

Project Name

Middlesex County Utilities Authority Gas Collection and Control System

Client

National Energy Resource Corporation (NERC)

Services Provided

- Design
- Technical Specifications
- Construction Oversight
- Permitting



Project Description

The Middlesex County Utilities Authority (MCUA) operates an active sanitary landfill vertically abutting the former Edgeboro Landfill in East Brunswick since 1992. Current area of cells 1-5 of this landfill is approximately 100 acres, which produces 4400 cfm of gas, with maximum production projected at 5200 cfm. SAI provided its engineering services in the design, specification, permitting and construction of a comprehensive network of pipelines including a 6-mile long 16-inch main header line to transport and deliver gas collected from these cells to a 20 MW power plant located in Sayerville across the Raritan River for energy generation.

Approach

In its state-of-the-art design approach, SAI's took into consideration various media through which the pipe system and main header line would be installed, including solid waste, soil, hazardous waste sites, wetlands, tidal areas, and two river crossings.

Design

SAI design involved trenching through various media at depth of 5-10 feet to install the 6-mile 16-inch HDPE pipeline for transporting gas from a part of the MCUA Landfill. The primary design feature of this pipeline included utilizing a siphon mechanism to convey the gas from a horizontal drilled concrete pipe beneath the riverbed to the power plant.

Technical Specifications and Construction Oversight

SAI also assisted its client with technical specifications for construction materials, methods and testing and performed construction oversight for the project.

Permitting

SAI assisted its client in successfully obtaining the following permits for this project:

- Major Disruption of a Solid Waste Facility Approval
- Soil Erosion and Sediment Control Approval
- Treatment Works Approval for condensate discharge into MCUA sewer system

