



Brian G. Snow, PG, LSP, LEP
Senior Project Manager

Education

Framingham State College, B.S. Earth Science, 1992
Framingham State College, M.A. Business Administration, 2000

Certifications

Certified OSHA 40 Hour Hazardous Waste Site Operations (CFR 1910.120)
Certified 8 Hour Site Supervisor (CFR 1910.120)
Holder of Transportation Worker Identification Credential (TWIC) Card

Licensure

Licensed Site Professional (LSP) in Massachusetts
Licensed Environmental Professional (LEP) in Connecticut
Licensed Professional Geologist in New Hampshire and Tennessee
Waste Water Treatment Plant Operator Grade 1-2

Affiliations

Massachusetts Licensed Site Professional Organization
Environmental Professionals of Connecticut
Former Town of Medway, MA Conservation Commission Vice Chair
Massachusetts Notary Public

Qualifications

Mr. Snow has over twenty three years of professional experience in environmental engineering and science. His expertise includes: site investigation, bedrock investigations, drinking water treatment, construction support and permitting, remedial design, remediation system construction, operation and decommissioning, remedial additive injections, property assessments, indoor air investigation, litigation support, insurance support, cost assessment, lifecycle costing, compliance assistance, reimbursement support, risk assessment, and regulatory closure.

He has served as the Licensed Site Professional (LSP) of record for numerous response situations where the release of oil and hazardous materials required the implementation of sound response actions in compliance with the Massachusetts Contingency Plan (MCP). The releases included: releases of gasoline and fuel oil from underground and above ground storage tanks at commercial and industrial facilities, power plants and residences; historical releases of oil and hazardous materials (OHM) at petroleum, landfills, commercial and industrial facilities; spills of petroleum and industrial chemicals from transportation accidents; and, releases of industrial chemicals due to fire.

Mr. Snow has directed and completed Immediate Response Actions with associated plans and Response Action Outcome Statements at more than fifty petroleum contaminated sites. He has designed and implemented site clean ups involving: excavation of contaminated soil; soil vapor extraction; on-site soil treatment using thermal desorption, asphalt encapsulation, and bioremediation; groundwater pump and treat systems; in-situ chemical oxidation, and dual phase extraction.

He has prepared hundreds of environmental site assessments in Massachusetts, New Hampshire, Rhode Island, Connecticut, New York, Maine and several other states in compliance with ASTM standards or client specifications. The projects were completed for private parties, public entities and, small and large lending institutions.

Project Experience

Gasoline Release- Impact to Indoor Air at Day Care Center and Groundwater Impacts to Zone A of a Drinking Water Supply

Mr. Snow served as the Senior Project Manager and LSP for a project on the north shore (Massachusetts) where petroleum vapors were detected in a daycare adjacent to the client's property. The project was also within the Zone A of a Class A surface water body. The project included the redesign and re-installation of an existing air sparge and soil vapor extraction system. During the previous consultant's initial indoor air assessment and risk assessments, an Imminent Hazard (IH) was identified. At the client's request, updated indoor air assessment and risk assessment was conducted and revised conclusions to more accurately evaluate risk posed by the release. Subsequent investigations of vapor intrusion pathways included the installation of soil gas probes under and around the daycare at various depths, and sampling of indoor air, soil gas, groundwater, and soil. Numerous IH and substantial hazard evaluations were also completed using Method 3 Risk Characterization. A sulfur hexafluoride tracer gas study was conducted in order to determine the migration pathway of contaminants to the daycare. Contaminants not related to the disposal site were ruled out and attributed to the other remaining businesses in the daycare building. Mr. Snow prepared Immediate Response Action (IRA) Plans, IRA Status Reports, an IRA Completion report, Phase I, II, III, IV, and V documents including a Remedy Operating Status Opinion for the site. His work included design of the Phase II investigation, a pilot test, additional remedial components and demonstrated vacuum influence and source control. He also provided support for litigation related to the indoor air impacts and to previous parties contributing to the release(s).

PCB and Metals Impacts to Commercial Property

Mr. Snow was the Senior Project Manager and LSP for a former industrial site in western Massachusetts. The site was impacted with PCBs, metals and petroleum products. A previous consulting firm conducted an ASTM Phase I for the owner prior to the purchase stating that the parcel was not likely impacted. Subsequently a second ASTM Phase I was conducted by a potential purchaser, leading to an ASTM Phase II Investigation. The property had been historically used for industrial purposes, was adjacent to multiple rail lines and had a former rail spur and siding. He designed an MCP Phase II investigation to delineate the PCBs and metals. Since the project was not in compliance with MCP

deadlines, revised deadlines were negotiated with the MassDEP and penalties were avoided. Impacts at the site extended beyond the property borders, requiring access to multiple parcels including property owned by the power company and the city. The project also included legal support with regard to potential suits against prior owners/occupants and the first consultant. The project included multiple meetings with counsel, opposing counsel, and the MassDEP to gain access and determine damages.

Petroleum Release – Retail Gasoline Station

Mr. Snow served as the Senior Project Manager and LSP for an emergency response in Lowell, Massachusetts. An owner of a restaurant complained to the Fire Department about petroleum vapors in the basement of their building. Mr. Snow met the Fire Department, Police Department, MassDEP, and Water and Sewer Department at the site. He determined the source of the release was a nearby gasoline station. A carbon filtration system was installed in the basement of the restaurant as well as a series of monitoring wells and soil gas probes. A soil vapor extraction system (SVES) pilot test was completed and a temporary SVES was installed to provide vacuum control and abate an IH condition created by an explosive condition in the sewer lines. The temporary SVES was operational on the second day after the complaint. Follow-up work included the preparation of MCP deliverables, correspondence with the MassDEP and Fire Department as well as the permanent design and install of the SVES and migration pathway assessment.

Remedial Additive Injections - Various Dry Cleaners, Plating Shop, Machine Shops, Gasoline Stations and Residences

Mr. Snow has directed the application of numerous remedial additives at petroleum and chlorinated solvent sites. Many of these sites include challenging injection environments including in basements below residential buildings, operation of multiple remediation systems, and indoor air concerns. Mr. Snow has completed chemical oxidation projects using various oxidizers. Examples of remedial additives utilized include Regenesis products (HRC, HRC Advance, Regenox Part A and Part B, PerSulfox, ORC) and FMC Products (Klosur – Persulfate with multiple catalysts and stabilizers). Mr. Snow has also utilized numerous Persulfate Products, pH adjusters, catalysts and hydrogen peroxide combinations. Mr. Snow has utilized microbe nutrient injections as well as surfactants. A recent HRC project includes reductions of total chlorinated VOCs (PCE source) in the source area by 95% in the last two years reaching state standard in the majority of impacted wells. A Recent Regenox project include a 72% reduction in chlorinated VOCs in groundwater was over the last year.

US Army Reserve Command – CERCLA and RCRA Corrective Action Management

Mr. Snow was the contract manager for CERCLA and RCRA Corrective Action Programs for the the US Army Reserve Command in New England. Duties including managing interactions between the US Army Corps of Engineers, US Army Reserve Command, US EPA, and State Departments of Environmental Protection. Projects included assessment and remediation of UST and surface petroleum releases, firing range releases and remediation, maintenance shops, former Nike Missile facilities, former shore battery and command and control structures and bunkers, former Army Airfield, radar/radio tower sites, and heavy equipment use/storage areas. UST compliance was

also managed in this position. Mr. Snow prepared budgets for all activities, prepared government estimates, created investigation and remediation scopes and supervised contractors (through appropriate Army and Corps of Engineers personnel). Mr. Snow briefed and collaborated with command staff, Judge Advocate Staff, Safety Staff, Center base personnel, and Public Affairs Personnel.

Manufactured Gas Plant and Ink Plant

Mr. Snow managed the MCP Phase I and Phase II Investigations of a commercial property formerly containing a Manufactured Gas Plant (MGP) and Ink Manufacturing facility. The property also contained various commercial activities with USTs and other petroleum use. The investigations included the delineation of coal tar impacts, cyanide impacts, petroleum impacts and metals impacts to soil at concentrations in excess 100,000 mg/Kg. Property use and building locations were traced back to the mid 1800's. Remedial plans include in-situ stabilization, engineered barriers, and use restrictions. The project was designated a Public Involvement Plan (PIP) site by MassDEP. The project also included litigation support.

Industrial Landfill and Process Water Ponds with PCB spill to Surface Water

Mr. Snow managed the MCP Phase I and Phase II Investigations of a commercial property including the former industrial waste landfill and process water ponds for a large rubber manufacturing plant. Drums of oil and hazardous materials were discovered in the waste within the landfill. Waste was observed in the ponds. The property was impacted with heavy metals, petroleum products and PCBs. A historic release of over 1,000 gallons of 6,000+ ppm PCB oil to the pond system impacted the ponds and drainage upgradient and downgradient. Mr. Snow's assessment included historical research at multiple libraries, maps, documentaries, file reviews at federal, state, and local agencies. The investigation included engineering calculations of stormwater inflow, outflow and sedimentation rates. Sediment thicknesses were established by various hand borings, and tile probe locations as was water depths throughout the ponds. Litigation support included presentations and supporting documentation before attorneys representing multiple parties. Evaluations of past releases, environmental reports and remediation projects for dozens of releases and multiple parcels was completed to evaluate potential sources. Coordination with EPA, TSCA, MassDEP, US Army Corps of Engineers, GSA, DPW, Conservations Commission, abutting property owners, and attorneys were included in the project.