



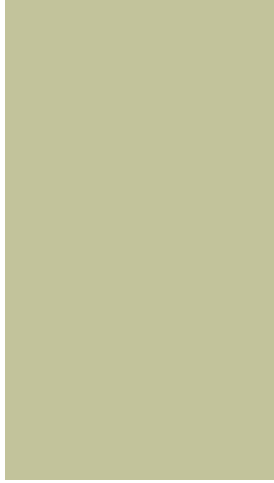
**FISHBECK, THOMPSON, CARR & HUBER**  
engineers | scientists | architects | constructors

# **ABOVE AND BELOW**

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ENVIRONMENTAL SERVICES

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# A SUSTAINABLE WORLD

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Sight, sound, taste, touch, smell. Our senses are constantly engaged throughout the day in various capacities, and the environmental media around us is key to maximizing the way we sense. Our healthy environment enhances the air we breathe, the lakes we swim, the forests we explore, the facilities in which we work, and the ground we walk on every day.

FTCH's Environmental Division is full of experts capable of providing the services necessary to maximize these various aspects of environmental media. When there is potential risk to be mitigated in a property transaction, we are there. When air quality needs to be improved at a facility, we are there. When a company needs help staying in environmental compliance, we are there. When pollution or contaminants need to be addressed on site, we are there. When an ecosystem requires wetland delineation or protection of rare species, we are there. When hazardous materials accidents need to be cleaned up or asbestos-containing materials removed, we are there.

FTCH believes in contributing our expertise to make the most healthy and sustainable world possible for everyday life. We are available to help with any environmental media need you have.



ABOVE AND BELOW

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## ENVIRONMENTAL SERVICES

Being good stewards of our environment means taking care of our air, water, soil, and everything that benefits from a clean environment. Our environmental services provide you with the tools for success in attaining sustainability goals, meeting regulatory requirements, and mitigating risk.

### 1 AIR QUALITY

FTCH's team of experts partner with you to navigate the ever-changing regulations and their requirements. We develop and secure air quality permits, perform complex modeling analyses and compliance surveys, develop compliance/emissions tracking systems, and lend regulatory support and guidance. In your everyday operations and as your business expands and grows, we are here to address your air quality needs.

### 2 INDUSTRIAL HYGIENE

Providing feasible, business-oriented solutions for occupational health and safety, we anticipate, recognize, evaluate, and develop controls for occupational health hazards in industrial facilities.

### 3 DUE DILIGENCE

To identify potential liabilities, we conduct regulatory compliance evaluations. We assess sites as part of real estate transactions, including expansions, acquisitions, and divestitures, and provide grant application assistance for Brownfield redevelopment.

### 4 NATURAL RESOURCES


The presence of wetlands, protected plants and animals, and other sensitive features may affect your site development project. We identify and address any natural resource concerns, conduct investigations and studies, mitigate and restore wetlands and streams, and help with regulatory permitting.

### 5 ENVIRONMENTAL COMPLIANCE

Your company requires effective environmental programs to streamline compliance and reduce overall manufacturing and operating costs. FTCH assists with regulatory reporting, provides analyses and procedures for compliance, and trains your staff to meet your environmental responsibilities.

### 6 REMEDIATION

From discovery to closure, FTCH's team of scientists and engineers will guide you through all aspects of your project. Expert analysis and innovative thinking provides you with cost-effective approaches to site investigations, risk analysis, remedial strategy development, system design, construction/implementation, performance monitoring, and site closure.



Soil is just one of the environmental media we understand and address the subsequent fate, transport, and remediation of contaminants of concern (COC), such as industrial solvents, PCBs, metals, hydrocarbons, and more.

## ENVIRONMENTAL DUE DILIGENCE

FTCH conducted environmental due diligence activities on a 63-acre, former automobile manufacturing site. After the original property owner filed for bankruptcy, a developer purchased the property and demolished many of the buildings without abating the environmental hazards contained within, leaving piles of rubble throughout the site. As a responsible corporate citizen, the current property owner retained FTCH to ensure that development of the property was done in an environmentally respectful manner and in compliance with all applicable regulations. The current owners' goal is to create usable land out of this Brownfield property. FTCH has played a pivotal role by guiding the owner through their due care obligations, providing abatement and demolition guidance, and field oversight to ensure the clients' interests are protected and the surrounding community is safe.



WE NATURALLY GRAVITATE TOWARD INNOVATIVE, PRACTICAL, ECONOMICAL, AND ROBUST SOLUTIONS

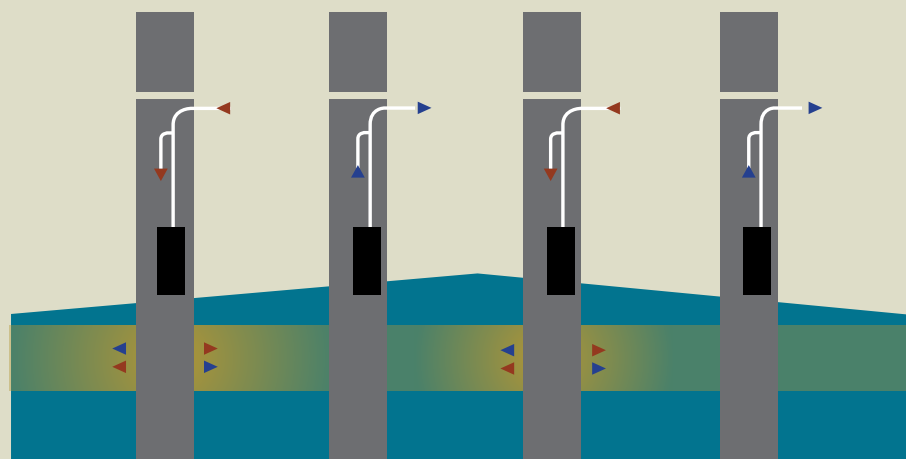
## REMEDIATION SERVICES

Have you identified all your environmental responsibilities and pitfalls? A due diligence assessment of your building or site will help you mitigate risk, while successful remediation will help recondition your site into a viable piece of property once again while protecting site workers, your neighbors, and the environment. Our environmental remediation services cover all media and exposure pathways to protect human health and the environment; air, groundwater, surface water, soil, and wetlands.

FTCH is nationally recognized for our ability to solve environmental contamination problems. The remediation team serves clients with professionals experienced in the areas of risk management, regulations (CERCLA, RCRA, LUST), engineering, biology, chemistry, hydrogeology, and contaminant fate and transport. We are known for our ability to see the big picture and find the right solutions for our clients' mergers, acquisitions, divestitures, Brownfield redevelopment, or site-specific regulatory cleanup requirements.

### SERVICES WE OFFER INCLUDE:

- BROWNFIELD SITES
- ENGINEERED REMEDIATION SYSTEMS
- IN SITU REMEDIATION
- LIFE-CYCLE ANALYSIS
- NATURAL ATTENUATION
- PROGRAM ENHANCEMENT DESIGNS
- REMEDIAL INVESTIGATION & RISK ASSESSMENTS
- SYSTEM PERFORMANCE EVALUATIONS



GROUNDWATER BIOAUGMENTATION REMEDIATION SYSTEM

FTCH designed a full-scale bioaugmentation system to remediate carbon tetrachloride and nitrate-impacted groundwater for a small village in Michigan. The system design was based on a newly developed technology that showed promise in degrading the target constituents in laboratory and field pilot testing. The project was a collaborative effort that included a public university and the State of Michigan. The design included an innovative network of piping and cutting edge control system that allowed for the system to extract, condition, augment, and reinject groundwater simultaneously under exacting conditions. Groundwater pH was adjusted and maintained at precisely 8.2, which was critical for the technology to work effectively. This first of its kind system accomplished all established goals.



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## OCCUPATIONAL SAFETY AND HEALTH COMPLIANCE

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The expanding cost of workplace illnesses threatens employee productivity and, in turn, can create a profound impact on an organization's economic stability. FTCH's team of industrial hygienists and scientists is trained to help you keep your workforce educated, safe, and healthy in all situations.

Meeting the demands of business operations, while sustaining the health and well-being of a workforce, can be a challenge. We provide exposure assessments as well as auditing, reviewing, and preparing written compliance programs to promote a workplace reasonably free of harm. FTCH is committed to protecting your most important asset - your employees.

ASBESTOS AND LEAD MANAGEMENT

EMPLOYEE EDUCATION AND TRAINING

EXPOSURE ASSESSMENTS INCLUDING STANDARD-SPECIFIC COMPLIANCE

- + LEAD
- + FORMALDEHYDE
- + HEXAVALENT CHROMIUM
- + ARSENIC
- + SILICA
- + NOISE

HEAT STRESS MONITORING

INDOOR AIR QUALITY INVESTIGATIONS

OSHA HEALTH AND SAFETY COMPLIANCE

- + CONFINED SPACE IDENTIFICATION, CLASSIFICATION ENTRY PROCEDURES, AND TRAINING INCLUDING NON-ENTRY RESCUE
- + HAZWOPER TRAINING/HAZMAT ALL LEVELS
- + EMERGENCY PLANNING
- + PPE AND HAZARD ASSESSMENTS
- + LAB SAFETY AND CHEMICAL HYGIENE
- + RESPIRATORY PROTECTION
- + PROCESS SAFETY MANAGEMENT

RISK MANAGEMENT

# industrial hygiene

PROTECTING YOUR MOST IMPORTANT ASSET - YOUR EMPLOYEES



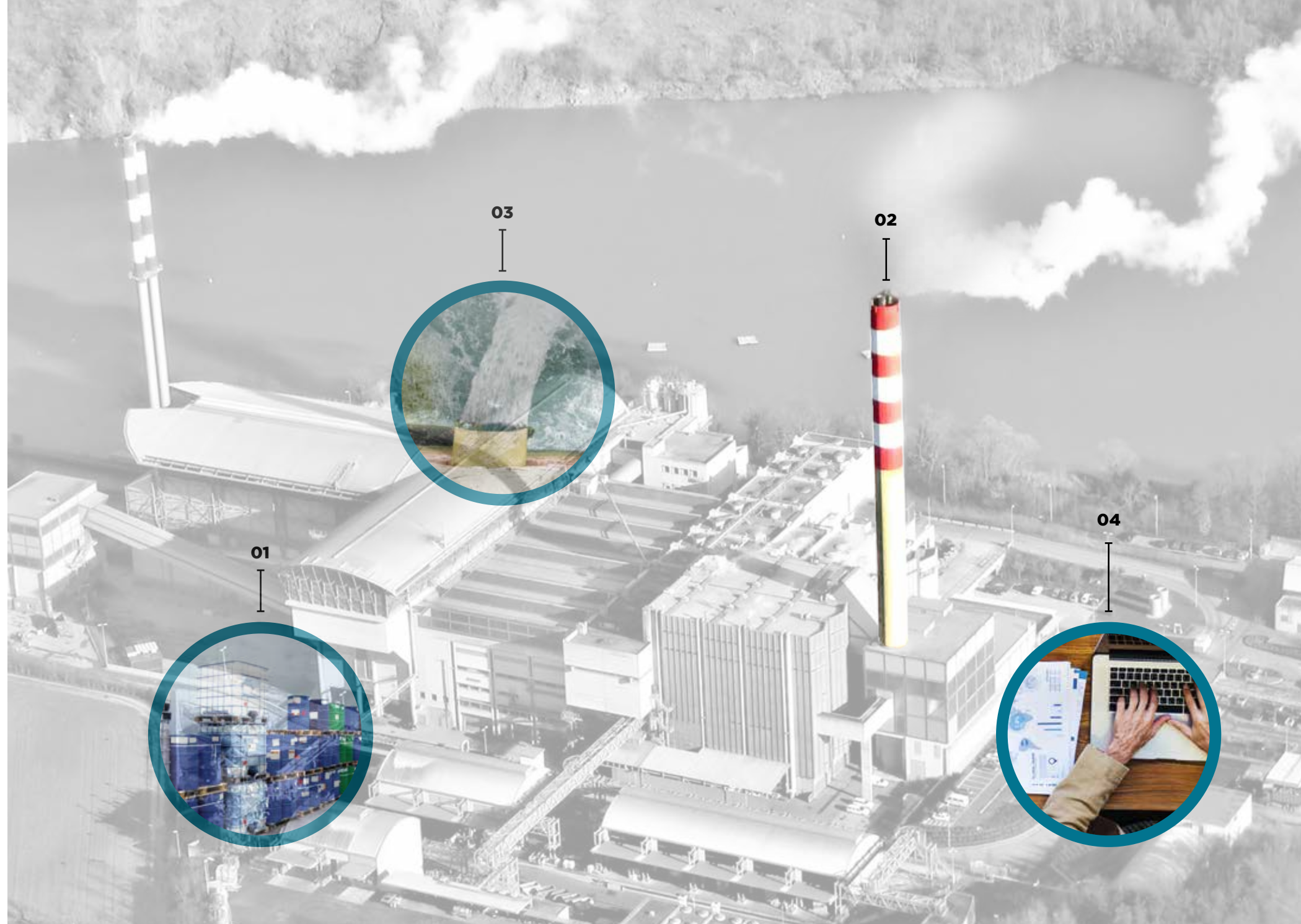
## ENVIRONMENTAL REGULATORY COMPLIANCE SERVICES

### 01 | WASTE

FTCH develops effective waste management programs for our clients, including plans that address hazardous waste, liquid industrial by-product, and solid waste. We help define your regulatory compliance, waste management, waste reduction, and recycling strategies. We also prepare Hazardous Waste Contingency Plans for fully regulated generators and provide annual training.

### 02 | AIR

Our experienced air quality team builds strong partnerships with our clients to find the best solutions in an ever-changing regulatory climate. We successfully negotiate air permits requiring complex air dispersion modeling, detailed BACT analyses, and multifaceted regulatory reviews including PSD, NSR, as well as MACT compliance. On your behalf, we interface with regulatory agencies to offer greater flexibility in demonstrating compliance with record keeping, monitoring, and other regulatory requirements.



### 03 | WATER

Many clients need FTCH to assist with spill and pollution prevention plans, including Pollution Incident Prevention Plans (PIPP), Spill Prevention, Control and Countermeasure Plans (SPCC), and Storm Water Pollution Prevention Plans (SWPPP). We have team members that serve as Certified Industrial Storm Water Operators for our clients by preparing plans and conducting inspections. We understand the MDEQ MiWaters Program and have prepared and submitted permit applications and annual reports under a wide range of water regulatory programs such as surface water, groundwater, inland lakes, wetlands, and soil erosion.

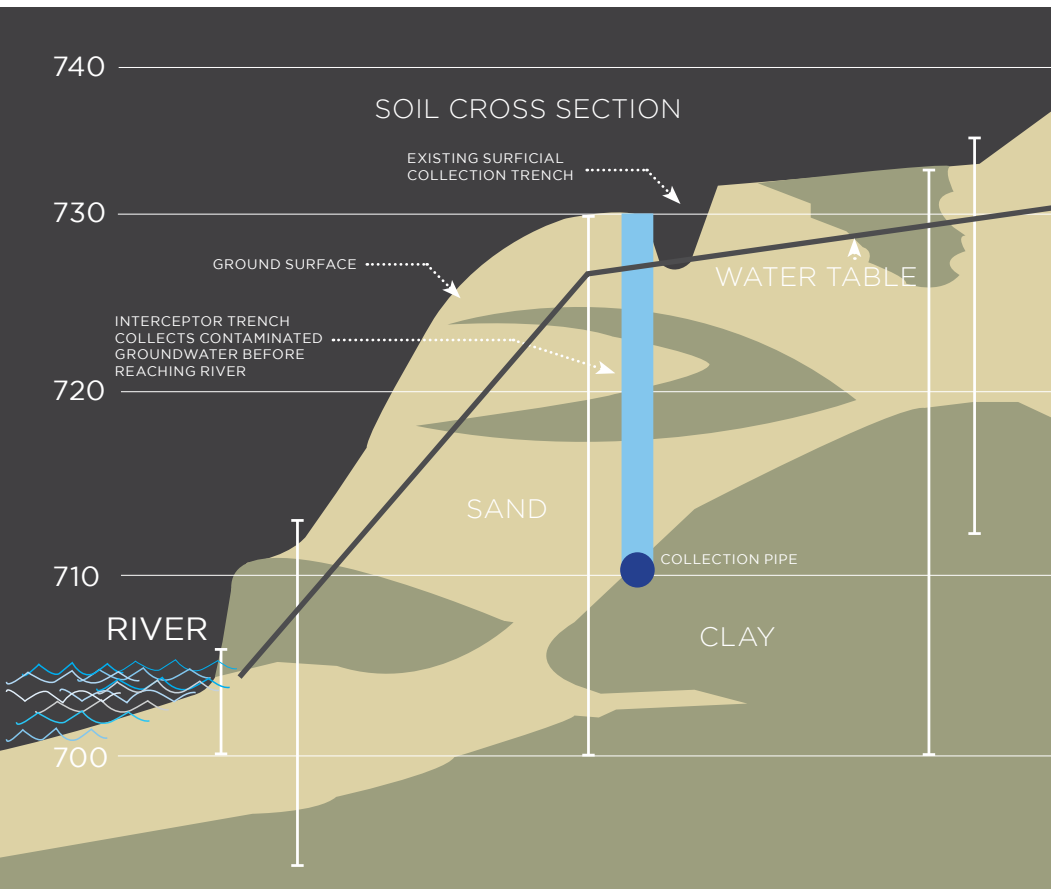
Additional services include industrial pretreatment program permitting, sampling and reporting, and compliance assistance with the new stormwater program visual assessment requirements.

### 04 | REPORTING AND ADDITIONAL SERVICES

We assist in the applicability and completion of annual reporting requirements such as EPCRA Tier II and Toxic Chemical Release Inventory (TRI), Michigan Air Emissions Reporting System, RCRA Biennial Reports, NPDES Reports, and Water Use Reports.

Often, we find ourselves onsite to provide chemical and process reviews to determine applicable regulations and develop necessary compliance strategies and record keeping, respond to agency inquiries, perform employee or DOT training, create ISO 14001 Environmental Management Systems, register for hazardous materials, and support MDEQ/EPA permits or enforcement communications.

Our experts provide full compliance evaluations and environmental assessments.



## CASE STUDY

### INDUSTRIAL MANUFACTURER

One of our clients, a 150-year-old manufacturer of wholesale plumbing and heating components, continues to diversify to stay at the forefront of the industry. Through FTCH's full range of environmental services, including environmental compliance and remediation, they have grown their market share by adopting innovative and advanced technologies.

FTCH has been a trusted advisor for this client since 1985. Past use of vapor degreasers at the plant resulted in the release of solvent to the subsurface, and the client authorized FTCH to define the extent of impact and begin capture and control of two contaminated groundwater plumes. Coupled with the groundwater capture technology, we designed and implemented anaerobic bioremediation within the contaminant source zone. Through these actions, more than 90 percent of the original contaminant mass has been destroyed. At the plant's truck garage, FTCH designed and constructed a system to remediate a plume of diesel fuel that was "floating" on the water table. The fuel was destroyed underground by the injection of ozone gas into the affected area.

This client has also called upon FTCH for environmental compliance, air quality, industrial hygiene, ongoing annual reporting, environmental plans, permitting and stormwater assistance, and on-call services. Most recently, FTCH implemented environmental and infrastructure services for a major addition to their central plant. Environmental investigation, wetland delineation and mitigation, and chemical receiving and secondary containment design assistance have all been provided, utilizing FTCH's team approach.

As we continue collaborating with this client, the FTCH team looks forward to new opportunities to use all aspects of our environmental expertise at this site.



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## CLIENT TYPES

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AEROSPACE  
AGRICULTURE  
AUTOMOTIVE MANUFACTURERS  
BEVERAGE PRODUCERS AND BREWERIES  
CHEMICAL  
DEFENSE AND COMBAT SYSTEMS  
FOOD PRODUCERS AND PROCESSORS  
FURNITURE MANUFACTURERS  
HEAVY MANUFACTURING  
HIGHER EDUCATION INSTITUTIONS  
LANDFILLS  
MINING AND AGGREGATES  
MUNICIPALITIES  
OIL AND GAS  
PARKS AND BEACHES  
PHARMACEUTICAL  
POWER GENERATION  
PULP AND PAPER  
REAL ESTATE DEVELOPERS  
STEEL MILLS AND FOUNDRIES  
SUPERFUND SITES  
WOOD AND FORESTRY PRODUCTS



