

# HILL HOUSE AT CHESTNUT HILL

CENTRAL JAVA, INDONESIA

## INTRODUCTION

*Hill House at Chestnut Hill* is an 11-story apartment building in the historic Chestnut Hill neighborhood near downtown Philadelphia with studio, 1-bedroom, 2-bedroom, and 3-bedroom rental units. The building includes a state-of-the-art fitness center, resort-style pool, courtyard, and resident lounge.

## PROJECT DETAILS

The Reliable Controls system at Hill House consists of a MACH-ProSys controller, a MACH-ProZone controller, and four MACH-ProCom controllers that host nearly 500 MACH-Stat controllers.

The goal of this retrofit project was to provide better energy performance and improve the indoor environment in the apartments with a new HVAC system. The new HVAC equipment consists of a central heating and cooling plant that serves fan-coil units in each apartment and a central fresh-air ventilation unit that serves the common areas. A heat pump provides reheat for summer dehumidification.

Dehumidification was a major component in meeting the project's environmental goals. The key was the fan-coil units—or, more precisely, the electronically commutated fan motors. The installed MACH-Stat controllers slow the electronically commutated fan motors when the relative humidity rises above a high limit; slowing the fan allows the cooling coil to draw more moisture from the air.

The challenge of installing the new building automation system in an occupied residential building was greatly minimized because the MACH-Stat controllers were wired at the Reliable Controls factory, allowing for a quick installation.



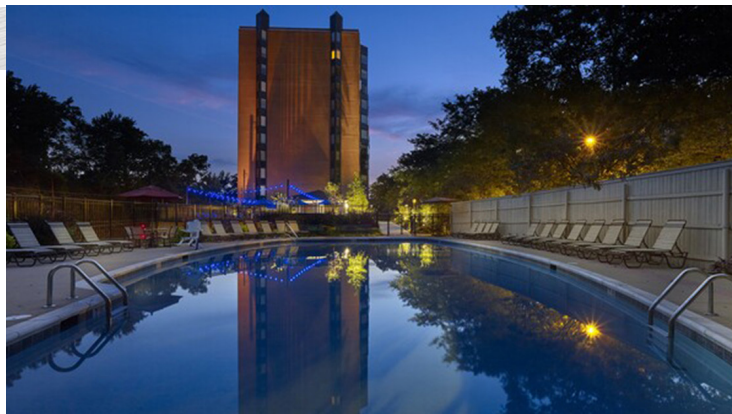
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## MARKET SEGMENT

**Residential**

## PROJECT TYPE

**Retrofit**

## INSTALLATION TYPE

**HVAC**

## TOTAL AREA

**700,000 m<sup>2</sup> (2,296,587 ft<sup>2</sup>)**

## PROTOCOL

**BACnet**

## INSTALLED EQUIPMENT

**4 MACH-ProCom™ controllers**  
**1 MACH-ProSys™ controller**  
**1 MACH-ProZone™ controller**  
**495 MACH-Stat™ controllers**

## TOTAL SYSTEM OBJECTS

**2,500**

  
**PHILLIPS McDADE**

ASHRAE **BACnet**

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