

Evansville North High School



Engineered Excellence for Greener Classrooms

54117 Best Line, Aylmer, Ontario, N5H 2R3 Ph:519-866-3930 Fx: 519-866-3798 email:sales@changeair.com



Evansville North HS Case Study:

\$85.8 million new “North High School” integrates Change’Air Freshman Vertical Classroom Air Handlers in classroom decor.

1. Background

In November 2008, the Evansville Vanderburgh School Corporation (EVSC), located in Evansville Indiana, embarked on a \$149 million bond issue that included a long list of construction and renovation projects for its school district.

At \$85.8 million, the construction of a new “North High School” campus at U.S. 41 and Baseline Road is the most expensive project among those funded by the \$149 million.

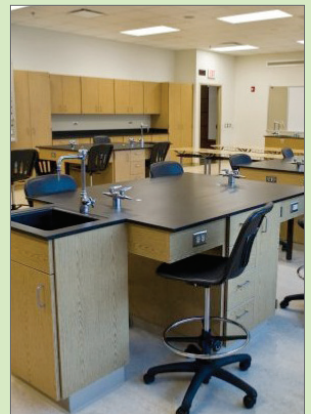
The 480,000-square-foot complex incorporates adjoining schools including the North Junior School (7 and 8 grades) and the North High School (9 to 12 grades). The high school costing about \$58 million; the junior high, about \$27 million.

Incorporating the latest air ventilation systems that would aid in student’s and teacher’s comfort and ability to learn and teach was key to the construction project. This system would need to include outdoor ventilated and precision temperature control.

Another key consideration was incorporating an air ventilation system that was energy efficient and eco friendly.

Any equipment would also need to blend into the room’s decor to achieve an overall pleasing design.

Change’Air made these features possible and delivered the results North High School was hoping to achieve.



CASE HIGHLIGHTS

“Teachers will have the ability to regulate temperatures in their rooms — a nice change from the existing North High School, which is known to get stuffy,” said EVSC Communications Director Marsha Jackson.

2. Project Details

The architectural design incorporated some passive solar and natural lighting features as well as the distinctive angled roof line of the stair wells that followed the same angle as the interior stairways.

Within the classroom the Change'Air units complimented this contemporary architectural design. All the units are unpainted and hidden behind the closed doors of elegantly designed wood toned cabinets that matched the room's decor. The front doors of the unit can be easily accessed for service, while a recess at the bottom of the cabinet door hides the return air path

The mechanical system was designed by Durkin & Villalta Partners Engineering, (DVP) also of Evansville and features the Change'Air Freshman Series face and bypass vertical classroom air handler in each classroom.

The Freshman Series units incorporate the efficient electro commutated motor (ECM) supply fans, 2" Merv 13 filters and an economizer function. These combined features result in a unit that delivers a minimal footprint and an impressive and energy efficient building.

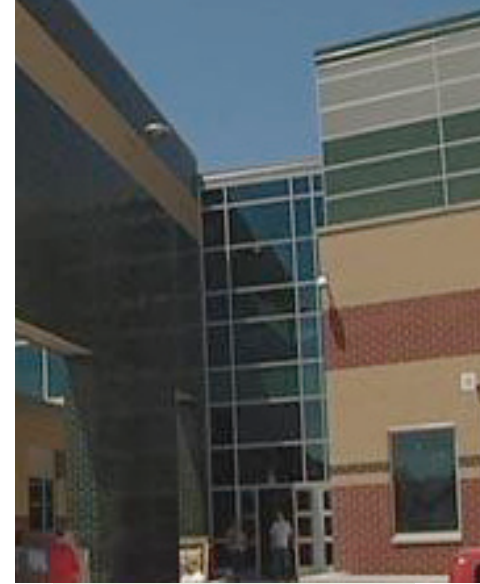
The design also includes the two pipe quick change-over system. This signature system design of Tom Durkin is designed to work on 140 degree water during the heating cycle and 45 degree water during the cooling cycle.

“ The two pipe quick change-over system allows for a complete and efficient changeover from heating to cooling or cooling to heating within 30 minutes.

The efficient two pipe system is making a comeback and is proving to be less expensive to build, less expensive to operate, and easier to maintain than any other option for heating and cooling buildings.



Change'Air Units were unpainted and hidden behind the closed doors of elegantly designed wood toned cabinets that matched the room's decor.



DID YOU KNOW

The two-pipe system, an idea discarded decades ago, is becoming the future of school heating and cooling in Indiana.

With 61 Indiana schools now having the "new-and-improved" two-pipe system in place.

The school districts are finding out that annual savings are huge, even while adding air conditioning to previously non-cooled facilities.

At last count -- and that was after 38 successful installations -- Indiana taxpayers had already saved \$10 million in construction costs and \$750,000 in annual operating costs thanks to the two-pipe renaissance.

This two-pipe is redefining conventional wisdom.

"Most engineers will tell you two-pipe cannot work, but this system does.

The question used to be, 'Why are you going to two-pipe?' Now the question should be, 'Why aren't you going to two-pipe?'"

Mike Shoulders "Back To The Future". Engineered Systems. FindArticles.com 15 Nov, 2011.

4. Summary

North High School

Location

North High School, 2319 Stringtown Road,
Evansville, Indiana 47711

New Construction

Facility that accommodates approximately 2,000 students

- Two-story library (shared with new junior high school)
- Two-story auditorium (shared with new junior high school)
- Administrative offices
- Atrium-style cafeteria with food kiosks and shared kitchen area
- Group interaction rooms
- Classrooms
- Physical education facilities
- Varsity gym

Total Space

315,078 square feet

Change'Air Product

Freshman Series Face and Bypass
Vertical Classroom Air Handlers

The Change'Air units were supplied by Change'Air's local sales agency Validated Custom Solutions and installed by local mechanical contracting company Deig Brothers Contracting Inc.

High School Estimated Project Cost

\$58,219,537 (\$168 per square foot)

Projected Start Date

October 13, 2009

Projected Completion Date

December 31, 2011

Architect/Engineer

VPS Architecture

North Junior High School

Location

North Junior High School
15325 Highway 41 North
Evansville, IN 47725

New Construction

Facility that accommodates approximately 1,000 students

- Two-story library (shared with new high school)
- Two-story auditorium (shared with new high school)
- Administrative offices
- Cafeteria
- Classrooms
- Multi-purpose gymnasium
- Competition gymnasium

Total Added Space

140,038 square feet

Change'Air Product

Freshman Vertical Face & Bypass Vertical
Classroom Air Handlers

A few specialty classrooms also received Junior units with self contained DX cooling.

North Junior High School Estimated Project Cost

\$27,054,846 (\$157 per square foot)

Projected Start Date

October 13, 2009

Projected Completion Date

August 1, 2011

Mechanical Contractor

SSM Industries

Design Engineer

CJL Engineering,

