

# STATEMENT OF QUALIFICATIONS

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## INNOVATIVE PROFESSIONAL ENGINEERING AND ENVIRONMENTAL CONSULTING SERVICES

Check us out on the web at [www.mecx.net](http://www.mecx.net)



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MEC<sup>x</sup>, Inc.  
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# COMPANY OVERVIEW

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## MEC<sup>X</sup> VISION

As a benchmark Service-Disabled Veteran-Owned Small Business, our vision is to create or restore built and natural sustainable environments, improving the quality of life in the communities in which we work and live while creating exceptional value for our clients throughout the world.

## MISSION STATEMENT

To accomplish our vision, we will attract, develop and retain a team of technology driven and service-oriented professionals. We will invest the time, attention and resources necessary to develop our talented team. The culmination of our investments will create innovative solutions, thereby ensuring project success and long-term client relationships.

## HISTORY

Our company roots go back to 1996, when we operated as a subsidiary of ManTech International (NYSE: MANT) as ManTech Environmental Corporation (MEC). Our main focus was to commercially implement the innovative environmental technology solutions being developed by the USEPA Kerr Research Lab. In February of 2002, when ManTech International decided to focus on government security, our team spun-off to form an entrepreneurial small business named MEC<sup>X</sup>.

## SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS

We are a Service-Disabled, Veteran-Owned Small Business (SDVOSB) registered on contracting databases, including: Central Contractor Registration, PRO-Net, Air Force Small Business Environmental Database, United States Environmental Protection Agency and other various government contractors' databases.

We are proud to bear the CVE symbol (seen below, next to our logo) as indication of our verification for the "Vets First Verification Program" that verifies and certifies legitimate SDVOSB firms.

## SCOPE OF SERVICES

MEC<sup>X</sup> welcomes the opportunity to listen to your most difficult environmental challenges. Our core scope of services include:

- **CONSULTING:** Due Diligence; Property Condition Site Assessments; Indoor Air Quality; Phase II Site Contamination Assessments; RCRA/CERCLA; Permitting; Storm Water and Spill Prevention Plans; Expert Witness
- **REMIEDIATION:** Remedial Designs; Innovative Excavations;
- **ENGINEERING:** Soil Vapor Extraction Systems Engineering Plans and Specifications
- **CHEMISTRY:** Treatability Studies and Pilot Tests
- **WATER TREATMENT:** Industrial and Commercial water treatment programs; Corrosion abatement



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# ENVIRONMENTAL CONSULTING



## DUE DILIGENCE SERVICES

MEC<sup>x</sup> provides site investigation and closure services to many corporations, law firms, lending institutions, industrial facilities and governmental entities. Our services range from conducting due diligence assessments in conjunction with mergers, acquisitions, divestitures and other business transactions to acting as an overall program manager for comprehensive compliance audits of multiple commercial or industrial facilities.

## ENVIRONMENTAL SITE INVESTIGATION

Our scientists and engineers have conducted numerous Phase II environmental assessments at a variety of sites, ranging from undeveloped properties to complex industrial facilities. Many of these projects have focused on obtaining data for evaluating property transfers, identifying contaminant source areas, developing remedial action plans, and obtaining site closure.

We are engaged with the dynamics of corporate transactions and diligent to respond with urgency to address environmental investigation requirements quickly and cost effectively. Our technical depth enables us to optimize site investigation services to meet client transactional needs.

We provide the following site characterization services to ensure the project-specific goals are achieved:



- Develop and execute work plans for site closure
- Manage intrusive (i.e., conventional rotary drilling, direct-push technology) assessment techniques
- Modeling contaminant source, fate, and transport
- Managing, validating and submittal of site closure documents
- Identifying and evaluating site remediation alternatives, if required
- Negotiating with environmental regulatory agencies



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# ENVIRONMENTAL REMEDIATION



MEC<sup>x</sup> is very experienced with planning and execution of remedial programs to obtain rapid regulatory closure of contaminated sites. We have the unique and proven staff to conduct remedial investigations, feasibility studies, treatability studies, pilot tests and manage remedial design projects. We have far reaching experience both domestically and internationally in designing, installing and maintaining remedial systems to treat all environmental contamination sources including soil, sludge, groundwater and wastewater.

## CHEMICAL OXIDATION

Our In-Situ Chemical Oxidation (ISCO) and Ex-Situ Chemical Oxidation (ESCO) processes are recognized as some of the most innovative and cost-effective remediation technologies available to address contaminants in groundwater and saturated soils. ISCO reagents are applied directly into the area of concern through installed wells using our carefully controlled proprietary low-temperature and low-pressure approach. Our ESCO process uses a patent-pending chemical process for on-site treatment of sludge or saturated and unsaturated soils aboveground. A significant advantage to our ISCO and ESCO processes is the elimination of off-site disposal, which saves client money.

## SOLVENT-ENHANCED NAPL TREATMENT

We have developed and perfected the use of solvent-enhanced processes for use along with ISCO whereby NAPL (free-phase or residual) is stripped & desorbed from soil particles. Solvent-enhanced ISCO uses natural citrus or soy-based solvents that are introduced into target treatment zones prior to application of oxidants. Prior to field application, we perform bench-scale treatability evaluations at our in-house remediation laboratory to design the best and most cost effective remedial strategy for clients.



## ENHANCED SOIL VAPOR EXTRACTION

Soil vapor extraction (SVE) is a cost-effective technology when applied in permeable soils but historically has not been effective in tight impermeable soils. We have developed a vadose zone treatment process, which is extremely effective in removing volatile organic compounds from tight impermeable soils in a relatively short amount of time. Our proprietary designs include a closed loop that reuses warm air to desiccate the tight soils and increase the permeability and increase contaminate recovery. One significant advantage is that there is no external air emissions like with traditional SVE systems, so an air permit is not required, saving client money.



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# ENGINEERED EXCAVATIONS



The use of innovative source-area excavations has gained popularity due to the assurance that all environmental contaminants can be permanently removed and rapid closure is possible. MEC<sup>x</sup> has designed and developed techniques for excavating contaminated soils from beneath occupied buildings and active facilities.

The shoring and bracing plan is the key element to the successful implementation of the innovative engineered excavation. We have developed several proprietary in-situ bracing and shoring systems that are installed through borings prior to commencing excavation activities. This has

enabled us to perform more than 30 excavations underneath active buildings with minimal impacts to current operations.

The engineered approach requires three critical elements to ensure that the excavation is safe and effective with minimal delays:

- Complete delineation of contaminants and identification of fractures and utility corridors that must be removed or supported prior to commencement of excavation activities;
- Accurate design documents to ensure that the structural integrity of the systems can be maintained;
- Engineered shoring design that minimizes interference with excavation activities while ensuring the integrity of the building systems and worker safety.



We have successfully engineered and executed many excavations for a wide range of contaminants including chlorinated solvents, petroleum hydrocarbons, and metals to depths of 35 feet.



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# ENVIRONMENTAL AIR QUALITY ASSESSMENT



## INDOOR AIR QUALITY

MEC<sup>x</sup> works with our clients to develop detailed protocols for indoor air quality (IAQ), which includes asbestos, radon and lead paint. We work with clients to develop comprehensive environmental audit protocols to match the unique aspects of client's operations.

We are an industry leader in monitoring and assessing indoor air quality. Our experienced industrial hygienists, engineers, and technicians identify and define problems, using the latest air sampling equipment, that affect air quality and develop recommendations to correct them.

We approach every indoor air quality project by reviewing relevant factors: occupant complaints, ventilation system performance, potential sources of indoor and outdoor contaminants and observations of air flow and circulation. Based on our observations, an air sampling strategy is designed to collect data that determines the source of the concern which enables us to offer solutions to ensure air quality control.

## ASBESTOS AND LEAD SERVICES

We provide comprehensive consulting services relating to asbestos-containing materials (ACM) and lead-based paint. We employ EPA - accredited inspectors, management planners and project designers with nationwide experience to perform facility inspections for ACM and lead-based paint.

Our engineers and industrial hygienists develop specifications for asbestos and lead abatement, develop and implement asbestos and lead operations and maintenance (O&M) programs, estimate costs of abatement options, conduct competitive bidding of abatement projects using qualified contractors, perform construction management with contractor oversight, and provide air monitoring during abatement.



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# SOIL VAPOR INTRUSION MITIGATION



The U.S. EPA and several State regulatory agencies have recently issued guidance documents expressing concern about the potential migration of harmful soil gas vapors (vapor intrusion) from shallow soils into structures above. The vapor intrusion exposure pathway is emerging as a critical health-based environmental concern, especially in the redevelopment of “brownfields” or properties with past environmental issues.

In consideration of existing and pending vapor intrusion regulations, many owners and commercial developers of properties are addressing this potential liability at their

existing properties and assessing soil vapor intrusion risks during the design phase of new redevelopment projects. MECX is on the cutting edge of site-specific designs to help developers address this issue.

We provide monitoring, assessment and prevention solutions for indoor air quality issues related to soil vapor intrusion risks. Our experienced scientists, engineers, and technicians use the latest air sampling equipment to identify and define problems that affect air quality and develop innovative solutions to correct them.

We approach every indoor air quality project thoroughly by reviewing relevant factors such as occupant complaints, ventilation system performance, potential sources of indoor, outdoor, and subsurface contaminants, and measurement of air flow and circulation. Based on our comprehensive evaluation, a site-specific air, soil and/or groundwater sampling strategy is designed to collect data that will aid in determining the vapor source, which enables us to create solutions that improve air quality control and mitigate potential risks.

We have designed, installed, and operated numerous soil vapor mitigation and remediation systems. We have engineered and installed systems for commercial and residential properties utilizing the following technologies:

- Sub-Slab Depressurization (SSD) systems for soil vapor mitigation
- Sub-Membrane Depressurization (SMD) systems for soil vapor mitigation
- Passive Soil Vapor Extraction (PSVE) systems for vadose zone remediation
- Closed-Loop Enhanced Soil Vapor Extraction (ESVE) systems for vadose zone remediation
- Soil Vapor Extraction in conjunction with air sparging / chemical oxidation for soil and groundwater remediation



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# ENVIRONMENTAL CHEMISTRY CONSULTING

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MEC<sup>x</sup> environmental chemistry consulting and data management staff have supported environmental site investigations, remedial programs, risk assessments and environmental litigation cases since the late-1980s. We have direct experience with sample collection, sample management, environmental laboratory analyses, data validation, and data management.

We provide project management, quality assurance, and data interpretation for small and large chemistry programs in the federal, local, and commercial companies.

We support a wide range of clients in the following areas:

- **Data Verification Validation and Management:** From data verification to full evaluation of analytical raw data, we design a data review program to meet your data usability needs utilizing client existing database structures.
- **Planning and Development:** Site history review, review of Applicable or Relevant and Appropriate Requirements (ARARs), development of data quality objectives (DQOs) to fulfill site exit strategies, field and laboratory method selection, preparation of project plans (FSPs, QAPP's, SAP's, SOP's), and laboratory contracts and SOWs.
- **Project Execution:** Laboratory and field measurement program coordination, sample management, audits, data usability, data quality assessment, contaminant-of-concern assessment, and interpretation of results.
- **Additional Chemistry and Data Quality Related Services:** Activities following collection and analysis of the results, such as risk assessment, report writing, litigation support, third party review of data quality reports, development of supplemental field and chemical analysis programs, and related activities.
- **Laboratory Program Management:** Develop customized laboratory program for clients with single or multiple contract laboratories to standardize procedures, provide oversight of laboratory implementation of method modifications to meet the goals specific to a given site, perform laboratory audits, act as the primary laboratory point-of-contact, and facilitate laboratory project management to ensure consistent quality and competitive pricing.

We feel strong pride in helping our clients with organized and thorough data management services to increase the success of their environmental programs.



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