

PROJECT PROFILES

2530 HAMBURG TURNPIKE BCP CLEANUP/REDEVELOPMENT, Lackawanna, NY

Client: Frank Mathews, Orchard Park, NY



IEG completed investigation and remediation of this 1.4-acre property under the Brownfields Cleanup Program in record time to allow it to be redeveloped as a full service gas station and food service in an area designated as an Environmental Zone (both eligibility criteria A and B) by NYS ESD. Petroleum-related contamination is attributed to a gas station operated during the 1950s, and semivolatiles and heavy metals resulted from the adjacent Bethlehem Steel plant. IEG initiated a supplemental investigation in April 2005, followed by an Interim Remedial Measure (IRM) completed in October 2005. The first round investigation included soil sampling to bedrock at 16 locations, and 4 groundwater monitoring wells; these samples were analyzed for VOCs, SVOCs, pesticides, PCBs, metals and cyanide. The second round was expanded to include 18 additional soil boring locations on site, and 5 background soil samples from the residential neighborhood for SVOCs and metals. The interim remedial action, which also became the final remedy, included excavation and off-site disposal of 6,00 tons of contaminated soils from four distinct areas: Area A with VOCs, Area B with both VOCs and SVOCs, and Areas D and E with SVOC hot-spots. Excavation water was treated with bag filters and activated carbon prior to discharge into the sanitary sewer. The excavation was backfilled with clean bank-run gravel and clay, as well as on-site fill from the new UST locations. This allowed the property to be immediately redeveloped, and is now serving the Western New York community with remarkable success, both for the community and the NYSDEC Region 9.



WHIRLPOOL RAPIDS BRIDGE SOIL INVESTIGATION

Client: Niagara Falls Bridge Commission, Niagara Falls, NY



IEG provided investigation, design and remedial construction oversight services and was instrumental in the successful remediation of the Whirlpool Bridge site that had been contaminated with lead, heavy metals and PAHs from paint removal operations in the past using spent abrasives. Over 270 locations along the side slopes at the bridge footing on the U.S. side were sampled to determine the extent of soil contamination. The investigation also included topographic and bedrock fracture (using VLF) surveys, soil leachability testing, regulatory review and a preliminary environment/human health risk assessment. IEG completed a Remedial Action Work Plan and remedial construction documents, and provided oversight and monitoring during site remediation. A total of 1,037 tons of soil was excavated and disposed off site at a hazardous waste landfill, and the trail was restored with a much improved landscape. All work was completed to the satisfaction of the NYSDEC, NYS Power Authority, and the NYS Office of Parks, Recreation & Historical Preservation.



Salem Acres Superfund Site, Salem, MA

Client: South Essex Sewerage District, Salem, MA



IEG was retained by the SESD to perform the long term monitoring on this remediated site, assist URS in closing out the construction contract, and provide technical support to its General Counsel on construction claims. Based on the first scheduled long term monitoring event by IEG, Dr. Iyer was instrumental in convincing USEPA to issue a certificate of completion of remediation for this site without further monitoring. Previously, under Dr. Iyer's direction, this site was successfully remediated and returned to natural conditions after over 90,000 tons of sludge and soil containing petroleum hydrocarbons, cPAHs, chromium and other contaminants were excavated and disposed in two solid waste landfills without impacting the wetlands adjacent to the waste disposal lagoon. Using a proactive approach with the client, agencies and local landfills, Dr. Iyer got the site remediated at a construction cost of \$7.5 million, well below initial estimates. This is one of only a handful of Federal Superfund sites in Massachusetts to be returned to pristine conditions and delisted.



LEAD PAINT REMOVAL/BRIDGE PAINTING/ENVIRONMENTAL MONITORING

Client: VA Medical Center, Bath, NY



The VA Medical Center retained IEG to provide design and oversight services for the painting of the bridge at the facility entrance and associated environmental monitoring. The process involves a continuous blast and paint approach so that while one section is being painted, the next section is being blasted to remove old paint. IEG has prepared a Design Analysis Report, Specifications and Drawings/Plans for traffic engineering and control, cleaning and painting, containment system, environmental health and safety plan, and construction cost estimate. IEG assisted the VA during bid advertisement, and during construction, IEG provided full time coating inspection services and environmental monitoring, including sample collection and analysis of upwind and downwind air, water and soil/sediment samples to ensure the effectiveness of the paint contractor's containment system. A cost-effective repair program for structural elements of the bridge was also developed and implemented during this project.

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Water Supply Evaluation/Corrosion Control

Client: VA Medical Center, Bath, NY



IEG responded within short notice to assist the VA Medical Center in identifying the causes of corrosion by-products in the hospital sinks, and developed/implement a long-term solution. The VA Center uses three on-site groundwater extraction wells with a total capacity of 625 gpm. Through field and laboratory testing of water samples at various points of use and flushing of hydrants, the primary source of the reddish brown discoloration in the water supply was identified. After evaluating several alternatives, IEG designed and installed a corrosion control chemical feed system. IEG then continued to monitor the performance of the corrosion control system for three months and turned it over to the VA Center.

NYSDEC MULTIPLE SITES O&M, REGION 3, NY

Client: NYSDEC, under subcontract to O'Brien & Gere, Syracuse, NY



IEG was issued a three-year standby contract work assignment for the operations, maintenance and monitoring of two remediated state superfund sites - 17-acre Dutchess Sanitation Landfill (Poughkeepsie, NY) and the 10-acre Kessman Landfill (Putnam, NY). Dutchess was remediated with a NYCRR Part 360 cap, a landfill gas collection/treatment system, and leachate collection system. Kessman had accepted solid and industrial wastes of unknown types and quantities, and was remediated in 1995 with a Part 360 cap, passive vents and a leachate collection system following the removal of sixty industrial waste drums and contaminated soils, and restoration of the affected wetlands. IEG's services for these two sites include design, implementation and oversight of required repairs/upgrades, and operation, maintenance and monitoring of the landfills.

Between these two landfills, IEG installed an access road, evaluated the gas and leachate collection/treatment systems, performed necessary repairs to the vents, piping, flare and monitoring wells, and implement a leachate management program. Twenty monitoring wells, wetland sediment and surface water are sampled for field and leachate treatment parameters (for offsite disposal), VOCs, semivolatiles, pesticide/PCBs, metals and petroleum hydrocarbons.



Haight Farm Site Remediation, Clarendon, NY

Client: NYSDEC, under subcontract to OSC for Design Services & to E&E for O&M



IEG designed a dual phase extraction and treatment system (MPE) for this site with chlorinated organics contamination in the vadose zone and bedrock aquifer. The design included groundwater modeling to refine the number/layout of DVE well, ensuring the capture of contaminated groundwater across a predetermined area of treatment and taking into consideration the effect of reinjection of treated groundwater upgradient of the contaminated area. The system with remote access (EOS system) was operated for a year, extracting up to 15 gpm of groundwater (depending on weather conditions) entrained in over 300 cfm of air at 12 in. Hg. The two phases are treated individually through activated carbon prior to discharge on-site (to the atmosphere for treated air, and to the reinjection trench for groundwater). Monthly reports

include an assessment of groundwater capture zones using SURFER, and potential ways to maximize groundwater extraction rates. Over 2 million gallons of groundwater and 132 million cubic feet of air were treated, and the system attained over 95% of its remediation goals within a year of system operation.

KINGSBURY LANDFILL O&M, HUDSON FALLS, NY

Client: NYSDEC, under subcontract to Earth Tech, Albany, NY



IEG was issued a standby contract work assignment for the operations and maintenance of the leachate treatment system at the Kingsbury Landfill which is supposed to contain 1,900 tons of hazardous waste, including PCBs, and was remediated by General Electric in 1989 and then turned over to the NYSDEC. After taking over the O&M, IEG significantly improved system performance (process flow rate and filter run lengths) and minimized chemical usage. Over 3 million gallons of



leachate was processed and the target water level inside the landfill attained.

PHASE I SITE INVESTIGATIONS, WESTERN NEW YORK

Client: Banks and Private Owners



IEG has completed Phase I assessments for real estate transactions or refinancing of bank loans for commercial properties, including manufacturing facilities. IEG takes a proactive approach during these assessments by offering solutions for the client to implement when potential environmental issues are identified.