

## ENVIRONMENTAL ENGINEERING



**From compliance and construction management to assessment and remediation, NewFields' environmental engineering services focus on meeting the client's goals efficiently and effectively.**

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NewFields specializes in all phases of environmental engineering and is particularly skilled at developing innovative and cost-effective solutions specific to our client's needs. We provide comprehensive due diligence services for property acquisition and/or disposition, site investigation, remediation design, and implementation of the remedial programs. Our experts utilize the client objectives and liability-based remediation needs to provide an accurate assessment of liability costs in order to determine the most effective and practical project plans. Additionally, we maintain or improve environmental regulatory compliance to eliminate or minimize the potential for regulatory fines, violations, or penalties. Services include:

- Phase I/II Assessments
- Environmental Liability Assessments
- Environmental Regulatory Compliance Audits
- Landfill Cap Design and Construction
- Remediation Design, Construction, and Operation
- Portfolio Management
- Brownfields Re-development
- Hydrology and Storm Water Management



# How We Can Help

NewFields is known for customizing solutions to meet the unique challenges faced by our clients. We know that most projects do not fit neatly in a box. Below are some of the environmental engineering services we provide.

## ■ Environmental Liability Assessments

Using all data sources available to determine potential liabilities at a site, often as part of a real-estate transaction, as well as costs to resolve those liabilities.

## ■ Remediation Design and Construction

Identifying the contamination that needs to be addressed, evaluating potential remedies to select the remedy that will be most efficient and cost-effective, designing that remedy, and providing oversight during implementation.

## ■ Portfolio Management

Technical review and project planning in support of clients with a portfolio of multiple active projects sites. We deliver timely information that allows informed decision-making to perform detailed project monitoring activities.

## ■ Landfill Cap Design and Construction

NewFields designs capping and associated closure systems for hazardous and non-hazardous waste landfills including caps and leachate management/minimization systems. NewFields' landfill closure systems minimize leachate production and provide for long-term stable landfill systems compliant with RCRA and other regulatory requirements.

## ■ Brownfields Re-Development

We have unparalleled experience in the preparation of state and federal grants that communities, including tribes, can acquire for brownfield development. Our comprehensive knowledge of the USEPA Brownfields program, allows us to maximize our client's use of grant funds, and position communities to grow and fund local programs for the long term.

## ■ Hydrology and Storm Water Management

We provide expertise in developing hydrologic models for site development and design of hydraulic systems for storm water management. Our experience includes the design of both traditional storm water management controls and low impact development controls.



# Case Study

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**CHALLENGE 1:** Remediation: Client has contaminated soils at a site.

## THE APPROACH

It is critical that a sound strategy be developed prior to engaging in environmental remediation. The regulatory requirements for remediation are identified and then the site data is analyzed, using GIS and other data management tools, to determine the horizontal and vertical extent of the contamination requiring remediation. Once the remediation goals are defined, alternatives for achieving compliance are developed from several technology options ranging from institutional controls to in-situ treatment or removal and disposal. This process emphasizes finding the minimum waste volume requiring remediation required to bring the site into compliance with applicable regulations and to mitigate long-term environmental and business risks at the site. Technologies would be evaluated based on cost, effectiveness, sustainability through the application of Decision Consequence Analysis (DCA), and implementation time to determine the remedy that would provide the best result. Following remedy selection, work plans are developed, permits are obtained, and remediation subcontractors are identified to complete the work. During the field remediation process, our team provides oversight to ensure the work is being performed in accordance with the long-term remedial strategy and is appropriately documented.

**CHALLENGE 2:** Landfill cap: Client has a landfill that needs to be capped and closed.

## THE APPROACH

Our approach to landfill closure focuses on leachate minimization and landfill stability. The first task is to assess the current conditions of the landfill to assure that the landfill is stable and that leachate removal system is functional. Cap design is based on the regulatory approach as well as the desire for leachate control. Hazardous waste landfills require RCRA C double lined cap systems whereas non-hazardous waste landfills typically require RCRA D single lined cap systems, although, some clients choose a double lined system for a non-hazardous application to added leachate minimization. Design involves leaching analysis, stability analysis, and the selection of best means and materials for closure construction. Probabilistic cost models are used to provide programming ranges of costs for procurement. Bid documents are prepared and contractors are selected for construction, with NewFields providing construction oversight to assure that the construction is performed according to the overall strategy. All of the work would be documented to the level required by the regulatory authorities and final reports would be prepared. NewFields would then petition on behalf of the client for a certificate of closure for the landfill.

## The NewFields Difference


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NewFields approaches projects from a strategic perspective, rather than simply providing the minimum amount of work to satisfy regulatory or permit requirements. Our experts bring a tenacious enthusiasm for problem solving and unending technical curiosity to every client's project. We have the technical skills required to improve environmental quality as well as the skillsets necessary to define and describe client issues, project logistics, and detailed cost estimating.

We are focused on finding the most effective, innovative, and cost-effective solutions to meet our clients' needs.

***Let us help you with your next project and experience the NewFields difference!***

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**Since 1995** we have been providing businesses with practical and tactical expertise. We collect, research, refine and provide the actionable intelligence needed to resolve your complex business needs.

## About NewFields

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NewFields is an environmental, engineering, and construction management consulting firm. We provide access to a global network of recognized experts and professionals who work together to resolve our clients' complex business needs.

Our talented staff is a diverse group of accomplished individuals, most of whom are senior level engineers, scientists, and specialists, who offer our client base both practical and strategic solutions.

We look forward to helping you achieve success and sustainability in a rapidly changing, interconnected world.



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