

# Geotechnical and Geo-Environmental Services

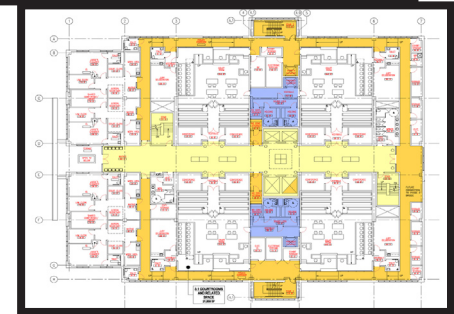
Sadat Associates, Inc., a Small Business Enterprise, offers Geotechnical Services for a wide variety of projects such as: multistory residential and commercial buildings, schools, and garages; earth retaining structures; bridges; highway embankments; roads; earth dams; and transmission towers. In addition, SAI offers Geo-Environmental Services for landfill closure and brownfields redevelopment.

## Geotechnical Services

- Preparation of subsurface investigation programs
- Preparation of instrumentation programs for monitoring the behavior of bridge abutments and road embankments on soft soils during construction and post construction periods
- Evaluation of design soil/rock parameters utilizing field data and laboratory test results
- Recommendations and analysis of shallow and deep foundations
- Design of earth retaining structures including sheet pile walls, braced excavation, mechanically stabilized earth walls, soil nail walls, and soldier piles & lagging/posts & panels
- Settlement analysis and design of different measures for reducing post-construction settlement including preloading, installation of wick drains and using light weight fill
- Design of different measures for soil stabilization/ground improvement including grouting, soil mixing, modular/concrete/stone columns, etc.
- Design of rigid and flexible pavements
- Slope stability analysis including seismic and seepage forces
- Design of pond liners over steep slopes involving use of geosynthetics (geosynthetic clay liner, geomembrane, geotextile, geocell, etc.)
- Analysis of different measures to protect and restore river banks
- Finite element analysis of challenging geotechnical issues

## Geo-Environmental Services

- Design of closure cover/capping systems at contaminated sites
- Design of cutoff walls at contaminated sites including slurry walls, deep soil mixing, and sheet piles
- Veneer stability analysis of liner and cover systems
- Design of methane gas ventilation/detection systems for buildings constructed over closed landfills/contaminated sites
- Preparation of instrumentation programs for monitoring the stability of steep slopes during construction activities as well as their post construction behavior
- Design of solar panel support systems on landfill sites



Dr. Amira Fahim, P.E., is Vice President for Geotechnical Services at Sadat Associates, Inc. She is responsible for all of the geotechnical aspects of SAI's engineering projects, including multistory buildings, bridges, highways, earth dams, brownfields redevelopment, landfill liners and cover systems, and transmission towers.

Dr. Fahim is also responsible for Construction Quality Assurance/Quality Control services at construction sites.

Dr. Fahim has a strong background in geotechnical engineering and its applications in the transportation and environmental fields. She has been employed by universities, research institutes and consulting firms, which provided her with the opportunity to combine theory with practice.

SAI also has a fully-trained, highly qualified staff whose duties include performing field inspection and testing, construction oversight and monitoring of different instrumentation.

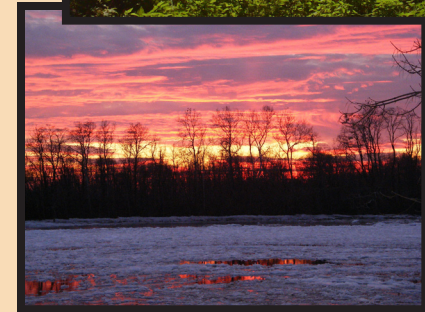
In addition, SAI has an in-house geotechnical laboratory equipped with the most recent technology. SAI laboratory personnel are trained to perform all testing according to ASTM and AASHTO Standards.

Sadat Associates, Inc. (SAI) has been successfully meeting client needs for more than 25 years. Our expert project teams provide exceptional service based on in depth knowledge, experience, advanced technologies, and innovative thinking. We work closely with our clients to devise and implement cost effective, cutting edge solutions to both straightforward and complex issues.

#### Core Services

- Geotechnical Engineering
- Hydrogeology/Hydrology
- Geochemistry
- Environmental Engineering
- GIS/Asset Management
- Civil and Site Engineering
- Project Management
- Stormwater Management
- Regulatory Strategies
- Solid Waste Management/Landfill Design
- Brownfields Redevelopment
- Expert Testimony
- Construction Quality Control/Quality Assurance
- PA/SI/RI
- Remedial Design
- Land Use Issues
- Permitting

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Delaware River as seen from SAI

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