



Northern Kentucky University Recreation Center

Schematic Natatorium HVAC Design Options

The pages that follow provide a schematic representation of HVAC design options for the new natatorium space of the Northern Kentucky University recreation center. These layouts are preliminary and are intended to facilitate review and discussion regarding ductwork layout for the natatorium space and coordination with structural and architectural components. Two design options are presented for review. A brief description of each option follows below.

OPTION 1 – HVAC Equipment Above Natatorium

Under this design option, the proposed new dehumidification unit and separate condensing unit are located above the approximate center of the Natatorium. The return air duct system is routed within the Natatorium, exposed to view. Coordination with roof structure is necessary for routing of large supply and return duct mains. There is no impact on Weight Room or Medium Studio spaces. The roof-mounted condensing unit could be located above the Weight Room, if desired. This would increase length of condenser water piping between the two pieces of roof-mounted equipment.

This design option offers the following benefits over Option 2:

- No impact on Weight Room or Medium Studio ceilings; no bulkheads required

OPTION 2 – HVAC Equipment Above Weight Room

Under this design option, the proposed new dehumidification unit and separate condensing unit are located above the Weight Room. The return air duct system is proposed to be routed concealed within a bulkhead, for both the Weight Room and Medium Studio spaces. Coordination with roof structure is necessary for routing of large supply duct main. Coordination is also needed regarding bulkhead design for Weight Room and Medium Studio.

This design option offers the following benefits over Option 1:

- Potentially less impact on roof structure (subject to structural engineer review)
- Reduced equipment visibility from surrounding grade (further from roof edge)
- Return ductwork concealed from view