

## NU Norris Center

### Project Highlights and Results

- Innovative approach saved \$167,000 as existing system components were reused to make this conversion highly cost effective.
- \$300,000 in annual energy cost savings achieved with project payback in less than three years.

### Project Background

<b>Owner:</b>	Northwestern University (NU)
<b>Location:</b>	Evanston, IL
<b>Team/Team Lead:</b>	Don McLauchlan, Caitlin Levitsky
<b>Elara Role:</b>	ME Engineering Design
<b>Type:</b>	Energy Retrofit
<b>Construction Cost:</b>	\$733,000

### Project Overview

<b>Building Type:</b>	Higher Education
<b>Building Attributes:</b>	Student Center, 160,000 SF
<b>Initial Construction:</b>	1971
<b>MEFPFIT Systems:</b>	Dual Duct/VAV, DCV

### Innovation

- The following identifies the challenges represented by the energy intensive and highly variable needs of the building's major spaces:
  - Elara determined that the existing perimeter heating was sufficient to heat the building and that the hot duct in the existing dual duct system was not needed for heating.
  - As a result, (1) the hot duct was converted into another parallel cold duct, (2) the existing volume regulators in the dual duct boxes were removed and replaced with opposed blade VAV dampers, and (3) the old dual duct dampers and heating coils in the air handlers were removed allowing for the reuse of a majority of the existing system and components.

