

## CASE STUDY

- Met IAQ Procedure Requirements
- Delivered Significant Cost Savings
- Exceeded Air Quality Expectations
- Led to Green Globes Certification



The new Meadowbrook Elementary School is a 100,000 sq. ft. facility designed to serve 700 students.

## Meadowbrook Elementary School Features Highly Innovative Ventilation System

Plasma Air's IAQ improvement technology was selected as one of the key pillars of a sustainable building design for a new elementary school in Gainesville, Florida. The Alachua County School District was committed to building a new facility that would provide a superior learning environment for its students and become a leading example of sustainable building design in the community.

The MEP engineering firm, OCI Associates, was tasked with designing an energy efficient, cost effective building utilizing the latest advancements in HVAC school design. Early in the design process, they identified Plasma Air's bipolar ionization technology as a good fit for this elementary school project.

"By utilizing the IAQ Procedure from the latest ASHRAE Standard 62.1 and employing Plasma Air's ionization system, we knew we could **cut outside air intake by at least 50%**," said Jason Smith PE, principal and director of mechanical engineering with OCI. "Our air conditioning equipment could be smaller, installation costs reduced and ongoing energy usage would be significantly reduced for the school district."

A total of 17 Plasma Air needlepoint bipolar ionizers were installed in seven air handling units, treating almost 80,000 CFM of supply air provided to the school. The advanced needlepoint technology was chosen for its ability to deliver superior air quality with **little to no required maintenance**.

Once the systems were installed and the building was fully occupied, testing was performed to ensure the ionization systems had the intended effect on the overall air quality. The testing also was employed in an effort to validate that the ASHRAE IAQ Procedure calculations were accurate; that is, to insure the pollutant levels were equal to or less than those calculated.

The testing concluded that the contaminants of concern, measured throughout the building, were indeed less than those calculated as part of the ASHRAE procedure. Additionally, all measured pollutant levels were found to be below accepted standards. The testing results confirmed that the presence of the **bipolar ionization systems have a positive effect on the overall air quality** while no ozone was measured and ion levels were considerably higher than outdoor ambient levels.

"We are extremely happy with our choice to install Plasma Air's bipolar ionization technology," said Ed Souza, project coordinator, Alachua County School District. "Not only is our air quality exceeding expectations, but we saved on our HVAC installation costs and

continue to save significantly on our annual energy costs."



Plasma Air's needlepoint bipolar ionization equipment was easily installed in the facility's air handling units.

The Meadowbrook Elementary School project earned a **4 Green Globes Certification**, the equivalent of a LEED Platinum designation. Green Globes' building rating system has emerged as a superior and more flexible tool for the achievement of a sustainable environment.

**Positive Air Quality - Negative Energy Costs**