

**Thomas Edison Middle School
Covid-19 School Opening Support and
Guidance Commissioning Checklists**

Meriden School District
Meriden, CT

August 26, 2020



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1 Executive Summary

Disclaimer: This list of recommendations is intended to help mitigate the potential spread of viruses and/or other biological hazards. Our recommendations reflect current best practices of the HVAC industry. There is no guarantee that any of these recommendations can or will prevent any occurrences of Covid-19 or any other airborne hazards.

1.1 Summary of Observations

Fuss & O'Neill, Inc. (F&O) visited the Thomas Edison Middle School on July 29, 2020 to review the items contained within these checklists. The following deficiencies were noted during the walk-down and through conversations with facility personnel. This list does not exclude other items in the checklists that follow. All items should be reviewed with school staff and facility personnel for inclusion in potential Covid-19-related renovation efforts.

System Summary:

- The Thomas Edison Middle School was built in 1999. The systems have not been altered in that time.
- The HVAC systems include the following:
 - Air handling units (AHU) serve with hydronic heating and cooling coils serve the majority of the building. Areas served by AHU's recirculate indoor air and incorporate energy recovery wheels to save energy. These units utilize outdoor air dampers to ventilate the spaces served. All AHU units have variable frequency drives (VFD) to control supply and exhaust fans. All AHUs have variable frequency drives (VFD) to control supply and exhaust fans.
 - The AHUs contain 2" MERV 8 pre-filters and 8" MERV 10 post-filter cartridges.
 - Hydronic fan coil units (FCU) are installed to fine tune space temperature in zones served by AHU's.
 - Hydronic cabinet heaters are installed at building entrances and stairwells.
 - Hydronic finned tube radiation is located on exterior walls under windows.
 - Some classrooms have operable windows.

General:

- Model HF9000 VFD's are missing readout screens. VFD's are still readable by BAS.

Nurse's Station:

- The Nurse's station consists of a waiting area, reception desk with shared laydown area, dedicated bathroom, storage room, 2 exam rooms and communal patient laydown area.
- Air returns to the air handler are via plenum return.
- Bathrooms have dedicated exhaust.
- The school has currently implemented what modifications they can without a significant renovation to minimize airborne virus transmission. Portable HEPA air filters are being incorporated into each patient area.

Controls:

- The building is monitored and controlled by a campus-wide energy management system (EMS), also known as a building management system (BAS). The BAS is capable of reading and controlling all available equipment, including exhaust fans. Points include room relative humidity, carbon dioxide ppm, temperature, and status. Trend logs for the previous 30 days are accessible by the automation contractor (CTC).
- All equipment, including exhaust fans, are capable of control through the BAS.
- Ventilation is currently controlled via room CO2 sensors through the BAS.

Air Distribution & Filtration:

- Both pre- and post-filters are in need of replacement. Some filters had blown apart due to fan pressure against significant filter debris.
- No blocked air grilles or diffusers were noted.
- No indoor air quality issues were noted.
- Some areas have supply and return grilles less than 10 feet apart, which may lead to short-cycling.
- The nursing station currently recirculates air into other parts of the building.
- All air handling unit MERV 10 final filters were changed in 2017.
- Discoloration was witnessed on locker room diffusers, indicating debris in the ductwork.

HVAC Systems:

- No water treatment services have been retained for chilled and hot water loop chemical testing.

1.2 Summary of Recommendations

General:

- Incorporate policies to support reopening; See Checklist 1.
- Replace/repair VFD's with missing screens.
- Further commissioning is not recommended for this facility.

Nurse's Station:

In the future, during a significant renovation, the nursing station should be evaluated for renovation to provide a dedicated HVAC system per the guidance in

- Checklist 2. Additional exhaust fans, dampers and controls may be required to comply with recommended alterations.
- One exam room can be converted into an isolation room.
- The school has purchased a portable HEPA filter for use during the school year. These units will recirculate isolation room air and help control viral loads in the nursing station.

Controls:

- Run exhaust fans continuously during occupied mode.
- Space conditions should adhere to recommended by ASHRAE in Checklist 3 to limit mold growth as well as virus transmission and survivability.
- Alter ventilation schedule per Checklist 3. Override automatic outdoor air controls to increase ventilation to the extent possible by the system.

Air Distribution & Filtration:

- Replace air handling unit MERV 10 filters with high-capacity MERV 13 filters. In most cases, MERV 8 filters are upstream of the existing MERV 10 cartridge filters. Change filters regularly.

HVAC Systems:

- Retain a water treatment service to ensure hydronic loop chemical quality is maintained.

Domestic Water Systems:

- Ensure plumbing traps are full of water to prevent sewer gases and viruses from entering inhabited spaces.

2 Checklist 1: General District Recommendations

2.1 Determining Building Readiness

- Create a District or Campus Health and Safety Committee that includes all stakeholders (environmental health and safety, administration, education staff, operations staff, local healthcare providers, etc.)
- Develop policies for staff and contractor PPE requirements for completing work at facilities that follow local authority, CDC, and OSHA guidelines for the proper use of Personal Protective Equipment (PPE).
- Where semi-annual / annual scheduled maintenance on the equipment can be performed safely, do not defer this maintenance cycle.
- Where worker safety could be at risk, defer semi-annual/ annual maintenance on the equipment up to 60 days until worker safety can be accomplished.
- Operate all HVAC in occupied mode for a minimum of one week prior to occupancy.
- Discuss with the entire facilities team and school administrators the general principles about what changes are planned to the usual ventilation system operation for the coming year.
- Develop a system for building users to notify the facilities department if the building needs to be open longer than usual so that the fan schedule can be altered for that day.
- Develop standards for frequency of filter replacement and type of filters to be utilized. When feasible, filters may be cleaned by lightly spraying with a 10% bleach solution or other appropriate disinfectant, approved for use against SARS-CoV-2, before removal. Filters should be handled by staff using proper PPE. Filters may be disposed of in regular trash after disinfecting.
- Do not allow teachers or other staff to make changes to ventilation system controls in their respective rooms. Explain to them the importance of keeping fans running all day. If temperature, noise, or other issues exist in certain areas, encourage staff to discuss the problem with the facilities department to try to identify a suitable fix that does not negatively impact ventilation.

3 Checklist 2: Facility Checks Prior to Start of Classes

3.1 General

- Review existing Indoor Air Quality issues, if any, records of documents and investigate current status of complaint and address any deficiencies identified, if possible.

Note: None referenced.

- General inspection of spaces to identify any potential concerns for water leaks or mold growth that could negatively impact occupant health.

Note: See Executive Summary.

- Coordinate with local utilities to identify when buildings will be restarted, identify when systems will be operated (if different than prior operations) and identify that demands may increase (primarily electric but gas may apply as well for some facilities).

3.2 Nurse's Station

3.2.1 Minimum Provisions

The nurse's station should include, at minimum, the following:

- Dedicated bathrooms.
- Anteroom/Protective Equipment Room.
- Normal non-isolation nursing office.

Note: See Executive Summary.

- Provisions for Biohazard waste.

3.2.2 Isolation Rooms

- Evaluate the addition of an isolation room to the Nurse's Station. This room will contain 1 bed per room.

Note: One office can be converted to isolation room.

- If a retrofit is not possible, temporary nurse's station trailers are recommended.

Note: Not required.

- For isolation rooms to be used for holding sick students prior to dismissal, consider adding supplemental filtration, such as a portable air cleaner. This is particularly important if the ventilation serving those rooms cannot be run at 100% exhaust at all times. If a portable air cleaner is used, it should:
 - Contain HEPA filters only without ionizers, ozone generators, UV light, or other add-ons.
 - Be located for greatest efficiency within the space.
 - Be turned on at all times that the space is occupied.
- Passive isolation may be maintained by isolating patient in a room.



3.2.3 HVAC Operation and Scheduling Guideline

- Normal Mode (Supplementary HVAC systems)
 - Cooling, Heating, Ventilation - per normal school schedule (occupied/unoccupied)
 - Exhaust fans - per normal school schedule (occupied/unoccupied), might be OFF during unoccupied hours

Normal Mode

- For the “Normal Mode,” the HVAC system can be a (supplementary) standard HVAC system per typical current design practices.
- Follow CDC guidelines for supply air return air paths. Follow design guidelines for location of OA intakes and exhaust air from exhaust fans.

Note: Recommend implementation during significant renovation.

- Maintain pressure relationship for room, ante room and corridor, per CDC and DPH guide-lines.
- HEPA filter to return is acceptable for a small surge in cases

3.3 HVAC System Startup

3.3.1 Re-Opening HVAC Procedures

- Commission building mechanical systems for full occupancy.
- Operate HVAC to maintain human comfort while reducing potential spread of pathogens and mold growth. Maintain temperatures between 68-78 degrees F dry bulb and 40-60% relative humidity per ASHRAE guidelines.
- Trend and monitor temperature and humidity levels in each space to the extent possible and within the capability of BAS, portable data loggers and handheld instruments.

Note: Some rooms may have short cycling issues due to close proximity of supply and return grilles.

- Have airflows and building pressurization measured/balanced by a qualified Testing, Adjusting and Balancing (TAB) service provider, as recommended by ASHRAE.
 - Have airflows and system capacities reviewed by design professionals to determine if additional ventilation can be provided without adversely impacting equipment performance and building Indoor Environmental Quality (IEQ).
 - Measure building pressure relative to the outdoors. Adjust building air flows to prevent negative pressure differential.

3.3.2 Ventilation

- Review air distribution conditions of existing spaces (look for covered diffusers, blocked return grilles, overly closed supply diffusers/registers and return/exhaust grilles creating short cycling, possible measurements of airflows by commissioning or balancing professionals, possible review of overall system configuration by design professional, etc.)

Note: No covered grilles, some rooms may have short cycling issues due to close proximity of supply and return grilles.

- Reduce recirculation to the extent possible allowed by the air handling system to avoid contamination in supply air.

- If Demand-Controlled Ventilation (DCV) systems using Carbon Dioxide (CO₂) sensors are installed, operate systems to maintain maximum CO₂ concentrations of 800-1,000 Parts Per Million (ppm) in occupied spaces:
 - Trend and monitor levels continuously if controls system is capable of doing so.
 - Determine if DCV can be temporarily disabled. If so, maximize outdoor air while operating under infectious disease crisis.
- Verify how ventilation is controlled by the BAS. Confirm if the BAS currently supports occupancy overrides. If possible, override CO₂ sensors to maximize outdoor air.

Note: Ventilation is controlled by CO₂ sensors within each room. The DDC does support occupancy overrides.

- Modulate outdoor air damper to maintain ASHRAE recommended indoor conditions.
- Perform Initial Air Flush of All Spaces Prior To Occupants Re-Entering Building
 - Mechanical systems should operate in occupied mode for minimum period of one week prior to students returning (may be completed at same time as teachers start returning to building) while assuring the outside air dampers are open.
 - Operate all ventilation systems at full capacity for one week prior to occupancy per DPH Guidance.
- Separate, free-standing air cleaner or HEPA filter units are not recommended for individual classrooms. These units are highly variable in their effectiveness in larger open spaces such as classrooms and in general, any effect on indoor air quality is likely insignificant and greatly outweighed by the additional costs to school systems.

3.3.3 Filtration

- Verify filters are installed correctly in all mechanical equipment.
- Verify that all filters are clean and free of debris. Replace filters if necessary.
- Evaluate if existing equipment can accept MERV 13 filters. If so, install high-capacity MERV 13 filters.

3.3.4 Space Air Flow Patterns

- Ensure airflow patterns in classrooms are adjusted to minimize occupant exposure to particles.
- Recommended design guidance supply high, return low.

Note: Evaluate during major renovation.

3.4 Domestic Water System

- Systems should be flushed to remove potential contaminants from stagnant equipment, piping, fixtures, etc.
 - Domestic cold-water systems should be flushed with all fixtures on a branch of piping opened simultaneously for a minimum period of five minutes – preferred approach is to have all building fixtures open at same time if possible – if not, care should be taken to ensure flow rate is adequate to flush piping mains and branch lines.
 - Domestic hot water systems should be flushed with all fixtures on a branch of piping opened simultaneously for a minimum period of 15 minutes – preferred approach is to have



all building fixtures open at same time if possible – if not, care should be taken to ensure flow rate is adequate to flush piping mains and branch lines.

- All plumbing traps should contain water to avoid transmission through dry traps.

4 Checklist 3: HVAC System Operation during the Academic Year

4.1 Scheduling

- Change the start of operation hours (e.g. change 6 am start to 4 am). The goal is to create a thermal lag and minimize HVAC operations when occupied.

4.2 Air Handling Units and Packaged Rooftop Units

- Increase Filtration to that recommended in the Filtration Upgrade section below. For existing units, an increase in filtration efficiency may reduce airflow capacity.
- Compensate for loss of capacity in summer with lower discharge temps off of AHU – recommend 52 F (this is mainly for VAV units where supply air temperature is controlled and due to additional pressure drop associated with higher efficiency filters).
- Check and fix economizer dampers and controls and maximize the economizer operation when possible (favorable outdoor conditions and outdoor air pollution).
- Check, fix and modify control sequences in VAV systems to avoid outdoor air flow /minimum OA air flow shortage.
- In VAV systems maximize the total supply air flow in each VAV terminal when the system is in full economizer mode.
- Minimize the unit air recirculation to minimize zones cross contamination thru the return air system.

4.3 Ventilation

- Perform a daily air flush prior to occupancy: Mechanical Systems should be operated in occupied mode (including normal or peak outside air rate introduced to each space) for minimum period of 2 hours prior to occupants re-entering building and 1 hour after occupancy with the dampers fully open to maximize fresh air intake. Where possible, this controls sequence should be programmed into the building occupancy schedule.
- Keep the ventilation system running during all hours that the building is occupied.
- Keep bathroom exhaust systems running all day, every day (24 hours a day/7 days a week).
- Where temperature allows and no other means of ventilation is available, windows should be opened to allow for some minimum level of fresh air exchange into occupied spaces.
- For nursing station ventilation, see Nursing Station Section

4.4 Exhaust Fans

- Run Exhaust Fans 24/7 during school days (not weekend operation). Run AHU's for makeup air.

4.5 Energy Recovery Ventilation (ERV) Systems

- ERV's may be within AHU's, DOAS or as standalone systems. Determine location and type of each ERV, as well as manufacturer Exhaust Air Transfer Rate, which predicts leakage between supply and exhaust streams.
- Configurations where the outdoor air supply fan is located downstream of the wheel and the return air fan is located upstream of the wheel should **not** be used, as leakage will return contaminated air to the supply stream.

4.6 Local HVAC Units

Includes Fan Coils and Radiators/Baseboards

- Increase Filtration to the maximum MERV suggested by the manufacturer.
- Compensate for loss of capacity in winter with portable plug in electric heaters or higher discharge temps.
- Hydronic baseboard can remain operational.
- Install Portable humidifiers in each classroom for local humidity control.

4.7 Domestic Water Systems

- Keep plumbing traps full of water to avoid transmission through dry traps.

5 School Administration K-12 Readiness and Planning

5.1 General Readiness Assessment

5.1.1 Policies and Procedures

- Review relevant local/state regulatory agency policies and orders, such as those related to events, gatherings, and travel.
- Consult local health officials about the school's approach to planning for COVID-19.
- Designate a staff person responsible for responding to COVID-19 concerns. Make sure other staff, parents, and students know how to contact this person.



- Develop policies that encourage sick staff members to stay at home without fear of job loss or other consequences and protect their privacy, particularly for those with underlying medical conditions and at higher risk for severe illness.
 - Offer options (e.g., telework or virtual learning opportunities) for staff and students at higher risk for severe illness.
 - Offer flexible sick leave policies and practices.
 - Offer options for flexible worksites (e.g., telework) and flexible work hours (e.g., staggered shifts).

- Develop a plan to monitor absenteeism of students and staff, cross-train staff, and create a roster of trained back-up staff.

- Monitor absenteeism of students and staff, cross-train staff, and create a roster of trained back-up staff.

- Develop a plan to conduct daily health checks (e.g., temperature screening and/or symptom checking) of staff and students, as possible, and in accordance with any applicable privacy laws and regulations.

- Develop a plan for organizing students and staff into small groups (cohorting) that remain together while social distancing, with limited mixing between groups (all school day for young students, and as much as possible for older students).

- Develop appropriate COVID-19 accommodations, modifications, and assistance for students with special healthcare needs or disabilities.
 - Incorporate considerations for students in special education who have a 504 plan or individualized education plan to ensure education remains accessible.
 - Incorporate considerations for children and youth who need assistance with activities of daily living, as well as their service providers.

- Develop a plan for serving students individually plated, boxed, or wrapped meals in classrooms instead of in a cafeteria, or for implementing staggered mealtimes to reduce the number of students or small groups within a cafeteria.

- Develop protocols to limit contact among small groups and with other student's guardians (e.g., staggered arrival and drop-off times or locations).

- Develop a plan for if someone gets sick or shows symptoms of COVID-10.

- Other: _____

5.1.2 Facilities and Supplies

- Obtain supplies including:
 - Soap



- Hand sanitizer (at least 60% alcohol)
 - Paper towels
 - Tissues
 - Cleaning and disinfecting supplies
 - Cloth face coverings (as feasible)
 - No-touch/foot pedal trash cans
 - No-touch soap/hand sanitizer dispensers
 - Disposable food service items
 - Other: _____
-
- Develop a schedule for increased routine cleaning and disinfecting in collaboration with maintenance staff, including areas such as the following:
 - Buses or other transport vehicles
 - Frequently touched surfaces (e.g., desks, door handles, railings)
 - Communal spaces (e.g., restrooms)
 - Shared objects (e.g., gym equipment, art supplies, games)
 - Other: _____
-
- Assess the ability of staff, students, and families to obtain cloth face coverings for everyday use.
 - Close communal spaces or develop a plan for staggered use and cleaning and disinfecting.
 - Develop a protocol to ensure safe and correct use and storage of cleaners and disinfectants, including storing products securely away from students.
 - Ensure ventilation systems operate properly. If using fans, make sure they do not blow from one person onto another.
 - Ensure all water systems and features are safe to use after a prolonged facility shutdown.
 - Follow CDC's considerations for Pools, Hot Tubs, and Water Playgrounds during COVID-19 if applicable.
 - Install physical barriers, such as sneeze guards and partitions, in areas where it is difficult for individuals to remain at least 6 feet apart (e.g., reception desks).
 - Provide physical guides, such as tape on floors and signs on walls, to promote social distancing.
 - Space seating at least 6 feet apart and turn desks to face in the same direction.
 - Develop protocol to increase circulation of outdoor air as much as possible throughout the school day (e.g., opening windows and doors when it is safe to do so).
 - Develop a protocol to monitor and ensure adequate supplies to minimize sharing of objects, or limit use to one group of students at a time, and clean and disinfect between use.

Encourage organizations that share the school facilities to follow these considerations.

Other: _____

5.1.3 Education and Training

Educate staff, students, and their families about when they should stay home if they have COVID-19 symptoms, have been diagnosed with COVID-19, are waiting for test results, or have been exposed to someone with symptoms or a confirmed or suspected case, and when they can return to school.

Educate staff on flexible work and leave policies that encourage sick staff members to stay at home without fear of job loss or other consequences.

Teach the importance of handwashing with soap and water for at least 20 seconds.

Teach the importance of social distancing and staying with small groups, if applicable.

Identify who should wear cloth face coverings, and communicate the importance of wearing them.

Cloth face coverings should not be placed on:

Children younger than 2 years old

Anyone who has trouble breathing, or is unconscious, incapacitated, or otherwise unable to remove the cover without help.

Provide information on proper use, removal, and washing of cloth face coverings.

Train staff on all safety protocols.

Conduct training virtually or maintain social distancing during training

Other: _____

5.1.4 Communication and Messaging

Point Person: Assistant Superintendent Michael Grove

Post signs in highly visible locations to promote everyday protective measures and describe how to stop the spread of germs. Signage locations include:

Entrances

Dining areas

Restrooms

Classrooms

Administrative offices

Cafeteria

Auditorium



- Janitorial staff areas
- Other: _____

- Develop plans to include messages (e.g., videos) about behaviors that prevent spread of COVID-19 when communicating with staff and families on:
 - Websites
 - Email
 - Social media accounts
 - Other: _____

- Develop plans to broadcast regular announcements on reducing the spread of COVID-19 on PA systems or during morning announcements.

- Consider posting signs for the national distress hotline: 1-800-985-5990, or text TalkWithUs to 66746.

- Notify all staff and families of who to contact for questions and concerns related to COVID-19.

- Ensure communication is developmentally appropriate and accessible for all students, including those with disabilities.

- Other: _____

5.1.5 Gatherings, Visitors, and Events

- Review local/state regulatory agency policies related to group gatherings to determine if events (e.g., sport games, extracurricular activities) can be held.

- Identify opportunities to pursue virtual group events, gatherings, or meetings, if possible, and develop a protocol to limit those where social distancing cannot be maintained.

- Develop a protocol to limit nonessential visitors, volunteers, and activities involving external groups or organizations as much as possible— especially those who are not from the local geographic area (e.g., community, town, city, country).

- Identify opportunities to pursue virtual activities and events, such as field trips, student assemblies, special performances, school-wide parent meetings, and spirit nights, if possible.

- If offering sporting activities, develop a plan to follow considerations that minimize transmission of COVID-19 to players, families, coaches, and communities.

- Identify and prioritize outdoor activities where social distancing can be maintained as much as possible.

- Other: _____



5.1.6 Action Planning – Notes and Next Steps

Use this space to note any required resources and next steps, or potential barriers and opportunities:

All air systems have been put in occupied mode 24/7 prior to the start of school. All outside air dampers have been tested by our in-house HVAC tech along with our HVAC contractor (CTC).
All air handlers have been cleaned and disinfected.

5.2 Daily/Weekly Readiness Assessment

5.2.1 Policies and Procedures

Point Person: *Assistant Superintendent Michael Grove*

- Maintain regular contact with local health authorities and review relevant local/state regulatory agency policies and orders for updates.
- Ensure a staff person is assigned to respond to COVID-19 concerns.
- Monitor absenteeism of students and staff.
- Ensure roster of trained back-up staff is updated.
- Conduct daily health checks (e.g., temperature screening and/or symptom checking) of staff and students, as possible, and in accordance with any applicable privacy laws and regulations.
- Ensure students are kept together in small groups with dedicated staff and remain with the same group throughout the date, every day, if possible.
- Monitor and ensure appropriate accommodations, modifications, and assistance for students with special healthcare needs or disabilities.
 - Ensure education remains accessible for students in special education who have a 504 plan or individualized education plan.
 - Ensure safety for children and youth who need assistance with activities of daily living, as well as their service providers.

- Adhere to and review protocols to limit contact between small groups and with other students' guardians.
- Ensure small groups maintain a physical distance of at least 6 feet to avoid mixing between groups, if possible.
- Ensure students eat in separate areas or with their small group.
- Ensure each student's belongings are separated from others' and in individually labeled containers, cubbies, or designated areas.
- Ensure limited sharing of electronic devices, toys, books, and other games or learning aids, and clean and disinfect between users.
- Other: _____

5.2.2 Facilities and Supplies

- Monitor and restock supplies including:
 - Soap
 - Hand sanitizer (at least 60% alcohol)
 - Paper towels
 - Tissues
 - Cleaning and disinfecting supplies
 - Cloth face coverings (as feasible)
 - No-touch/foot pedal trash cans
 - No-touch soap/hand sanitizer dispensers
 - Disposable food service items
 - Other: *No touch trash can has been placed in nurses station for PPE disposal.*
- Monitor adherence to the schedule for increased, routine cleaning and disinfection of:
 - Buses or other transport vehicles
 - Frequently touched surfaces (c.g., desks, door handles, railings)
 - Communal spaces (c.g., restrooms)
 - Shared objects (c.g., gym equipment, art supplies, games)
 - Other: _____
- Monitor availability and use of gloves when food is prepared and served, and when handling and disposing of trash.
- Monitor safe and correct use and storage of cleaners and disinfectants, including storing products securely away from students.

- Ensure that there is adequate ventilation when cleaners and disinfectants are used to prevent students or staff from inhaling toxic fumes.
- Ensure ventilation systems operate properly.
- Ensure seating is spaced at least 6 feet apart and that desks remain facing the same direction.
- In transport vehicles, ensure one student per row, skipping rows when possible.
- For communal spaces, ensure staggered use, and cleaning and disinfecting frequently touched surfaces and shared objects between users.
- Increase circulation of outdoor air as much as possible throughout the school day (e.g., opening windows and doors when it is safe to do so).
- Ensure adequate supplies (e.g., writing utensils, art supplies) to minimize sharing of frequently touched surfaces and shared objects, and monitor cleaning and disinfecting between use.
- Other: _____

5.2.3 Education and Training

- Educate staff, students, and their families about when they should stay home if they have COVID-19 symptoms, have been diagnosed with COVID-19, are waiting for test results, or have been exposed to someone with symptoms or a confirmed or suspected case, and when they can return to school.
- Educate staff on flexible work and leave policies that encourage sick staff members to stay at home without fear of job loss or other consequences.
- Reinforce and monitor handwashing with soap and water for at least 20 seconds.
- Reinforce the importance of social distancing and staying with small groups, if applicable.
- Encourage covering coughs and sneezes with a tissue, and then washing hands with soap and water for at least 20 seconds.
- Reinforce the use of cloth face coverings, and communicate the importance of wearing them. Cloth face coverings should not be placed on:
 - Children younger than 2 years old
 - Anyone who has trouble breathing, or is unconscious, incapacitated, or otherwise unable to remove the cover without help.
- Provide information on proper use, removal, and washing of cloth face coverings.

- Train staff on all safety protocols.
 - Conduct training virtually or maintain social distancing during training

Other: _____

5.2.4 Communication and Messaging

- Continue to post or update signs in highly visible locations to promote everyday protective measures and describe how to stop the spread of germs. Signage locations include:
 - Entrances
 - Dining areas
 - Restrooms
 - Classrooms
 - Administrative offices
 - Cafeteria
 - Auditorium
 - Janitorial staff areas
- Other: _____

- Continue to provide or update messages (c.g., videos) about behaviors that prevent spread of COVID-19 when communicating with staff and families on:
 - Websites
 - Email
 - Social media accounts
- Other: _____

- Broadcast regular announcements on reducing the spread of COVID-19 on PA systems or during morning announcements.

- Ensure all staff and families know which staff person is responsible for responding to COVID-19 concerns and how to contact this person.

- Encourage staff and students to take breaks from watching, reading, or listening to news stories about COVID-19, including social media if they are feeling overwhelmed or distressed.

- Promote healthy eating, exercising, getting sleep, and finding time to unwind.

- Encourage staff members and students to talk with people they trust about their concerns and how they are feeling.

- Ensure communication is developmentally appropriate and accessible for all students, including those with disabilities.

Other: _____

5.2.5 Gatherings, Visitors, and Events

- Continue to encourage social distancing of at least 6 feet between people who don't live together at group events, gatherings, or meetings, including outdoor activities.
- Continue to restrict non-essential visitors, volunteers, and activities involving external groups or organizations – especially those who are not from the local geographic area (e.g., community, town, city, country).
- Continue to pursue virtual activities and events in lieu of field trips, student assemblies, special performances, school-wide parent meetings, and spirit nights, if possible.
- Continue to follow considerations for students and staff participating in sporting activities.
- Continue to offer pre-packaged boxed or bagged meals at events or gatherings and use disposable food service items.
- Other: _____

5.2.6 Action Planning – Notes and Next Steps

Use this space to note any required resources and next steps, or potential barriers and opportunities:

5.3 Preparing for if Someone Gets Sick

5.3.1 Before Someone Gets Sick

- Make sure staff and families know they should not come to school, and that they should notify school officials if they have COVID-19 symptoms, are diagnosed with COVID-19, are waiting for test results, or have been exposed to someone with symptoms or a confirmed or suspected case.
- Develop systems to:

- Have individuals self-report to administrators if they have symptoms of COVID-19, have been diagnosed with COVID-19, are waiting for test results, or were exposed to someone with COVID-19 within the last 14 days.
- Notify individuals of closures and restrictions put in place to slow the spread of COVID-19.
- Develop policies for returning to school after COVID-19 illness. CDC's criteria to discontinue home isolation and quarantine can inform these policies.
- Identify an isolation room or area to separate anyone who has COVID-19 symptoms or who has tested positive but does not have symptoms.
- Establish procedures for safely transporting anyone who is sick to their home or to a healthcare facility, if necessary.
- Develop a plan to support staff, students, and families experiencing trauma or challenges related to COVID-19.
- Other: _____

5.3.2 When Someone Gets Sick

- Immediately separate individuals with COVID-19 symptoms or who test positive for COVID-19.
- If necessary, transport sick individual(s) home or to a healthcare facility, depending on how severe their symptoms are.
- If calling an ambulance or bringing someone to a healthcare facility, alert them ahead that the person may have COVID-19.
- Close off areas used by a sick person and do not use these areas until after cleaning and disinfecting them (for outdoor areas, this includes surfaces or shared objects in the area, if applicable).
- Advise sick individuals that they should not return to school until they have met CDC's criteria to discontinue home isolation.
- Other: _____

5.3.3 After Someone Gets Sick

- In accordance with state and local laws and regulations, notify local health officials, staff, and families of cases of COVID-19 while maintaining confidentiality in accordance with the Americans with Disabilities Act (ADA).
- Notify individuals of closures and restrictions put in place due to COVID-19 exposure.



- Advise those who have had close contact with a person diagnosed with COVID-19 to stay home, self-monitor for symptoms, and follow CDC guidance if symptoms develop.
- Wait at least 24 hours before cleaning and disinfecting. If 24 hours is not feasible, wait as long as possible. Ensure safe and correct use and storage of cleaning and disinfecting products, including storing them securely away from children.
- Other: _____

Notes and Next Steps:

5.4 Special Considerations and Resources

Use this space to note any modifications necessary for specific groups within the school community, as well as any other considerations specific to the context of the school community.



6 Appendix A: Routine HVAC Preventative Maintenance Items

6.1 Daily Maintenance

Cleaning:

- All areas that have been occupied after previous cleaning efforts should be re-cleaned.
- All restrooms should be thoroughly cleaned.
- All food preparation areas should be thoroughly cleaned.
- Any spaces not previously cleaned should have all accessible surfaces properly cleaned.

6.2 Monthly Maintenance

Boilers

- Perform chemical testing of system water. Verify water treatment target levels are being maintained.
- For systems using natural gas:
 - Check gas pressure, gas valve operation, and combustion fan operation.
 - Check for evidence of leakage of fuel supply, heat transfer fluid, and flue gas.
- Verify proper operation of safety devices per manufacturer's recommendations.

Chilled Water, Hot Water Systems

- Perform chemical testing of system water. Verify water treatment target levels are being maintained.
- Check for proper fluid flow and for fluid leaks. If necessary, vent air from system high points and verify backflow preventers and pressure regulating valves on makeup water lines are functioning properly.
- Check the control system and devices for evidence of improper operation.
- Verify control valves operate properly.
- Check variable-frequency drives for proper operation.
- Check expansion tanks and bladder type compression tanks have not become waterlogged.

Air Cooled Chillers

- Check the refrigerant system for evidence of leaks.
- Check and clean fan blades and fan housing.
- Check coil fins and check for damage.
- Check for proper evaporator fluid flow and for fluid leaks.

Air Handling Units

- Check for particulate accumulation on filters, replace filter as needed.
- Check P-trap on drain pan.
- Check the control system and devices for evidence of improper operation.



- Check variable-frequency drive for proper operation.
- Check drain pans for cleanliness and proper slope.
- Verify control dampers operate properly.
- Confirm AHU is bringing in outdoor air and removing exhaust air as intended.
- Verify filters are installed correctly.
- Follow filter replacement policy.
- Review condition of cooling coils in air handling equipment – if issues with condensate drainage are identified or biological growth is identified, corrective action should be taken to clean or repair.

Energy Recovery Ventilation Units

- Clean the unit with a vacuum to facilitate inspection.
- Clean the exchanger surface as recommended by the manufacturer, or simply clean the exchanger with a vacuum and soft brush (use a HEPA vacuum if possible, and always if the unit is inside a building).
- Check for gross leak paths between compartments that might result from age or deterioration. Check inside cabinet to see if light is coming in thru fastener holes or seams.
- Check that the bypass and other damper are operating properly, not jammed, and that the damper seals are in good condition.
- Also identify any bypasses between compartments.
- Check filters: dirty filters affect airflows and pressure differentials.

6.3 Annual Maintenance

Pumps

- Inspect pumps and associated electrical components for proper operation.
- Check variable-frequency drive for proper operation.
- Check the control system and devices for evidence of improper operation.