Vol. III X – Indoor Air Quality (IAQ)

1. Introduction

This portion of the Facility Standards includes Indoor Air Quality (IAQ) guidelines to be followed by the Consultant during a project at the University of Chicago.

These recommendations are intended to support IAQ best practices post-Covid, and be used as part of the University's emergency response. Based on research of peer institutions and industry best practices, with input from UC Facilities Services, the recommendations are framed in a way to A) maintain consistency between the small project guidelines and the FS2, B) balance capital and maintenance costs in the context of added value vs. perceived risk, C) provide flexibility in operations, and D) support campus energy reduction goals.

2. Related Sections

Related sections of these standards include:

- Vol III: General Design Requirements
  - C - Sustainability
  - I – Interior Finishes and Accessories
  - K – Mechanical Systems
  - L – Building Automation Systems

3. Indoor Air Quality (IAQ): Updated Sections_02.21.23

- Vol III C - Sustainability
  - 3. Guidelines, c) Energy, Goals: Improve indoor air quality through a holistic mechanical design approach, in which it is designed relative to other design goals such as energy use, carbon footprint, comfort, etc.
  - 3. Guidelines, c) Energy, Strategies, Maximize Mechanical System Performance: Install occupancy control and automation programming/control sequences that enable pandemic mode settings for mechanical system operations. These controls will also facilitate MBCx.
  - 3. Guidelines, c) Energy, Strategies, Maximize Mechanical System Performance: Design systems to accommodate MERV 8 prefilters and MERV 13 filters with space to accommodate future installation of air sanitization systems like BPI or UV where practical.
  - 3. Guidelines, e) Health, Comfort and Productivity, Strategies, Provide Healthy Ventilation: Design mechanical systems to accommodate additional fresh air (up to 30%) and modulate accordingly. Consider DOAS with heat recovery.
  - 3. Guidelines, e) Health, Comfort and Productivity, Strategies, Provide Healthy Ventilation: Conduct a building flush-out of 14,000 cubic feet of outside air per square foot that follows LEED guidance, where possible.
  - 3. Guidelines, e) Health, Comfort and Productivity, Use Low Volatile Organic Compounds-emitting Materials: Ensure that all construction materials, interior finishes, and major furnishings installed at the University comply with the most recent LEED standard for VOC content and Emissions Evaluation, including interior paints and coatings applied on site, interior adhesives and sealants applied on site, flooring, composite wood, ceilings, walls, thermal and acoustic insulation, and furniture.
  - 3. Guidelines, f) Education and Training, Physical Infrastructure Enables Education: Consider the installation of RESET Accredited continuous air quality monitors.

- Vol III I – Interior Finishes and Accessories
  - I-2 – Interior Finishes Matrix
- Vol III K - Mechanical Systems
  - 5. System Design Requirements, D. Install occupancy control and automation programming/control sequences that enable pandemic mode settings for mechanical system operations. These controls will also facilitate MBCx
  - 5. System Design Requirements, K. The system should be capable of providing additional fresh air and modulate accordingly.
  - 5. System Design Requirements, P. Design for system resilience and adaptability that may include the ability to accommodate MERV 8 prefilters and MERV 13 filters. Consider HEPA filtration in critical spaces.
  - 7. Campus Utility System Requirements, A. Air Handling Systems, v. Custom Indoor Air Handling Units, a. Unit Casings & Base, Allow space to accommodate the future installations of BPE or UV air sanitization systems.
- Vol III L – Building Automation Systems (In addition to these changes, the entire section is currently being revised)
  - 2. System Guidelines, b) Equipment, 12. Auxiliary Control Devices, a. General, i., 17. Continuous Indoor Air Quality Monitors (PM, CO2, TVOC, RH, Temp, etc.)
  - 2. System Guidelines, r) Continuous Air Quality Monitors, Continuous Air Quality Monitors, if installed, should be RESET accredited. These sensors should not control building systems, but be connected to the BAS for data collection, storage, and analysis.