

J. JUSTIN STEVENSON, E.I.T.

## Education

B.S.E. – Mechanical Engineering, Messiah College, 2013

## Training / Certifications

40-hour Health and Safety Training OSHA 29 CFR 1910.120

John Zink Landfill Gas Flare School

Waste Management Contractor Safety Orientation Training

Energy Developers, LLC. Contractor Safety Orientation Training

Drilling Atop Lined Landfills Training by SCS Engineers

Engineer in Training (NCEES FE Mechanical, Pennsylvania)

## Professional Affiliations

Solid Waste Association of North America

American Society of Mechanical Engineers

## Professional Experience

Mr. Stevenson is a Senior Project Professional with SCS Engineers based in the Harrisburg, Pennsylvania office. In his time with SCS Engineers, he has designed numerous landfill gas (LFG) collection and control systems, including pipe sizing and head loss calculations. He designed phasing plans and end-of-life plans for LFG collection and control systems for budgetary planning and for submittal with Title V reporting. Mr. Stevenson has assisted in the design and start-up of multiple LFG flare projects and has performed construction oversight for the installations of LFG collection systems, LFG flare systems, and LFG treatment systems. Mr. Stevenson has prepared construction drawing sets in AutoCAD, prepared bid documents, reviewed contract submittals for approval, created equipment start-up documentation and O&M manuals and has prepared as-built record documentation and Construction Certification Reports.

Examples of Mr. Stevenson's project experience include:

**Republic Services Modern Landfill, York, PA** – Prepared the design of nine gas system expansions by providing site plans and details to meet Republic Services standards, reviewing historic well logs and monitoring data to evaluate new vertical extraction well and horizontal collector placement as well as identified locations for new header and lateral LFG piping. Reviewed data and assembled monthly data packages for the Enhanced Monitoring Program related to elevated temperatures within the waste mass, including monthly LFG sampling, quarterly liquid level measurements, H<sub>2</sub> and CO monitoring, and temperature profile data. Provided CQA for the well drilling events and pipe work construction events, documented construction activities, organized and led construction progress meetings and Monthly Landfill Gas SOP meetings, and prepared the Annual Construction Certification Reports. Prepared layout for flare relocation in preparation for future expansion. Assisted in the design of a new flare system by providing CADD support, facilitating site meetings and

collecting and reviewing ongoing data from existing flares on site. Sized and specified compressed air equipment for dewatering wells and prepared 5-year Gas Collection and Control System designs and cost estimates for budgetary planning.

**Republic Services Conestoga Landfill, Morgantown, PA** – Prepared the design of eleven LFG system expansions by evaluating monitoring data, planning new vertical extraction well placement and horizontal collector placement, and providing site plans and details to meet Republic Services standards. Provided CQA for the well drilling and pipe construction events, documented construction activities, organized and led construction progress meetings and Monthly Landfill Gas SOP meetings, and prepared the Annual Construction Certification Reports. Work included developing Surface Emission Monitoring routes and drawings for NSPS compliance as well as evaluating compressed air equipment for dewatering wells and preparing 5-year Gas Collection and Control System designs and cost estimates for budgetary planning.

**Republic Services Honeygo Run Landfill – H<sub>2</sub>S Reduction System, White Marsh Station, MD** – Prepared the design and facilitated the installation and start-up of a temporary hydrogen sulfide reduction system by evaluating monitoring data, performing a cost analysis and performance evaluation of media treatment options, and coordinating with vendors to procure temporary treatment vessels and media. Provided engineering assistance during construction and facilitated media loading and start-up activities of the treatment system and utility flare. Prepared media change-out procedure documentation.

**Republic Services Pine Avenue Landfill – H<sub>2</sub>S Reduction System, Niagara Falls, NY** – Prepared the design and construction bid documents for a hydrogen sulfide reduction system by evaluating monitoring data, performing a cost analysis and performance evaluation of media treatment options, and designing an automated hydrogen sulfide reduction system to accommodate current and future flows. Performed engineering calculations for condensate management, head-loss calculations, and LFG flow through the system. Provided bidding assistance including coordination with vendors and contractors, reviewed submittals and processed bid documents. Facilitated weekly construction progress meetings and provided engineering assistance during construction and helped oversee system start-up activities.

**Burlington County Landfill, Columbus, NJ** – Prepared the design of two gas collection and control system expansions, including site plans and detail drawings and assisting with bid specifications. Assisted in the design of a LFG horizontal collector system for LFG collection and odor control and assisted in routine Surface Emissions Monitoring. Assisted in the implementation of a blower station expansion, including providing design drawings, cost estimation and technical specifications. Work included the design of a conceptual organic waste cell design by preparing conceptual 3D drawings and attending planning meetings regarding the organic waste cells with the site.

**Cumberland County Landfill, Millville, NJ** – Prepared the design of the Phase VII and Phase VIII LFG Collection System Expansions and served as Project Manager for Phase VIII. Design work included preparing construction drawings for bid as well as site visits to prepare for the pending work. Assisted in the design and implementation of the Phase VI LFG Collection System Expansion. Work included pre-bid work designing the system Site Plans and details on AutoCAD, helping assemble Bid

Documents and Construction Contracts, providing LFG field services including HDPE pipe welding and the design/installation of LFG header expansions and cleanouts in preparation for the Phase VI Expansion. Work entailed providing CQA for the system expansion for both extraction well drilling and LFG system collection piping installation. Reviewed contractor's submittals and provided assistance in developing change orders.

**Gloucester County Improvement Authority, NJ-** Prepared the design of two gas collection and control system expansions, including site plans and detail drawings and assisting with bid specifications, submittal reviews, and engineering during construction. Prepared the design of an enclosed flare system expansion including a new blower skid, condensate management system, LFG piping, and new enclosed flare.

**Waste Management Fairless Landfill, Morrisville, PA –** Designed a gas compression and dehydration system. Provided CQA services and facilitated start-up activities for the installation of two phases of gas compression and dehydration equipment, and two enclosed flares. Prepared the Construction Certification Report.

**Waste Management G.R.O.W.S. North Landfill, Morrisville, PA –** Provided CQA services for a blower system start up and monitored testing of different segments of the blower system in preparation for operation. Provided CQA services for the installation and start-up of an enclosed LFG flare system at GROWS North and assisted in the preparation of the Construction Certification Report.

**Waste Management Tullytown Landfill, Morrisville, PA –** Provided CQA services for a blower system start up and monitored testing of different segments of the blower system in preparation for operation. Provided CQA services for the installation and start-up of an enclosed LFG flare system at GROWS North and assisted in the preparation of the Construction Certification Report.

**Waste Management Best Practices Manual Development –** Assisted in the development of 3D Drawing Details for portions of the WM Best Practices Manual development.

**BRADS Landfill – H2S Treatment Evaluation, Saint Clair, PA –** Evaluated treatment options for hydrogen sulfide in landfill gas by reviewing monitoring data, performing calculations and cost analysis and coordinating with vendors. Compared performance and cost analysis of solid scavenger type media and a direct fired thermal oxidizer. Designed and oversaw installation and operation of a hydrogen sulfide treatment system as part of the design-build project.

**Ada County Landfill – H2S Scrubber System, Boise, ID –** Provided design drawings for the mechanical portion of the hydrogen sulfide scrubber system including condensate management piping, sump design, gas flow & head loss calculations. Work included working with subcontractors to assemble, review and approve submittals for the design build project. Participated in weekly construction progress conference calls and provided design updates for the client when needed. Work included assembling System Start-Up instruction documents for equipment and the system as a whole, as well as assembling O&M Manuals for operator use.

**Regional Service Commission, NW, SW, and SE Landfills, New Brunswick, Canada** – Prepared the design of gas collection and control system expansions for three landfills, including preparing LFG generation and recovery models, evaluating the existing gas collection and control system performance, preparing bid level site plans and detail drawings. Assisted with bid documentation by reviewing specifications and developing quantity take-offs.

**Queens Botanical Gardens Concept Compost Facility, New York, NY** – Prepared conceptual 3D renderings of the proposed compost facility in the Queens Botanical Gardens for public review and comment. Conceptual plans highlighted compost windrows, compost bays and facility equipment at various angles from the Botanical Gardens.

**Lincoln Transportation and Utilities Solid Waste Management Division, Lincoln, NE** – Prepared conceptual 3D renderings of two proposed citizens recycling facilities for public review and comment.

**Delaware Solid Waste Authority (DSWA) Southern and Central Landfills** – Assisted in the design of the gas collection and control system end-of-life plans for new cells and prepared the CAD drawings.

**Efe'e Landfill, Israel**- Prepared general design drawings and report for overall landfill gas collection and flare system and detailed design drawings and bid documents for construction of the initial phase of the system.

**Dudaim Landfill, Beer Sheva, Israel**- Prepared design drawings and details for a landfill gas collection system expansion.

**Greater Lebanon Refuse Authority, Lebanon, PA** – Assisted in the planning and design of a mining investigation study to determine waste depths and approximate waste composition in an existing closed and unlined landfill by providing design drawings and assembling the well schedule. Provided CQA oversight and documentation of the drilling of test boreholes and oversaw the installation of vertical LFG wells and piezometers as well as the liner repair work. Developed a preliminary design for the proposed new landfill to replace the existing un-lined landfill by working within the constraints of the existing waste depth, groundwater contours and property boundaries to design a new landfill consisting of multiple cells to fit the regulatory standards. Developed a phased excavation plan to mine the existing waste and prepared a phased filling plan to systematically construct and fill waste in the new cells while existing waste was being excavated.

**Pottstown Landfill, Pottstown, PA** – Assisted in the mechanical portion of the design for the installation of a new utility flare by providing CADD drawings. Provided CQA services for the flare system installation for both the mechanical and electrical contractors and assisted in the Construction Certification Report.

**Monroe Township Landfill, Monroe Township, NJ** – Conducted routine liquid level monitoring with SCS Field Services. Provided remediation planning, soil sampling and emergency response. Worked with SCS Field Services to install three LFG well dewatering pumps and three solar panels to provide them power. Work included non-routine site visits for maintenance and repair as well as quarterly, semi-annual and annual site inspections.

**South Brunswick Landfill, South Brunswick, NJ** – Performed routine and non-routine maintenance and monitoring of liquid levels on site. Prepared and performed quarterly, semi-annual and annual site inspections. Performed CQA during a fence relocation project, providing site plans and information to the fence contractor.

**Lanchester Landfill, Narvon, PA** – Provided CQA services for vertical extraction well drilling for two LFG system expansions, including monitoring drilling activities and gas collection piping installation.

**Blue Ridge Landfill, Scotland, PA** – Prepared the design for a new enclosed flare and blower skid, including process piping and transmission piping to an existing LFG to energy facility.

**Broome County Landfill, Binghamton, NY** – Provided CQA services for vertical extraction well drilling for a LFG system expansion. Work included coordinating with the site representatives, reviewing survey data, and documenting the installation of vertical gas extraction wells.

**Granger Energy Plant, Morgantown, PA** – Provided CQA services for sump modifications to the Swamp Creek Pump Station and Intermediate Pump Station by overseeing construction, coordinating client meetings, reviewing safety documentation. Documented construction and provided as-built record drawings.

**Methane Abatement, Rutherford, NJ** - Assisted in providing technical drawings and specifications for a sub-slab passive methane abatement system to protect a service center garage and claims processing center to be built in an area with methane from marsh gas. Tasks performed also included estimation of construction costs.