ELARA ENGINEERING

Big Picture Thinking. Practical Approach. Sustainable Design.

James-Kilmer House Chiller and Boiler Replacement

Project Highlights and Results

- Designed new, combined, high-efficiency chiller, boiler and domestic hot water heating plants for two residential buildings in Chicago's Sandburg Terrace
- Obtained $140,950 in utility incentives
- Improved system control by installing an open protocol DDC system with web-based front end
- Adjusted project schedule to address unexpected failures within the existing boiler plant to ensure system redundancy

Project Background

Owner:	**James Kilmer Condominium Association**
Location:	**Chicago, IL**
Team/Team Lead:	**Jay Parikh, Adam Sanders, Nathan Kinsey, Bhupendra Tailor**
Elara Role:	**MEP Engineer**
Type:	**Retrofit, Enhancement**
Construction Cost:	**$4,750,000**

Project Overview

Building Type:	**High-Rise and Mid-Rise Residential**
Building Attributes:	**James House: 43-Stories, 520 units; Kilmer House: 6-Stories, 69 units**
Initial Construction:	**1971**
MEPFPIT Systems:	**Hot Water Boiler Plant, High-Efficiency Chiller Plant, Domestic Hot Water Heating Plant**

Innovation

- Provided Schematic Design, Permit/Bid/Construction Documents, Bid Support, Construction Services, and Functional Testing services.
- Combined the boiler and chiller plant replacements to one project which resulted in construction cost savings.
- Converted existing steam boiler plant to a non-condensing hot water boiler plant including replacement of the boiler plant mezzanine.
- Replaced existing electric chillers with two frictionless electric chillers and new pumps located in the basement of James House.
- Existing roof mounted cooling towers were retrofit with new VFDs.
- Improved freeze protection measures and dual temperature filtration to protect new equipment and clean existing piping system.
- Achieved significant energy savings for both the boiler and chiller plants.
- Achieved significant improvements in control from open protocol computerized DDC system with a web-based front end.