

Executive Summary

This report includes the existing conditions of The Gateway at MICA as well as proposed redesign considerations. The existing conditions included in this report are an in-depth look at the system as it is designed. Since the building is not yet constructed this is only the designed system, changes may have been made to the system since the design documents were issued.

The proposed redesign of the building includes a ground source heat pump system to replace the chilled water loop. All terminal units on the residential floors will be equipped with electric reheats allowing the two pipe system to act as a four pipe system. The redesign will also include a cogeneration system to produce electricity for the building as well as provide heating for the first two levels of the building.

The breadth work to be completed will be an in-depth cost analysis after the building envelope is redesigned with more efficient materials and all new systems are in place. The second part of the breadth work will be a reevaluation of the electrical system after all systems are changed. The difference between the current and the redesign should drastically change the electrical demand of the building and also create the potential for an electrical system redesign.