

WEST COUNTY LANDFILL

Leachate Extraction Systems

Contra Costa County, California

Client:

Republic Services, Inc.

Contract Value:

2.2 million

Performance Period:

2006—Present

Technical Areas:

- Remediation
- Solid Waste Management
- Water Resources
- Civil Design
- Geotechnical Engineering, Geology and Hydrogeology

Successes:

Established a favorable regulatory environment post I&SE Order

Substantial improvement of hydraulic gradient status

Significant improvement of data collection and evaluation system

Significant improvement of leachate treatment system capacity



BACKGROUND

The West County Landfill, which is owned and operated by Republic Services Inc., was built in Richmond, California near the San Francisco Bay. The leachate generated at the landfill, especially in the Class I area, must be carefully managed to avoid potential contamination of the Bay and to achieve an inward hydraulic gradient.

SES ROLE

SES was retained to evaluate the hydraulic gradient status along the perimeter of the Class 1 Hazardous Waste Management Facility and then to design, implement, and monitor a new leachate extraction and treatment system to improve leachate extraction and generate inward hydraulic gradient within the facility. Over a period of two years, SES conducted hydrogeologic evaluations of the existing extraction system, installed 18 additional leachate extraction wells, upgraded pump and control systems, upgraded liquid level monitoring systems, replaced leachate conveyance system, and designed and installed a new leachate treatment plant. The work was performed under direction and approval of the Department of Toxic Substances Control (DTSC). The work has resulted in a 9-foot improvement in average hydraulic gradient and favorable reversal of gradient at the majority of monitoring locations.



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