

## **MAIN LIBRARY (0054)**

The Main Library was originally constructed with 146,900 square feet in 1952. A 209,206 square foot annex was constructed on the back of the Main Library in 1974. The original building was renovated in 1998 and is now served by two central, variable volume air handling units (AHUs) located in the penthouse with variable air volume terminal units located in above ceiling ductwork to vary airflow to individual spaces and provide heating based on space temperatures. Outdoor ventilation air is drawn into the building at the air handling unit directly, with each air handling unit provided with outdoor air economizer capability that provides free cooling and increased ventilation when ambient conditions are appropriate.

The library annex is served by two constant volume air handling units with duct mounted hot water coils that provide heating based on space temperatures. Outdoor ventilation air is drawn into the building at the air handling unit directly, with each air handling unit provided with outdoor air economizer capability that provides free cooling and increased ventilation when ambient conditions are appropriate.

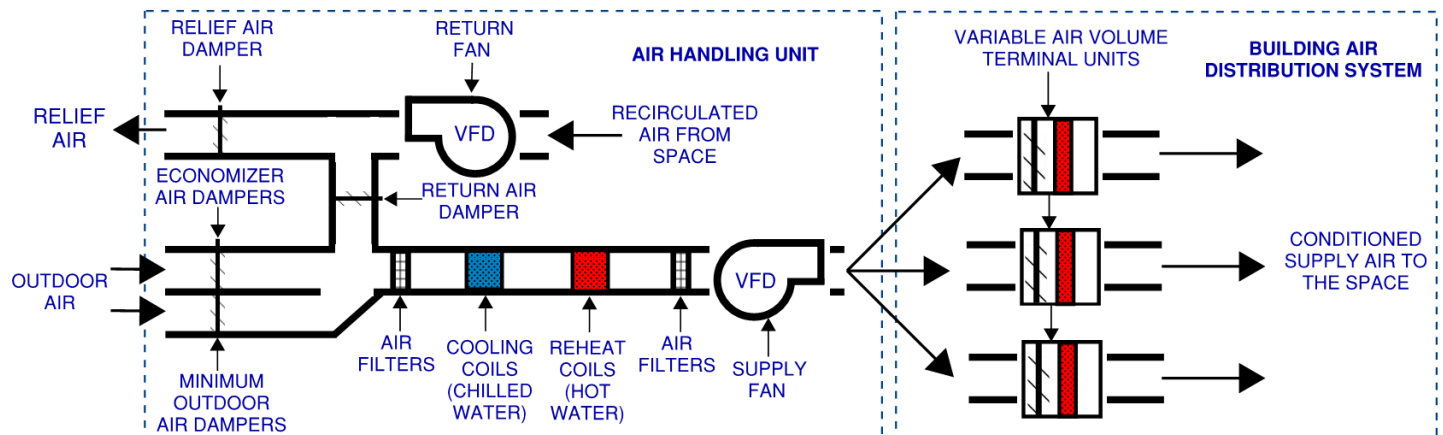
Chilled water is supplied throughout the building from a chiller located in the mechanical room or from the campus chilled water system. Heating hot water, distributed throughout the building for heating, is provided by a steam to water heat exchanger using steam from the campus steam system.

## VARIABLE VOLUME AIR HANDLING UNITS (ORIGINAL BUILDING)

The air handling units deliver a variable volume of conditioned air consisting of a mixture of recirculated building air and fresh air from outside of the building. The building return air is filtered, mixed with outdoor air and cooled with chilled water coils in the air handling units before being supplied to rooms throughout the building via above ceiling ductwork.

Duct mounted, variable air volume zone terminal units (VAVs) are equipped with an air damper to regulate the volume of air delivered from the central AHUs to the space and a hot water coil to provide heating to individual spaces based on the zone temperatures. VAVs are located throughout the building in the above ceiling ductwork and provide the means to switch between cooling and heating modes of operation in individual spaces within the building.

Air is recirculated from the building back to the air handling unit through ceiling mounted air return registers located in each space. Return air is pulled from a plenum space above the ceiling. Exhaust is provided in restrooms on each floor to remove odors and to maintain a slightly positive building pressurization.

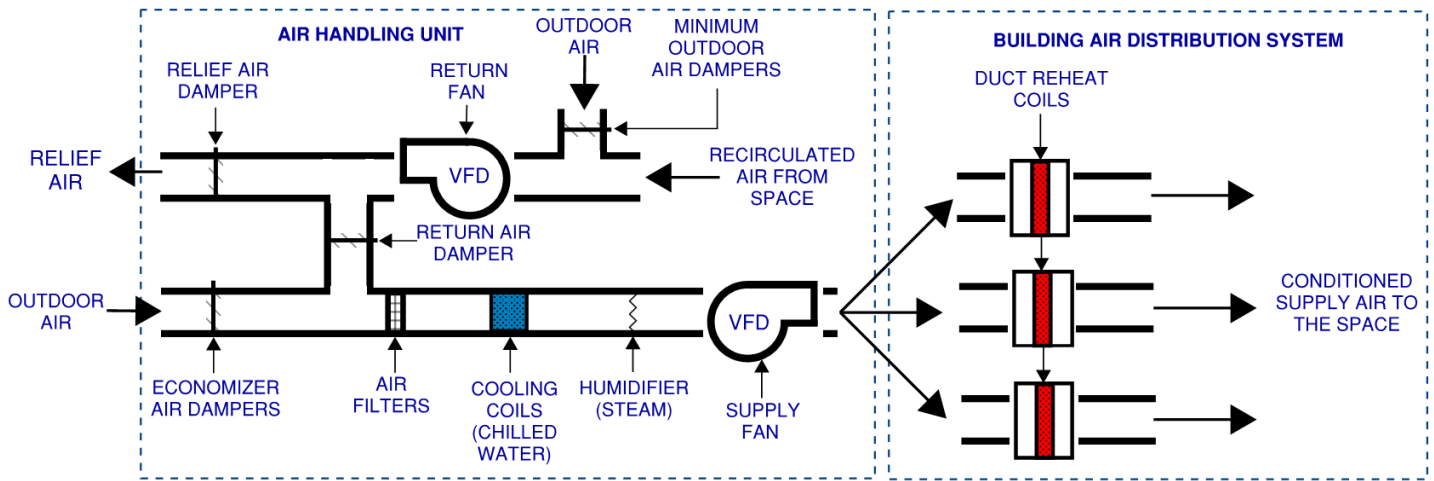


**VARIABLE VOLUME AIR HANDLING UNIT SCHEMATIC**

## CONSTANT VOLUME AIR HANDLING UNITS (ANNEX)

The air handling units (AHUs) deliver a constant volume of conditioned air consisting of a mixture of recirculated building air and fresh air from outside of the building. The building return air is filtered, mixed with outdoor air and cooled with chilled water coils in the air handling units before being supplied to rooms throughout the building via above ceiling ductwork. The central AHUs provide cooled air to the building, while heating is provided by duct-mounted hot water reheat coils located throughout the building.

Air is recirculated from the building back to the air handling unit through ceiling mounted air return registers located in each space. Return air is pulled from a plenum space above the ceiling. Exhaust is provided in restrooms on each floor to remove odors and to maintain a slightly positive building pressurization.



**ANNEX -CONSTANT VOLUME AIR HANDLING UNIT SCHEMATIC**