
TOM CONRAD, PE

Education

B.S. - Engineering, University of California, 1958

Professional Licenses

Professional Engineer - CA, CT, DE, DC, IA, KS, ME, MD, MA, MO, NE, NH, NJ, NC, OH, PA, RI, SC, VT, VA, WV, WI

Professional Affiliations

American Society of Civil Engineers
Solid Waste Association of North America
National Solid Waste Management Association

Professional Experience

Mr. Conrad is a founder and principal of SCS, with 50 years experience in civil and environmental engineering, construction, and energy management. More than 40 years of his environmental engineering experience has been in waste management, and the vast majority of it has been in solid waste: landfills; landfill gas (LFG) control; LFG to Energy; leachate management; solid waste management, recycling, and sustainability plans; waste conversion technologies; yard waste composting; material recovery facilities; and transfer stations. Energy management experience includes serving as the Program Manager on SCS's GSA energy schedule contract and blanket purchase agreements (BPAs) for GSA and the National Park Service (NPS); performing energy and water audits; and conducting retro-commissioning. Examples of his project experience include:

Landfill Engineering

Fort Gordon, GA, Landfill Remediation and Regulatory Compliance. Project Manager and quality control reviewer for 35 tasks involving leachate collection and pre-treatment; LFG monitoring and control; groundwater studies/corrective action; post-closure improvements; and remaining capacity reports.

Montgomery County, MD, Oaks Landfill. Design and construction engineering for vertical expansion of the landfill and subsequently for the 170-acre landfill closure of both MSW cells and an ash monofill cell.

New York City, Fresh Kills Landfill. Development of filling and phased closure plans for the world's largest landfill. Assignments included final closure system design, stormwater management, sequential fill plans, end-use plans, LFG control and recovery, wetlands mitigation and shoreline improvements, and Consent Order deliverables. Certifying engineer for the construction of the closure systems for two sections of the landfill, 240 acres with a construction cost of more than \$40 million.

Fort Drum, NY, Landfill Closure. Prepared construction drawings for re-grading the landfill to eliminate ponding, a new cap and revegetation, and stormwater control. Provided construction engineering support and post-closure operations plan.

St. Joseph Landfill, MO. Landfill master plan, groundwater studies and compliance services, and LFG control systems.

Lincoln, NE, Bluff Road Landfill. Prepared construction documents for the Phase 4 closure system and for the Phase I gas collection and control system (GCCS) for the four closed phases and provided follow-up resident engineer and construction quality assurance services.

U.S. EPA

LFG characterization studies and preparation of background documents:

- Characterization of trace constituents
- Computation of total LFG and VOC emissions from landfills
- Damage case studies (from LFG migration)
- Development of bases for current methane gas standards on-site and off-site

Technical and cost estimating support for development of regulations for landfills, surface impoundments, gas emissions, gas migration, and underground/above ground storage tanks.

Co-authored several manuals: *Sanitary Landfill Design and Operations*; *Sludge Landfill Practices*; and *Closing and Upgrading Open Dumps*.

Technical and cost support for EPA's Landfill Methane Outreach Program (LMOP) and Methane to Market Program from 1995 to present.

Subsurface Fires

Consulting to landfill owners/operators to control and extinguish subsurface fires in landfills.

Landfill Gas Services

LFG to Energy Projects. Services have been provided to local governments and LFG developers throughout the East and in the Midwest, including:

Market surveys	Collection system designs
Feasibility studies	Developing/evaluating RFPs
Third-party reviews	Construction oversight
Static and active pump test programs	System startup and troubleshooting

Berkeley County Water and Sanitation Landfill, SC. Design/build of a LFG collection and flare system. Provide support to the firm selling carbon credits and to the utility company generating electricity using LFG as the fuel. Conducted study to assess the feasibility of an anaerobic digester facility.

Port Washington Landfill, NY Superfund. Consulting regarding LFG and air emissions. Activities included field-testing and monitoring LFG collection systems, fume incinerator and ground flares to control odors and destroy VOCs; expert testimony; negotiations with regulatory agencies and interveners; remedial action studies and designs; operations troubleshooting.

Hartford, CT, CCRA Landfill. Design/build an odor and migration control system for a landfill adjacent to Interstate I-91. Design, permitting and construction of the interim control system were completed and odors mitigated in 3 months. Three years later, the extraction system was expanded and a power plant was installed to generate electricity.

Migration Control Projects. Investigations and designs to protect structures on and near landfills. The structures protected by the LFG control systems exceed \$2 billion in value. The designs included air injection systems, extraction systems and flares for migration and odor control, subslab extraction systems, passive subslab membranes, and passive and active trench systems.

Solid Waste Studies and Facilities

U.S. Navy, NAVFAC Southeast, Charleston, SC. Program Manager for two 5-year indefinite delivery indefinite quantity contracts to provide the full range of solid waste engineering and planning services. Projects included preparation of solid waste management plans, green waste alternatives analysis, waste-to-energy incineration evaluation, and landfill remediation and regulatory compliance.

Solid Waste Management Plans and Studies for Navy and Army installations in the Mid-Atlantic and Southern states and Texas, and for Garrett County and Montgomery County, MD.

Prince George's County, MD. Assessed the need for new rubble fills in the County over the next 15 years, prepared preliminary plans for a new rubble fill, evaluated its environmental impact, and participated in public hearings.

Anne Arundel County, MD. Prepared a Needs Analysis for land clearing debris (LCD) landfills and provided engineering support for use in County Zoning Examiner hearing.

Orange County, NY. Conducted a backyard composting demonstration project involving 150 residences, sponsored by the New York State Energy Research and Development Authority.

Environmental Services

General Services Administration. Program Manager for SCS's ongoing Environmental Advisory Services contract since 2000. SCS has performed over 90 assignments valued at over \$8 million.

U.S. Navy. Environmental audits, oil spill investigations, Spill Prevention Control and Countermeasure Plans, contingency plans, pollution prevention plans, and follow-on designs for more than 30 Navy and Marine Corps installations in the DC, MD, VA, and NC region.

Midwest, Eastern, and Southern U.S. Quality assurance (QA) reviews of Phase I and II Environmental Site Assessments and asbestos and lead-based paint abatement projects.

Energy Management and Water Conservation and Sustainability Services

General Services Administration. Program Manager for an Energy Schedule contract and a BPA to provide these services to any Federal agency. Both contracts have a base year and four option years. Projects conducted under the BPA include:

- **GSA Region 8, Rocky Mountain Region.** Conducted energy and water audits for ten GSA buildings in Utah, Wyoming, Montana, and North Dakota.
- **For the Department of Veterans Affairs.** Retro-commissioning of 24 VA campuses in New England, New York, New Jersey, Illinois, Wisconsin, and Michigan (VISNs 1, 3, and 12). The SCS team retro-commissioned 21 million square feet of hospitals, clinics, pharmacies, offices, and other buildings.
- **For the GSA.** Retrocommissioned 12 buildings at the GSA Denver Federal Center.
- **For the GSA.** Installed advanced meters, mod-hoppers, and related equipment to tie the meters into the building automation systems at 39 sites in New England.

National Park Service. Blanket Purchase Order to provide these services for parks in the National Capital Region. Completed energy audits and sustainability assessments for Wolf Trap Park for the Performing Arts, Harpers Ferry Historic Park, C&O Canal National Park, Rock Creek Park, Prince William Forest Park, and George Washington Memorial Park.