



## CASE STUDY

# INDOOR AIR QUALITY ASSESSMENT

NEW COLLEGE, A LEADING U.S. PUBLIC LIBERAL ARTS COLLEGE

## CHALLENGE

New College of Florida, the public liberal arts honors college in the state of Florida, received multiple requests from faculty and staff to demonstrate that the campus buildings meet the minimum standard for ventilation and air quality as a result of COVID-19 concerns. The college already provided a safe environment per American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and local code requirements. But, validating the quantity and quality of the air provided to building occupants in a succinct, cogent and credible fashion was a real challenge.

New College ultimately selected Carrier for indoor air quality (IAQ) testing and a ventilation assessment based on rapid execution, expertise in WELL™ and ASHRAE standards, overall cost and methodology.

## SOLUTION

Carrier evaluated campus buildings for indoor air quality and ventilation rates to demonstrate effectiveness of the building systems as currently maintained. The Carrier team utilized the National Environmental Balancing Bureau (NEBB) standards for three buildings: the Academic Center, Jane Bancroft Cook Library and V Residence Hall. The buildings assessed represented the types and ages of buildings on campus, from a newer LEED®-certified building to an older residence hall. To minimize disruption on campus, the team completed the entire project – from initial concept, to onsite testing and delivering a final report – within two weeks.

The primary focus of the assessment was to ensure adequate ventilation air flows and particulate matter (PM) levels that will provide healthy indoor air quality to the examined buildings according to the ASHRAE 62.1 Ventilation for Acceptable Indoor Air Quality Standard and the WELL Building Standard.

## RESULTS

Following the assessment, Carrier confirmed that the indoor particulate levels were within acceptable levels, and the buildings' ventilation systems were performing within industry and code requirements. Several tuning issues were identified that could improve building system efficiency. The assessments also found many areas of excellence, such as higher-than-code ventilation rates and filter upgrades.

Carrier also provided specific recommendations to New College of Florida to help the college determine future building enhancements to ensure that the campus and its occupants remain safe and healthy. These enhancements include upgrading filters, installing UV-C lighting on retrofit projects, expanding the use of IAQ sensing and enhancing the school's mass notification and emergency incident management system.

## KEY BUILDING STATISTICS

**Location:** Sarasota, Florida

**Project Type:** Indoor air quality study and ventilation assessment

**Building Function:** Academic classrooms and offices, college library and student housing

## SOLUTION OBJECTIVES

- Complete baseline measurements for particulate matter, air changes per hour (ACH) and evaluation of filtration and current exhaust fans and air handler status
- Apply national building standards to determine if buildings are performing as designed
- Identify potential deficiencies in buildings
- Provide recommendations on where and how to implement any improvements
- Rapidly perform the assessment to minimize disruption to the campus



Supply airflow (CFM)  
Return airflow (CFM)  
Room volume  
Supply air changes (Hr)  
Exhaust air changes (Hr)  
Temperature  
Humidity  
PM2.5 (ug/m3)  
PM10 (ug/m3)

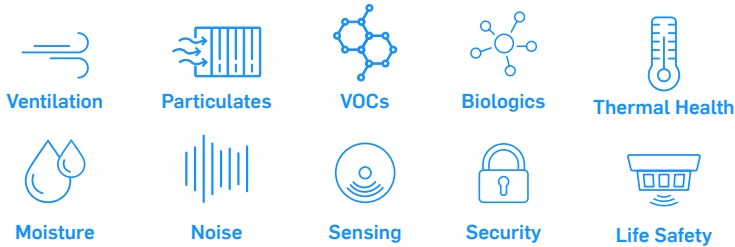
## METHOD

Carrier can rapidly assess a campus and determine the health and safety of buildings, helping institutions reopen in the midst of a global pandemic.

- STEP 1** | Perform a site assessment to understand the current situation.
- STEP 2** | Assess the buildings against National Environmental Balancing Bureau standards and Carrier's proprietary healthy building assessment tool, which compares the current state to potential areas for improvements in the studied buildings.
- STEP 3** | Deliver a final report that includes the assessment outcomes and recommendations.

## OVERVIEW OF ASSESSMENT AND RECOMMENDATIONS

### EVALUATION CRITERIA AND PRIORITIZATION



### RECOMMENDED SOLUTIONS



## PROJECT REQUIREMENTS

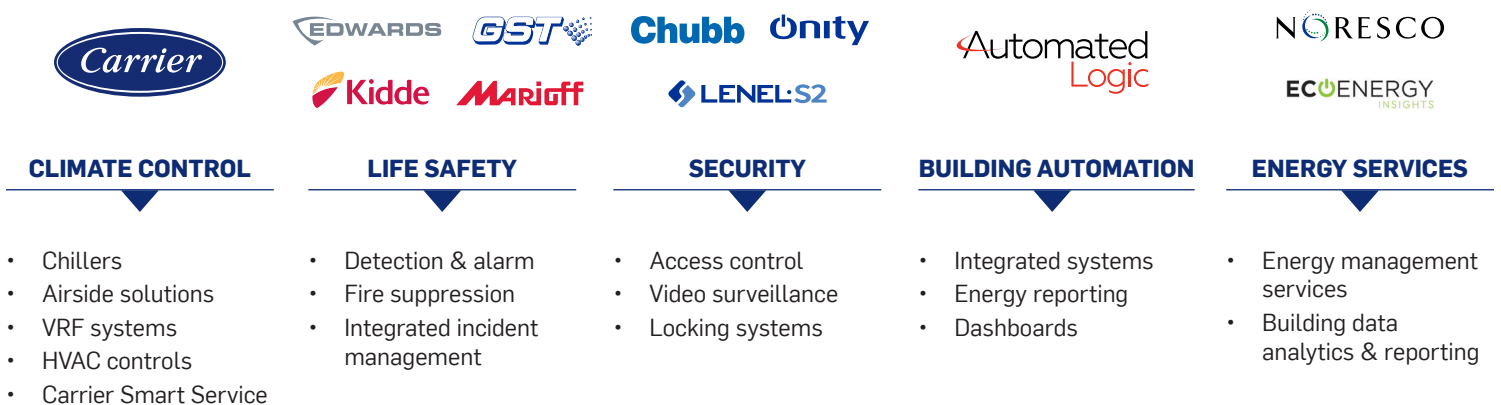
- Access to spaces throughout buildings
- Pause in construction
- Stakeholder engagement



Carrier rapidly evaluated select campus facilities to assess IAQ and ventilation rates as well as provided important insights into the effectiveness of our building systems. This provided assurance to our students and faculty that the buildings are healthy and safe for occupancy."

*Christian Kinsley, Chief Financial Officer, New College of Florida*

## ABOUT CARRIER



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