



COVID-19 Considerations for Reopening Schools: Facilities and Logistics

June 29, 2020

As districts contemplate how to safely reopen schools for the coming year, it is important that each facility that is used to carry out the mission of the district be maintained to provide a safe and healthy environment. This maintenance involves cleaning and sanitization, modifications supporting social distancing, modification of movement patterns for both vehicular and foot traffic and building security. District administrators should designate a working group of maintenance and custodial staff to assess any additional needs and request resources to provide a safe environment for students and staff. All normal inspections and maintenance functions must be completed as well.

General recommendations from the U.S. Centers for Disease Control and Prevention (CDC) for cleaning and disinfecting may be found [on the CDC's website](#). This document will provide additional considerations and recommendations for districts to contemplate as reopening plans for individual school sites and ancillary buildings are developed.

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Cleaning and Sanitization

The general CDC guidance for cleaning and sanitizing a facility may be found [on the CDC's website](#).

Prior to the opening the facility to students and staff, the reopening committee should:

- Plan for cleaning and sanitation supplies, including personal protective equipment (PPE) for custodial staff.
- Create a schedule to re-sanitize high-use areas during the day where needed.
- Determine “off-limits” areas, if any, and post accordingly.
- Determine if locker use will be allowed, and if not, where materials/coats will be stored.

If there is a confirmed case of COVID-19 within a site, additional cleaning and disinfection guidance from the CDC may be found [on the CDC's website](#).

It is recommended to inventory the spaces within each facility to determine custodial guidelines for:

- Type of service: Cleaning, sanitization, disinfection
- Frequency of service: Hourly, daily, specific time, such as 8:30 a.m. or 1 p.m.
- Product to be used
- Other instructions: Sanitize all door handles, empty trash, etc.

A model template for this assessment is included in Appendix A. This assessment should be used to create the Custodial Cleaning Checklist (Appendix B) to ensure all stakeholders know the expectations. The checklist also is invaluable when a new or substitute custodian is brought into a school.

Custodial and maintenance staff should wear appropriate PPE. At a minimum, custodial and maintenance staff should wear cloth face coverings. Depending on assigned duties, a change of mask during the day may be necessary due to perspiration or the soiled nature of the mask. Since sanitization and disinfection may involve some chemicals not normally used by staff, districts should refer to the [guidance for PPE provided by the Occupational Safety and Health Administration](#). Product labels should be examined for recommendations for additional PPE requirements such as a face shield or rubber gloves.

Facility Utilization

A key mitigation strategy to reopen schools involves maintaining minimum 6-foot social distancing between students, teachers and staff as much as is practicable during the instructional day. Based on input from the local health department, other factors may influence the capacity either up or down. The Kentucky Department of Education (KDE) has released a [room capacity calculator](#) to support schools and districts in this effort. The table below shows the number of



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students allowed in a space. It includes some typical classroom dimensions and assumes that 75% of the space in the classroom is useable.

Dimensions	Square Feet	6 x 6 Block	6 ft. Circle	8 x 8 Block	8 ft. Circle
30 x 30	900	19 Students	24 Students	11 Students	14 Students
30 x 25	750	16 Students	20 Students	9 Students	11 Students
25 x 25	625	13 Students	17 Students	7 Students	9 Students
25 x 20	500	10 Students	13 Students	6 Students	8 Students
20 x 20	400	8 Students	11 Students	5 Students	6 Students

Determine the capacity and clearly mark seating and desk locations for each room that students will occupy. In a room such as an auditorium or other space with fixed seating or tables, clearly mark which seats which may be occupied to maintain social distancing.

Hallways and stairways should be clearly marked with “lanes” for traffic flow. Social distancing reminders should be marked on the floor with tape or some other non-permanent marking.

Within the facility, the planning team should consider other enhancements to improve mitigation strategies:

- Multiple hand sanitizer stations
- Evaluate how hygiene products like soap, paper towels, tissues and toilet paper are dispensed (no-touch), replenished and stored; change or clean forced-air hand dryer filters
- Plexiglass shields in public-facing spaces, such as the reception area
- Cafeteria sneeze guards, cashier shields
- No-touch trash cans
- Signage to publicize strategies of hand-washing, social distancing, etc. ([available from the CDC](#))
- Water fountain procedures

Building Systems

The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) [has provided two statements on COVID-19](#). ASHRAE does not, in general, recommend disabling HVAC (heating, ventilating and air-conditioning) systems as a measure to reduce the transmission of the COVID-19 virus. ASHRAE stated on May 28, 2020, [that its guidance](#) does not conflict with guidance from the World Health Organization (WHO) and the CDC.



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ASHRAE's whitepaper for infectious aerosols may be [found on its website](#). The U.S. Environmental Protection Agency (EPA) has indicated that a professional should interpret ASHRAE guidelines for their specific building and circumstances.

According to the ASHRAE whitepaper, studies have indicated that maintaining a building's relative humidity at 50% kills airborne viruses within 24 hours and also decreases bacteria, fungi and allergens. Dehumidification occurs as the result of the air conditioning process; however, few HVAC systems have humidity controls. Air conditioning systems should be kept in operation during the cooling season at a temperature (usually between 68 and 78 degrees Fahrenheit) that provides a relative humidity level between 40% and 60%.

Kentucky's K-12 schools have a wide variety of HVAC and control systems. Districts should evaluate the HVAC and controls systems in each building to determine the best mitigation strategy for that facility. If modifications to existing systems are needed or proposed, they may be subject to compliance with the Kentucky Building Code. Altering, modifying or changing the original characteristics of a HVAC system requires design by a licensed professional engineer pursuant to KRS 322.360.

The following mitigation strategies may be considered as appropriate to the facility's existing systems and spaces:

Dilution: Reduce the concentration of infectious agents.

- Keep systems running for longer hours (24/7 if possible, to provide the maximum number of daily air changes).
- Increase outdoor air ventilation (disable demand-controlled ventilation and open outdoor air dampers to 100% as indoor and outdoor conditions permit).
- High-volume, low-velocity fans in large spaces with higher ceilings prone to stratification can destratify air, equalize temperatures and provide dilution. These fans can be used in conjunction with UV-C lights as discussed below.
- Window fans and other fans are not addressed in ASHRAE guidance. In a room with no windows, as a practical matter, fans should only be used when other options are not available, be located to avoid directing the air flow across occupants and not facilitate the possible transmission of airborne pathogens between occupants.

Filtration: Trap bacteria and viruses by passing them through a filter to remove them from circulation.

- Filters should be changed regularly (possibly at shorter intervals than normal) with filters that provide the highest level of filtration.
- Stand-alone air cleaners (air purifiers) with high-efficiency filters (such as MERV-14) and have a high Clean Air Delivery Rate (CADR) might be used in spaces without filtration or to supplement existing systems.



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Purification: Destroy infectious agents.

- Controlling humidity is best accomplished at a system level, however, most systems do not have humidity control. Professional services are needed for the design of humidity control systems.
- Stand-alone room humidifiers/dehumidifiers could be used if the building system does not provide sufficient control.
- Bipolar ionization units emit an electronic charge to create a plasma field to kill pathogens. Professional services are needed to design and implement bipolar ionization strategies.
- UV-C lights are placed within ducts or in upper areas of large spaces. The visible source must be shielded from direct view to prevent eye damage. Professional services may be needed for the design UV-C lighting.

Emergency Response Drills

The Kentucky Center for School Safety (KCSS) has provided the update below:

Fire Drills

Consider conducting the fire drill in a “blocked” format where each classroom performs this evacuation separately. As in a “normal” fire drill, students would exit the classroom (as shown on the evacuation map in each classroom) and, spacing 6 feet apart during the drill, proceed to the designated safe zone outside of the school building. After reaching the safe zone, students would return to the building, again staying 6 feet apart. If an actual fire event occurs, the social distancing standard during evacuation may not be possible. But, even then, after all classes have relocated to their safe zone, maintain social distancing if possible.

If this format is used, the principal must ensure that the drill is conducted during the same period of the day until all classes have practiced it. To speed up the process, the principal may consider conducting several classroom evacuations simultaneously provided they are located in different areas of the building and will not cross paths with any other class. This will take significant planning and coordination, but it can be accomplished. The principal will need to accurately record the dates and times these drills were conducted.

Lockdown

Lockdown drills normally are conducted inside the classroom. Following normal lockdown procedures, the students would be moved to a safe location inside the classroom. If possible, maintain the 6-foot social distancing standard during the drill. In an actual active shooting event, the 6 foot standard would not be followed.



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Severe Weather

Consider conducting this drill in a “blocked” format where each individual classroom performs this evacuation separately. As in a “normal” severe weather drill, the students would exit the classroom (as shown on the evacuation map in each classroom) and, spacing 6 feet apart, proceed to the designated safe zone inside the building. After reaching the safe zone, the students will assume the safe positions on the floor (6 feet apart for the drill). After the drill has been completed, the students would return to their classroom, keeping 6 feet apart while walking.

If this format is used, the principal must ensure the drill is conducted during the same period of the day until all classes have practiced it. In an effort to speed up the process, the principal may consider conducting several classroom evacuations simultaneously, provided they are located in different areas of the facility and will not cross paths with any other class. This will take significant planning and coordination, but it can be accomplished. The principal will need to accurately record the dates and times these drills were conducted.

Earthquake

Earthquake drills normally are conducted in the classroom. Following normal drop, cover and hold earthquake emergency response protocol, school officials may consider having students do this in different locations inside the classroom, while maintaining the 6-foot social distancing standard. In the event of an actual earthquake event, social distancing may not be possible.

Vehicular Traffic Control

If schools return to some form of in-person instruction, there could be a marked increase in parents transporting their children to school in order to avoid exposing them to the closed, contained environment on a bus. As there are no two schools exactly alike, each school administration will need to discuss possible traffic control strategies with their local law enforcement officials and communicate the new traffic pattern to their respective community through the communication protocol.

Drop-off and Dismissal

Student Arrival

It is recommended that school officials consider widely advertising the precise time each school will be open to receive students. In the past, some parents dropped off their children at school in the mornings before staff members were scheduled to arrive. From a safety standpoint, this practice always has been problematic and extremely ill-advised; however, the current situation magnifies it, making it a threat to both safety and health. Therefore, it is recommended that schools work toward “re-norming” parents to drop their children off at school only after the time



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widely publicized that staff members will be present and prepared to receive students in their classrooms.

Students will have their temperatures screened upon entry to the facility. The following are potential scenarios:

- If bus riders are screened at the bus stop, they do not need to be screened again at the school. Bus riders may have their temperature screened as they disembark from the bus. Disembarkation of buses should be staggered to allow for orderly entry into the building. A separate entry for these students would allow them to proceed directly to their classrooms.
- If the district chooses to screen all students at building entry, a health screening station(s) for students should be established inside the facility near, but not blocking, each entry used for student arrival. The area should be clearly marked as to where students should stand in line for the screening to maintain social distancing. Once screened, students should proceed directly to a classroom avoiding congregation in the halls or other common areas.

Depending on the screening scenarios utilized, arriving students should be clearly directed through signage, floor arrows and other helpful markers. In the event that a student does not meet the health requirements, there should be an isolation room where students can wait to be picked up.

Student Dismissal

Student dismissal should be staggered to eliminate bottlenecks at the exit points that impact social distancing. Consideration should be given to designating older students to hold doors open to reduce the number of students touching the door handle or push-bar.

Building Security

The CDC recommends opening doors and windows when possible to improve building ventilation. In order to avoid conflict with its approved Emergency Management Plan, a district should contact the Office of State School Security Marshal with any concerns about compliance.



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Appendix B: Sample Custodial Checklist

Item	M	T	W	Th	F
Vacuuming classrooms and offices, etc.					
Cleaning tops of student desks					
Dusting shelves, filing cabinets, copiers, computer terminals, bookcases, window ledges, heater tops, etc.					
Erasing boards (except if teacher marks it otherwise)					
Emptying wastebaskets					
Cleaning classroom doors, doorknobs, windows, light switches					
Sweeping all tile floors					
Checking and replacing, if necessary, supplies in bathrooms					
Cleaning the bathroom sinks, toilets, urinals, counters, walls, stalls, dispensers, mirrors					
Mopping the floors/vacuuming floors					
Cleaning entrance door windows					
All exit/entrance doors locked					
Turning off all lights					
Set security alarm (last custodian leaving building)					
Leaving notes in business office for any needed supplies, concerns, etc.					