

Auburn Mechanical is committed to keeping our employees and clients safe during this health crisis. While it is important to note that there is no “silver bullet” to protect against the virus, there are multiple processes and practices we can utilize together to reduce the spread of infectious diseases like COVID-19. As a result of that mindset, we have implemented a Safe Environments Plan, which is targeted at creating safe and healthy work environments for our employees and customers.

## AUBURN MECHANICAL RESPONSE AND SUPPORT

### ▪ Immediate Changes:

- ◇ Increased handwashing/sanitizing stations on jobsites.
- ◇ Project-specific safety plans that incorporate best practices for infectious disease control in construction.
- ◇ Working remotely: Over 90% of Auburn’s office staff is working remotely to promote social distancing.
- ◇ Auburn Mechanical has created a COVID-19 task force to research and document best practices.
- ◇ Small Projects Group prepared for rapid response to one-off “essential projects.”
- ◇ Full MEP continuing support for “essential projects.”
- ◇ Dedicated “essential” Service Department ready 24/7 to respond to emergencies and preventative maintenance.

### ▪ Ongoing Essential Support

- ◇ Engineering Support: The engineering team is working remotely and has immediate availability to evaluate your building for optimal performance and reduction in contamination.
- ◇ Service Support: Service is ready 24/7 to support emergencies or standard maintenance.
- ◇ Construction Support: Our construction team is standing by to facilitate “essential projects” and system upgrades to support healthier buildings.

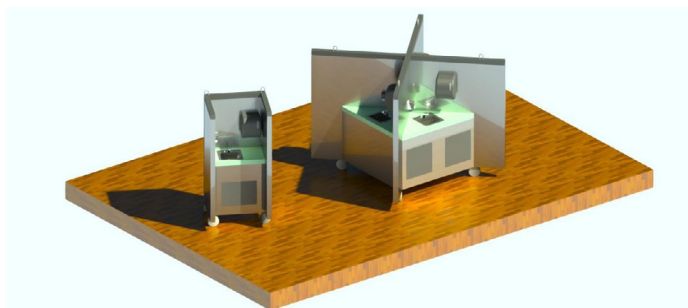
## COVID-19 FACTS AND BEST PRACTICES

### ▪ Facts:

- ◇ Temperature/Humidity: This virus starts being impacted at temperatures over 86°F and 80% relative humidity. Since those ranges exceed any acceptable comfort ranges (think Miami in the summertime), it is not recommended to add additional humidification or temperature to your existing system.
- ◇ UV Light: There is currently no published research to confirm that ultraviolet light is effective at reducing the spread of COVID-19, but it has proven effective on a similar virus (SARS). The time duration for UV exposure required to kill COVID-19 has not yet been confirmed and may potentially result in UV light being an ineffective method for air sterilization. When utilizing UV light, UVC is the only acceptable form for sterilization.
- ◇ HEPA Filters: HEPA filters are nearly 100% effective at capturing particles the size of the COVID-19 virus.
- ◇ Not Airborne: COVID-19 is currently not classified as an airborne virus. The CDC indicates they are continuing to study how the virus spreads. Although the virus is not classified as airborne, it is confirmed that the virus can be spread through particulates when a person sneezes or coughs.

### ▪ Transmission Sources:

- ◇ People: Direct contact, skin or hair particles, or respiratory droplets (coughing/sneezing) can spread the virus.
- ◇ Surfaces: The CDC has indicated that the COVID-19 virus typically remains active on surfaces for 2-3 days. In some isolated cases, the virus has remained active on surfaces for up to 17 days. Surfaces could include door handles, keyboards, clothing, copiers, food preparation areas, coffee stations, etc.
- ◇ Air: Recirculated air in the building through the heating, ventilation, and air conditioning system or breathing air from people can be a transmission source.
- ◇ Restrooms: A plume is created when toilets flush that contain droplets and droplet residue that can spread the virus.



## ▪ Best Practices:

- ◇ People:
  - Practice social distancing (maintaining 3-6.5 feet of clearance).
  - Avoid large gatherings.
  - Self-isolate if you are sick or have symptoms.
  - Get tested if you show symptoms and remain isolated until the negative test is received.
- ◇ Surfaces:
  - Use disinfectants (such as hydrogen peroxide or ammonium) [from the approved EPA disinfectant list](#) to frequently wipe down commonly used surfaces.
  - Wash or sanitize your hands often.
  - Stop the use of community food preparation areas or coffee stations.
  - Wear gloves and respiratory protection when in contact with high-risk materials (such as air filters).
- ◇ Air:
  - Significantly reduce or eliminate recirculated air within buildings during a virus out-break. The best scenario in an outbreak is 100% outside air (OSA).
  - Change unit air filters prior to switching over to 100% OSA.
  - Sterilize HVAC cooling coils prior to switching over to 100% OSA.
- ◇ Restrooms:
  - Ensure that toilet lids are installed and closed during flushing.
  - Dump water in floor drains to ensure proper trap sealing at least every 2-3 weeks.

## SOURCES AND REFERENCES:

- Coronavirus Disease 2019 (COVID-19), Center for Disease Control (CDC)
- List N: Disinfectants for Use Against SARS-CoV-2, Environmental Protection Agency (EPA)
- COVID-19 Guidance: Federation of European Heating, Ventilation and Air Conditioning Associations (REHVA)
- Submicron and Nanoparticulate Matter Removal by HEPA-Rated Media Filters and Packed Beds of Granular Materials, J.L. Perry, Marshall Space Flight Center
- Guidance for Building Operations During the COVID-19 Pandemic, By Lawrence J. Schoen, P.E., Fellow/Life Member ASHRAE

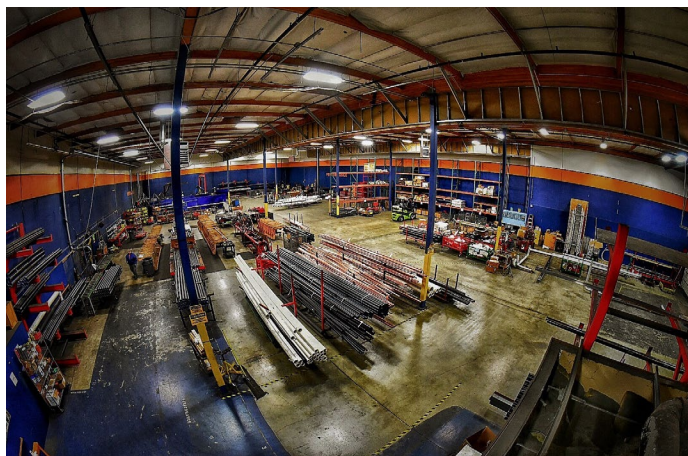
## SYSTEM OPTIMIZATION FOR CONTAMINATION REDUCTION (SOCR):

Over the last few weeks, we have been providing guidance to our clients related to their HVAC systems and the COVID-19 outbreak. One of the most common questions we receive is, “When the Stay Home, Stay Healthy order is over, and we head back to work, how do I know my building, customers, and employees are safe?”

Our Service and Engineering Departments have teamed up to prepare a thorough list of items that can support the reduction of cross-contamination in buildings. These SOCR reports are site-specific and categorized into a three-tier system ranging from equipment tune-ups to system upgrades or replacements.

### ▪ Level 1 (Low Impact):

- ◇ **Verify Outside Air and Economizer Functionality:** Validate that your system is providing the outside airflow that it was designed for and that the economizer (increased outside air when the outdoor temperature is acceptable) is functioning properly. This activity ensures that once the outbreak is over, your building will maintain a sufficient level of outside air to the building.
- ◇ **Review Building Occupancy Schedule:** Confirm that all negative spaces with a high probability of contamination, such as restrooms or locker rooms, are operated continuously. Increase the main system hours of operation to over-ventilate the space.



- ◇ **100% OSA/Building Air Flush:** Provide a high volume of semi-conditioned outside air to the building following LEED/WELL guidelines for temperature and humidity criteria. This process is normally used to purge a newly constructed building of volatile organic compounds (VOCs) and particulates (dust). In this scenario, the intent is to reduce contamination by eliminating recirculated air throughout the building by introducing 100% OSA until the spread of the virus has significantly been reduced. The air flush is recommended to occur prior to occupancy and to continue throughout the duration of the virus outbreak.
- ◇ **Clean and Disinfect Air Handlers/Fan Terminal Units:** This can be a one-time or scheduled maintenance item where our service technician sterilizes existing air handler systems with approved EPA/CDC methods.

▪ **Level 2 (Medium Impact):**

- ◇ **Reduce Total Airflow:** Primarily targeted for when employees come back to the workplace, but when contamination/virus spread is still a concern (businesses or work that is deemed “essential”). A reduction in airflow to project spaces will reduce the turbulence in the airflow and thus the spread of airborne particles, such as moisture from sneezing or coughing. It is important to note that this modification will have a negative impact on the performance of the system, and as such, is only recommended as a temporary modification. This process can be done at the primary air handler/ rooftop unit or at the zone level/terminal units.

▪ **Level 3 (High Impact):**

- ◇ **Sterilization (UV Light):** UV lighting could be added to existing air handlers/rooftop units or at the zone level/terminal units (engineering analysis is required).
- ◇ **Increased Filtration Levels (HEPA Filtration):** HEPA filtration could be added to existing air handlers / rooftop units or at the zone level / terminal units. Most systems are unable to accommodate a direct HEPA filter addition without major system modifications, so engineering analysis is required.



**USEFUL LINKS:**

- [CDC Coronavirus](#)
- [EPA Disinfectant List](#)
- [Federation of European Heating, Ventilation and Air Conditioning Associations](#)
- [ASHRAE Coronavirus](#)