

MICHAEL S. BOOTH

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EDUCATION

University of Maine - B.S. in Civil Engineering, 1979
Special Courses:
Carbon Emission Trading 2008
Financial Research Associates LLC
Landfill Gas Systems Engineering Design 2006
CES Landtec Course
Geotechnical Aspects of Waste Disposal, 1987
University of Maine
Sanitary Landfill Gas and Leachate Management, 1985,
University of Wisconsin
Geotechnical Aspects of Landfill Design, 1984,
University of Wisconsin
Groundwater Pollution and Hydrology, 1984,
Princeton University
Advanced Wastewater Treatment Systems, 1981,
University of Maine

PROFESSIONAL REGISTRATION

Professional Engineer – Maine

AFFILIATIONS

American Society of Civil Engineers, Member
Solid Waste Association of North America, Member
USEPA Landfill Methane Outreach Program, member

EMPLOYMENT HISTORY

Currently from 1989 - Sevee & Maher Engineers, Inc,
Senior Project Manager/ Project Engineer

1986 to 1989 - E.C. Jordan Co., Portland, Maine,
Project Manager/Project Engineer

1980 to 1986 - Maine Department of Environmental Protection
Augusta, Maine, Engineer

EXPERIENCE

Mr. Booth has over 29 years of experience with the design, permitting and operation of environmental projects. As a Project Manager/Project Engineer with Sevee & Maher Engineers, Mr. Booth is responsible for both the technical and managerial aspects of multi-task projects including client relations, detailed design, permitting, construction, and operation assistance.

Recent Assignments in his various areas of expertise have included:

- Providing Technical Design Services for a 50 acre Commercial Landfill. In this role Mr. Booth has been responsible for managing and preparing a number of State and Local applications for both an expansion and closure of this facility since 1992. He has overseen the design and construction of eight phases of the facility including the development of detailed design drawings, administrative contract documents, and operations manuals. For this site he has also directed studies and designs relating to landfill liner and cover stability; landfill leachate collection and treatment; groundwater remediation; landfill gas collection and fugitive migration control; and

recently a landfill gas utilization project which include the installation of 3.5 MW of electrical generation capacity.

- Evaluating the performance of an Alternate Landfill Final Cover Systems in South Africa;

Mr. Booth worked with an South African Paper Company to evaluate the performance of a alternate final cover system at a pulp and paper mill landfill in Springs, South Africa. Prior to Mr. Booth's involvement, the company had performed initial laboratory and field tests to evaluated if its primary sludge could be used as a final landfill cover material. A test cell was constructed using the primary sludge and it performance monitored over a several year period. The monitoring results indicated that the properties of the sludge cover were changing over time and the original assumptions on cover performance were not longer valid. Mr. Booth developed a program to characterize the current in-situ characteristics of the sludge cover and its hydraulic performance in the South African climate. Samples of the insitu sludge cover were collected and laboratory tests performed. From the tests results, Mr. Booth was able to characterize the cover degradation mechanisms, and use this information to demonstrate the effectiveness of the cover in the South African climate. Recommendations were also provided on future cover designs using the sludge material.

- Designing and Permitting of an Odor Control and Landfill Gas Treatment System for Commercial Landfill.

Mr. Booth participated in the design and permitting of an active landfill gas collection and treatment system at a 57 acre commercial landfill. The main components of the system includes gas collection and conveyance piping; a condensate handling system; a stationary flare with a rated capacity of 1,200 standard cubic feet per minute (SCFM), and 34 MMbtus per hour and a gas conditioning system to remove sulfur compounds. Mr. Booth was responsible for providing technical oversight to the project, and preparing the Title V air permit application, and facility's Operation Manual. As part of the Operations Manual, Mr. Booth was involved in designing a data operation collections system to allow timely collection of operational data for the facility.

- Preparing and Evaluating the Feasibility of Renewable Energy Projects at a Municipal Landfill.

Mr. Booth evaluated the feasibility of developing a renewable energy project for a small municipal landfill with an active gas collections system. The evaluation consisted of quantifying and projecting future landfill gas projections; identifying seven potential utilization projects and their components and performing an economic evaluation that defined project costs and revenues and a project life cycle analysis. The project evaluated included using the gas for power generation, on and offsite heating, offsite cogeneration.

- Evaluating and Preparing Documentation to Carbon Credits Associated with an Active Landfill Gas Flaring Project.

Mr. Booth assisted a municipal client with the monetization of emission reductions associated with a landfill gas flaring project. The emission reductions, associated with destroying methane gas, are eligible to be sold as monetized "carbon credits" under several different protocols established to provide a means to quantify and qualify projects that result in the reduction of greenhouse gas emissions. The first phase of the project was to evaluate the eligibility of the project under protocols set forth by the Voluntary Carbon Standard (VCS), the Chicago Climate Exchange (CCX), the Regional Greenhouse Gas Initiative (RGGI), and the Climate Action Reserve (CAR). Based on this evaluation the client selected to pursue carbon credits using the CAR protocol. Mr. Booth prepared the required project documentation to have this project listed and verified under the CAR Protocol. Another component of this project was to assist the client with compiling and managing the data required to verify this project.

- Preparing Design and Permits for Commercial, Private and State Owned Landfills.

Mr. Booth has managed and the lead technical effort on five landfill project in the State of Maine. These projects have included performing detailed hydrogeologic investigations, address sitting issues such as odor, noise, visual, and wetland impacts, and completing detail cell designs and operational plans. Mr. Booth has also been involved in preparing testimony and supporting permit during the permitting process including regulatory review and hearings.

PRESENTATIONS and PUBLICATIONS

March 2009 Is it low tide the saga of an odor control challenge at a small municipal landfill Presented at SWANA Landfill Gas Symposium Atlanta GA. Co author.

December 2008 A Small Landfill's Preliminary Evaluation of Carbon Credits and Renewable Energy Projects Presented at USEPA LMOP Landfill Gas Energy: A Sustainable Energy Source from Small Landfills in New England conference in Portland Maine.

February 1987, Permitting a Landfill in the State of New York, presented at the New York North Western Region monthly TAPPI meeting.

June 22, 1989, Closing Landfills, presented at one-day conference entitled "How to Deal With Your Solid Waste", sponsored by SMVTI.