

**AECOM's remediation specialists deliver integrated approaches to solve complex problems.**



AECOM applies innovative solutions to meet clients' site closure objectives. Our specialists combine scientific and engineering expertise with responsive and cost-effective project management, strong communication skills, and insightful regulatory knowledge. We know that every project is different and bring a fit-for-purpose technical team to address your contaminated site challenge.

- ▶ AECOM creates defensible, tailored, risk-based closure strategies using a combination of conventional and innovative tactics.
- ▶ We employ sustainable remediation strategies to deliver solutions that are good for the planet, communities, and the business to help you meet your ESG objectives.
- ▶ AECOM operates in all 50 states and 6 Canadian provinces. Our project teams are local, but we also boast the advantage of drawing on experts across the world to meet your objectives.
- ▶ We develop defensible contaminated site closure strategies by bringing together the best resources in the business to engage clients/stakeholders, characterize sites, eliminate threats to nearby receptors, recover the value tied up in impaired properties, and generate goodwill in the community.
- ▶ AECOM offers full life-cycle solutions for projects from due diligence to regenerative remediation that can include community and ecological uplift. Our subject matter specialists are leaders in their fields and will support your projects through completion.



## Investigation / Characterization

- Multi-media environmental site assessments
- Groundwater monitoring and modeling
- Underground storage tank management services
- Geophysical Investigations
- Natural attenuation evaluation and monitoring
- Advance site characterization technologies such as ESS and PRISM™
- Emerging Technologies investigation/characterization
- Human and ecological health risk assessment
- Natural Capital baseline assessments



## Feasibility Studies, Remedial Design and Remedial Process Optimization

- Engineering feasibility studies and remedial design
- Bench & pilot scale testing in in-house treatability lab
- Forensics and liability management
- Innovative technologies to treat emerging contaminants (including 1,4-Dioxane, PFOS and PFAS)
- Decision tree modeling for property redevelopment alternatives evaluation
- Treatment system design
- Vapor intrusion modeling
- Fate and transport modeling
- NRD determinations
- Green and sustainable remedial technologies
- Carbon accounting and optimization
- RCRA/CERCLA assessment
- Sediment assessment/remediation
- Vapor intrusion assessment
- Remedial strategy development/design



## Remedial Implementation

- Permitting
- *In situ* and *ex situ* soil and sediment remediation
- Groundwater remediation systems
- Vapor intrusion mitigation
- Remedial system/process optimization
- Risk management approach/economic evaluation
- Remedial construction oversight
- Hazardous materials removal/abatement
- Isolation and thin layer sediment capping
- Public relations
- Construction management and safety monitoring
- Decommissioning, decontamination, dismantling, demolition and asset recovery
- Post-closure monitoring and maintenance
- Site restoration/brownfields redevelopment

## INNOVATION HIGHLIGHTS

### Regenerative Remediation

AECOM's regenerative remediation approach creates both ecological and community uplift during site remediation and restoration, providing societal benefits that are layered, compounding, and often perpetual when combined with nature-based solutions and tied into the community culture.

### DE-FLUORO™ PFAS Treatment Technology

AECOM's internal research and development team developed an on-site technology that destroys PFAS in water and waste streams. DE-FLUORO™ is currently undergoing full-scale pilot trials at facilities in Australia and the US.

### *In Situ* Treatment of 1,4-Dioxane

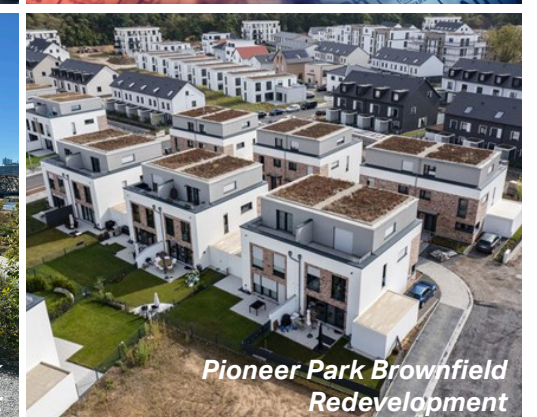
AECOM implemented an innovative *in situ* biological approach for treating 1,4-dioxane.

### DNAPL "Chemometrics"

AECOM is collaborating with an industrial partner to pilot a forensics/fingerprinting technique for DNAPL that uses compound-specific isotope analysis. The targeting of specific remedies based on this fingerprinting strategy reduces overall remediation costs substantially.

### Sub-Aqueous Sediment Remediation

AECOM is pioneering the use of *in situ* technologies to address contaminated sediments. At a former manufactured gas plant, we recently completed the first full scale sub-aqueous *in situ* sediment stabilization project in the USA, demonstrating that this technology provides a viable and cost-effective alternative to traditional remedial dredging.





## Spill Response & Cleanup Management

AECOM rapidly deployed a team to lead the environmental response to a spill of 800,000 gallons of heavy crude oil into Talmadge Creek and the Kalamazoo River. After the initial response, AECOM continued to support the cleanup by performing a wide variety of soil and sediment assessment, design, and construction activities to support site restoration and closure.



## Contaminated Sediment Management

AECOM employed a risk-based closure strategy coupled with creative green engineering solutions, to complete a large-scale urban river sediment remediation project and create habitat for native species. Innovative contaminant management and dewatering pilot studies supported a dredging and capping design focused on exposure pathway elimination. State-of-the-art technologies included bubble curtains, acoustical stimuli, and high-frequency sonar imaging to confirm that endangered sturgeon were protected during construction. Restoration activities provided ecological connectivity between the uplands and the river.



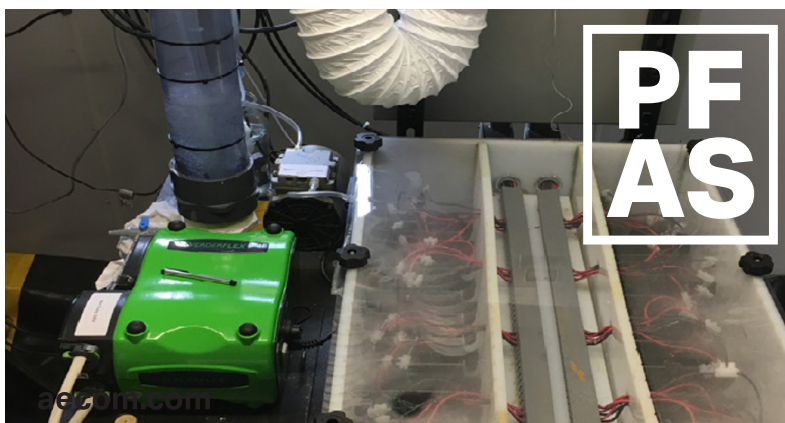
## Nature-Based Solution

AECOM employed enhanced phytoremediation at a chemical manufacturing facility near a Brackish Estuary in Eastern USA. The team planted bacteria-inoculated salt-tolerant poplars developed by Intrinsyx Remediation and assessed phytovolatilization, rhizodegradation and endophyte-induced chemical degradation of a mixed contaminant groundwater plume, containing chlorinated compounds, ethers, and chlorinated aliphatics.



## CCR Pond Closure

AECOM provided an alternative delivery strategy to deliver engineering and construction to meet key regulatory timelines for the closure of a CCR Pond. The combination of the team's regulatory, engineering, and construction experience led to a closure design using best practices for coal ash closures per new federal regulations. AECOM's breadth of design and construction experience provided our client with a single point of contact through which the project could be planned and executed.



## PFAS

AECOM led the investigation, regulatory negotiation, and remediation of a industrial wastewater treatment system with PFOS at concentrations of 4,000-6,000 ng/L. The team completed subsurface evaluations to characterize, delineate, and map the extent of PFAS impact, studied the potential fate and transport of PFAS off-site, and performed a forensic evaluation that identified on-site and off-site sources. We successfully negotiated with regulators to develop a reasonable and cost-effective path forward. The team designed and installed an automated interim PFAS treatment system that effectively removes PFAS concentrations to non-detectable levels before being discharged to the sanitary sewer.

## SUSTAINABLE REMEDIATION

AECOM incorporates sustainable approaches into its remediation projects. Examples are:

- **SUSTAINABLE REMEDIATION ASSESSMENTS.** Evaluate and incorporate key sustainability elements into our projects.
- **NATURE-BASED SOLUTIONS.** Incorporate natural approaches/processes into the remedy (i.e., natural attenuation, bioremediation, phytoremediation) by treating contaminants in place to reduce impacts.
- **MATERIAL BENEFICIAL USE.** Material reuse and recycling to minimize waste.
- **SUSTAINABLE TRANSPORTATION & GOODS MOVEMENT.** Minimize transportation-related greenhouse gas emissions.
- **SCOPEX & CARBON REDUCTION ADVISORY.** Carbon footprinting to identify potential greenhouse gas emissions and measure improvements.
- **SOCIAL VALUE & ENVIRONMENTAL JUSTICE.** Develop solutions that address social inequities and provide opportunities

that allow all communities to thrive. Engage stakeholders and consider valuable community input to maximize positive impact.

- **REGENERATIVE REMEDIATION.** Integrate site cleanup with final design that incorporate ecological and community uplift.
- **RESILIENT REMEDIATION.** Planning and design to adapt to extreme weather.
- **ECOSYSTEM RESTORATION & BIODIVERSITY.** Preserve, enhance, construct natural habitats as part of cleanup
- **HISTORICAL & CULTURAL PRESERVATION.** Respect and preserve historic and cultural resources.
- **RENEWABLE ENERGY DEVELOPMENT.** Use solar or wind power.
- **DEVELOPMENT ECONOMICS & VALUE ASSESSMENTS.** Help clients with evaluation and decision making around projects and policies related to feasibility, financial, social impact, risk and prospects for success.



Safety for life



**ZERO ACCIDENTS**  
**ZERO ENVIRONMENTAL INCIDENTS**  
**ZERO ETHICAL BREACHES**  
**ZERO DEFECTS**



Equity  
**THRIVE**  
Diversity Inclusion

## KEY CONTACTS

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