



Education

M.Sc. Geological Engineering, University of Idaho, 1987

B.Sc. Geological Engineering, Washington State University, 1985

Certifications

Registered Professional Engineer, California

Golder Associates Inc. – Sacramento

Employment History

Golder Associates – Roseville, CA

Staff Engineer to Principal Engineer (1987 to Present)

Mr. Haskell has 27 years of experience with a variety of solid waste, mining and other civil and geotechnical engineering projects. Mr. Haskell's solid and hazardous waste experience has included the design of numerous municipal solid waste and hazardous waste landfill liners, covers, and impoundment facilities. He has been the engineer-of-record for more than 40 landfill base liner, landfill final cover, and leachate impoundment design and/or construction projects. These waste containment projects have included design and construction of landfill base liner and leachate collection and removal systems, final cover systems, and leachate impoundment liners located at 14 landfill facilities in California.

Mr. Haskell's landfill experience encompasses: Permitting new facilities and landfill expansions; preparation of construction plans, specifications and bid documents; permitting and designing engineered alternative liner and cover systems including evapotranspirative (ET) soil covers; preparing master development plans and fill sequence plans for several large solid waste facilities; evaluating clay sources for use in low-permeability soil liners; and providing construction quality assurance for base liner systems and cover systems.

Mr. Haskell has provided expert testimony/third party review of projects involving cost allocation in the development of tipping fees for landfills, and remediation of liner and cover systems. He has also provided engineering and environmental due diligence support for the acquisition of more than 10 landfill facilities located in the California, Nevada, Oregon, and Washington.

Rockwell, Basalt Waste Isolation Project

Staff Engineer (1986)

Scheduled laboratory and in situ rock mechanics tests, assisted in the preparation of subsurface site characterization study plans.

Department of Geological Engineering, University of Idaho

Research Assistant (1985 to 1986)

Statistical evaluation of the effect of rock discontinuity properties on groundwater flow in an underground lead-zinc mine.



PROJECT EXPERIENCE – LANDFILL

- Tri-Cities Landfill Closure**
Freemont, California
- Project Manager and engineer-of-record for the design of the final closure for the Tri-Cities Landfill. The landfill measures 110-acres and was closed with a prescriptive soil cover. Construction documents and an updated Closure Plan were prepared and approved by the regulatory agencies.
- City of Palo Alto Landfill**
Palo Alto, California
- Project Manager and engineer-of-record for the design of the third and final phase of closure for the City of Palo Alto Landfill. The final phase of closure measures 50 acres in area and includes an evapotranspirative soil cover. The landfill is designed to be a public park following closure.
- Guadalupe Landfill,**
San Jose, California
- Project Manager and Engineer-of-Record for the preparation of Joint Technical Document, Master Plan, and Preliminary Closure/Postclosure Maintenance Plan for the Guadalupe Landfill. As part of this project, the cover system was also redesigned to provide a technically superior and more cost effective closure. Master planning address construction sequencing, relocation of a waste-to-energy facility, design of a new access road, and soil balance. Engineer-of-record and CQA engineer-of-record for the construction of three base liner expansion projects.
- Lined Dedicated Land Disposal Project**
Sacramento County,
California
- Project Manager and engineer-of-record for the base liner and leachate collection system design for the design and construction quality assurance of lined, dedicated land disposal units (L-DLD) at the Sacramento Regional Waste Water Treatment Plant. Sacramento County constructed three 40-acre L-DLD units to allow continued land application/treatment of biosolids. Golder was retained as part of the design team to provide expertise on the design and construction quality assurance of the base liner and leachate collection system.
- Rock Creek Landfill Closure,** Calaveras
County, California
- Project Director responsible for technical review of the final closure design of the first 10-acre phase of closure for the Rock Creek Landfill. Closure construction included the installation of a landfill gas collection and control system and a landfill gas flare.
- Buena Vista Landfill Closure Remediation,**
Amador County,
California
- Project Manager and engineer-of-record for the remediation of the closure design and construction of an 8-acre landfill closure that was rejected by State regulatory agencies as not complying with California regulations. Golder was retained by the County to investigate and work with the regulatory agencies to develop a remediation plan. Remediation involved the removal and reconstruction of the geomembrane layer on the top deck. Remediation activities were completed in 2009 and approved by the regulatory agencies in 2010.
- Yolo County Landfill**
Yolo County, California
- Project Manager and Engineer-of-Record for the design of a Class III solid waste landfill expansion at the Yolo County Central Landfill. Completed plans, specifications, and bid documents for a 10-acre cell and obtained regulatory approval within 90 calendar days. The landfill was also designed with the flexibility to operate as a bioreactor. Also completed plans, specifications, and bid documents for the subsequent 12-acre cell.



- Pacheco Pass Landfill Closure**
Gilroy, California
Project Director responsible for technical review of the construction quality assurance that was being performed for the construction of a 25-acre, geomembrane final cover system at the Pacheco Pass Landfill.
- Crazy Horse Landfill Closure**
Salinas, California
Project Director responsible for technical review of the design of a 65-acre landfill closure using a geomembrane on the top deck and a ClosureTurf geosynthetic cover on the side slopes.
- Class II Surface Impoundments Closure**
Lawrence Livermore, California
Project Manager and engineer-of-record for the clean closure of two wastewater impoundments at the Lawrence Livermore National Laboratories Site 300 Facility. The project also involved the design of a network of open-top storage tanks to replace the impoundments.
- Avenal Landfill Liner Performance Demonstration**
Avenal, California
Project Manager and Engineer-of-Record for the completion of liner performance demonstration for the proposed expansion of the Avenal Landfill. The Regional Water Quality Control required demonstration that the proposed liner system would comply with the requirements of Title 27 of the California Code of Regulations.
- Ostrom Road Landfill**
Yuba County, California
Project Manager for the design of a Class II solid waste landfill expansion at the Ostrom Road Landfill. Engineer-of-Record for the completion of construction plans, specifications, and bid documents for construction of an eight-acre base liner (1998), ten-acre base liner (1999), seven-acre base liner (2002), and 12-acre base liner (2004). CQA Engineer-of-Record for base liner projects completed in 2002, 2004, and 2008. Developed a revised cover grading plan and prepared an associated Joint Technical Document for a vertical expansion. Performed master planning for future fill sequencing.
- Hay Road Landfill Closure Design**
Vacaville, California
Project Manager and Engineer-of-Record for the preparation of a Preliminary Closure/Postclosure Maintenance Plan for the Hay Road (formerly known as B&J) Landfill in Vacaville, California. The PCPMP addressed and Engineered Alternative Design for the cover system that included a one-foot thick foundation layer and substitution of a geosynthetic clay layer in place of a compacted clay layer.
- Hay Road Landfill**
Vacaville, California
Prepared construction plans, specifications and bid documents for multiple base liner projects and served as the Construction Quality Assurance Engineer for three of the base liner construction projects. Developed clay compaction recommendations for the use of on-site clay as clay liner material.
- Landfill Flood Control Levee**
Novato, California
Project manager and engineer-of-record for the design of a flood control levee at the Redwood Landfill.
- Municipal Solid Waste Landfill Expansion**
Anderson, California
Project manager and CQA engineer-of-record for the construction of the Waste Management Unit 2Ba base liner and leachate collection removal system. Also served as the design engineer and CQA engineer-of-record for a leachate impoundment.

**Lake County Landfill
Expansion**
Lake County, California

Project Manager and Engineer-of-Record for the design of a Class III solid waste landfill expansion at the Eastlake Sanitary Landfill in Lake County. Project involved the permitting and design of geosynthetic clay liner as an engineered alternative design to the State prescriptive standard liner requirements. The project also included the preparation of the construction plans, specifications, and bid documents for the initial 6-acre cell (1999) and current design of the next 7-acre cell (2002). CQA Engineer-of-Record for the 7 acre-base liner project constructed in 2003.

Scale Facilities Design
Lake County, California

Design engineer for the development of a new access road, scale facilities, and bag-dump area for the Eastlake Landfill. The design accommodated 150 tpd of disposal and included pavement design and layout of the facilities and utilities.

**Compost Pad
Expansion**
Vacaville, California

Project Manager and Engineer-of-Record for the five-acre expansion of compost pad at the Hay Road Landfill in Vacaville, California. Project included grading design, preparation of plans and specifications and construction quality assurance.

**Altamont Landfill
Expansion**
Livermore, California

Design engineer for the development of a 120-acre landfill that included both a vertical expansion over existing refuse and a lateral expansion over native ground. The project involved a comprehensive design effort that consisted of an evaluation of alternative base grades and cell geometries; a cost-benefit analysis of the various alternatives; and the design of the liner and leachate collection and removal systems, groundwater collection system, gas collection system, surface water control facilities, closure cover system, and construction sequencing. The project provided several technical challenges that included the design of a liner system over refuse, design of an underdrain system to control groundwater, and upgrading the site's surface water control facilities to accommodate a 1,000-year storm. The design required regulatory variances for a proposed engineered alternative to the State's groundwater separation requirement, and for an alternative liner system that utilized a geosynthetic clay liner in place of two feet of compacted clay. Engineer-of-Record for four base liner expansion projects completed between 1995 and 2002.

Scale Facilities Design
Livermore, California

Design engineer for the development of a new 3,700 foot long access road, scale facilities, and wheel-wash units for the Altamont Landfill. The design accommodated 6,000 tpd of waste disposal and included pavement design and layout of the facilities and utilities.

**Bioreactor Feasibility
Study**
Yuba County, California

Project Manager for a feasibility study for converting and operating the Ostrom Road Sanitary Landfill as a bioreactor. The project involved the development of a degradation model to predict landfill stabilization and gas generation rates. The study evaluated the optimum cell configuration and construction sequencing, conceptual leachate recirculation and management design, conceptual gas collection system design, and calculation of increased airspace. In addition, a life-cycle cost analysis was developed that included annual costs for operation and maintenance, construction, design, and additional revenue due to increased airspace.



**Neal Road Landfill
Expansion**
Butte County, California

Project Manager for the design of a Class III horizontal landfill expansion and Class II leachate evaporation impoundment at the Neal Road Landfill in Butte County, California. Performed a feasibility study to maximize soil balance, airspace, and minimize costs. Project includes the permitting of a GCL as an engineered alternative design liner system to the State prescriptive standard liner design, and the preparation of a design report, construction plans and bid documents for the initial 10-acre cell. Design plans were prepared for the subsequent next 5 phases of liner development.

**Mixed-Waste Landfill
Closure**
Lawrence Livermore,
California

Design Engineer for the closure of the Pit 6 Landfill at Site 300, Lawrence Livermore National Laboratories. The Pit 6 landfill is a mixed-waste disposal facility containing numerous drums, glove boxes, and tanks, and other containers that have resulted in the development of voids at the landfill surface. To address the development of voids under the cover, the design incorporated a geogrid layer for support and a geosynthetic clay liner as a substitute for low-permeability soil to minimize the weight of the cover. The resulting design resulted in construction costs that were less than half of the closure costs that were previously permitted and constructed similar landfills at the site.

**Hazardous Waste
Landfill Closures**
Kettleman City,
California

Design of cover systems to close four hazardous waste disposal areas ranging from 15 to 50 acres in size. Responsibilities included performing design calculations, and preparing construction drawings and specifications. Prepared a report recommending a design methodology for estimating settlements for landfills comprised primarily of liquid filled drums and for landfills comprised of compacted, solid wastes.

Landfill Closures
Presidio of San
Francisco, California

Project Manager for the investigation and closure design for two abandoned landfills. The closures are part of a remediation and restoration program at Presidio military facility under the direction of the U.S. Army Corp of Engineers. Responsible for overall project management including field program and closure cover design. Field investigation includes the use of geophysics (ground penetrating radar and electromagnetic surveys) to define the limits and depth of waste.

**Municipal Solid Waste
Landfill Expansion**
Fairfield, California

CQA engineer-of-record for the construction of a base liner expansion project at the Potrero Hills Landfill.

**Leachate
Impoundments**
San Jose, California

Project manager and engineer-of-record for the design and CQA of two leachate impoundments at the Kirby Canyon Landfill.

**Municipal Solid Waste
Landfill Expansion**
Las Vegas, Nevada

Provided internal technical review of design plans for the construction of base liner and leachate collection and removal system at the Apex Landfill.

**Municipal Solid Waste
Landfill Acquisition
Due Diligence**
Panaca, Nevada

Provided engineering and environmental due diligence support for the acquisition of the Crestline Landfill.



**Municipal Solid Waste
Landfill Acquisition
Due Diligence**
Monterey County,
California

Provided engineering and environmental due diligence support for four separate landfills involved in the change of contracted landfill operators. This support included an assessment of the environmental controls, operating practices, and establishment of base line conditions. Recommendations were provided for modification of future operations where appropriate.

**Confidential Landfill
Audit**
California

Completed due diligence site audit for a landfill acquisition located Northern California. Reviewed the engineering design, operational practices, potential environmental concerns, confirmed the capacity and the expansion potential for the facility, and projected facility development and closure costs.

**Municipal Solid Waste
Landfill Acquisitions
Due Diligence**
Oregon

Completed due diligence site audit for a proposed active landfill acquisition and a completed acquisition of a materials recycling facility that had a closed landfill within the acquired property. Reviewed the engineering design, operational practices, potential environmental concerns, and provided independent assessment of the closure and postclosure maintenance cost estimates.

**Municipal Solid Waste
Landfill Acquisition
Due Diligence**
Washington

Completed due diligence site audit for a proposed landfill acquisition located Washington. Reviewed the engineering design, operational practices, potential environmental concerns, confirmed the capacity and the expansion potential for the facility, and projected facility development and closure costs.

**Class III Landfill
Litigation Support**
Eureka, California

Expert witness for litigation support for a landfill closure project and related remediation measures implemented for a Class III landfill. The project involved the construction of a toe buttress as part of closure plan to increase slope stability, and construction of an upgradient groundwater interceptor trench. The project involved additional costs for engineering and remediation of excessive settlement cracks that developed in the toe buttress, and installation of second interceptor trench due to inadequate grades designed for the initial trench. Golder's reviewed the project and assessed cost allocations for the various parties involved.