

Passyunk Plant and Porter Station, Philadelphia, PA

Engineering Support for Remedial Construction and Operation and Maintenance

Client: Philadelphia Gas Works

SSi completed on-site investigations of subsurface conditions at Philadelphia Gas Works (PGW) Passyunk Plant and Porter Station in 2011. After additional investigation and evaluation of subsurface soil-gas conditions in the surrounding neighborhood, SSi recommended that further action be instituted to mitigate the off-site migration of groundwater impacted with volatile organics.

After providing the remedial design for the installation of an air sparge and soil vapor extraction AS/SVE system in 2016, SSi provided full-time engineering oversight for construction of a system consisting of 38 air sparge wells and nine soil vapor extraction wells installed along the eastern border of both PGW properties. Features of the AS/SVE system include: a 20-hp air sparge compressor, a 15-hp regenerative blower for vapor extraction, and a 500 scfm thermal oxidizer used to treat extracted air. The system is operated via a programmable logic control panel that allows for automatic staggered operation of AS and SVE wells. SSi interfaced with PGW engineering and environmental departments in order to: review and process contractor submittals in a timely manner, plan and manage work activities to minimize disruption to ongoing client activities at both facilities, and to provide continuous quality assurance/quality control services for the project. Major elements of the project included: AS/SVE well installation, excavation and piping installation, installing foundations for the AS/SVE building and new electric transformer, building equipment installation at an off-site facility, installation of the building on-site, piping and electrical connections, site restoration, and system start-up/shakedown.



SSi currently provides engineering support and oversight services for system operation and maintenance activities including participating in system maintenance on an as-needed basis. Other responsibilities include system performance monitoring, and monitoring compliance with City of Philadelphia Air Management Services permit issued for operation of the thermal oxidizer.

Project Highlights

- Turn-key services provided including remedial design, project permitting support, remedial construction engineering support and system start-up and operation engineering support.
- Continuous coordination with facility personnel to ensure no disruption of activities during construction.
- Performance monitoring to ensure compliance with City of Philadelphia Air Management Services permit.

