

# METROPOLITAN NASHVILLE AIRPORT AUTHORITY - LIGHTING

NASHVILLE, TN



## SAFETY RECORD

ZERO Recordable Events for all phases of work



## PROJECT SIZE

Phase I: \$1.8M

Phase II: \$2.7M



## PROJECT SCHEDULE

6/15/2011-2/28/2014



## CONTRACT METHOD

ESPC



## SAVINGS INFORMATION

Energy and operational savings over \$1.7M



Underlining its commitment to sustainability, environmental conservation, and providing passengers with exceptional quality, the Nashville Metropolitan Airport Authority (MNA) selected ESG to design and implement energy efficiency and sustainable facility improvements. A leading energy services provider, ESG worked closely with MNA leadership to design and install a \$4.5 million, two phase energy performance contract. Energy conservation measures such as lighting retrofits will reduce the airport's operating and maintenance costs while modernizing infrastructure via guaranteed energy savings.

## SOLUTION

The ESG team provided engineering, design, project management, guaranteed energy savings, and staff training. Subcontractors were involved in the installation of the energy conservation measures. Additionally, ESG will monitor, measure, and verify savings.

- Installing more energy-efficient lighting with new bulbs and/or fixtures throughout the terminal building and other MNA-owned buildings, reducing the airport's annual energy usage by more than 3 million kWh.
- Recycling more than 9,000 light bulbs and 13,500 pounds of ballast during the lighting replacement project.

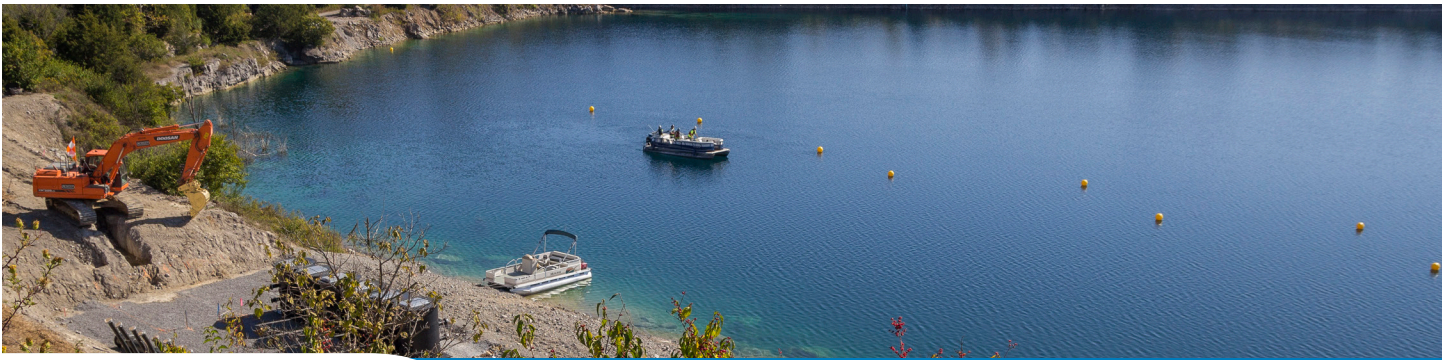
## QUOTE

“Sustainability is crucial to our airports' success, and as we plan for the future we are committed to using the most sustainable features and processes possible. We are ensuring a better future for the next generation, and that's creating a great Nashville Airports Experience for our passengers, business partners and employees.”

- **Raul Regalado**, MNA's President & CEO (Quote from Airport World article: "Nashville Keeps Sustainability a Top Priority.")

## RESULTS

From their partnership with ESG, MNA will now save over \$1.7M in energy and operational savings and has energy efficient infrastructure in place to provide a more comfortable environment for travelers and staff.



# METROPOLITAN NASHVILLE AIRPORT AUTHORITY - GEOTHERMAL

NASHVILLE, TN



## AWARDS

2019 Jay Hollingsworth Airport Award by the American Institute of Aeronautics, the American Association of Airport Executives, and the Airport Consultants Council

2017 Envision Silver Award for Sustainable Infrastructure - Water Source Geothermal Project

2016 Environmental Achievement Award in the Special/ Innovative Projects category from the Airports Council International North America (ACI-NA)

2015 Governor's Environmental Stewardship Award in the Sustainable Performance category by The Tennessee Dept of Environment and Conservation



## PROJECT SIZE

Phase III: \$4.7M



The Metropolitan Nashville Airport Authority (MNA) partnered with Energy Systems Group (ESG) to develop an innovative use for the former Hoover rock quarry located on the airport's property. This geothermal lake plate cooling system project, dubbed the largest in North America, reduced the airport's chilled water energy consumption from February to May 2016 by more than 50 percent. This geothermal project represents ESG's third phase of work with the Metropolitan Nashville Airport Authority.

## SOLUTION

The 43-acre former Hoover rock quarry has an average depth of 150 feet, contains approximately 1.5 billion gallons of water and at a depth of 50 feet, maintains a constant temperature of 50 degrees Fahrenheit year round. The project was designed to replace the airport's cooling towers by taking advantage of the water's constant cool temperature to cool the water from the airport's central plant. Water is cooled by circulating in a closed loop system through the submerged lake plate heat exchangers and then back to the airport's central plant.

- Geothermal Plates

The project was developed, engineered, and constructed through a collaboration of Energy Systems Group, Garver, Smith Seckman Ried, and Blakley Construction Services. Recycling more than 9,000 light bulbs and 13,500 pounds of ballast during the lighting replacement project.

## QUOTE

// This historic project will significantly reduce our electricity usage and potable water consumption, which will result in substantial annual utility savings. This is the very essence of sustainability."

- Rob Wigington, MNA President, CEO

## RESULTS

From the partnership, MNA will now save 1.3 Million annual kilowatt-hours, 6,000 annual kilowatts of peak demand electricity, more than \$430,000 in annual utility savings, and an annual reduction of 30 million gallons of potable water.