

**Willow Springs Sanitary Landfill – City of Willow Springs, Missouri:** Mr. Cotter served as the project engineer and project manager for obtaining necessary storm water discharge permits and performing routine sampling of storm water runoff and leachate. Developed all necessary cost estimates for bringing the landfill into compliance with Subtitle D Regulations. Performed supplemental geological investigation which revealed groundwater conditions which could not be effectively monitored. Oversaw the development of permit modification plans to accomplish closure with a major portion of the permitted air space remaining. Prepared closure and post-closure plans.

**Johnson County Landfill; Olathe, Kansas – Deffenbaugh Services, Inc.:** Mr. Cotter has served as the project manager for multiple consulting projects at the Johnson County Landfill including the conceptual design and permitting for a 180-acre lateral expansion, as well as ongoing hydrogeologic evaluations and studies.

**Oak Grove Landfill; Arcadia, Kansas – Waste Corporation of Kansas, Inc.:** Mr. Cotter served as project director on a number of projects involving cell construction, hydro-investigation and design associated with the Oak Grove Landfill. This project was particularly challenging because it was being constructed in abandoned coal strip mines. The last two cells involved intensive dewatering, and management of water in strip mined areas.

**Construction & Demolition Landfill; Topeka, Kansas – Deffenbaugh Disposal Service:** Mr. Cotter served as project manager for an extensive hydraulic modeling project on the Shawnee County C&D Landfill near Topeka, Kansas. The landfill was constructed in the floodway of the Kansas River. The landfill exceeded the permitted final elevation and the Kansas Department of Water Resources requested that an analysis be performed that would determine what impact the overfilling would have on the modeled base flood elevations.

**Cost Analysis of Disposal Options – Central Kansas Regional Solid Waste Authority:** Mr. Cotter served as project manager for the detailed cost analysis of disposal options for the Central Kansas Regional Solid Waste Authority. The project involved the analysis of various landfill options, material recovery facilities and composting.

**Solid Waste Management Plan – State of Kansas:** Mr. Cotter served as a project engineer during the preparation of the state-wide solid waste management plan for the State of Kansas. The Kansas Solid Waste Management Plan was a comprehensive evaluation of many of the facets of solid waste management. The major areas examined by the plan included permitted disposal capacity, waste transfer and routing, waste composting, litter prevention and the number and effectiveness of recycling efforts within the state.

**Construction & Demolition Landfill Permitting – Asphalt Sales Company:** Project manager for the permitting of a 52.5-acre construction and demolition (C&D) landfill near Olathe, Kansas. Mr. Cotter assisted in obtaining a permit from the Kansas Department of Health and

Environment to construct and operate a C&D landfill as a means of reclaiming land at an active quarry site. Final land use for the site at the time of landfill closure is planned to be a light industrial park. In addition to the state permitting requirements, the project required a large portion of the site to be rezoned by the City of Olathe. A special use permit was also required from the City prior to approval.

**Chillicothe Transfer Station – USA Waste Services, Inc.:** Mr. Cotter served as the project director for the design modification to a transfer station located in Chillicothe, Missouri. The project consisted of preparing a design and operations report and associated drawings required to obtain a permit modification from the Missouri Department of Natural Resources. The original permit was issued for a small facility capable of handling approximately 20 tons of municipal solid waste per day. The modification upgraded the facility to handle 100 tons per day.

**Tulsa & Oklahoma City, Oklahoma – Confidential Client, Private Landfill:** Mr. Cotter served as the project engineer for a project that included preparing construction plans, specifications and bid documents for the expansion and construction of gas extraction systems at two separate landfills (A & B respectively) in Oklahoma. The gas system expansion consisted of 6 wells and approximately 2,500 feet of piping at Landfill “A” and 11 wells and approximately 2,000 feet of associated piping at Landfill “B”.

**Tulsa & Oklahoma City, Oklahoma – Confidential Client, Private Landfill:** Mr. Cotter served as the project engineer for a project that included preparing construction plans, specifications and bid documents for the construction of final cover for two separate landfills (A & B respectively) in Oklahoma. Landfill “A” in Oklahoma City consisted of the construction of 10 acres of final cover. Landfill “B” in Tulsa consisted of the construction of 12 acres of final cover.

**Lawton Sanitary Landfill – City of Lawton, Oklahoma:** Mr. Cotter served as project director for various solid waste management projects at the Lawton Sanitary Landfill for the City of Lawton, Oklahoma. The projects included permitting of a vertical and horizontal expansion; preparation of construction drawings and specifications for liner and cap construction; and permitting and design of a leachate and storm water management basin. The project involved working closely with the Oklahoma Department of Environmental Quality to obtain approval of the landfill permit application.

**Solid Waste Transfer Station – City of Claremore, Oklahoma:** Mr. Cotter provided quality review oversight for a four-phase project to provide the City of Claremore with a solid waste transfer station. The four phases include feasibility study, permitting, design, and construction services. Currently, the project is in the feasibility phase of the project to quantify the economic and siting variables of the project.

**Economic Analysis – Pace Construction Company:** Mr. Cotter served as the project director for an economic analysis for Pace Construction Company in an effort to determine the feasibility of siting a sanitary landfill at Pace's quarry located in central Missouri. The study included both a tipping fee and a waste flow analysis. The tipping fee analysis estimated all capital and operating costs required to develop the new landfill based on site-specific landfill parameter costs and past experience on similar projects. The waste flow analysis identified populations,

waste generation rates, public and private haulers, and landfill information for the Mid-Missouri and East Central Missouri Solid Waste Management Regions.

**Material Recovery Facility and Full-Stream Composting – Insulfoam:** Mr. Cotter served as project manager on the feasibility study of locating full-stream material recovery and composting facilities at various locations in central Kansas. The study required the development of a conceptual facility design that included a waste sorting area followed by a waste grinder and windrow composting. Meetings were held with state regulators to discuss the feasibility of the facility.

**Sludge Pond Remediation and Closure Murphy – Oil USA:** Mr. Cotter served as project engineer for the closure and remediation of two sludge ponds located at the Murphy Oil Refinery in Superior, Wisconsin. The project consisted of designing an onsite disposal cell according to the Wisconsin regulations for material from two ponds which contained approximately 20,000 tons of petroleum-based refinery sludge and the associated contaminated soil. The project involved stabilization of the sludge using portland cement. The disposal cell design consisted of a 40 mil HDPE geomembrane with two feet of clay compacted to hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec. Closure and post closure plans were developed along with construction drawings and specifications.

## Air

**Air Permitting and Compliance, Forest View Landfill; Kansas City, Kansas:** Mr. Cotter determined regulatory compliance with local and federal air emissions standards for the sanitary landfill. He oversaw the completion of the Part 70 Annual Report demonstrating compliance with the Operating Permit, Semi-Annual Monitoring Report, NSPS and MACT Semiannual Reports, Annual Compliance Certification, the annual Emission Inventory Questionnaire and assisted the facility with coming into compliance with the Part 70 Operating Permit. He is currently managing the re-design of the Gas Collection and Control System to comply with NSPS and MACT.

## Landfill Gas

**Landfill Gas Collection System, Courtney Ridge Landfill; Sugar Creek, Missouri:** Mr. Cotter serves as project manager for designing a landfill gas collection and management system for Subtitle D landfill. Gas collection system included a dual header design, condensate collection and removal, gas compressors, and enclosed flare. The collection system was designed to allow gas withdrawal through either of two main headers. This allows gas with low oxygen levels from developed portions of the site to be segregated and recovered as fuel while gas with higher oxygen levels from active portions of the site can be kept out of the fuel train and flared.

**GCCS Design and Permitting, Jefferson City Landfill; Jefferson City, Missouri:** Mr. Cotter was the principal in charge for the design of the gas collection and control system designed to comply with New Source Performance Standards, and also oversaw the development of the Startup, Shutdown and Malfunction Plan to comply with National Emissions Standards for

Hazardous Air Pollutants, the development of a gas migration plan and provided construction management and quality assurance for the last two phases of the gas system.

### **Solid Waste Management Planning and Studies**

**Wichita Transfer Station – Waste Disposal, Inc.:** Mr. Cotter served as the project manager for the construction phase of the transfer station located in South Wichita, Kansas. The project consisted of scheduling multiple contractors required for project completion and overseeing construction to ensure that the finished facility was consistent with the permit documents. In addition to his involvement in the construction phase, Mr. Cotter assisted with a presentation to the Sedgwick County Planning Commission while the facility was being permitted.

**Joplin Transfer Station – Waste Corporation of America:** Mr. Cotter served as the project engineer for design modifications to a transfer station located in Joplin, Missouri. The project consisted of preparing a design and operations report and associated drawings required to obtain a permit modification from the Missouri Department of Natural Resources. The modification involved converting the transfer station from a hopper loaded compactor type system to a pit type transfer station.

**Springfield Transfer Station – Waste Corporation of America:** Mr. Cotter served as the project engineer for design modifications to a transfer station located in Springfield, Missouri. The project consisted of preparing a design and operations report and associated drawings required to obtain a permit modification from the Missouri Department of Natural Resources. The modification added a grapple arm to the facility to assist in loading transfer trailers.

### **Remediation**

**Superfund/RCRA Sites – Amoco Oil Company:** Mr. Cotter served as the project engineer for the investigation and remedial design for management of various solid waste management units (SWMUS) for Amoco Oil Company. A number of the projects were completed at the J&L site located adjacent to the Whiting Indiana Refinery. The J&L site was designated as a National Priority List site. Some of the larger projects included stabilization and disposal of contaminated soil and sludge from a lagoon, stabilization and disposal of sludge from an oil and water separator and a treatability study for groundwater contaminated with petroleum hydrocarbons.

### **Civil Engineering**

**Ashgrove Cement Plant; Louisville, Nebraska – Ash Grove Cement Company:** Project manager for the permitting, design and construction of various storm water management structures that were completed at Ash Grove's Louisville, Nebraska plant. The project involved routing storm water from the entire facility to two large retention basins in order to minimize the number of outfalls and achieve the permitted discharge limits. The project also involved verification of the completed structures and preparation of record drawings to comply with the Nebraska Department of Environmental Quality's directives.

**Round Grove Creek Landfill – City of Kansas City, Missouri:** Project manager in charge of regrading the Round Grove Creek Landfill to promote surface water runoff and reduce infiltration. The intent of the project was to reduce liquid infiltration into the landfill to

ultimately reduce leachate production and subsequent seepage at the base of the landfill near the adjacent creek. The project consisted of adding soil to the top of the landfill and minimizing any cut into the surface to avoid excavation into solid waste. Final slopes were designed at a minimum of 5 percent to promote surface drainage. Design also accounted for the stabilization of the adjacent creek bank to minimize the potential for erosion during heavy storm events. Storm water modeling was completed to determine the effect of the regrading and to satisfy Corps of Engineer 404 permit requirements. Plans and specifications were also prepared as part of this project.

**Arkansas – King Sand & Gravel:** Crooked Creek sand and gravel mining permits in northwest Arkansas. The project involved an extensive evaluation of the effects of mining activity on stream bed erosion and bank stability.

### **Publications and Presentations**

Steve Lamb, Floyd Cotter, P.E., “*Selecting the Right Closure Cap Option for Your Surface Impoundment or CCR Landfill*”, (World of Coal Ash Conference, March 2017).

*Closure of Inactive NABORS Landfills, Mountain Home Arkansas*, Arkansas SWANA Conference, March 2016.