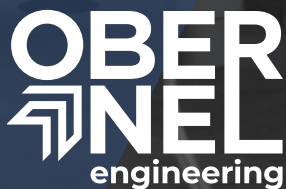


# HEALTHY BUILDINGS

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It's never been  
more important  
to evaluate your  
buildings  
and plan for  
improvements.



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# HEALTHY BUILDINGS - AN OPPORTUNITY

We are currently seeing an increased demand for information on how K-12 facilities can make improvements to ensure the health and safety of all students and staff. We hope this document provides you with the resources necessary to successfully evaluate the health of your buildings and plan for improvements. Here are the four key components when conducting evaluations:



## Health & Safety - Indoor Air Quality

Until now, focus has been placed on energy efficiency leaving indoor air quality as a best practice in the equation. However, an airborne pandemic like COVID-19 has shifted that focus to proper Indoor Air Quality (IAQ).

Here are some healthy building priorities to keep top of mind when building trust with building occupants.

- Recent improvements to IAQ codes and energy standards.
- Balance between conserving energy and responding to contaminants in the air.
- Building flexible controls into your IAQ system.
- Ability to reduce ventilation based on CO<sub>2</sub> or occupant levels AND prioritize outside air levels when needed.



# HEALTH & SAFETY - INDOOR AIR QUALITY

We recognize the challenges facing us today represent a new normal. We've identified four specific categories you can look at to improve the overall indoor air quality:



## Outdoor Air

Determine how much outside air is entering the building.

- Do outside air and return dampers actually modulate?
- Are intake and relief louvers/openings clear of debris?
- Does outdoor air mix completely with return air?
- How much additional outdoor air can you bring in while maintaining required temperature and humidity?



## Airflow

Airflow is key to diluting contaminants in a space. Providing airflow is an important part of any IAQ plan.

- Ensure fans, controls, and dampers are working.
- Confirm existing system provides code required OA.
- Ensure each room has an unobstructed working return air path.
- Ensure air distribution doesn't leave 'dead zones' in rooms or hallways.
- Ensure fan horsepower is adequate when adding filter media to maintain design airflow.



## Dedicated Air

In a correctly designed code-compliant building, between 75%-90% of the air is recirculated. This allows us to save energy by not exhausting filtered and conditioned air.

- Distribute supply air evenly across densely populated spaces.
- Ensure dedicated return air paths-avoid common return in corridors.
- Place return and exhaust grilles close to areas of contamination.
- Ensure relief and exhaust locations are separated from air intakes.



## Treated Air

Air treatment devices can make a significant difference in the quality of your indoor air.

- Increased filtration without changing fan power can reduce airflow.
- UV Treatment of AHU can be effective.
- Shining UV light above 7 feet in a room is effective for deactivating viruses and ASHRAE approved.
- In-room HEPA air cleaners can be effective, although ensure you understand the number of filter changes these require per hour.

# OCCUPANT COMFORT

Occupant comfort leads to improved mental and physical health and contributes to a more positive experience overall. Here are some tips to achieve occupant comfort:

## Lighting & Temperature



Occupant control over individual spaces leads to mental and physical wellness

## Furnishings



Provide a variety of furnishings that suits different shapes and sizes

## Learning Spaces



Provide flexible physical space options that can change throughout the day

## Paint Color & Floor Patterns



Consider aesthetics, such as paint colors and flooring patterns, that promote wellness

## Housekeeping Products



Provide easy access to house-keeping products for continued cleanliness throughout the day

## Security Measures



Implement building security measures for peace of mind

# SPACE PLANNING

To ensure social distancing protocols are being met, adjustments may need to be made to your building space to ensure they are efficient and being utilized well.

- Design flexible classrooms
- Utilize cleanable surfaces
- Allow outdoor classrooms or learning experiences
- Install touch-free elements (hand sanitizer stations, sinks, toilets, etc.)
- Create pod-type environments to minimize travel distances



# FACILITY OPTIMIZATION

Addressing the performance of existing systems, recognizing and correcting system problems, identifying opportunities for energy savings, and addressing all MEP, fire, and life-safety components of your facility, are necessary to running your building efficiently.

## Technology & Operations



- Complete integration of technology throughout so that in-person, independent, or group instruction can happen seamlessly anywhere in the buildings
- Decentralized serving and dining areas
- Fully integrated infrastructure to enable ongoing, easy monitoring of all aspects of the interior environment
- Integrated infrared scanning at entrances
- Modified operational considerations – staggered dismissal and arrival times, etc.



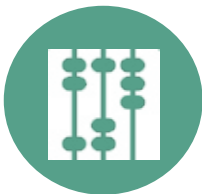
### Dead Air

Are there localized areas where the air doesn't turn over?



### Systems

Are fans running correctly, filters closely fitting, dampers moving?



### Controls

Simple controls scripts can flag problems early.



### Ventilation

Are you getting as much fresh air as designed?



### Operation

Are building operators trained?

# HEALTHY BUILDINGS CHECKLIST

To help you better assess your facilities, we've put together the Healthy Building Checklist. This checklist is designed to help you create a plan to ensure your facilities and buildings will keep your students and staff safe.

Our rating scale goes as followed:

**YES** = Facilities are in need of improvements

**NO** = Facilities require no additional changes

At the end of this checklist, there will be a section to compile your answers and start creating your Healthy Buildings Plan.

HEALTH & SAFETY	YES	NO
1. Are ceiling tiles sagging or appear wet/stained?		
2. Is there an odor of mold or dampness?		
3. Do the windows have moisture on the inside?		
4. Is there frost build up on doors or windows?		
5. Do doors stick in summer but not in winter?		
6. Are there bubbles in or gaps between vinyl flooring tiles?		

INDOOR AIR QUALITY	YES	NO
7. Test and Balance: is a current T&B report available showing airflow to occupied spaces, outside air and exhaust CFMs vs design?		
7a. Do all values fall within 10% of design?		
8. Are supply, return, intake, and exhaust openings clear of obstructions?		

# HEALTHY BUILDINGS CHECKLIST

INDOOR AIR QUALITY <i>(continued)</i>	YES	NO
9. Do control devices operate as designed? (BAS and also dampers and valves)		
10. Is air distributed evenly throughout occupied spaces?		
11. If filtration levels have been changed during the pandemic, have fans/motors been adjusted to meet additional pressure drop?		
12. Can building automation system alert you if part of the ventilation system is not operational (eg supply fan is off or filters are plugged)?		
13. Are trendlogs set up to confirm air delivery and/or flag problems?		

*If you answered "NO" to any of the questions above, contact your controls contractor or ICS to improve your indoor air quality.*

OCCUPANT COMFORT	YES	NO
14. Temperature – Do individuals have the ability to control their own space?		
15. Lighting - Are lighting levels (footcandles) correct for the tasks?		
16. Furnishings – Is a variety of (cleanable) furniture provided to accommodate different shapes, sizes, and other needs?		
17. Flexible Learning and Space Options – Can people move and change their physical learning location and environment throughout the day if needed, or are they required to remain in one place?		
18. Aesthetics – Do paint colors, floor patterns, and other design choices contribute to wellness?		
19. Housekeeping and Cleanliness – Do individuals have the tools they need to ensure their spaces are clean?		
20. Security – Is the building secured to the best extent possible for peace of mind?		

*If you answered "NO" to any of the questions above, contact ICS to improve your occupant comfort.*

# HEALTHY BUILDINGS CHECKLIST

FACILITY OPTIMIZATION	YES	NO
<b>NEW CONSTRUCTION</b>		
21. Are flexibility and agility provided within the design, (i.e. movable walls, easy connections to breakout spaces or the outdoors)?		
22. Is travel minimized within the design, such as pod design to reduce contact with other students and surfaces?		
<b>NEW &amp; EXISTING FACILITIES</b>		
23. Have touch-free elements been considered throughout?		
24. Does technology support a variety of learning methods and locations?		

## NEED HELP?

Optimizing your buildings is more critical now than ever, but if this seems like too complicated of a process, we are here to help!

- **Minor Involvement** - Call or email us with your questions about filling out the checklist.
- **Medium Involvement** - We're happy to help walk you step-by-step through the process of filling out the checklist and creating your Healthy Buildings Plan.
- **Facility Assessment** - If you're filling out this checklist and realize that your facility needs more help than this simple plan, our expert team can provide a full-scale, professional facility assessment and create a plan to get your buildings ready.

Get in touch today!



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# HEALTHY BUILDINGS PLAN

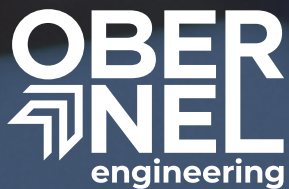
This page is your opportunity to compile your checklist results and formulate your Healthy Buildings Plan.

## **HIGH PRIORITY NEEDS**

## **MEDIUM PRIORITY NEEDS**

## **LOW PRIORITY NEEDS**

**CONNECT WITH US**  
to learn more about how you can  
ensure safe and healthy buildings!



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