

# Landfill Services

DBS&A performs engineering and hydrogeologic services in support of landfill and solid waste facilities and operations. We specialize in remediation of soil and groundwater permitting, in cell and cover design, field and laboratory testing of soils, and construction oversight services. Ancillary services include feasibility studies, hydrologic investigations, performance modeling, and corrective action.



DBS&A obtained regulatory approval an alternative earthen cover system for two hazardous waste disposal trenches.

## Permitting

DBS&A performs all aspects of permitting associated with solid waste, hazardous waste, mixed waste, and radioactive waste landfills, from the initial siting, through operation, and closure permitting. We have modified existing permits for expansion and efficiency gains and have also performed client support and negotiation services.

## Master Planning

DBS&A develops master plans that describe build-out, including cell layout and timelines. Key issues in developing a master plan include:

- ◆ Sequencing the tie-in between the disposal cells
- ◆ Assessing equipment needs
- ◆ Financial planning

## Soil Testing and Research Laboratory

DBS&A's Soil Testing and Research Laboratory performs specialized tests for determining the hydrologic properties of soil and rock.

Our independent research efforts have led to development and regulatory approval for a simple and cost-saving alternative to standard landfill and hazardous waste covers—evapotranspiration (ET) covers.

## Cell Development and Design

DBS&A routinely prepares construction drawings and bid documents necessary to select the appropriate contractor for construction. We design stormwater control systems that provide for progressive build-out as cells are developed over the life of the landfill.

“DBS&A's strength is synthesizing the data and understanding how we should proceed strategically.”

~Greg Bushner,  
Vidler Water Company, Inc.



**Daniel B. Stephens & Associates, Inc.**

[www.dbstephens.com](http://www.dbstephens.com)



Rapid direct-push drilling methods used for soil vapor testing at a closed landfill.

## Borrow Material Investigations

DBS&A works with our clients to identify on-site and, if necessary, off-site soil borrow material sources for use as daily and subsequent final cover materials. In support, DBS&A's Soil Testing and Research Laboratory performs evaluations of borrow material properties including saturated and unsaturated hydraulic conductivity and geotechnical testing.

## Planning Design and Operations Engineering

DBS&A has the practical experience gained from working with numerous public and private landfill operators to improve operational efficiency. Factors to consider include:

- ◆ Diversion of recyclable materials
- ◆ Using alternative daily cover (ADC) to improve waste disposal efficiency
- ◆ Evaluating landfill gas-to-energy alternatives to capitalize on current tax credits

## Quality Assurance and Construction Oversight

DBS&A has extensive experience in providing construction QA/QC oversight and testing for solid waste facilities, from liner installation through final cover placement, including liner installation inspectors certified under the Geosynthetics Certification Institute Inspectors Certification Program on staff.

“ They give us a practical and pragmatic approach. ”

~Michael Jacobs,  
Pioneer Natural Resources

## Environmental Monitoring

DBS&A performs compliance monitoring at landfills for both water quality and landfill gas emissions. We have written groundwater, methane, and leachate monitoring plans and have implemented the plans for our clients with installation of groundwater monitor wells and landfill gas monitoring probes.

## Cover Design

Much of our work is focused on ET covers, whose use is expanding due to their high performance and low maintenance costs.



View of GCL and HDPE liner installation progress during recent Construction Quality Assurance project.

