



**ERIN M. FAULDS**  
**MECHANICAL OPTION**  
**TRY STREET TERMINAL BUILDING**  
**TECHNICAL ASSIGNMENT 1**

## **EXECUTIVE SUMMARY**

The Try Street Terminal Building project involves renovations to the 10 story, 230,000 square foot building originally constructed in 1910. Although the main function is to provide apartments for the Art Institute of Pittsburgh, other features include: an atrium, exercise room, first-floor retail space and possibly a convenience store and casual dining restaurant.

The designed system is comprised of four make up air units (MAUs), four air handling units (AHUs), and a fan coil unit (FCU) to provide the required ventilation. The actual airflow rates listed below were designed according to the IBC 2003.

- The 4 MAUs have design supply airflow rates ranging from 4820 to 7550 cfm and totaling 23,825 cfm. These units serve the apartments, corridors and a limited amount of first floor space. The system is expected to be 80% effective based on the distribution of air.
- The 4 AHUs have design supply airflow rates ranging from 3000 to 8000 and totaling 20,000 cfm. These units serve the basement and first floor spaces which are primarily unassigned activity/study areas and unassigned commercial spaces, respectively. The system is expected to be 100% effective based on the distribution of air.
- A 10 ton FCU supplies 4000 cfm to the first floor exercise room. The system is expected to be 100% effective based on the distribution of air.

In this document The Try Street Terminal Building will be evaluated using ASHRAE Standard 62.1-2004 to determine whether or not the building's ventilation rates are compliant with the standard. The calculated ventilation rates will then be analyzed and compared to the design values. The following chart provides a brief summary of the results found in the analysis:

| <b>UNIT NAME</b> | <b>V<sub>ot</sub></b> | <b>OA SUPPLIED</b> | <b>COMPLIES WITH Std 62.1?</b> |
|------------------|-----------------------|--------------------|--------------------------------|
| MAU-1            | 3461                  | 5625               | YES                            |
| MAU-2            | 1988                  | 4820               | YES                            |
| MAU-3            | 3049                  | 7550               | YES                            |
| MAU-4            | 2896                  | 5830               | YES                            |
| AHU-1            | 2193                  | 2490               | YES                            |
| AHU-2            | 907                   | 1300               | YES                            |
| AHU-3            | 2085                  | 2220               | YES                            |
| AHU-4            | 752                   | 960                | YES                            |
| FCU-6            | 2365                  | 4000               | YES                            |