



## Aviation

*Sci-Tek has been providing civil and environmental engineering and consulting services to airports since 1998*

Sci-Tek provides expert services for the Aviation Industry. Our Engineers and Scientists offer significant capabilities that include:

### Civil Engineering and Design

**Wastewater Treatment Plant Design for Pittsburgh Airport.** The Allegheny County Airport Authority (ACAA) is building a waste water treatment plant to collect and treat fugitive de-icing and anti-icing chemicals which reach nearby streams. As a sub-contractor to CDM Engineers, Inc., Sci-Tek provided civil engineering design and environmental permitting for the design of a new 11 MGD Deicing Wastewater Treatment Plant at the Greater Pittsburgh International Airport. Civil engineering provided by Sci-Tek included design of a force main, pump stations, potable water line, stream diversion structure, effluent discharge line, sanitary sewer line relocation, containment basin liner system, and erosion and sedimentation controls for water impoundments and plant installation. Wetwell design for each pump station is based on the Hydraulic Institute's confined wetwell criteria. Force main design included an examination of water hammer conditions. Permitting activities have included an NPDES permit for wastewater discharge, dam permits for the new dam at the facility and permitting for improvements to the existing impoundments. Sci-Tek has developed all contract specifications for its portions of the project. In addition Sci-Tek prepared the process and instrumentation diagrams (P&ID) and the instrumentation and control diagrams for the treatment plant. Sci-Tek is currently providing construction management assistance to CDM on the project.

### Water Resources Engineering

**Runway Modifications at Connellsville and Pittsburgh Airports.** As part of the design of runway extensions and pavement improvements in areas needing full-depth reconstruction, isolated slab replacements, and patching for the runway, select taxiways, and shoulders. Sci-Tek engineers prepared the erosion and sedimentation control plan, technical specifications, cost estimates, and NPDES Permit applications. The scope of work included the evaluation of storm water sewer pipes and catch basins.

**Stormwater Management Plan at Connellsville Airport.** Sci-Tek assisted Baker with the design and permitting of modifications to Runway 5/23 at the Joseph A. Hardy Airport in Connellsville, PA to address FAA regulatory deficiencies. Sci-Tek prepared the storm water management plans, specifications, and cost estimate; erosion and sediment control plan and NPDES permit application for the proposed fill embankment and runway improvements.





## Environmental Assessment and Remediation

**Environmental Assessments at Pittsburgh International and County Airports** for development of industrial property and runway modifications. Several Phase I environmental assessments were completed in accordance with ASTM standards; tasks included field investigations, historical records research, coordination with utility companies, and interviews with neighbors to identify environmental conditions. Phase II assessments included asbestos surveys and lead paint investigations. Sites of up to one thousand acres in size were investigated.

## Environmental Permitting and Compliance Assistance:

**Water Quality Sampling Services at Pittsburgh Airport.** Sci-Tek is providing field services to sample and analyze water quality in adjacent streams as required by the NPDES permit for the airport for ethylene glycol management. Four types of sampling are conducted at more than 20 locations: Baseline before the start of the deicing season to establish base water quality levels; Periodic, every two or three weeks during the deicing season; Intensive, using automatic composite samplers to collect daily samples at two locations; and Full Scale, as dictated by extreme weather. Related tasks include staff gauging to determine flow in streams, field measurements using portable instruments, and qualitative data reviews of all in-situ measurements.

## Geotechnical Engineering:

**Annual Dam Inspections.** Sci-Tek annually inspects storm water pond and detention basin dams for the Pittsburgh International Airport. This includes conducting field visits and generating reports with conclusions and recommendations. A registered professional engineer evaluates dam conditions and prepares a final report with sketches and photos. The reports comply with PADEP guidance documents (“Inspection, Maintenance, and Operations of Dams in Pennsylvania”) regulatory and permit requirements.

Certified MBE

Pittsburgh • 655 Rodi Road, Suite 303 • Pittsburgh, PA 15235  
Office 412.371.4460 • Fax: 412.371.4462

Philadelphia • 1500 Market Street, 12th Floor-East Tower • Philadelphia, PA 19102  
Office: 267.702.2028 • Fax: 215.569.8228