

Each building has been assessed for key factors to determine the potential risk of facilitating the spread of COVID-19 and/or other respiratory viruses. A summary of results for each building analyzed as part of this study is shown below.

Disclaimer – The purpose of this evaluation, and recommendations, is to provide F&T's professional opinion on best practices to reduce risk, as it relates to building mechanical and electrical systems. These recommendations are NOT intended to convey that the risk of Covid (or any other) infection would be completely eliminated by doing any (or all) of the recommendations. F&T is not evaluating other standard, social policies as well (limiting class room sizes, mask wearing, social distancing, etc.).

Building	Existing Risk Score	Improved Score	Risk Mitigation Strategies
<u>Fuller</u>	3.10	2.17	Maximize percentage of outdoor air at unit ventilators, Increase ventilation run time - building flush out, Provide in space HEPA filtration, Maximize ventilation at RTUs, provide space level CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation room, Increase exhaust run time for all other spaces.
McCarthy	2.64	2.21	Maximize percentage of outdoor air at unit ventilators, Maximize ventilation at RTUs, Increase ventilation run time - building flush out, Provide in space HEPA filtration, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office, increase exhaust to other areas.
Thayer	3.18	2.00	Increase ventilation run time - building flush out, Provide in space HEPA filtration, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from isolation room, increase exhaust to other areas.
Woodrow Wilson	2.48	1.82	Increase ventilation run time - building flush out, Replace central system filters with minimum MERV-13, Provide in space HEPA filtration, Maximize ventilation at RTUs, provide space level CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation room, Increase exhaust run time for all other spaces.
<u>Barbieri</u>	2.78	2.02	Provide minimum MERV-13 filters in all RTUs, Increase ventilation run time - building flush out, Provide in space HEPA filtration, Maximize ventilation at RTUs, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation room.
Brophy	2.78	2.07	Increase ventilation run time - building flush out, Provide in space HEPA filtration, Maximize ventilation at RTUs, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation room.
Dunning	2.84	2.17	Increase percentage of outdoor air at space level, Increase ventilation run time - building flush out, Provide in space HEPA filtration, Maximize ventilation at RTUs, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation room.
Walsh Middle School	3.08	2.22	Increase percentage of outdoor air at space level, Increase ventilation run time - building flush out, Provide in space HEPA filtration, Maximize ventilation at RTUs, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and increase exhaust run time in other areas.
Stapleton	2.90	2.13	Increase percentage of outdoor air at space level, Increase ventilation run time - building flush out, Provide in space HEPA filtration, Maximize ventilation at RTUs, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation rooms and increase exhaust run time in other areas.
<u>Hemenway</u>	2.76	2.28	Maximize percentage of outdoor air at unit ventilators, Increase ventilation run time - building flush out, Provide in space HEPA filtration, Maximize ventilation at RTUs, provide space level CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation room, Increase exhaust run time for all other spaces.
Cameron Middle School	2.76	2.02	Increase percentage of outdoor air at central systems, Increase ventilation run time - building flush out, Provide minimum MERV 13 filters in central systems, Provide in space HEPA filtration, Maximize ventilation at RTUs, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office.
Framingham High School	2.30	2.09	Maximize percentage of outdoor air at unit ventilators, Maximize ventilation at RTUs, increase ventilation run time - building flush out, Provide minimum MERV 13 filters in central systems, Provide in space HEPA filtration, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation rooms.
Potter Road School	2.86	2.10	Maximize percentage of outdoor air at unit ventilators, Maximize ventilation at RTUs, increase ventilation run time - building flush out, Provide in space HEPA filtration, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation rooms, increase exhaust run time to other areas.
King School	2.59	2.08	Maximize percentage of outdoor air at unit ventilators, Maximize ventilation at RTUs, Increase ventilation run time - building flush out, Provide in space HEPA filtration, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation rooms, increase exhaust to other areas.
Juniper Hill School	3.24	2.21	Maximize percentage of outdoor air at unit ventilators, Maximize ventilation at RTUs, Increase ventilation run time - building flush out, Provide in space HEPA filtration, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation rooms, increase exhaust to other areas.



Risk	Weight Factor
Airflow Pattern	16%
Ventilation	16%
Filtration	16%
Pressurization	10%
Scheduling	10%
Humidification	16%
Plumbing Operators	4%
Lighting controls	2%
Door Openers	10%
Total	100%

Score Scale									
No Updates Required	<1								
Low Risk	1-2								
Moderate Risk	2-3								
High Risk	3-4								

	Default Priority (1-
Space Type	10)
Typical Classrooms	1
Nurse's Office	2
Break rooms /Lounge	5
Cafeteria	5
Group Bathrooms	4
Assembly Areas	4
Library	4
Private Bathrooms	10
Special Needs	1
Gym	4
Administration	7
Kitchen	6
Specialty Classrooms (shop	
etc.)	2
Isolation Room	1
Locker Rooms	4



Barbieri School - COVID Risk Assessment - Proposed

Building Description Masonry building; 2 Levels (1, 2); flat, accessible roof

Basement space includes 2 classrooms with garden level windows

No substantial building renovations that have reconfigured architectural layout; no doors that apear to be rated; egress stairwells are not rated

enclosures

100 Dudley Road

112,000

Building Address 100 Duc Building Date (originally con 1974 Building Square Footage Proposed Scope of Work Provide Summary Provide Provide minimum MERV-13 filters in all RTUs, Increase ventilation run time - building flush out, Provide in space HEPA filtration, Maximize ventilation at RTUs, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's

Key Areas / Usage

									Recommende	Stratonic	ne .								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In- Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors		
mplementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling		Ventilation, airflow	Ventilation, scheduling	Ventilation		Ventilation, pressurization	Filtration	Ventilation, airflow pattern,	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling,		Plumbing operators
Risk Category Improment:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				pattern	· · · · · · · · · · · · · · · · · · ·					pressurization						controls		
Typical Classrooms	X	✓	✓	✓	✓	✓	✓	✓		✓		Х			X	X	X	Х	
Library	X	✓	✓	✓	✓		\	✓		✓		Χ			X	X	X	Х	
Cafeteria	Х	✓	✓	✓	✓		\	✓				Χ			Х		Х	Х	
Kitchen	Х	✓	✓	✓	✓			✓			✓	X			Х		X	Х	
Nurse's Office	Χ	✓	✓	✓	✓		\	✓		✓	✓	Χ		Χ	Х	Х	Х	Х	
Gym	Х	✓	✓	✓			✓	✓				Х			Х		Х	Х	
Private Bathrooms	Χ		✓								✓		X				Х	Х	X
Group Bathrooms	Х		✓								✓		X				Х	Х	X
Isolation Room	Х	√	√	7			7			√	7	X		√	Х	Х	X	Х	X
Auditorium	X	√	7	√			√	√				Х	-		Х		Х	Х	

X = applicable, ✓ = proposed

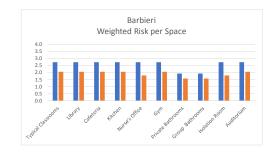
	Building Systems Risk Summary - Proposed												
	Rate 1-4, 1=meets ASHRAE design guidelines for COVID-19 or N/A, 2=adequate/meets code, 3=poor, 4= None												
	Weight Factor	Typical Classrooms	Library	Cafeteria	Kitchen	Nurse's Office	Gym	Private Bathrooms	Rathroome	Isolation Room		Category Averages	
Space Type	-	Typical Classrooms	Library	Cafeteria	Kitchen	Nurse's Office	Gym	Private Bathrooms	Group Bathrooms	Isolation Room	Assembly Areas		
Space Priority	-	1	4	5	6	2	4	10	4	1	4		
Airflow Pattern	16%	2	2	2	2	1	2	2	2	1	2	1.8	
Ventilation	16%	1	1	1	1	1	1	1	1	1	1	1.0	
Filtration	16%	1	1	1	1	1	1	1	1	1	1	1.0	
Pressurization	10%	2	2	2	2	1	2	2	2	1	2	1.8	
Scheduling	10%	1	1	1	1	1	1	1	1	1	1	1.0	
Humidification	16%	4	4	4	4	4	4	1	1	4	4	3.4	
Plumbing Operators	4%	3	3	3	3	3	3	3	3	3	3	3.0	
Lighting controls	2%	3	3	3	3	3	3	3	3	3	3	3.0	
Door Openers	10%	3	3	3	3	3	3	3	3	3	3	3.0	

Total 100%

Weighted Risk		2.1	2.1	2.1	2.1	1.8	2.1	1.6	1.6	1.8	2.1	
Weight Based on Priority		18%	10%	8%	5%	15%	10%	-4%	10%	18%	10%	100%
Weighted Score Based on Priority		0.4	0.2	0.2	0.1	0.3	0.2	0.0	0.2	0.3	0.2	2.0
Risk Multi	8.2											

School Score (1-4) 2.0 Moderate Risk Weighted Totals

Score Scale										
No Updates Required	<1									
Low Risk	1-2									
Moderate Risk	2-3									
High Risk	3-4									





Barbieri School - COVID Risk Assessment

	Descri	

Masonry building; 2 Levels (1, 2); flat, accessible roof

Basement space includes 2 classrooms with garden level windows

No substantial building renovations that have reconfigured architectural layout; no doors that apear to be rated; egress stairwells are not rated enclosures

Building Address

100 Dudley Road

Building Date (originally con 1974

Building Square Footage HVAC System Description

- * Hot water heat is provided by gas fired boilers and gas furnaces within the roof top units. There is no glycol in the system.
- 8 other key infrastructure
 observations

 * The gym is served by a roof top unit with overhead air distribution for heating and ventilation. It is not air conditioned.

 * The school is served by packaged roof top units that provide air for heating, cooling and ventilation. Air distribution in a * The school is served by packaged roof top units that provide air for heating, cooling and ventilation. Air distribution in each room is typically overhead via ceiling diffusers. Supplemental heating is provided in rooms via fin tube radiators.
 - * The building currently has a DDC control system to control heating.
 - * Private bathrooms and group bathrooms have manual light switch controls and are mechanically exhausted.
 - * The nurse's office is served by fin tube for heating. Ventilation is provided by operable windows. There is a window mounted A/C unit to
 - * The majority of lighting is operated by toggle type wall switches; one hallway and four recently renovated bathrooms have automatic lighting.
 - * The main office is served by fin tube for heating. Ventilation is provided by operable windows. There is a window mounted A/C unit to provide
 - * Building has a generator for backup power.
 - * The isolation room is within the nurses suite. The room has no windows, fin tube heat with a manual operator for control and two overhead air vents that appear to be supply.
 - * All plumbing fixtures are manually operated.
 - * The building has a backup generator.

Key Areas / Usage

									Recommende	d Strategie	S								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In- Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors		Plumb-1 Provide Sensor Ctrl on Plumb Fixtures
mplementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling	Filtration	Ventilation, airflow	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern,	Filtration		Airflow Pattern, pressurization	Humidification	Humidification	lighting		Plumbing operators
Risk Category Improment:					pattern						pressurization						controls		
Typical Classrooms	Х	Х	Х	Х	Х	Х	Х	Х		Х		Х			Х	Х	Х	Х	
Library	Х	X	X	Х	Х			Х		Х		Х			Х	Х	X	Х	
Cafeteria	Х	Х	Х	Х	Х		Х	Х				Х			Х		Х	Х	
Kitchen	Х	Х	Х	Х	Х			Х				Х			Х		Х	Х	
Nurse's Office	Х	Х	Х	Х	Х		Х	Х		Х		Х		Х	Х	Х	Х	Х	
Gym	Х	Х	Х	Х			Х	Х				Х			Х		Х	Х	
Private Bathrooms	Х		Х								Х		Х				Х	Х	Х
Group Bathrooms	Х		Х								Х		Х				Х	Х	Х
Isolation Room	Х	Х	Х	Х						Х		Х		Х	Х	Х	Х	Х	Х
Auditorium	Х	Х	Х	Х			Х	Х				X			Х		Х	Х	

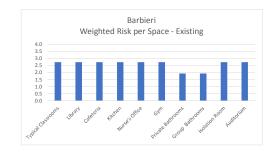
	Building Systems Risk Summary Rate 1-4, 1=meets ASHRAE design guidelines for COVID-19 or N/A, 2=adeguate/meets code, 3=poor, 4= None												
	Weight Factor	Typical Classrooms	Library	Cafeteria	Kitchen	Nurse's Office	Gym	Private Bathrooms	Group Bathrooms	Isolation Room	Auditorium	Category Averages	
Space Type	-	Typical Classrooms	Library	Cafeteria	Kitchen	Nurse's Office	Gym	Private Bathrooms	Group Bathrooms	Isolation Room	Assembly Areas		
Space Priority	-	1	4	5	6	2	4	10	4	1	4		
Airflow Pattern	16%	2	2	2	2	2	2	2	2	2	2	2.0	
Ventilation	16%	2	2	2	2	2	2	2	2	2	2	2.0	
Filtration	16%	3	3	3	3	3	3	1	1	3	3	2.6	
Pressurization	10%	3	3	3	3	3	3	3	3	3	3	3.0	
Scheduling	10%	2	2	2	2	2	2	2	2	2	2	2.0	
Humidification	16%	4	4	4	4	4	4	1	1	4	4	3.4	
Plumbing Operators	4%	3	3	3	3	3	3	3	3	3	3	3.0	
Lighting controls	2%	3	3	3	3	3	3	3	3	3	3	3.0	
Door Openers	10%	3	3	3	3	3	3	3	3	3	3	3.0	

Total 100%

Weighted Risk 2.7 2.7 2.7 2.7 2.7 2.7 1.9 1.9 2.7 2.7 Weight Based on Priority
Weighted Score Based on Priority 18% 10% 8% 5% 15% 10% -4% 10% 18% 10% 100% 0.5 0.4 0.3 2.8 Risk Multi 8.2

School Score (1-4) 2.8 Moderate Risk Weighted Totals

Score Sc	cale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Brophy School - COVID Risk Assessment - Proposed

Building Description	Masonry building; 2 Levels (1, 2,); flat, accessible roof No substantial building renovations that have reconfigured architectural layout; no doors that apear to be rated; egress stainwells are not rated enclosures
Building Address	575 Pleasant St.
Building Date (originally cor	1968
Building Square Footage	66,000
Proposed Scope of Work Summary	Increase ventilation run time - building flush out, Provide in space HEPA filtration, Maximize ventilation at RTUs, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation room.
Key Areas / Usage	Classrooms, music room, gym, library, nurse, pause, counseling, cafeteria and administration.

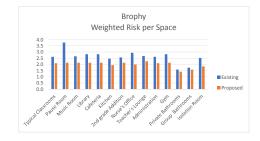
									Recommende	d Strategi	es								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In- Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Elec-2 Provide FA Hold-Opens for Fire Doors	Plumb-1 Provide Sensor Ctrl on Plumb Fixtures
mplementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
Risk Category improvement:	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling	Filtration	Ventilation, airflow pattern	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern, pressurization	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting controls		Plumbing operators
Typical Classrooms	✓		✓		✓	✓	✓	Х	X	✓	X		X	X		X	X	Х	X
Pause Room	✓	✓	✓	Х		✓	Х	X	Χ	✓	Х	X	X	X	X	X	X	Х	X
Music Room	✓		✓		✓	✓	✓	Х	X	✓	Х		X	X		X	X	Х	X
Library	✓		✓		✓	1	✓	X	Х	✓	Х		X	X		Х	X	Х	X
Cafeteria		✓	✓	Х	✓	1	✓			✓	Х	X	X	X	X		X	Х	X
Kitchen		✓	✓	Х	✓	✓	Х			X	Х	X	X	X	X		X	Х	X
2nd grade Addition		✓	✓	Х	✓	1	✓			✓	Х	X	X	X	X		X	Х	X
Nurse's Office	✓		✓		✓	1	✓	X	Х	✓	✓		X	✓		Х		Х	X
Teacher's Lounge	✓		✓		√	1	✓	Х	Х	✓	Х		X	Х		Х	X	Х	X
Administration	✓		✓		✓	1	✓	Х	X	✓	Х		X	X		Х		Х	X
Gym	✓	1	1	Х	✓	1	1	X	Х	✓	Х	X	X	Х	X	Х	X	Χ	X
Private Bathrooms			✓				Х				Х		X	X					Х
Group Bathrooms			✓				Х				✓		X	Х			X		Х
Isolation Room	✓	1	1	Х	✓	1	/	X	Х	1	✓	X	X	1	Х	X		X	X

X = applicable, ✓ = proposed

	Building Systems Risk Summary - Proposed															
R	ate 1-4, 1=meets AS	HRAE design gu	idelines for CC	VID-19 or N	A, 2=adequa	te/meets code	, 3=poor, 4= N	one								
	Weight Factor	Typical Classrooms	Pause Room	Music Room	Library	Cafeteria	Kitchen	2nd grade Addition	Nurse's Office	Lounge	Administration	Gym	Private Bathrooms	Group Bathrooms	Isolation Room	Category Averages
Space Type	-	Typical Classrooms	Specialty Classrooms (shop etc.)	Specialty Classrooms (shop etc.)	Library	Cafeteria	Kitchen	Typical Classrooms	Nurse's Office	Break rooms /Lounge	Administration	Gym	Private Bathrooms	Group Bathrooms	Isolation Room	
Space Priority (1-10)	-	1	2	2	4	5	6	1	2	5	7	4	10	4	1	
Airflow Pattern	16%	2	2	2	2	2	2	2	1	2	2	2 2	2 2	2 3	1	1.9
Ventilation	16%	1	1	1	1	1	1	1	1	1	1	1	1 1	1 1	1	1.0
Filtration	16%	2	2	2	2	2	3	2	2	2 2	2	2 2	2 1	1 1	2	1.9
Pressurization	10%	2	2	2	2	2	2	2	1	2	2	2 2	2 2	2 2	1	1.9
Scheduling	10%	1	1	1	1	1	1	1	1	1	1	1	<mark>1</mark> 1	1 1	1	1.0
Humidification	16%	4	4	4	4	4	1	4	4	1 4	4	1 4	1 1	1 1	4	3.4
Plumbing Operators	4%	1	1	1	1	1	4	1	4	4	1	1	1 4	1 4	1	2.1
Lighting controls	2%	1	3	3	3	3	3	3	3	3	1	1 3	3 3	3	1	2.6
Door Openers	10%	3	3	3	3	3	3	3	3	3	3	3	3 1	1	3	2.7
Total	100%	17	19	19	19	19	20	19	20) 22	. 17	7 19	9 16	5 17	' 15	
Weighted Risk Weight Based on Priority Weighted Score Based on Pri Risk Multi	ority 7.714285714	2.10 12% 0.3	11%	11%	7%		1.94 3% 0.1	2.14 12% 0.3	11%	5%	1%	7%	6 -4%	6 7%	12%	100%

School Score (1-4) 2.07 Moderate Risk Weighted Totals

Score Sc	ale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Brophy School - COVID Risk Assessment

ilding Description

Masonry building; 2 Levels (1, 2,); flat, accessible roof

No substantial building renovations that have reconfigured architectural layout; no doors that apear to be rated; egress stairwells are not rated

Building Address

Building Date (originally con 1968 **Building Square Footage**

HVAC System Description & other key infrastructure observations

575 Pleasant St.

- * The existing HVAC system includes a Trane packaged air handling unit with approximately 30% outdoor air to serve the core areas. The air handling unit includes a MERV-10 2" filter bank and the unit is provided with a hot water heating coil.
- * The gym includes a dedicated Sterling makeup air unit (MAU) and a dedicated exhaust fan. The makeup air unit does not include cooling. The space also includes passive releif louvers, ceiling fans and operable windows.
- * The cafeteria/auditorium has a dedicated makeup air unit (MAU) behind the stage and a dedicated exhaust fan. The space also has ceiling fans and operable windows
- * Hot water heat is provided by two (2) gas fired Cleaver Brooks boilers. The hot water system does not currently include glycol.
- * Typical classrooms are served by wall mounted unit ventilators that supplies outdoor air and heating to the space. The return to the unit ventilator is by a linear slot diffuser located at the bottom of the window. There is a wall mounted split chiller and an occupancy sensor for automatic controls are provided.
- * Kindergarten classrooms contain the same systems as a typical classroom and is provided to sinks with manual operators.
- * Some of the smaller classrooms are served by the main air handler and include perimeter hot water finned tube radiation when there is no unit ventilator. Some of these classrooms do not have windows.
- * The building currently has DDC controls and monitoring of outdoor air, static pressure, and airflows at BMS.
- * The library contains operable windows and manual light switches. Air is supplied from the Main AHU and air is exhausted to a return fan on the
- * Private and group restrooms both include exhaust.
- * Counseling areas do not have operable windows, there is a wall mounted air chiller and has an occupant sensor for automatic lighting controls. Outdoor air and heating are provided from a unit ventilator and air is exhausted to a return fan on the roof.
- * The teachers' lounge includes the same systems as a typical classroom.
- * The kitchen has exhaust hoods for food prep and the warewasher. Hood exhaust is manual on/off. An occupancy sensor for automatic lighting controls are provided and no there are no window
- * Group and private bathrooms have manual light switch controls.
- * The nurse's office has operable windows. Outdoor air and heating are provided from a unit ventilator and air is exhausted to a return fan on the roof. There is a bathroom, wall mounted air conditioner and manually operated lighting controls.
- * All plumbing fixtures have manual operators.
- * Pause room has no operable windows and no ventilation
- * Main office contains an occupant sensor for automatic lighting control and has operable windows. Air is supplied from the Main AHU and air is exhausted to a return fan on the roof.

Key Areas / Usage

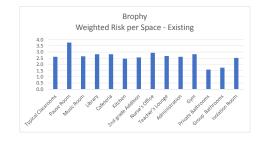
Classrooms, music room, gym, library, nurse, pause, counseling, cafeteria and administration.

									Recommende	d Strategie	es								
	HVAC-1	HVAC-2	HVAC-3	HVAC-4	HVAC-5	HVAC-6	HVAC-7	HVAC-8	HVAC-9	HVAC-10	HVAC-11	HVAC-12	HVAC-13	HVAC-14	HVAC-15	HVAC-16	Elec-1	Elec-2	Plumb-1
	Increase Vent Quantity	Increase Vent Fraction (Central	Increase Vent Running Time	Increase Filtration	Ensure Window Functionality	Improve Window/Door	Space CO2 Monitoring	Retro-CX Central Air Handlers	Retro-CX Space Terminal Units	Provide In- Space Air	Improve Exhaust from Spaces	Provide UV-GI Lights (Central	Provide UV-GI Lights (Within	Improve Air Flow Directivity (Spaces)	Add Humidification (Central Systems)	Add Humidification (Within Spaces)	Provide Lighting Occ Sensors	Provide FA Hold-Opens	Provide Sensor Ctrl on Plumb Fixtures
	(Space Level)	Systems)	Kulling Time	(Central	runctionality	Operations (keep	Wionitoring	naticies	Terminal Onits	Filtration	Spaces	Systems)	Spaces)	Directivity (Spaces)	(Central Systems)	(within spaces)	OCC Selisors	for Fire	Oli Fidilib Fixtures
		.,,		Systems)		open)						.,						Doors	
mplementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
		Ventilation,	Ventilation,	Filtration	Ventilation,	Ventilation,	Ventilation	Ventilation,	Ventilation,	Filtration		Filtration	scheduling	Airflow Pattern,	Humidification	Humidification	scheduling,	Door	Plumbing
Risk Category	pattern, pressurization	pressurization	scheduling			scheduling		pressurization	pressurization		airflow pattern,			pressurization			lighting	openers	operators
improvement:					pattern						pressurization						controls		
Typical Classrooms	X		Х		Х	X	Х	Х	Х	Х	Х		Х	X		Х	Х	Х	X
Pause Room	Х	Х	Х	Х		Х	Х	Х	X	х	X	Х	х	X	Х	Х	X	Х	Х
Music Room	Х		Х		Х	Х	Х	Х	Х	Х	Х		Х	Х		Х	Х	Х	Х
Library	Х		Х		Х	Х	Х	Х	Х	Х	Х		Х	Х		Х	Х	Х	Х
Cafeteria		Х	Х	Х	Х	Х	Х			Х	Х	Х	Х	Х	Х		Х	Х	Х
Kitchen		Х	Х	Х	Х	Х	Х			Х	Х	Х	Х	Х	Х		Х	Х	Х
2nd grade Addition		Х	Х	Х	Х	Х	Х			Х	Х	Х	Х	Х	Х		Х	Х	Х
Nurse's Office	Х		Х		Х	Х	Х	Х	Х	Х	Х		Х	Х		Х		Х	Х
Teacher's Lounge	Х		Х		Х	Х	Х	Х	Х	Х	Х		Х	Х		Х	Х	Х	Х
Administration	Х		Х		Х	Х	Х	Х	Х	Х	Х		Х	Х		Х		Х	Х
Gym	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
Private Bathrooms			Х				Х				Х		Х	Х					Х
Group Bathrooms			Х				Х				Х		Х	Х			Х		Х
Isolation Room	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х		Х	Х

						Buile	ding Systems	Risk Summar	у							
I	Rate 1-4, 1=meets AS	HRAE design gu	idelines for CC	VID-19 or N	/A, 2=adequa	ate/meets code	e, 3=poor, 4= N	one								
	Weight Factor	Typical Classrooms	Pause Room	Room	Library	Cafeteria	Kitchen	2nd grade Addition	Nurse's Office	Lounge	Administration		Private Bathrooms	Group Bathrooms	Isolation Room	Category Averages
Space Type	-	Typical Classrooms	Specialty Classrooms (shop etc.)	Specialty Classrooms (shop etc.)	Library	Cafeteria	Kitchen	Typical Classrooms	Nurse's Office	Break rooms /Lounge		Gym	Private Bathrooms	Group Bathrooms	Isolation Room	
Space Priority (1-10)	-	1	2	2	4	5	6	1	2	5	7	4	10	4	1	
Airflow Pattern	16%	2	4	2	3	3	3	2	3	2	2	2 3	3 2	2 3	3 2	2 2.6
Ventilation	16%	2	4	2	2	2	2	2	. 2	2	2	2 2	2 2	2 2	2 2	. 2.1
Filtration	16%	3	4	3	3	3	3	3	3	3	3	3	3 1	1 1	1 3	3 2.8
Pressurization	10%	3	4	3	3	3	3	2	. 3	2	3	3	3 2	2 2	2 2	2.7
Scheduling	10%	2	4	2	2	2	2	2	. 2	. 2	2	2 2	2 1	1 1	1 2	2.0
Humidification	16%	4	4	4	4	4	1	4	4	4	4	1 4	1 1	1 1	1 4	3.4
Plumbing Operators	4%	1	1	1	1	1	4	1	4	4	1	1	1 4	4 4	1 1	2.1
Lighting controls	2%	1	3	3	3	3	3	3	3	3	1	3	3	3	3 1	1 2.6 3 2.7
Door Openers	10%	3	3	3	3	3	3	3	3	3	. 3	3	3	1 1	1 3	2.7
Total	100%	21	31	23	24	24	24	22	27	25	21	1 24	17	7 18	3 20)
Weighted Risk Weight Based on Priority Weighted Score Based on Pr Risk Multi	iority 7.714285714	2.6 12% 0.3	11%		2.8 7% 0.2	5%	2.5 3% 0.1	2.6 12% 0.3	11%	5%	1%	7%	-4%	6 79	6 12%	6 100%

School Score (1-4) 2.8 Moderate Risk Weighted Totals

Score Sc	ale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Cameron Middle School - COVID Risk Assessment - Proposed

Building Description	Masonry building; 4 Levels (1, 2, 3, 4); flat, accessible roof, with mechanical penthouse Basement space includes 2 classrooms with garden level windows No substantial building renovations that have reconfigured architectural layout; no doors that apear to be rated; egress stairwells are not rated enclosures
Building Address	215 Flm Street
Building Date (originally co	n 1973
Building Square Footage	114,000
Proposed Scope of Work	Increase percentage of outdoor air at central systems, Increase ventilation run time - building flush out, Provide minimum MERV 13 filters in
Summary	central systems, Provide in space HEPA filtration, Maximize ventilation at RTUs, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office.
Key Areas / Usage	Classrooms, music room, gym, library, auditorium, art room, science room, nurse's office, cafeteria and administration.

									Recommende	ed Strategie	s								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors		
mplementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling	Filtration	Ventilation, airflow pattern	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern, pressurization	Filtration		Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting controls		Plumbing operators
Typical Classrooms		✓	✓	✓	✓	✓	✓	X		X	X	Х			X	Χ		Х	
Art Room		✓	✓	✓	✓	✓	✓	Х		Х	Х	Χ			Х	Х		Χ	X
Music Room		✓	✓	✓	✓	✓	✓	Х		Х	Х	Х			Х	X		Х	
Library		✓	✓	✓	✓	✓	✓	X		Χ	Х	Х			Х	X	X	Х	
Cafeteria		✓	✓	✓			✓	X		Х	X	Х			Х	Х	X	Х	X
Kitchen		✓	✓	✓			X	X		Χ	Х	Х			Х	X		Х	X
Auditorium		✓	✓	✓			✓	X		Х		Х	X	X	Х	X	X	Х	
Nurse's Office		✓	✓	✓	✓	✓	✓	X		Χ	✓	Х			Х	X		Х	X
Science Room		✓	✓	✓	✓	✓	✓	X		Х	X	Х			Х	Х		Х	X
Administration		✓	✓	✓	✓	✓	✓	X		Χ	Х	Х			Х	X		Х	X
Gym		7	√	√			1	X		Х	Х	Х			Х	Χ	X	Х	X
Private Bathrooms	√	, and the second	√						X		Х		X				X		X
Group Bathrooms	V = applicable = = = = = =		✓						X		X		Χ			X	Χ		Χ

X = applicable, ✓ = proposed

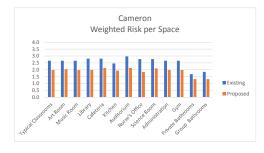
						Building Sy	stems Risk	c Summary - P	roposed						
Rat	e 1-4, 1=meets ASH	RAE design guid	lelines for CO	VID-19 or N/ <i>A</i>	A, 2=adequate	e/meets code	, 3=poor, 4=	None							
	Weight Factor	Typical Classrooms	Art Room	Music Room	Library	Cafeteria	Kitchen	Auditorium		Room	Administration	Gym		Group Bathrooms	Category Averages
Space Type	•	Typical Classrooms	Specialty Classrooms (shop etc.)	Specialty Classrooms (shop etc.)	Library	Cafeteria	Kitchen	assembly areas	Nurse's Office	Specialty Classrooms (shop etc.)	Administration	Gym		Group Bathrooms	
Space Priority (1-10)	-	1	2	2	4	5	6	4	2	2	7	4	10	4	
Airflow Pattern	16%	2	2	2	2	3	3	3	1	2	2	2	2 2	2	2.2
Ventilation	16%	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Filtration	16%	1	1	1	1	1	2	1	1	1	1	1	1	1	1.1
Pressurization	10%	2	2	2	2	2	2	2	1	2	2	2	1	1	1.8
Scheduling	10%	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0
Humidification	16%	4	4	4	4	4	1	4	4	4	4	4	1	1	3.3
Plumbing Operators	4%	1	1	1	1	1	4	1	4	4	1	1	4	4	2.2
Lighting controls	2%	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0
Door Openers	10%	3	3	3	3	3	3	3	3	3	3	3	3 1	1	2.7
Total	100%	18	18	18	18	19	20	19	19	21	18	18	3 15	15	
Weighted Risk Weight Based on Priority Weighted Score Based on Prio Risk Multi	rity 8.15	2.0 13% 0.3	12%	12%	8%	6%	4%	8%	12%	12%	2%	8%	-3%	8%	100% 2.0

School Score (1-4)

Weighted Totals

2.0 Moderate Risk

Score Sc	ale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Cameron Middle School - COVID Risk Assessment

	ildir			

Masonry building; 4 Levels (1, 2, 3, 4); flat, accessible roof, with mechanical penthouse

Basement space includes 2 classrooms with garden level windows

No substantial building renovations that have reconfigured architectural layout; no doors that apear to be rated; egress stairwells are not rated enclosures

Building Address

Building Date (originally con 1973

Building Square Footage

HVAC System Description & other key infrastructure observations

215 Flm Street

* The gym includes a dedicated makeup air unit (MAU) and a dedicated exhaust fan. The makeup air unit does not include cooling. The space also includes manually operated water fountain, manually operated light switches and operable windows.

* The cafeteria has a dedicated makeup air unit (MAU) that serves the cafeteria and kitchen behind the stage and a dedicated exhaust fan with outdoor air and heating. The space also has occupancy sensors for automatic lighting control and operable windows.

- * Hot water heat is provided by two (2) gas fired Cleaver Brooks boilers. The hot water system does not currently include glycol.
- * Typical classrooms (Nurse Side) served by wall mounted unit ventilators that supplies outdoor air and heating to the space and is exhausted to a return fan on the roof. There are operable windows, sinks with manual operators, window mounted air conditioner and occupancy sensors for automatic lighting controls.
- * Typical classrooms (Other side) are served an air handling unit (AHU) that is a part of the central air system. The space has return grille to transfer air within the space to the return fans on the roof. There are operable windows, sink with manual operators and occupancy sensors for
- * The building currently has DDC controls and monitoring of outdoor air, static pressure, and airflows at BMS.
- * Science room and Home Economics room, art room has the same systems as a typical classroom with sinks with manual operators.
- * Computer room has the same systems as a typical classroom.
- * The library contains operable windows. The space has conditioned air provided from an AHU part of the central system and return grille to transfer air within the space to a return fan on the roof. There is an occupancy sensor for automatic lighting controls. There are perimeter vents that provides heating to the space.
- * Private and group restrooms both include exhaust and occupancy sensors for automatic lighting controls.
- * The teachers' lounge is served by wall mounted unit ventilators that supplies outdoor air and heating to the space and is exhausted to a return fan on the roof. There are operable windows and occupancy sensors for automatic lighting controls.
- * The kitchen has exhaust hoods for food prep. Hood exhaust is manual on/off. An occupancy sensor for automatic lighting controls are provided and no there is no window
- * Group and private bathrooms have manual light switch controls and no operable windows.
- * The nurse's office has operable windows. is served by wall mounted unit ventilators that supplies outdoor air and heating to the space and is exhausted to a return fan on the roof. There are manual light switch control. The bathroom within the space has manual operators and exhaust. * Auditorium has manually operated light switches. The space does not have windows. The space has conditioned air provided from an AHU part of the central system and return grille to transfer air within the space to a return fan on the roof.
- * All plumbing fixtures have manual operators.

Key Areas / Usage

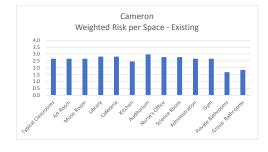
* Music room has occupancy sensors providing automatic lighting controls. The space does not have windows. The space has conditioned air Classrooms, music room, gym, library, auditorium, art room, science room, nurse's office, cafeteria and administration.

									Recommende	d Strategies	S								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Elec-2 Provide FA Hold-Opens for Fire Doors	Plumb-1 Provide Sensor Ctrl on Plumb Fixtures
mplementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling	Filtration	Ventilation, airflow pattern	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern, pressurization	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting controls	Door openers	Plumbing operators
Typical Classrooms		Х	Х	Х	X	Х	Х	Х		Х	X	Х			Х	Х		Х	
Art Room		Х	Х	Х	Х	Х	Х	Х		Х	Х	Х			Х	Х		Х	Х
Music Room		Х	Х	Х	Х	Х	Х	Х		Х	Х	Х			Х	Х		Х	
Library		Х	Х	Х	Х	Х	Х	Х		Х	Х	Х			Х	Х	Х	Х	
Cafeteria		Х	Х	Х			Х	Х		Х	Х	Х			Х	Х	Х	Х	Х
Kitchen		Х	Х	Х			Х	Х		Х	Х	Х			Х	Х		Х	Х
Auditorium		Х	Х	Х			Х	Х		Х		Х	Х	Х	Х	Х	Х	Х	
Nurse's Office		Х	Х	Х	Х	Х	Х	Х		Х	Х	Х			Х	Х		Х	Х
Science Room		Х	Х	Х	Х	Х	Х	Х		Х	Х	Х			X	Х		Х	Х
Administration		Х	Х	Х	Х	Х	Х	Х		Х	Х	Х			X	X		Х	Х
Gym		Х	Х	Х			Х	Х		Х	Х	Х			Х	Х	Х	Х	Х
Private Bathrooms	Х		Х						Х		Х		Х				Х		Х
Group Bathrooms	Х		Х						X		Х		Х			X	Х		Х

						Build	ling System	s Risk Summa	iry						
Ra	te 1-4, 1=meets ASH	RAE design guid	elines for CO	/ID-19 or N/ <i>A</i>	A, 2=adequate	e/meets code	, 3=poor, 4=	None							
	Weight Factor	Typical Classrooms	Art Room	Music Room	Library	Cafeteria	Kitchen	Auditorium		Room	Administration	Gym		Group Bathrooms	Category Averages
Space Type	-	Typical Classrooms	Specialty Classrooms (shop etc.)	Specialty Classrooms (shop etc.)	Library	Cafeteria	Kitchen	assembly areas	Nurse's Office	Specialty Classrooms (shop etc.)	Administration	Gym		Group Bathrooms	
Space Priority (1-10)	-	1	2	2	4	5	6	4	2	2	7	4	10	4	
Airflow Pattern	16%	2	2	2	3	3	3	3	2	2	2	2	2 2	3	2.2
Ventilation	16%	2	2	2	2	2	2	3	2	2	2	2	2 2	2	1.9
Filtration	16%	3	3	3	3	3	3	3	3	3	3	3	1	1	2.5
Pressurization	10%	3	3	3	3	3	3	3	3	3	3	3	3 2	2	2.7
Scheduling	10%	2	2	2	2	2	2	2	2	. 2	2	2	2	. 2	1.9
Humidification	16%	4	4	4	4	4	1	4	4	4	4	4	1	1	3.1
Plumbing Operators	4%	1	1	1	1	1	4	1	4	4	1	1	4	4	2.0
Lighting controls	2%	3	3	3	3	3	3	3	3	3	3	3	3	3	2.8
Door Openers	10%	3	3	3	3	3	3	3	3	3	3	3	3] 1	1	2.5
Total	100%	23	23	23	24	24	24	25	26	26	23	23	3 18	19	
Weighted Risk Weight Based on Priority Weighted Score Based on Priorits Risk Multi	ority 8.15	2.7 13% 0.4	2.7 1 2% 0.3	12%	8%	6%	4%	8%	12%	12%	2%	2.7 8% 0.2	-3%	8%	100% 2.8

School Score (1-4) 2.8 Moderate Risk Weighted Totals

Score Sc	cale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Dunning Elementary School - COVID Risk Assessment - Proposed

Building Description

Masonry building; 2 Levels (1, 2); flat, accessible roof, with mechanical penthouse
Basement space includes 2 classrooms with garden level windows
No substantial building renovations that have reconfigured architectural layout; no doors that apear to be rated; egress stairwells are not rated enclosures

Building Address
Building Description

48 Frost St.
Building Description

48 Frost St.
Building Square Footage
Proposed Scope of Work
Summary

61,500
Increase percentage of outdoor air at space level, Increase ventilation run time - building flush out, Provide in space HEPA filtration, Maximize ventilation at
RTUs, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation room.

Key Areas / Usage

Classrooms, music room, gym, library, cafeteria and administration.

									Recommended Str	eteries D	range and								
				_										1		1		1	
	HVAC-1	HVAC-2	HVAC-3	HVAC-4	HVAC-5	HVAC-6	HVAC-7	HVAC-8	HVAC-9	HVAC-10	HVAC-11	HVAC-12	HVAC-13	HVAC-14	HVAC-15	HVAC-16	Elec-1	Elec-2	Plumb-1
	Increase Vent Quantity	Increase Vent Fraction (Central	Increase Vent Running Time	(Central Systems)	Ensure Window Functionality	Improve Window/Door	Space CO2 Monitoring	Retro-CX Central Air Handlers	Retro-CX Space Terminal Units	Provide In- Space Air	Improve Exhaust from Spaces	Provide UV-GI Lights (Central Systems)	Provide UV-GI Lights (Within Spaces)	Improve Air Flow Directivity (Spaces)	Add Humidification (Central Systems)	Add Humidification (Within Spaces)	Provide Lighting Occ Sensors	Provide FA Hold-Opens	
	(Space Level)	Systems)	Kunning Time	(Central Systems)	Functionality	Operations (keep	Wionitoring	nandiers	Terminal Units	Space Air Filtration	spaces	(Central Systems)	(within spaces)	Directivity (Spaces)	(Central Systems)	(within spaces)	Occ Sensors	for Fire Doors	
	(Space sever)	Systemsy				open)				T III III III III III III III III III I								TOT THE DOORS	Tixtures
Implementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow	Ventilation,	Ventilation,	Filtration	Ventilation,	Ventilation,	Ventilation	Ventilation,	Ventilation,	Filtration	Ventilation,	Filtration	scheduling	Airflow Pattern,	Humidification	Humidification	scheduling,	Door	Plumbing
	pattern, pressurization	pressurization	scheduling		airflow	scheduling		pressurization	pressurization		airflow pattern,			pressurization			lighting	openers	operators
Risk Category improvement:			_		pattern	_					pressurization			·			controls		
Typical Classrooms	✓		✓		1	✓	√		✓	√	Х		X	X		X	Х	Х	Х
Library	✓		√			X	√		√	√			X	X		X	Х	Х	
Cafeteria	✓		√		1	✓	√		√	√	Х		X	X		X	Х	Х	
Kitchen	✓		√			X	X		✓	X	Χ		X	X		X	Х	Х	Х
Isolation Room	✓		√				√		✓	1	✓		X	X		X	Х	Х	
Nurse's Office	✓		✓		√	✓	1		✓	1	✓		X	Χ		Χ		Χ	X
Teacher's Lounge	✓		✓		✓	✓	1		✓	/	Х		X	X		X	X	Х	
Administration	✓		✓		✓	✓	1		✓	/			X	X		X	X	Х	
Gym		✓	✓	Х	✓	✓	1	1		✓	Х	X			Х		X	Х	
Private Bathrooms	Χ		✓		✓	✓			X		Х		X	X		X	X		Х
Group Bathrooms	Х		✓						X		Х		Х	X		Х	Х		Х
·	V - annii anhin d	· .									•								

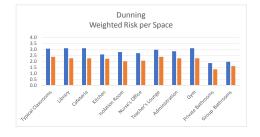
X = applicable, ✓ = proposed

						Buildi	ng Systems	Risk Summar	y - Proposed							
				Rate 1-4,	1=meets ASH	RAE design g	uidelines for	COVID-19 or N/	A, 2=adequate/meets	code, 3=po	or, 4= None					
	Weight Factor	Typical Classrooms	Library	Cafeteria	Kitchen	Isolation Room	Nurse's Office	Teacher's Lounge	Administration	Gym	Bathrooms	Group Bathrooms				Category Averages
Space Type		Typical Classrooms	Library	Cafeteria	Kitchen	Isolation Room	Nurse's Office	Break rooms /Lounge	Administration	Gym	Private Bathrooms	Group Bathrooms				
Space Priority (1-10)	-	1	4	5	6	1	2	5	7	4	10	4	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	
Airflow Pattern	16%	2	2	2	2	1	1	2	2	2 2	2	2 3	3			1.9
Ventilation	16%	1	1	1	2	1	1	1	1	1	1	1 2	2			1.2
Filtration	16%	2	2	2	3	2	2	2	2	2 2	2 1	1	1			1.9
Pressurization	10%	2	2	2	2	1	1	2	2	2 2	2 1	1	<mark>l</mark>			1.6
Scheduling	10%	1	1	1	1	1	1	1	1	1	1	1 1	1			1.0
Humidification	16%	4	4	4	1	4	4	4	4	1 4	1 1	1 1	1			3.2
Plumbing Operators	4%	4	1	1	4	1	4	4	1	1 1	4	1 4	1			2.6
Lighting controls	2%	4	4	4	4	4	1	4	4	1 4	1 4	1 1	l .			3.5
Door Openers	10%	4	4	4	4	4	4	4	- 4	1 4	1	1				3.5
Total	100%	24	21	21	23	19	19	24	21	I 21	16	5 15	5			
Weighted Risk Weight Based on Priority Weighted Score Based on Pri Risk Multi	ority 8.91	2.4 16% 0.4	2.3 10% 0.2	2.3 8% 0.2	6%		14%	2.4 8% 0.2	2.3 4 % 0. 1	6 10%	-2%	10%	0%	0%	0%	100%

School Score (1-4)
Weighted Totals

2.2 Moderate Risk

Score S	cale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Dunning Elementary School - COVID Risk Assessment

Building Description

Masonry building; 2 Levels (1, 2); flat, accessible roof, with mechanical penthouse

Basement space includes 2 classrooms with garden level windows

No substantial building renovations that have reconfigured architectural layout; no doors that apear to be rated; egress stairwells are not rated enclosures

Building Address

Building Date (originally cons 1961

Building Square Footage

HVAC System Description

& other key infrastructure observations

* The gym includes a dedicated makeup air unit (MAU) and a dedicated exhaust fan. The space also includes manually operated water fountain, manually operated light switches and operable windows

- * The cafeteria has outdoor air, cooling and heating supplied from a unit ventilator for and air is exhausted to a return fan on the roof. The space also has manual lighting controls and operable windows.
- * Hot water heat is provided by two (2) gas fired boilers. The hot water system does not currently include glycol.
- *Isolation rooms will be the Vice Principal's office. There are no operable windows and the space is provided with air conditioning.
- * Typical classrooms are served by wall mounted unit ventilators that supplies outdoor air cooling, and heating to the space. The return to the unit ventilator is by a linear slot diffuser located at the bottom of the window. Air within the space is exhausted to a return fan on the roof. There will also a sink and
- * The building currently has DDC controls and monitoring of outdoor air, static pressure, and airflows at BMS.
- * The library contains operable windows and manual light switches. Outdoor air, cooling and heating is supplied from a unit ventilator for and air is exhausted to a return fan on the roof.
- * Group restrooms include exhaust, operable windows and manual light switch controls.
- * The teachers' lounge is served by wall mounted unit ventilators that supplies outdoor air and heating to the space and is exhausted to a return fan on the roof. There are operable windows and manual lighting controls.
- * The kitchen has exhaust hoods for food prep. Hood exhaust is manual on/off. There are manual light switch controls.
- * Private have manual light switch controls, exhaust and no operable windows.
- * The nurse's office has operable windows, is served by wall mounted unit ventilators that supplies outdoor air and heating to the space and is exhausted to a return fan on the roof. There are a window air conditioner unit and manual light switch control. The bathroom within the space has manual operators and
- * All plumbing fixtures have manual operators.
- * Main office contains manually operated light switches. Air is supplied from a unit ventilator for outdoor air cooling and heating. Air within the space is exhausted to a return fan on the roof. The bathroom within the space has manually operated plumbing fixtures. There are operable windows and window mounted air conditioning units.
- * Building has a generator for backup power.
- * Isolation room has no windows. The space has conditioned air provided from an AHU part of the central system and return grille to transfer air within the space to a return fan on the roof.

Key Areas / Usage

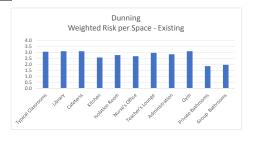
Classrooms, music room, gym, library, cafeteria and administration.

									Recommende	d Strategie	es								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In- Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors		Ctrl on Plumb
Implementation Complexity:	HIGH	MED	LOW	MED	LOW	open)	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling	Filtration	Ventilation, airflow pattern	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern, pressurization	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting controls	Door openers	Plumbing operators
Typical Classrooms	Х		Х		X	х	х		X	Х	X		Х	х		х	X	Х	Х
Library	Х		х				х		Х	Х			Х	Х		Х	Х	Х	
Cafeteria	Х		Х		Х	Х	Х		Х	Х	Х		Х	Х		Х	Х	Х	
Kitchen	Х		Х				Х		Х	Х	Х		Х	Х		Х	Х	Х	Х
Isolation Room	Х		Х				Х		X	Х	Х		Х	Х		Х	Х	Х	
Nurse's Office	Х		Х		Х	Х	Х		X	Х	Х		Х	Х		Х		Х	Х
Teacher's Lounge	Х		Х		Х	Х	Х		X	Х	Х		Х	Х		Х	Х	Х	
Administration	Х		Х		Х	Х	Х		X	Х			Х	Х		Х	Х	Х	
Gym		Х	х	Х	Х	Х	Х	Х		Х	Х	Х			Х		Х	Х	
Private Bathrooms	Х		Х		Х	Х			X		Х		Х	Х		Х	Х		Х
Group Bathrooms	X		Х						Х		Х		Х	Х		Х	Х		Х

							Building Sy	stems Risk Su	mmary						
	Rate 1-4, 1=meets	ASHRAE design	guidelines for	COVID-19 or N	/A, 2=adequa	te/meets code	e, 3=poor, 4=	None							
	Weight Factor	Typical Classrooms	Library	Cafeteria	Kitchen	Isolation Room	Nurse's Office	Teacher's Lounge	Administration	Gym	Private Bathrooms	Group Bathrooms			Category Averages
Space Type	-	Typical Classrooms	Library	Cafeteria	Kitchen	Isolation Room	Nurse's Office	Break rooms /Lounge	Administration	Gym	Private Bathrooms	Group Bathrooms			
Space Priority (1-10)	-	1	4	5	6	1	2	5	7	4	10	4			
Airflow Pattern	16%	2	3	3	2	3	2	2		2	3 2	2	3		2
Ventilation	16%	3	3	3	3	2	2	3		3	3	3	3		2
Filtration	16%	3	3	3	3	2	2	3		3	3				2
Pressurization	10%	3	3	3	3	3	3	2		2	3	3	3		2.
Scheduling	10%	2	2	2	2	2	2	2		2	2	•			1.
Humidification	16%	4	4	4	1	4	4	4		4	4 1	•			3.
Plumbing Operators	4%	4	1	1	4	1	4	4		1	1	4	1		2.
Lighting controls	2%	4	4	4	4	4	1	4		4	4 4		1		3.
Door Openers	10%	4	4	4	4	4	4	4		4	4 1				3.
Total	100%	29	27	27	26	25	24	28	2	5 2	27 20) 18	3		
Weighted Risk		3.1	3.1	3.1	2.6	2.8	2.7	3.0	2.	8 3	.1 1.9	2.0)		
Weight Based on Priority		16%	10%	8%	6%	16%	14%	8%	49	% 10°	% -2%	10%	100%		
Weighted Score Based on Priori	ty	0.5	0.3	0.2	0.2	0.4	0.4	0.2	0.	1 0	.3 0.0	0.2	2 2.8		
Risk Multi	8 91														

School Score (1-4) 2.8 Moderate Risk Weighted Totals

Score Sc	ale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Framingham High School - COVID Risk Assessment - Proposed

Building Description	Masonry building; 4 Levels (1, 2); flat, accessible roof, with mechanical penthouse Basement space includes 2 classrooms with garden level windows
	No substantial building renovations that have reconfigured architectural layout; no doors that apear to be rated; egress stairwells are not rated enclosures
Building Address	115 A Street
Building Date (originally co	ns1961
Building Square Footage	396,000
Proposed scope of work summary	Maximize percentage of outdoor air at unit ventilators, Maximize ventilation at RTUs, Increase ventilation run time - building flush out, Provide minimum MERV 13 filters in central systems, Provide in space HEPA filtration, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation rooms.
Key Areas / Usage	Classrooms, music room, gym, library, auditorium, art room, science room, nurse's office, cafeteria and administration.

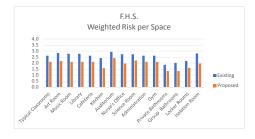
									Recommen	ded Strategies	- Proposed								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Elec-2 Provide FA Hold-Opens for Fire Doors	Ctrl on Plumb
Implementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling	Filtration	Ventilation, airflow pattern	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern,	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting controls	Door openers	Plumbing operators
Typical Classrooms	√		1		pattern	1	1		V	-	pressurization		V	V		V	V	V	+
Art Room			7			-	-		^ V	7	^ V		^ V	^ V		^ V		V	
Music Room	<u> </u>		7		<u> </u>	-		V	^	7	A Y	V	^	^	V	A V			^
Library		,	-	-	1	/	1	Y		-	Y	X			Y	Y	Y	Y	+
Cafeteria		1	1	1	1	1	1	Y		/	Υ	X			Y		Y	Y	Y
Kitchen		1	1	1			X	X		X	Ŷ	X			X		X	X	X
Nurse's Office		1	1	1	1	1	7	X		1	1	X			X	X	X	X	X
Science Room		1	1	1	1	1	1	X		1	Х	X			X	X	X	X	X
Auditorium		✓	1	1			1	X				X			X		X	Х	1
Woodshop	✓		1		✓	1	1		X				Х	Х		Х	Х	Х	Х
Administration		✓	✓	1	✓	1	1	Х		✓	Х	X			X	Х	X	Х	
Gym		✓	✓	1	✓	1	1	Х		√	Х	X			X	Х	Х	Х	X
Locker Rooms		~	✓	✓	✓	1	1					Х			Х		X		Χ
Isolation Room	·	\	7	7	7	7	7	X			√	X			X	X	X	Х	
Private Bathrooms	Х		7		7	7	Х		X		X		X	Х		X	Х		Х
Group Bathrooms	X = applicable 🗸		✓		1		Х		X		X		X	Х		Х	X		X

X = applicable, ✓ = proposed

						Build	ling Systen	ns Risk Summa	ary - Proposed								
	Rate 1-4, 1=meets ASF	IRAE design gui	delines for CO\	/ID-19 or N/A	, 2=adequate	e/meets code,	3=poor, 4= N	lone									•
	Weight Factor	Typical Classrooms	Art Room	Music Room	Library	Cafeteria	Kitchen	Auditorium	Nurse's Office	Science Room	Administration	Gym	Private Bathrooms	Group Bathrooms	Locker Rooms	Isolation Room	Category Averages
Space Type	-	Typical Classrooms	Specialty Classrooms (shop etc.)	Specialty Classrooms (shop etc.)	Library	Cafeteria	Kitchen	assembly areas		Classrooms	Administration	Gym	Private Bathrooms	Group Bathrooms	Locker Rooms	Isolation Room	
Space Priority (1-10)	-	1	2	2	4	5	6	4	2	2	7	4	10	4	4	1	
Airflow Pattern	16%	2	2	2	2	2	1	3	1	2	2	2	2	2 2	2	1	1.9
Ventilation	16%	1	1	1	1	1	1	1	1	1		I	1	1 1	1	1	1.0
Filtration	16%	1	1	1	1	1	1	2	1	1		I	1	1 1	2	1	1.1
Pressurization	10%	2	2	2	2	2	2	2	1	2	2	2	2	1 1	2	1	1.7
Scheduling	10%	1	1	1	1	1	1	1	1	1		I	1	1 1	1	1	1.0
Humidification	16%	4	4	4	4	4	1	4	4	4	1 4	1	4	1 1	1	4	3.2
Plumbing Operators	4%	1	1	1	1	1	4	. 1	4	4		I	1 4	4 4	. 4	4	2.4
Lighting controls	2%	4	4	4	4	4	4	4	4	4	1 4	1	4	4 4	. 4	4	4.0
Door Openers	10%	4	4	4	4	4	4	4	4	4	1	1	4	1 1	1	4	3.4
Total	100%	20	20	20	20	20	19	22	21	23	3 20) 2	0 16	6 16	18	21	
Weighted Risk Weight Based on Priority Weighted Score Based on Pri Risk Multi	iority 7.73	2.1 12% 0.2				5%	1.6 3% 0.0	6%	10%	10%	19	6 69	/ ₆ -4%	6%	6%	12%	•

School Score (1-4) 2.1 Moderate Risk Weighted Totals

Score	Scale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Framingham High School - COVID Risk Assessment

Building Description

Masonry building; 4 Levels (1, 2); flat, accessible roof, with mechanical penthouse

Basement space includes 2 classrooms with garden level windows

No substantial building renovations that have reconfigured architectural layout; no doors that apear to be rated; egress stairwells are not rated

Building Address

Building Date (originally cons 1961

Building Square Footage HVAC System Description

& other key infrastructure observations

* The gym includes a dedicated remote terminal unit (RTU) and a dedicated heated return unit (HRU). The makeup air unit does not include cooling. The space also includes manual water fountain, ceiling fans and operable windows.

*Remote Terminal Units have filters that have 65% efficiency. The filters in the HRU are 20"x25"x2".

- * The cafeteria has two (2) dedicated remote terminal units (RTU) that serves the cafeteria and kitchen and a dedicated exhaust fan. The space also has manual lighting control and operable windows.
- * The kitchen has exhaust hoods for food prep. Hood exhaust is manual on/off. An occupancy sensor for automatic lighting controls are provided
- * Hot water heat is provided by two (2) gas fired boilers. The hot water system does not currently include glycol.
- * Typical classrooms are served by wall mounted unit ventilators that supplies outdoor air, cooling and heating to the space. Air is exhausted form the space to a HRU on the roof.
- * The building currently has DDC controls and monitoring of outdoor air, static pressure, and airflows at BMS.
- * Science room, art room has the same systems as a typical classroom with sinks with manual operators.
- * The library contains operable windows and manual light switches. Air is supplied from central air system and air is exhausted to a return fan on
- * Private and group restrooms both include exhaust and manual lighting controls.
- * The teachers' lounge includes the same systems as a science classroom.
- *Woodshop has a dust collector and operable windows. There are also sinks and there is no air conditioning within the space.
- * Group and private bathrooms have manual light switch controls.
- * Locker rooms have operable windows and manual lighting controls. Air within the space is exhausted to an HRU on the roof.
- * Isolation room has operable windows. Air is supplied from the central system and air is exhausted to a return fan on the roof. There are manual light switch controls within the space. The bathroom associated with the isolation room has exhaust.
- * The nurse's office has operable windows. Outdoor air and heating are provided from a unit ventilator and air is exhausted to a return fan on the roof. There is a wall mounted air conditioner and manually operated lighting controls.
- * Auditorium has manual lighting controls. The space does not have windows. The space has conditioned air provided from a dedicated RTU and return grille to transfer air within the space to a HRU on the roof.
- * All plumbing fixtures have manual operators.
- * Music rooms have manual lighting controls and no windows. The space has conditioned air provided from an AHU part of the central system and return grille to transfer air within the space to a Heated Return Unit (HRU) on the roof. The sink within the space has manual operators.

Key Areas / Usage

Classrooms, music room, gym, library, auditorium, art room, science room, nurse's office, cafeteria and administration.

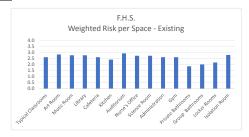
									Reco	mmended Stra	tegies								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Elec-2 Provide FA Hold-Opens for Fire Doors	Plumb-1 Provide Sensor Ctrl on Plumb Fixtures
Implementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling	Filtration	Ventilation, airflow	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern,	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting controls	Door openers	Plumbing operators
Risk Category improvement:	Х		v		pattern	v	Х		v	v	pressurization		v	Х		v	v	v	\vdash
Typical Classrooms Art Room			· ·		^	× ×	×		× ×	× ×	X V		X V	X		×	, ,	, , , , , , , , , , , , , , , , , , ,	~
Music Room		x	Ŷ			^	Ŷ	v	^	Ŷ	Ŷ		^	^	v	^	Ŷ	÷	_^
Library		Ŷ	Ŷ	Ŷ	v	v	Ŷ	Ŷ		Ŷ	Ý	Ŷ			Ŷ		Ŷ	X	
Cafeteria		Ŷ	Ŷ	Ŷ	Ý	Ŷ	Ŷ	Ŷ		Ŷ	Ŷ	Ŷ			Ŷ		Ŷ	Ý	X
Kitchen		Y	Y	Y			Y	Y		Y	Ϋ́	Y Y			Y		X	Ŷ	Y
Nurse's Office		X	X	X	x	x	X	X		X	X	X			X		X	x	X
Science Room		X	X	X		X	X	X		X	X	X			X		X	X	X
Auditorium		X	X	X			X	X				X			X		X	X	
Woodshop	Х		Х		Х	Х	Х		Х				Х	Х		Х	Х	Х	Х
Administration		Х	Х	Х		Х	Х	Х		Х	Х	Х			Х		Х	Х	
Gym		Х	Х	Х		Х	Х	Х		Х	Х	Х			Х		Х	Х	Х
Locker Rooms		Х	Х	Х	Х	Х	Х					Х			Х		Х		Х
Isolation Room		Х	Х	Х	Х	Х	Х	Х				Х			Х		Х	Х	
Private Bathrooms	Х		Х		Х	Х	Х		Х		Х		Х	Х		Х	Х		Х
Group Bathrooms	Х		Х		Х		Х		Х		Х		Х	Х		Х	Х		Х

							Building S	Systems Risk S	ummary								
R	Rate 1-4, 1=meets ASH	RAE design guid	delines for CO	VID-19 or N/A	, 2=adequate	e/meets code,	3=poor, 4= N	lone									•
	Weight Factor	Typical Classrooms	Art Room	Music Room	Library	Cafeteria	Kitchen	Auditorium	Nurse's Office	Science Room	Administration	Gym	Private Bathrooms	Group Bathrooms	Locker Rooms	Isolation Room	Category Averages
Space Type	-	Typical Classrooms	Specialty Classrooms (shop etc.)	Specialty Classrooms (shop etc.)	Library	Cafeteria	Kitchen	assembly areas	Nurse's Office	Specialty Classrooms (shop etc.)	Administration.	Gym	Private Bathrooms	Group Bathrooms	Locker Rooms	Isolation Room	
Space Priority (1-10)	-	1	2	2	4	5	6	4	2	2	7	4	10	4	4	1	
Airflow Pattern	16%	2	3	3	3	2	3	3	2	2		2	2	2 3	3.0	3.0	2.
Ventilation	16%	2	2	2 2	2	2	2	3	2	2		2	2	3	3.0	2.0	2.
Filtration	16%	2	2	2 2	2	2	2	2	2	2		2	2	1 1	1 2.0	2.0	1.
Pressurization	10%	3	3	3	3	3	3	3	3	3		3	3	2 2	2 2.0		
Scheduling	10%	2	2	2 2	2	2	2	2	2	2		2	2	2 2	2 2.0	2.0	2.
Humidification	16%	4	4	1 4	4	4	1	4	4	4		4	4	1 1	1.0	4.0	3.
Plumbing Operators	4%	1	1	1	1	1	4	1	4	4		1	1	4	4.0	4.0	2.
Lighting controls	2%	4	4	1 4	4	4	4	4	4	4		4	4	4	4.0	4.0	4.
Door Openers	10%	4	4	1 4	4	4	4	4	4	4		4	4	1 1	1 1.0	4.0	3.
Total	100%	24	25	5 25	25	24	25	26	27	27	. 2	4 2	4 2	21	1 22	27	
Weighted Risk		2.6	2.8		2.8							.6 2.0					
Veight Based on Priority		12%										% 6%					
Weighted Score Based on Pric Risk Multi	ority 7.73	0.3	0.3	3 0.3	0.2	0.1	0.1	0.2	0.3	0.3	0.	.0 0.:	2 0.	0 0.1	1 0.1	0.3	

2.3 Moderate Risk

School Score (1-4)
Weighted Totals

Score Sc	ale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Key Areas / Usage

Fuller School - COVID Risk Assessment - Proposed

Building Description	Masonry building; 1 Levels (1); flat, accessible roof
Building Description	
	Crawl space with several small air handling units
	No substantial building renovations that have reconfigured architectural layout; no doors that apear to be rated; egress stairwells are not rated
	enclosures
	enclosures
Duilding Address	ALF A Charact
Building Address	115 A Street
Building Date (originally con	s1961
Building Square Footage	396,000
Proposed scope of work	Maximize percentage of outdoor air at unit ventilators, Increase ventilation run time - building flush out, Provide in space HEPA filtration, Maximize
summary	ventilation at RTUs, provide space level CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from
Summar y	
	nurse's office and isolation room, Increase exhaust run time for all other spaces.

Classrooms, music room, gym, library, auditorium, art room, science room, nurse's office, cafeteria and administration.

									Recommen	ded Strategies	- Proposed								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors		Plumb-1 Provide Sensor Ctrl on Plumb Fixtures
Implementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
Risk Category improvement:		Ventilation, pressurization	Ventilation, scheduling			Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern,	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting controls		Plumbing operators
Typical Classrooms			1		pattern	1	1		V		pressurization		V	V		V	V	V	
Art Room					1	7	-		^ Y	-	^ V		A Y	A V		V	^ Y	^ V	V
Music Room	•		-	Y	,		-	Y	^	-	Y	Y	^	Λ	Y	^	Y	Y	^
Library		1	1	X	1	1	/	X		1	X	X			X		X	X	
Cafeteria		1	1	X	1	1	1	X		X	X	X			X		X	X	X
Kitchen		1	1	X			Х	X		X	✓	X			X		X	Х	X
Nurse's Office		✓	1	Х	1	1	1	Х		✓	✓	X			Χ		X	Х	Х
Science Room		✓	✓	Х	4	1	1	Х		✓	Х	X			Х		Х	Х	X
Auditorium		✓	✓	Х			✓	Х				X			Х		Х	Х	
Woodshop	✓		✓				✓		Х				X	X		X	Х	Χ	X
Administration		✓	✓	Х	✓	✓	1	Х		✓	X	X			X		X	Х	
Gym		✓	✓	Х	✓	✓	1	Х		X	Х	Х			Х		Х	Х	Х
Locker Rooms		✓	✓	Х	✓	/	Х				✓	X			X		X		Х
Isolation Room		✓	√	Х	√	V	1	Х		✓	/	X			Х		X	Χ	oxdot
Private Bathrooms	X		√		V	1	Х		X		7		X	X		X	X	└	Х
Group Bathrooms	X = applicable x = seese		√		√	1	Х		X		7		X	X		X	X	لــــــــــــــــــــــــــــــــــــــ	Х

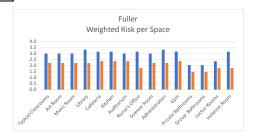
X = applicable, ✓ = proposed

							Building S	Systems Risk S	Summary								I
R	ate 1-4, 1=meets ASH	RAE design guid	delines for CO	VID-19 or N/A	, 2=adequate	/meets code,	3=poor, 4= 1	lone									
	Weight Factor	Typical Classrooms	Art Room	Music Room	Library	Cafeteria	Kitchen	Auditorium	Nurse's Office	Science Roon	Administration	Gym	Private Bathrooms	Group Bathrooms	Locker Rooms	Isolation Room	Category Averages
Space Type	-	Typical Classrooms	Specialty Classrooms (shop etc.)	Specialty Classrooms (shop etc.)	Library	Cafeteria	Kitchen	assembly areas		specialty classrooms (shop etc.)	Administration	Gym	Private Bathrooms	Group Bathrooms	Locker Rooms	Isolation Room	
Space Priority (1-10)	-	1	2	2	4	5	6	4	2	2	7	4	10	4	4	1	i
Airflow Pattern	16%	2	2	2	2	2	2	. 2	1	2	2	2	2	2	2 2	2 1	1
/entilation	16%	1	1	1	1	1	1	1	1	1	I	1	1	1	1 '	1	1
iltration	16%	2	2	2	2	3	3	3	1	2	2	2	3	1	1 3	3 1	2
ressurization	10%	2	2	2	2	2	2	2	. 1	2	2	2	2	1 '	1 '	1	1
cheduling	10%	1	1	1	1	1	1	1	1	1	1	1	1	1 '	1 '	1	1
umidification	16%	4	4	4	4	4	4	. 4	. 4	1 4	1	4	4	1 '	1 .	4	3
lumbing Operators	4%	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	ş
ighting controls	2%	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
oor Openers	10%	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	9
otal	100%	21	21	21	21	22	22	. 22	. 18	3 21	1 2	21 2	12 1	16 16	6 18	3 18	
Veighted Risk Veight Based on Priority		2.2 12%			2.2 6%							.2 2 % 6		.5 1.5 9% 6 %			
leighted Score Based on Prio	rity	0.3			0.1		0.1							0.0			
Risk Multi	7.73	0.3	0.2	0.2	0.1	0.1	0.1	0.2	. 0.2	. 0.2		.0 0	0	0.	. 0.	0.2	

2.2 Moderate Risk

School Score (1-4)
Weighted Totals

Score :	Scale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Key Areas / Usage

Fuller School - COVID Risk Assessment

Building Description	Masonry building; 1 Levels (1); flat, accessible roof Crawl space with several small air handling units
	No substantial building renovations that have reconfigured architectural layout; no doors that apear to be rated; egress stairwells are not rated enclosures
Building Address	115 A Street
Building Date (originally cor	ns 1961
Building Square Footage	396,000
HVAC System Description & other key infrastructure observations	* The main office suite, library and cafeteria are served by heating and ventilation (H&V) units located in the crawlspace that are in poor condition. * The auditorium and band room are served by H&V units located in mechanical rooms that distribute air to ceiling mounted diffusers. * Typical classrooms are served by wall mounted unit ventilators that supply air for ventilation and heating. The rooms have supplemental fin tube radiators. There is a window mounted A/C unit to provide cooling. Air within the space is exhausted to a return fan on the roof. The rooms also included operable windows. * Corridors have operable windows for ventilation. * Lighting is manually controlled via toggle switches * Plumbing fixtures are manually operated * The isolation room has one operable window for ventilation and fin tube for heating. The bathroom has mechanical exhaust and operable windows.

Classrooms, music room, gym, library, auditorium, art room, science room, nurse's office, cafeteria and administration.

									Reco	mmended Stra	tegies								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Elec-2 Provide FA Hold-Opens for Fire Doors	Plumb-1 Provide Sensor Ctrl on Plumb Fixtures
Implementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling			Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern,	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting controls		Plumbing operators
Typical Classrooms	v		v		pattern	v			v		pressurization		v	· ·			v	v	
Art Room	λ ν		X Y		^	, , , , , , , , , , , , , , , , , , ,	X		, A	, <u>,</u>	X		X Y	X		<u> </u>	X Y	, v	
Music Room		Х	X Y	v		^	, ,	v	^	, <u>,</u>	X	v				^	X Y	X	_ ^
		X Y	X Y	, ,		v	, ,	X V		, <u>,</u>	X	, ,			· ·		X Y	, v	
Library Cafeteria		X Y	X Y	, ,		, , , , , , , , , , , , , , , , , , ,	, ,	X V		, <u>,</u>	X	, ,			· ·		X Y	, v	
Kitchen		X	, A	<u> </u>		^	, ,	, A		, <u>,</u>	, <u>,</u>	, <u>,</u>			, <u>,</u>		, A	- `	
Nurse's Office		X	X	X		v	X	X		X	X	X			X		X	X	X
Science Room		X	X	X		X	X	X		X	X	X			X		X	X	_ X _
		^	X	X		X	X	X		X	X	X			X		X		_ X
Auditorium		Х	X	Х				Х				Х	V		Х		X	Х	
Woodshop	Х		X	.,			X		Х		.,		Х	Х	v	Х	X	X	Х
Administration		X	X	X		X	X	X		X	X	X			X		X	X	
Gym		X	X	X		X	X	Х		Х	Х	X			X		X	X	Х
Locker Rooms			X	X		X						X			X		X	L	Х
Isolation Room	v	Х	X	Х		X	X	Х				Х		v	Х		X	Х	
Private Bathrooms	X		X		X	X	X		X		X		X	X		X	X		X
Group Bathrooms	X X = applicable		Х		Х		X		X		X		X	Х		X	Х		X

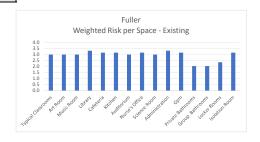
X = applicable, ✓ = proposed

						Build	ding Systen	ns Risk Summ	ary - Proposed								
Ra	ate 1-4, 1=meets ASH	RAE design guid	delines for CO	VID-19 or N/A	, 2=adequate	e/meets code,	3=poor, 4= N	lone									•
	Weight Factor	Typical Classrooms	Art Room	Music Room	Library	Cafeteria	Kitchen	Auditorium	Nurse's Office		Administration	Gym	Private Bathrooms	Group Bathrooms	Locker Rooms	Isolation Room	Category Averages
Space Type	-	Typical Classrooms	Specialty Classrooms (shop etc.)	Specialty Classrooms (shop etc.)	Library	Cafeteria	Kitchen	assembly areas	Nurse's Office	specialty classrooms (shop etc.)	Administration	Gym	Private Bathrooms	Group Bathrooms	Locker Rooms	Isolation Room	
Space Priority (1-10)	-	1	2	2	4	5	6	4	2	2	7	4	10	4	4	1	
Airflow Pattern	16%	2	2	2	4	3	3	2	3	2	2	1 3	3	2	2 2	2 3	2.6
Ventilation	16%	3	3	3	3	3	3	3	3	3	3	3	3	2	2 2	2 3	2.8
Filtration	16%	3	3	3	3	3	3	3	3	3	3	3	3	1	1 3	3	2.7
Pressurization	10%	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0
Scheduling	10%	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0
lumidification	16%	4	4	4	4	4	4	4	4	4	1	1 4	1	1	1 '	1 4	3.4
Plumbing Operators	4%	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0
Lighting controls	2%	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0
Door Openers	10%	3	3	3	3	3	3	3	3	3	3	3	3	3	3 3	3	3.0
Total	100%	27	27	27	29	28	28	27	28	27	7 29	9 28	3 2	1 2	1 23	3 28	
Weighted Risk Weight Based on Priority		3.0 12%	3.0 10 %		3.3 6%												
Veight Based on Priority Veighted Score Based on Prior	ritv	0.3	0.3		0.2												
Risk Multi	7.73					•			-		-			-		-	

School Score (1-4)
Weighted Totals

3.1 High Risk

Score Sc	ale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Hemenway Elementary School - COVID Risk Assessment - Proposed

Building Description	Masonry building; 2 Levels (1, 2); flat, accessible roof, with mechanical penthouse Basement space includes 2 classrooms with garden level windows No substantial building renovations that have reconfigured architectural layout; no doors that apear to be rated; egress stairwells are not rated enclosures
Building Address	729 Water St.
Building Date (originally con	ns 1965
Building Square Footage	61,500
Proposed Scope of Work Summary	Maximize percentage of outdoor air at unit ventilators, increase ventilation run time - building flush out, Provide in space HEPA filtration, Maximize ventilation at RTUs, provide space level CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation room, increase exhaust run time for all other spaces.
Key Areas / Usage	Classrooms, music room, gym, library, art room, cafeteria and administration.

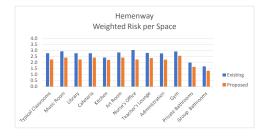
									Recommende	ed Strategies - Pr	oposed								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Elec-2 Provide FA Hold-Opens for Fire Doors	Ctrl on Plumb
Implementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling	Filtration	Ventilation, airflow pattern	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern, pressurization	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification		Door openers	Plumbing operators
Typical Classrooms			-/		-/		1		V	V	pressurization		V	V		V	controls	V	+
Music Room	•		7	V			7		^	V	v v	V	^	^	V	^	^ Y		V
Library		•	-	^	1	1	7	-	V	V V	V V	^	V	V	^	V		V	- ^
Cafeteria	•		-	Y	1	,	1	1	^	Y	Y	Y	^	^	Y	^	X	Y	Y
Kitchen	1		1				Y		Y		1	Α	Y	Y	Α	Y	X	Y	Y
Art Room	•	X	1	X		1	Ŷ	1	Α	X	X	X	A		X	Α	X	X	Α
Nurse's Office		1	1	X	1		1	1		X	1	X			X		X	X	X
Teacher's Lounge	✓		1		1	1	1		Х	X	X		X	Χ		X	X	X	X
Administration	√		√		✓	1	1		X	X	X		X	X		X	X	Х	X
Gym		√	1	Х	✓		1	✓		X	X	X			X		X	X	X
Private Bathrooms	Х		1				Х		Х	Х	1		Х	X		Х	Х		X
Group Bathrooms	X = applicable		✓		✓		Х		X	X	✓		Х	X		X			Χ

X = applicable, ✓ = proposed

							Building Sy	/stems Risk Su	mmary							
				Rate 1-	4, 1=meets AS	HRAE design	guidelines for	r COVID-19 or N/	A, 2=adequate/ı	meets code, 3=poo	, 4= None					
	Weight Factor	Typical Classrooms	Music Room	Library	Cafeteria	Kitchen		Nurse's Office	Teacher's Lounge	Administration	Gym	Private Bathrooms	Group Bathrooms			Category Averages
Space Type	-	Typical Classrooms	Specialty Classrooms (shop etc.)	Library	Cafeteria	Kitchen	Specialty Classrooms (shop etc.)	Nurse's Office	Break rooms /Lounge	Administration.	Gym	Private Bathrooms	Group Bathrooms			
Space Priority (1-10)		1	2	4	5	6	2	2	5	7	4	10	4	SELECT SPACE TYPE	SELECT SPACE TYPE	
Airflow Pattern	16%	2	3	2	2	2	3	3	2	2		:	3 2	,		2.4
Ventilation	16%	1	1	1	1	2	1	1	1		1		2 1			1.2
Filtration	16%	2	2	2	3	3	2	1	2	2			1 1			2.0
Pressurization	10%	2	2	2	2	2	2	1	2	2	2		1 1			1.8
Scheduling	10%	1	1	1	1	1	1	1	1	1	1		1 1			1.0
Humidification	16%	4	4	4	4	1	4	. 4	4	1 4	4		1 1			3.3
Plumbing Operators	4%	1	1	1	1	4	1	4	4	1 1	1	4	4 4	l I		2.3
Lighting controls	2%	4	4	4	4	4	4	. 3	4	1 3	3		3	3		3.6
Door Openers	10%	4	4	4	4	4	4	4	4	1 4	4		1 1			3.5
Total	100%	21	22	21	22	23	22	. 22	24	1 20) 22	: 15	7 15	5		
Weighted Risk Weight Based on Priority Weighted Score Based on Pri Risk Multi	iority 8.67	2.3 15% 0.3		2.3 9% 0.2	2.4 7% 0.2	2.2 5% 0.1	13%	13%	2.4 7% 0.2	3%	9%	-3%	6 9%	0%	0%	100%

School Score (1-4) 2.3 Moderate Risk Weighted Totals

Score Sc	ale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Hemenway Elementary School - COVID Risk Assessment

Building Description	Masonry building; 2 Levels (1, 2); flat, accessible roof, with mechanical penthouse Basement space includes 2 classrooms with garden level windows No substantial building renovations that have reconfigured architectural layout; no doors that apear to be rated; egress stainwells are not rated enclosures
Building Address	729 Water St.
Building Date (originally cor	s1965
Building Square Footage	61,500
HVAC System Description	* The gym includes a dedicated makeup air unit (MAU) and a dedicated exhaust fan. The space also includes manually operated water fountain,
& other key infrastructure	manually operated light switches and operable windows.
observations	* The cafeteria has a dedicated makeup air unit (MAU) that serves the cafeteria and kitchen and a dedicated exhaust fan with outdoor air and heating. The space also has manual lighting controls and operable windows. There is also a unit ventilator to provide heating and outdoor air to the space. * Hot water heat is provided by two (2) gas fired boilers. The hot water system does not currently include glycol. * Typical classrooms are served by wall mounted unit ventilators that supplies outdoor air cooling, and heating to the space. The return to the unit ventilator is by a linear slot diffuser located at the bottom of the window. Air within the space is exhausted to a return fan on the roof. There will also be a refillable water dispenser. * The building currently has DDC controls and monitoring of outdoor air, static pressure, and airflows at BMS. * The library contains operable windows and manual light switches. Outdoor air and heating is supplied from a unit ventilator for and air is exhausted to a return fan on the roof. There is a window mounted air conditioner unit to provide cooled air. * Group restrooms include exhaust one-spathe windows and occurancy sensors for automatic lighting controls.
Key Areas / Usage	Classrooms, music room, gym, library, art room, cafeteria and administration.

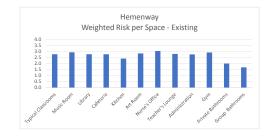
									Recomi	nended Strategie	S								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Elec-2 Provide FA Hold-Opens for Fire Doors	Plumb-1 Provide Sensor Ctrl on Plumb Fixtures
Implementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling	Filtration	Ventilation, airflow pattern	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern, pressurization	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting controls	Door openers	Plumbing operators
Typical Classrooms	Х		Х		Х	Х	Х		Х	Х	Х		Х	Х		Х	Х	Х	
Music Room		Х	Х	Х		Х	Х	Х			Х	Х			Х		Х	Х	Х
Library	X		Х		Х	Х	Х		Х	Х	Х		Х	Х		Х	Х	Х	Х
Cafeteria		Х	Х	Х	Х		Х	X			X	Х			Х		Х	Х	Х
Kitchen	X		Х				Х		X	X	X		Х	Х		X	Х	Х	Х
Art Room		X	Х	Х		X	Х	X			X	X			Х		Х	Х	
Nurse's Office		X	Х	Х	Х		Х	X			X	X			Х		Х	Х	Х
Teacher's Lounge	X		Х		Х	X	Х		X	X	X		Х	Х		X	Х	Х	Х
Administration	X		Х		Х	X	Х		X	X	X		Х	Х		X	Х	Х	Х
Gym		X	Х	Х	Х		Х	X			X	X			Х		Х	Х	Х
Private Bathrooms	X		Х				Х		Х	X	X		Х	Х		Х	Х		Х
Group Bathrooms	X		Х		Х		Х		Х	X	Х		Х	X		Х			Х

							Building Sy	ystems Risk Su	mmary							
				Rate 1	-4, 1=meets AS	HRAE design	guidelines fo	r COVID-19 or N/	A, 2=adequate/	meets code, 3=poo	r, 4= None					
	Weight Factor	Typical Classrooms	Music Room	Library	Cafeteria	Kitchen	Art Room	Nurse's Office	Teacher's Lounge	Administration	Gym	Private Bathrooms	Group Bathrooms			Category Averages
Space Type	-	Typical Classrooms	Specialty Classrooms (shop etc.)	Library	Cafeteria	Kitchen	Specialty Classrooms (shop etc.)	Nurse's Office	Break rooms /Lounge	Administration	Gym	Private Bathrooms	Group Bathrooms			
Space Priority (1-10)	-	1	2	4	5	6	2	2	5	7	4	10	4	SELECT SPACE TYPE	SELECT SPACE TYPE	
Airflow Pattern	16%	2	3	2	2	2	3	3		2	2 3	3	2	,		2.4
Ventilation	16%	2	2	2	2	2	2	2 2		2	2 2	3	2			2.1
Filtration	16%	3	3	3	3	3	3	3		3	3 3	3 1	1			2.7
Pressurization	10%	3	3	3	3	3	2	3		2	3 3	3 2	. 2	2		2.7
Scheduling	10%	2	2	2	2	2	2	2		2	2 2	2	. 2	2		2.0
Humidification	16%	4	4	4	4	1	4	4		4	4 4	1	1			3.3
Plumbing Operators	4%	1	1	1	1	4	1	4		4	1 1	4	. 4	l .		2.3
Lighting controls	2%	4	4	4	4	4	4	3		4	3 3	3	3	3		3.6
Door Openers	10%	4	4	4	4	4	4	4		4	4 4	1	1			3.5
Total	100%	25	26	25	25	25	i 25	5 28	2	7 2	4 25	5 20	18	3		
Weighted Risk Weight Based on Priority Weighted Score Based on Prio Risk Multi	ority 8.67	2.8 1 5% 0.4	13%	9%	7%	5%	13%	13%	2. 7% 0 .	6 39	6 9%	-3%	9%	0%	0.0 0% 0. 0	100%

School Score (1-4)
Weighted Totals

2.8 Moderate Risk

Score S	Scale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Juniper Hill Elementary School - COVID Risk Assessment - Proposed

Building Description	Masonry building; 1 Level; flat, accessible roof, basement mechanical room
Building Address	29 Upper Joclyn Avenue
Building Date (originally co	n1959
Building Square Footage	44,300
Proposed Scope of Work Summary	Maximize percentage of outdoor air at unit ventilators, Maximize ventilation at RTUs, Increase ventilation run time - building flush out, Provide in space HEPA filtration, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation rooms, increase exhaust to other areas.
Key Areas / Usage	Preschool classrooms, gym, speech therapy, cafeteria, administrative offices

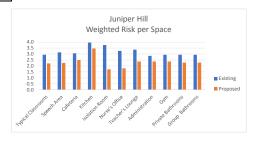
								Re	commended Str	ategies - P	roposed								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In- Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Elec-2 Provide FA Hold-Opens for Fire Doors	Plumb-1 Provide Sensor Ctrl on Plumb Fixtures
mplementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling		Ventilation, airflow pattern	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization		Ventilation, airflow pattern, pressurization	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting controls	Door openers	Plumbing operators
Typical Classrooms	✓		✓		✓	✓	1		X	✓	Х		Х			Х	Х	Х	X
Speech Area		✓	✓	Х	✓	✓	✓	Х		✓		X			Х	Х	X	Х	X
Cafeteria	✓		✓		✓	✓	✓		X	X	Х		X			Х	X	Х	X
Kitchen											√								
Isolation Room	✓		✓		1	1	1			√	✓		X	X		Х	X	Х	X
Nurse's Office	✓		✓		1	✓	✓			√	✓		X	X		Х	X	Х	X
Teacher's Lounge	✓		✓		1	✓	✓			✓	Х		X	Х		Х	X	Х	X
Administration	✓		✓		1	✓	1			√			X	Х		Х	X	Х	X
Gym		✓	✓	Х	1	√	√	Х			Χ	X			Х		X	Х	X
Private Bathrooms	X		✓							X	✓		Х	X		Х	X		X
Group Bathrooms	Х		✓							X	✓		Χ	X		Х	Х		X

X = applicable, ✓ = proposed

						Building S	Systems Ris	sk Summary -	Proposed							
			R	ate 1-4, 1=me	ets ASHRAE	design guidel	ines for CO\	/ID-19 or N/A,	2=adequate/meets	code, 3=p	oor, 4= None					
	Weight Factor	Typical Classrooms	Speech Area	Cafeteria	Kitchen	Isolation Room	Nurse's Office	Teacher's Lounge	Administration	Gym	Private Bathrooms	Group Bathrooms				Category Averages
Space Type		Typical Classrooms	Specialty Classrooms (shop etc.)	Cafeteria	Kitchen	Isolation Room	Nurse's Office	Break rooms /Lounge	Administration	Gym	Private Bathrooms	Group Bathrooms				
Space Priority (1-10)		1	2	5	6	1	2	5	7	4	10	4	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	
Airflow Pattern	16%	2	2	2	4	1	1	3	2	2	2	3 3				2.3
Ventilation	16%	1	1	1	4	1	1	1	1		1	2 2				1.5
Filtration	16%	2	2	3	4	1	1	2	3	3	3	1 1				2.1
Pressurization	10%	2	2	2	2	1	1	2	2	2	2	1 1				1.6
Scheduling	10%		1	1	1	1	1	1	1		1	1 1				1.0
Humidification	16%		4	4	4	4	4	4	4	l	4	4 4				4.0
Plumbing Operators	4%		1	3	3	1	3	3	3	3	3	3 3				2.6
Lighting controls	2%		4	4	4	3	3	3	3	3	3	3				3.3
Door Openers	10%	3	4	4	4	3	3	3	3	3	3	3				3.3
Total	100%	21	21	24	30	16	18	22	22	2 2	2 2	21 21				
Weighted Risk Weight Based on Priority Weighted Score Based on Pr Risk Multi	iority 8.55	2.2 16% 0.4	14%	2.5 8% 0.2	5%		1.8 14% 0.3	2.4 8% 0.2	3%	109	6 -3		0%	0%	0%	100%

School Score (1-4) 2.2 Moderate Risk Weighted Totals

Score S	cale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Juniper Hill Elementary School - COVID Risk Assessment

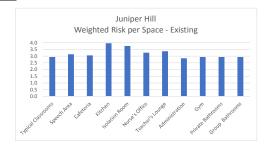
Building Description	Masonry building; 1 Level; flat, accessible roof, basement mechanical room
Building Address	29 Upper Joclyn Avenue
Building Date (originally cor	1959
Building Square Footage	44,300
HVAC System Description	* The gym includes a dedicated heating and ventilation (H&V) unit. The space also includes manually operated water fountain, manually
& other key infrastructure	operated light switches and operable windows. There is no A/C within the space.
observations	* The cafeteria has outdoor air and heating supplied from a unit ventilator and fin tube radiation. Air is exhausted via low wall grilles to a fan on the roof. There is no A/C within the space. The space also has ceiling fans and operable windows.
	* Hot water heat is provided by two (2) gas fired boilers. There is no glycol in the system.
	* The speech area is of modular construction with demountable non-full height partitions. The space is served by a single roof top unit.
	* Typical classrooms are served by wall mounted unit ventilators that supply air for ventilation and heating. There is a window mounted A/C unit to provide cooling. Air within the space is exhausted to a return fan on the roof. The rooms also included operable windows.
	* The building currently has a DDC control system to control heating.
	* The corridors have operable windows for ventilation.
	* The teachers' lounge is served by a wall mounted ductless split unit. The space has no mechanical ventilation or windows.
	* Private bathrooms and group bathrooms have manual light switch controls, exhaust and no operable windows.
	* The nurse's office is served by fin tube for heating. Ventilation is provided by operable windows. There is a window mounted A/C unit to provide cooling.
	* All lighting is operated by toggle type wall switches; one hallway has automatic lighting.
	* The main office is served by fin tube for heating. Ventilation is provided by operable windows. There is a window mounted A/C unit to provide
	cooling.
	* Building has a generator for backup power.
	* The isolation room is an interior room with no mechanical ventilation, windows or heat. The toilet room for the isolation room is across the
	corridor and although had an exhaust vent, no airflow was detected. The sink is located in the corridor.
Key Areas / Usage	Preschool classrooms, gym, speech therapy, cafeteria, administrative offices

									Recommende	d Strategie	es								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In- Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Elec-2 Provide FA Hold-Opens for Fire Doors	Plumb-1 Provide Sensor Ctrl on Plumb Fixtures
mplementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling	Filtration	Ventilation, airflow pattern	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern, pressurization	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification		Door openers	Plumbing operators
Typical Classrooms	Х		Х		Х	Х			Х	Х	Х		Х			Х	Х	Х	Х
Speech Area		Х	Х	Х	Х	Х		Х				Х			Х	Х	Х	Х	Х
Cafeteria	Х		Х		Х	Х			Х	Х	Х		Х			Х	Х	Х	Х
Kitchen																			
Isolation Room	Х		Х			Х				Х	Х		Х	Х		Х	Х	Х	Х
Nurse's Office	Х		Х		Х	Х				Х	Х		Х	Х		Х	Х	Х	Х
Teacher's Lounge	Х		Х			Х				Х	Х		Х	Х		Х	Х	Х	Х
Administration	X		Х		Х	Х				Х			Х	X		Х	Х	Х	Х
Gym		Х	Х	Х	Х	Х		Х			Х	Х			Х		Х	Х	Х
Private Bathrooms	Х		Х							Х	Х		Х	Х		Х	Х		Х
Group Bathrooms	Х		Х							Х	Х		Х	Х		Х	Х		Х

Building Systems Risk Summary Rate 1-4, 1=meets ASHRAE design guidelines for COVID-19 or N/A, 2=adequate/meets code, 3=poor, 4= None Group Typical Nurse's Teacher's Weight Factor Bathroom Kitchen Speech Area Cafeteria Administratio Private Category Classrooms Room Office Lounge Bathrooms Averages Specialty Typical Isolation Nurse's Break rooms Classrooms Group Cafeteria Kitchen Administration Classrooms Room Office /Lounge Space Type (shop etc.) Bathrooms Space Priority (1-10) 10 Airflow Pattern 16% Ventilation 16% 2.8 Filtration 16% 2.8 Pressurization 10% 3.2 4.0 Scheduling 10% Humidification 16% 4.0 Plumbing Operators 4% Lighting controls 2% 3.3 Door Openers 10% 3.3 100% 27 28 35 29 27 27 27 Total 29 31 30 26 Weighted Risk 2.9 3.1 3.1 4.0 3.8 3.3 3.4 2.8 2.9 2.9 2.9 Weight Based on Priority 16% 14% 8% 5% 16% 14% 8% 3% 10% -3% 10% 100% Weighted Score Based on Priority 0.6 0.3 -0.1 0.3 3.2 Risk Multi 8.55

School Score (1-4) 3.2 High Risk
Weighted Totals

Score S	Scale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





King School - COVID Risk Assessment - Proposed

Building Description	Masonry building; 2 Levels (1, 2); flat, accessible roof
Building Address	454 Water St.
Building Date (originally con	e1957
Building Square Footage	50,000
Proposed Scope of Work Summary	Maximize percentage of outdoor air at unit ventilators, Maximize ventilation at RTUs, Increase ventilation run time - building flush out, Provide in space HEPA filtration, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation rooms, increase exhaust to other areas.
Key Areas / Usage	Classrooms, gym, library, lecture hall, cafeteria and administration.

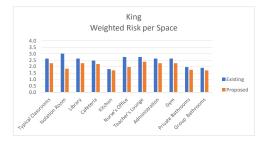
								Re	ecommended S	trategies - Pro	posed								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Hold-Opens for Fire Doors	Ctrl on Plumb
Implementation Complexity:		MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
Risk Category improvement:	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling	Filtration	Ventilation, airflow pattern	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern, pressurization	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting controls	Door openers	Plumbing operators
Typical Classrooms	√		√		✓	4	✓		Х	✓	Х		Х	X		Х	Х	Х	
Isolation Room	✓		✓				✓		Х	✓	✓	Х	Х	Х		X	Х	Х	
Library	✓		✓			✓	✓		X	✓	Х	X	X	X		X	X	Х	X
Cafeteria		✓	✓	Х		✓	✓	Х		X	Х	X			X			Х	X
Kitchen		\	✓	Х		√	Х	Х		Х	✓	Х			X			Х	X
Lecture Hall	→		✓				✓		Х	√	Х		Х	X		Х	X	Х	
Nurse's Office			✓			✓	✓		Χ	✓	✓	Х	Х	Х		Х	Х	Х	Х
Teacher's Lounge			✓			√	✓		Х	✓	X		X	X		Х	Х	Х	X
Administration	✓		√			1	1		Х	√	Х		Х	X		Х	Х	Χ	Х
Gym		✓	✓	Х		✓	1	Х		Х	Х	X			X		Х	Х	Х
Private Bathrooms	X		√				X		Х		✓		Х	X		X			X
Group Bathrooms	X		✓			Vllbl-	Х		Х		✓		Х	X		X			Х

X = applicable, ✓ = proposed

Building Systems Risk Summary - Proposed Rate 1-4, 1=meets ASHRAE design guidelines for COVID-19 or N/A, 2=adequate/meets code, 3=poor, 4= None Typical Isolation Weight Factor Kitchen Cafeteria Administration Group Category Private Office Lounge Classrooms Room Averages Bathrooms Bathrooms Typical Nurse's Break rooms Group Library Cafeteria Administration Isolation Room Kitchen Space Type Classrooms SELECT SELECT SELECT 2 SPACE SPACE TYPE SPACE TYPE Space Priority (1-10) TYPE Airflow Pattern 16% 1.8 Ventilation 16% 1.2 Filtration 16% 1.5 Pressurization Scheduling 10% 10% 0.9 Humidification 16% Plumbing Operators Lighting controls 2.2 4% 1 4 2% 4 Door Openers 10% 100% 21 Total 18 21 18 16 21 24 21 21 19 16 Weighted Risk 2.3 1.8 2.3 2.2 1.7 2.0 2.4 2.3 2.3 1.8 1.7 0.0 0.0 0.0 Weight Based on Priority 16% 16% 10% 14% 8% 4% 10% 0.2 -2% 10% 0% 0% 0.0 100% 8% 6% 0% 0.0 Weighted Score Based on Priority 0.4 0.3 0.2 0.2 0.1 0.3 0.2 0.1 0.0 0.2 0.0 2.1 Risk Multi 8.91

School Score (1-4) 2.1 Moderate Risk Weighted Totals

Score S	Scale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Key Areas / Usage

King School - COVID Risk Assessment

Building Description	Masonry building; 2 Levels (1, 2); flat, accessible roof
Building Address	454 Water St.
Building Date (originally cor	181957
Building Square Footage	50,000
HVAC System Description	* The gym includes a heating and ventilating (H&V) unit and operable windows high in the sapce.
& other key infrastructure observations	* The cafeteria has an indoor air handling unit and outdoor condensing unit that provides air for ventilation and cooling. Fin tube is provided along the perimeter for heating.
	* Hot water heat is provided by two (2) gas fired boilers. The hot water system does not currently include glycol.
	* Typical classrooms are served by wall mounted unit ventilators that supplies air for ventilation and heating. Southwest classrooms have window mounted A/C unit to provide cooling. Northeast classrooms and the administration spaces have packaged roof top units with ceiling air distribution for cooling. Air within the space is exhausted to a return fan on the roof. The rooms also included operable windows. * Teacher's Lounge has manual lighting controls and operable windows. There is a bathroom connected to the space.
	* Group bathrooms have an occupant sensor for automatic controls and exhaust.
	* The building currently has DDC controls and monitoring of outdoor air, static pressure, and airflows at BMS.
	* The library contains operable windows and manual light switches. Outdoor air, cooling and heating is supplied from a unit ventilator for and air is exhausted to a return fan on the roof.
	* The kitchen has exhaust hoods for food prep. Hood exhaust is manual on/off. There are occupant sensors for automatic lighting controls. The same AHU that serves the cafeteria serves the kitchen.
	* Private bathrooms have manual light switch controls, exhaust and no operable windows.
	* Corridor has magnetic door holds that are being monitored by the existing FA system and there are occupant sensors for automatic lighting controls.
	* The nurse's office has operable windows. Space is served by wall mounted unit ventilators that supplies outdoor air and heating to the space and is exhausted to a return fan on the roof. There are a window mounted air conditioner unit and manual light switch controls.
	 * All plumbing fixtures have manual operators. * Main office contains manually operated light switches. Air is supplied from a unit ventilator for outdoor air and heating. Cooled air is provided to the space via window mounted air conditioning unit. Air within the space is exhausted to a return fan on the roof. * Building has a generator for backup power.
	* Isolation room has no windows. The space is served by a unit ventilator providing outside air, cooling and heating. There is a bathroom with exhaust connected to the Isolation room.

Classrooms, gym, library, lecture hall, cafeteria and administration.

									Recommen	ded Strategies									
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Elec-2 Provide FA Hold-Opens for Fire Doors	Plumb-1 Provide Sensor Ctrl on Plumb Fixtures
Implementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
Risk Category improvement:	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling		Ventilation, airflow pattern	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern, pressurization	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting controls		Plumbing operators
Typical Classrooms	Х		Х		х	Х	х		Х	Х	X		Х	Х		Х	х	Х	
Isolation Room	Х		Х				Х		Х	Х	Х	Х	Х	Х		Х	Х	Х	
Library	X		X			Х	Х		X	Х	Х	Х	Х	Х		Х	Х	Х	Х
Cafeteria		Х	X	Х		Х	Х	Х		Х	Х	Х			Х			Х	Х
Kitchen		Х	Х	Х		X	Х	Х		Х	Х	Х			Х			Х	Х
Lecture Hall			Х				Х		Х	Х	Х		Х	X		Х	Х	Х	
Nurse's Office			Х			Х	Х		Х	Х	Х	Х	Х	Х		Х	Х	Х	Х
Teacher's Lounge			Х			Х	Х		Х	Х	Х		Х	Х		Х	Х	Х	Х
Administration	Х		Х			Х	Х		Х	Х	Х		Х	Х		Х	Х	Х	Х
Gym		Х	Х	Х		Х	Х	Х		Х	Х	Х			Х		Х	Х	Х
Private Bathrooms			Х				Х		Х		Х		Х	Х		Х			Х
Group Bathrooms	Х		X				Х		Х		Х		Х	Х		Х			Х

Building Systems Risk Summary - Existing Rate 1-4, 1=meets ASHRAE design guidelines for COVID-19 or N/A, 2=adequate/meets code, 3=poor, 4= None Typical Isolation Teacher's Weight Factor Library Kitchen Cafeteria Administration Private Group Category Classrooms Office Lounge Room Averages Bathrooms Bathrooms Typical Nurse's Break rooms Group Cafeteria Library Kitchen Administration Isolation Room Space Type Classrooms Bathrooms SELECT SELECT 5 2 10 SPACE SPACE TYPE SPACE TYPE Space Priority (1-10) TYPE Airflow Pattern 16% 2.1 Ventilation 16% 1.9 Filtration 16% 1.7 Pressurization 10% 2.6 Scheduling 10% 1.8 Humidification 16% 2.2 Plumbing Operators 4% 1 4 Lighting controls 2% 4 Door Openers 10% Total 100% 24 26 24 20 17 27 27 24 24 21 18 Weighted Risk 2.6 3.0 2.6 2.5 1.8 2.7 2.7 2.6 2.6 2.0 1.9 0.0 0.0 0.0 Weight Based on Priority 16% 16% 10% 14% 8% 4% 10% 0% 0% 0.0 100% 8% 6% 10% -2% 0% Weighted Score Based on Priority 0.4 0.5 0.3 0.2 0.1 0.4 0.2 0.1 0.3 0.0 0.2 0.0 0.0 2.6

School Score (1-4)

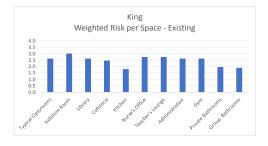
Weighted Totals

2.6 Moderate Risk

8.91

Score	Scale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4

Risk Multi





McCarthy School - COVID Risk Assessment - Proposed

Building Description
Building Address
8 Flagg Drive
Building Date (originally com: 1952, major renovation 1994
Building Square Footage
Proposed Scope of Work
Summary
Maximize percentage of outdoor air at unit ventilators, Maximize ventilation at RTUs, Increase ventilation run time - building flush out, Provide in space
HEPA filtration, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office, increase exhaust to other areas.

Key Areas / Usage

								Re	commended S	trategies - Propo	sed								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Elec-2 Provide FA Hold-Opens for Fire Doors	
Implementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow	Ventilation,	Ventilation,	Filtration	Ventilation,	Ventilation,	Ventilation	Ventilation,	Ventilation,	Filtration		Filtration	scheduling		Humidification	Humidification	scheduling,	Door	Plumbing
improvement:	pattern, pressurization	pressurization	scheduling		airflow pattern	scheduling		pressurization	pressurization		airflow pattern, pressurization			pressurization			lighting controls	openers	operators
Typical Classrooms	√		1		pattern ✓	1	1		X	1	pressurization					X	X		X
Art Room	· /		1				✓		X	1						X	X		X
Music Room	✓		✓				✓		Х	✓						X	Х		
Cafeteria		✓	✓	Х			✓	Χ				X			X		X		X
Kitchen				X				X			✓	X			X		X		X
Kindergarten	✓		✓				✓		Χ	✓						X	X		X
Nurse's Office	✓		✓		4	✓	✓			✓						X	X		X
Teacher's Lounge							✓			✓						X	X		X
Administration					✓	✓	✓			✓						X	X		
Gym	√	7	√	X			√					X			X		X		X
Group Bathrooms											7		X				Х		X

X = applicable, ✓ = proposed

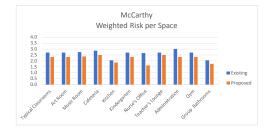
						Build	ding Systems R	sk Summary -	Proposed							
Rate 1-4, 1=meets ASHRAE design guidelines for COVID-19 or N/A, 2=adequate/meets code, 3=poor, 4= None																
	Weight Factor	Typical Classrooms	Art Room	Music Room	Cafeteria	Kitchen	Kindergarten	Nurse's Office	Teacher's Lounge	Administration	Gym	Group Bathrooms				Category Averages
Space Type	•	Typical Classrooms	Specialty Classrooms (shop etc.)	Specialty Classrooms (shop etc.)	Cafeteria	Kitchen	Typical Classrooms	Nurse's Office	Break rooms /Lounge	Administration	Gym	Group Bathrooms				
		1	2	2	5	6	1	2	5	7	4	4	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	
Space Priority (1-10)													SPACE TIPE	SFACE TIFE	SFACE TIFE	
Airflow Pattern	16%	2	2	2	3	2	2	1		2	2	2 2	2			2.0
Ventilation	16%	1	1	1	1	2	1	1		2	1	1 2	2			1.3
Filtration	16%	2	2	2	2	1	2	1		2	2	2 1				1.7
Pressurization	10%	2	2	2	2	2	2	1		2	2	2 1	l l			1.8
Scheduling	10%	1	1	1	1	1	1	1		1	1	1 1	l e			1.0
Humidification	16%	4	4	4	4	1	4	4		4	4	4 1				3.5
Plumbing Operators	4%	3	3	4	3	3	3	3		3	3	3	3			3.1
Lighting controls	2%	4	4	4	4	4	4	4		4	4	4 4	1			4.0
Door Openers	10%	4	4	4	4	4	4	1		4	4	4 4	1			3.7

Total 100%

Weighted Risk Weight Based on Priority Weighted Score Based on Priority Risk Multi 2.3 13% 0.3 2.4 13% 0.3 2.5 5% 0.1 1.9 **3% 0.1** 2.3 16% 0.4 1.6 13% 0.2 2.5 **5% 0.1** 2.3 0% 0.0 2.3 **8% 0.2** 1.8 **8% 0.1** 0.0 **0% 0.0** 0.0 **0% 0.0** 2.3 0.0 16% 0.4 0% 0.0 100% 2.2 7.09

School Score (1-4) 2.2 Moderate Risk Weighted Totals

Score Scale								
No Updates Required	<1							
Low Risk	1-2							
Moderate Risk	2-3							
High Risk	3-4							





McCarthy School - COVID Risk Assessment

Building Description	Masonry building; 2 Levels (1, 2); flat, accessible roof
Building Address	8 Flagg Drive
Building Date (originally con	1952, major renovation 1994
Building Square Footage	94,936
HVAC System Description	* Hot water heat is provided by dual fuel boilers. There is no glycol in the system.
& other key infrastructure	* The gym includes a dedicated heating and ventilation (H&V) unit with ceiling air distribution. Fin tube radiators are located high on the wall along windows.
observations	The space has several ceiling fans.
	* The cafetorium has a dedicated air handling unit with sidewall distribution that provides air for heating, ventilation and cooling.
	* Typical classrooms are served by wall mounted unit ventilators that supply air for ventilation and heating. Air within the space is exhausted to a return fan
	on the roof. The rooms also included operable windows.
	* The library includes a dedicated air handling unit with ceiling air distribution that provides air for heating, ventilation and cooling.
	* The building currently has a DDC control system to control heating.
	* The corridors are mechanically ventilated.
	* All lighting is operated by toggle type wall switches; one hallway has automatic lighting.
	* Plumbing fixtures are manually operated.
	* Building has a generator for backup power.
	* The isolation room is an interior room with no mechanical ventilation, windows or heat. The toilet room for the isolation room is across the corridor and although
	had an exhaust vent, no airflow was detected. The sink is located in the corridor.
Key Areas / Usage	

									Recommen	ded Strategies									
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Elec-2 Provide FA Hold-Opens for Fire Doors	Plumb-1 Provide Sensor Ctrl on Plumb Fixtures
Implementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling	Filtration	Ventilation, airflow pattern	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern, pressurization	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting controls	Door openers	Plumbing operators
Typical Classrooms					Х				Х	Х						Х	Х		х
Art Room									Х	Х						Х	Х		Х
Music Room									Х	Х						Х	Х		
Cafeteria		Х		Х				Х				X			Х		X		Х
Kitchen				Х				Х				Х			Х		Х		Х
Kindergarten									Х	Х						Х	Х		Х
Nurse's Office						Х										Х	Х		х
Teacher's Lounge																Х	Х		Х
Administration						Х										Х	Х		
Gym	Х	Х		Х								Х			Х		Х		х
Group Bathrooms											Х		Х				Х		Х

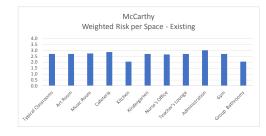
						Buil	ding Systems R	lisk Summary	- Existing					
Rate 1-4, 1=meets ASHRAE design guidelines for COVID-19 or N/A, 2=adequate/meets code, 3=poor, 4= None														
	Weight Factor	Typical Classrooms		Music Room	Cafeteria	Kitchen	Kindergarten	Nurse's Office	Teacher's Lounge	Administration	Gym	Group Bathrooms		Category Averages
Space Type	-	Typical Classrooms	Specialty Classrooms (shop etc.)	Specialty Classrooms (shop etc.)	Cafeteria	Kitchen	Typical Classrooms	Nurse's Office	Break rooms /Lounge	Administration	Gym	Group Bathrooms		
Space Priority (1-10)	-	1	2	2	5	6	1	2	5	7	4	4		
Airflow Pattern	16%	2	2	2	3	2	2	3		2	3 2	2 2		2.3
Ventilation	16%	2	2	2	2	2	2	2		2 2	2 2	2 2		2.0
Filtration	16%	2	2	2	2	1	2	2		2 :	3 2	2 1		1.9
Pressurization	10%	2	2	2	2	2	2	3		2	2 2	2 2		2.1
Scheduling	10%	3	3	3	3	3	3	3		3	3	3		3.0
Humidification	16%	4	4	4	4	1	4	4		4	4 4	1 1		3.5
Plumbing Operators	4%	3	3	4	3	3	3	3		3	3	3		3.1
Lighting controls	2%	4	4	4	4	4	4	4		4	4 4	1 4		4.0
Door Openers	10%	4	4	4	4	4	4	1		4 4	4 4	1 4		3.7

Total 100%

Weighted Risk		2.7	2.7	2.7	2.9	2.1	2.7	2.7	2.7	3.0	2.7	2.1	
Weight Based on Priority		16%	13%	13%	5%	3%	16%	13%	5%	0%	8%	8%	100%
Weighted Score Based on Priority		0.4	0.4	0.4	0.2	0.1	0.4	0.3	0.1	0.0	0.2	0.2	2.6
Rick Multi	7.09												

School Score (1-4) 2.6 Moderate Risk Weighted Totals

Score Scale										
No Updates Required	<1									
Low Risk	1-2									
Moderate Risk	2-3									
High Risk	3-4									





Potter School - COVID Risk Assessment - Proposed

Building Description	Masonry building; 2 Levels (1, 2,); flat, accessible roof
Building Address	575 Pleasant St.
Building Date (originally con-	s1968
Building Square Footage	66,000
Proposed Scope of Work Summary	Maximize percentage of outdoor air at unit ventilators, Maximize ventilation at RTUs, Increase ventilation run time - building flush out, Provide in space HEPA filtration, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation rooms, increase exhaust run time to other areas.
Key Areas / Usage	Classrooms, music room, gym, library, nurse, medically fragile, counseling, cafeteria and administration.

	Recommended Strategies - Proposed																		
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors		Ctrl on Plumb
Implementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
Risk Category improvement:	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling		Ventilation, airflow pattern	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern, pressurization	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification			Plumbing operators
Typical Classrooms	1		1		pattern ✓	1	1	X	X	1	X		X	X		X	X	X	Χ
Medically Fragile	√	1	1	Х	1	1	1	X	X	√	X	Х	X	X	Х	X	X	Х	Χ
Music Room	✓		✓		1	✓	1	Х	X	✓	Х		X	X		X	Х	Х	X
Library	✓		√		✓	✓	✓	Х	Х	✓	Х		Х	Х		X	Х	Χ	Χ
Cafeteria		√		X	✓	✓	✓			X	X	X		X	X		X	Х	X
Kitchen		✓	✓	Х	1	✓	Х			Х	√	Х		X	X		Х	Х	X
Nurse's Office	✓				1	1	1	Х	X	✓	1		X	Х		Х		Χ	X
Teacher's Lounge	✓		✓		/	√	✓	X	X	✓	X		X	X		X	X	Χ	X
Administration	· ·		1		1	√	7	X	X	✓	Х		X	X		X		Χ	X
Gym	✓	1	,	Х	1	✓	✓	Х	Х	X	Х	Х	X	X	Х		Х	Χ	X
Private Bathrooms		-	V			1	X				· ·		X	Х					X
Group Bathrooms Isolation Room	V = applicable V = avere	✓	√	X	✓	✓	×	Х	X	✓	1	Х	X	X	X	Х	X	Х	X

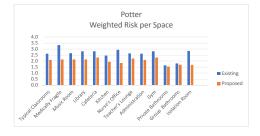
X = applicable, ✓ = proposed

						Buil	ding Syster	ns Risk Summa	ary - Existing							
	Rate 1-4, 1=meets ASHRAE design guidelines for COVID-19 or N/A, 2=adequate/meets code, 3=poor, 4= None															
	Weight Factor	Typical Classrooms	Medically Fragile	Music Room	Library	Cafeteria	Kitchen	Nurse's Office	Teacher's Lounge	Administration			Group Bathrooms	Isolation Room		Category Averages
Space Type	•	Typical Classrooms	Special Needs	Specialty Classrooms (shop etc.)	Library	Cafeteria	Kitchen	Nurse's Office	Break rooms /Lounge	Administration		Private Bathrooms	Group Bathrooms	Isolation Room		
Space Priority (1-10)	-	1	1	2	4	5	6	2	5	7	4	10	4	1	SELECT SPACE TYPE	
Airflow Pattern	16%	2	2	2	2	2	2	1	2	2	2	2	3.0	1		1.9
Ventilation	16%	1	1	1	1	1	1	1	1	1	1	2	2.0	1		1.2
Filtration	16%	2	2	2	2	3	3	1	2	2	3	1	1.0	1		1.9
Pressurization	10%	2	2	2	2	2	2	1	2	2	2	2	2.0	1		1.8
Scheduling	10%	1	1	1	1	1	1	1	1	1	1	1	1	1		1.0
Humidification	16%	4	4	4	4	4	1	4	4	4	4	1	1.0	4.0		3.3
Plumbing Operators	4%	1	1	1	1	1	4	4	4	1	1	4	4.0	1.0		3.3 2.2 2.1
Lighting controls	2%	1	3	3	3	3	3	3	1	1	3	1	1.0	1.0		2.1
Door Openers	10%	3	3	3	3	3	3	3	3	3	3	1	1.0	3.0		2.7
Total	100%	17	19	19	19	20	20	19	20	17	. 20	15	16	14	0	
Weighted Risk Weight Based on Priority Weighted Score Based on Pri Risk Multi	ority 8.00	2.1 13% 0.3			2.1 8% 0.2		4%	12%	2.2 6% 0.1	2%		-4%	8%	13%	0%	100%

School Score (1-4) 2.1 Moderate Risk Weighted Totals

Score Scale									
No Updates Required	<1								
Low Risk	1-2								
Moderate Risk	2-3								
High Risk	3-4								

(Cover)





Potter School - COVID Risk Assessment

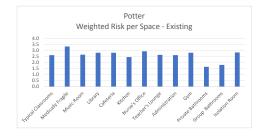
Building Description	Masonry building; 2 Levels (1, 2,); flat, accessible roof
Building Address	575 Pleasant St.
Building Date (originally con	ns 1968
Building Square Footage	66,000
HVAC System Description	*The existing HVAC system includes a Trane packaged air handling unit with approximately 30% outdoor air to serve the core areas. The air
& other key infrastructure	handling unit includes a MERV-10 2" filter bank and the unit is provided with a hot water heating coil.
observations	* The gym includes a dedicated makeup air unit (MAU) and a dedicated exhaust fan. The makeup air unit does not include cooling. The space also includes passive releif louvers, ceiling fans and operable windows.
	* The cafeteria/auditorium has a dedicated makeup air unit (MAU) behind the stage and a dedicated exhaust fan. The space also has ceiling fans and operable windows
	* Hot water heat is provided by two (2) gas fired Cleaver Brooks boilers. The hot water system does not currently include glycol. * Typical classrooms are served by wall mounted unit ventilators that supplies outdoor air and heating to the space and a wall mounted split chiller.
	The return to the unit ventilator is by a linear slot diffuser located at the bottom of the window.
	* The building currently has DDC controls and monitoring of outdoor air, static pressure, and airflows at BMS.
	* The library contains operable windows and manual light switches. Air is supplied from the Main AHU and air is exhausted to a return fan on the
	roof.
	* Private and group restrooms both include exhaust and occupancy sensors for automatic lighting controls.
	* The teachers' lounge includes the same systems as a typical classroom with an occupancy sensor.
Key Areas / Usage	Classrooms, music room, gym, library, nurse, medically fragile, counseling, cafeteria and administration.

									Recom	nended Strategie	S								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Elec-2 Provide FA Hold-Opens for Fire Doors	Ctrl on Plumb
Implementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling	Filtration	Ventilation, airflow	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern,	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting		Plumbing operators
Risk Category improvement:					pattern						pressurization						controls		
Typical Classrooms	X		Х		Х	X	Х	Х	Х	X	X		Х	Х		Х	Х	Х	Х
Medically Fragile		Х	X	X	Х	X	Х	X	X	X	X	X	Х	X	Х	Х	X	Х	X
Music Room	X		Х		Х	X	Х	Х	Х	X	X		Х	Х		Х	Х	Х	Х
Library			X		Х	X	Х	X	X	X	X		Х	X		Х	X	Х	X
Cafeteria		Х		X	Х	X	Х			X	X	X		X	Х		X	Х	X
Kitchen		Х	X	X	Х	Х	Х			X	X	X		Х	Х		X	Х	X
Nurse's Office	Х				Х	Х	Х	X	X	X	X		Х	Х		Х		Х	X
Teacher's Lounge			X		Х	Х	Х	X	X	X	X		Х	Х		Х	X	Х	X
Administration	Х		X		Х	Х	Х	X	X	X	X		Х	Х		Х		Х	X
Gym	Х	Х		Х	Х	Х	Х	X	X	X	X	Х	Х	Х	Х		Х	Х	Х
Private Bathrooms			Х				Х				X		Х	Х					X
Group Bathrooms			Х				Х				Х		Х	Х			Х		X
Isolation Room	Х	Х	Х	Х	Х	Х	Х	X	X	X	X	Х	Х	Х	Х	Х		Х	X

						Buile	ding Syster	ns Risk Summ	ary - Existing							
				Rate 1-4,	1=meets ASH	RAE design (guidelines fo	or COVID-19 or N	/A, 2=adequate	/meets code, 3=po	or, 4= None					
	Weight Factor	Typical Classrooms	Medically Fragile	Music Room	Library	Cafeteria	Kitchen	Nurse's Office	Teacher's Lounge	Administration	Gym	Private Bathrooms	Group Bathrooms	Isolation Room		Category Averages
Space Type	-	Typical Classrooms	Special Needs	Specialty Classrooms (shop etc.)	Library	Cafeteria	Kitchen	Nurse's Office	Break rooms /Lounge	Administration	Gym	Private Bathrooms	Group Bathrooms	Isolation Room		
Space Priority (1-10)	-	1	1	2	4	5	6	2	5	7	4	10	4	1	SELECT SPACE TYPE	
Airflow Pattern	16%	2	3	2	3	3	3	3	2	2	2	3	2 3.0			2.6
Ventilation	16%	2	3	2	2	2	2	2	2	2	2	2	2.0			2.2
Filtration	16%	3		3	3	3	3	3	3	3	3	3	1 1.0			2.7
Pressurization	10%	3		3	3	3	3	3	2	2	3	3	2 2.0			2.8
Scheduling	10%	2	4	2	2	2	2	2	2	2	2	2	2 2.0			2.2
Humidification	16%	4	4	4	4	4	1	4	4	1	4	4	1.0			3.3
Plumbing Operators	4%	1	1	1	1	1	4	4	4	1	1	1 4	4.0			2.2 2.1 2.7
Lighting controls	2%	1	3	3	3	3	3	3	1	l .	1	3	1 1.0			2.1
Door Openers	10%	3	3	3	3	3	3	3	3	3	3	3	1.0	3.0		2.7
Total	100%	21	28	23	24	24	24	27	23	3 2	1 :	24 10	6 17	22	C)
Weighted Risk Weight Based on Priority Weighted Score Based on Prio Risk Multi	rity 8.00	2.6 13% 0.4	13%	12%	2.8 8% 0.2	2.8 6% 0.2	4%	12%	2.6 6% 0.2	6 2°	% 8	1.8 1.0 1% -4% 1.2 0.0	6 8%	13%	0%	100%

School Score (1-4) 2.9 Moderate Risk Weighted Totals

Score Sc	ale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Stapleton Elementary School - COVID Risk Assessment - Proposed

Building Description	Masonry building; 2 Levels (1, 2); flat, accessible roof
Building Address	25 Elm Street
Building Date (originally cor	n1956
Building Square Footage	56,426
Summary	Increase percentage of outdoor air at space level, Increase ventilation run time - building flush out, Provide in space HEPA filtration, Maximize ventilation at RTUs, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation rooms and increase exhaust run time in other areas.
Key Areas / Usage	Classrooms, music room, gym, library, nurse, pause, counseling, cafeteria and administration.

								Re	commended S	trategies - Pr	oposed								
	HVAC-1 Increase Vent	HVAC-2 Increase Vent	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Elec-2 Provide FA Hold-Opens	
	(Space Level)	Systems)		(Central Systems)	,	Operations (keep open)						Systems)	, , , , , , , ,	,,,,,	,,,,	, , , , , , , ,		for Fire Doors	Fixtures
mplementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow	Ventilation,	Ventilation,	Filtration	Ventilation, airflow	Ventilation,	Ventilation	Ventilation,	Ventilation,	Filtration	Ventilation, airflow	Filtration	scheduling		Humidification	Humidification		Door	Plumbing
	pattern, pressurization	pressurization	scheduling		pattern	scheduling		pressurization	pressurization		pattern, pressurization			pressurization			lighting controls	openers	operators
improvement: Typical Classrooms					pattern	1	-/		V	-/	pressurization		V	V		V	CONTIONS	V	
Art Room			-		-	· ·	-			-	Λ V		^ V	Λ V			V		
Music Room			7			-	-			7	A Y		v v	A Y		Y	Y		^
Library			1		1	7	-		V V	1	Y		Y	A V		Y	Y	Y	+
Cafeteria	'		1		7	7	-		X	Y	Y		Y	Y		Y	Y	Y	Y
Kitchen	.		1			1	Y		Y	Y	1		Y	Y		Y	Y	Y	Y
Kindergarten			1		1	1	Ĵ		V V	Ĵ	Y		Y	A V		Y	Y	Y	- A
Nurse's Office	-		1		1	1	1		Y	1	1		Y	X		Y	X	Y	Y
Teacher's Lounge	· ·		1		1	1	-		X	1	X		X	X		X	X	X	X
Administration	· /		1		1	1	1		Y	1	Y		Y	Y		Y	Y	Y	- ^
Gym	•	/	1	X	1	1	1	Χ	Α		X	X	Α	A	X		X	X	X
Private Bathrooms		-	/			-	X	7.			7				7.		X		X
Group Bathrooms			1				X			1	1						X		X
Isolation Room	✓	✓	√	Х	✓	√	Ŷ	Х	Х	✓	1	Х	Х	Х	Х	Х	X	Х	X

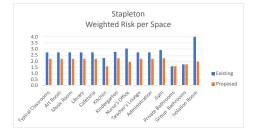
X = applicable, ✓ = proposed

						Building	Systems I	Risk Summary -	Proposed							
			I	Rate 1-4, 1=n	neets ASHRA	E design guid	delines for C	OVID-19 or N/A,	2=adequate/mee	ets code, 3=po	or, 4= None					
	Weight Factor	Typical Classrooms	Art Room	Music Room	Library	Cafeteria	Kitchen	Kindergarten	Nurse's Office	Teacher's Lounge	Administration			Group Bathrooms	Isolation Room	Category Averages
Space Type	-	Typical Classrooms	Specialty Classrooms (shop etc.)	Specialty Classrooms (shop etc.)	Library	Cafeteria	Kitchen	Typical Classrooms	Nurse's Office	Break rooms /Lounge	Administration		Private Bathrooms	Group Bathrooms	Isolation Room	
Space Priority (1-10)	-	1	2	2	4	5	6	1	2	5	7	4	10	4	1	
Airflow Pattern	16%	2	2	2	2	2	2	2	1	2	2	2	2.0		1	1.9
Ventilation	16%	1	1	1	1	1	1	1	1	1	1	1	2.0	2.0	1	1.1
Filtration	16%	2	2	2	2	2	2	2	1	2	2	2	1.0	1.0	1	1.7
Pressurization	10%	2	2	2	2	2	2	2	1	2	2	2	2.0	2.0	1	1.9
Scheduling	10%	1	1	1	1	1	1	1	1	1	1	1	1.0	1.0	1	1.0
Humidification	16%	4	4	4	4	4	1	4	. 4		4	4	1.0	1.0	4.0	
Plumbing Operators	4%	1	1	1	1	1	4	1	4	1	1	1	4.0	4.0	4.0	
Lighting controls	2%	1	1	1	1	1	3	3	3	1	1	3	3.0	3.0		
Door Openers	10%	4	4	4	4	4	1	4	. 4	. 4	4	4	1.0	1.0	4.0	3.4
Total	100%	18	18	18	18	18	17	20	20	18	3 18	20	17	18	21	
Weighted Risk Weight Based on Priority Weighted Score Based on Pr Risk Multi	iority 7.71	2.2 12% 0.3	2.2 11% 0.2	11%	7%	5%		12%	11%	5%	1%	7%	-4%	7%	12%	100%

School Score (1-4) 2.1 Moderate Risk Weighted Totals

Score Sc	ale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4

(Cover)





Stapleton Elementary School - COVID Risk Assessment

& TOCCTING.	
Building Description	Masonry building; 2 Levels (1, 2); flat, accessible roof
Building Address	25 Elm Street
Building Date (originally co	n1956
Building Square Footage	56,426
HVAC System Description	* The gym includes a dedicated makeup air unit (MAU) and a dedicated exhaust fan. A vent tube provides heating for the space. The space als
& other key infrastructure	includes manually operated light switches and operable windows.
observations	* The cafeteria has outdoor air, cooling and heating supplied from a unit ventilator for and air is exhausted to a return fan on the roof. The space also has manual lighting controls, ceiling fans and operable windows.
	* Hot water heat is provided by two (2) gas fired boilers. The hot water system does not currently include glycol.
	*Isolation rooms will be the Vice Principal's office. There are no operable windows and the space is provided with air conditioning.
	* Typical classrooms are served by wall mounted unit ventilators that supplies outdoor air, cooling and heating to the space. The return to the unit ventilator is by a linear slot diffuser located at the bottom of the window. Air within the space is exhausted to a return fan on the roof. The
	is also a sink and manual lighting controls.
	*Teacher's Lounge, Kindergarten rooms and art room has the same systems as a typical classroom.
	*Music Room is served by wall mounted unit ventilators supplies heating to the space. There are operable windows and manual lighting contro *Guidance Suite has operable windows and manual light switch controls. The offices within the suite are served by wall mounted unit ventilator
	that supplies outdoor, air cooling, and heating to the space.
	* Group bathrooms are served by wall mounted unit ventilators that supplies outdoor air, cooling, and heating to the space. Air within the space is exhausted to a return fan on the roof
	* The building currently has DDC controls and monitoring of outdoor air, static pressure, and airflows at BMS.
	* The library contains operable windows and manual light switches. Outdoor air, cooling and heating is supplied from a unit ventilator for and a
	is exhausted to a return fan on the roof.
	* The kitchen has exhaust hoods for food prep. Hood exhaust is manual on/off. There are manual light switch controls and operable windows. * Private bathrooms have manual light switch controls, exhaust and no operable windows.
	* Corridor does not have any door holds on fire-rated doors. They are currently held open by a foot stop and are closed during operational hour
	* The nurse's office has operable windows. is served by wall mounted unit ventilators that supplies outdoor air and heating to the space and is

- * The nurse's office has operable windows. Is served by wall mounted unit ventilators that supplies outdoor air and heating to the space and is exhausted to a return fan on the roof. There are a wall mounted air conditioner unit and manual light switch controls. The bathroom within the space has manual operators and exhaust.
 * All plumbing fixtures have manual operators.
 * All plumbing contains manually operated light switches. Air is supplied from a unit ventilator for outdoor air and heating. Cooled air is provided to the space via wall mounted air conditioning unit. Air within the space is exhausted to a return fan on the roof. There are operable windows and a city within the space.
- to the space via wall mounted air conditioning unit. Air within the space is exhausted to a return ran or the root. There are spaced within the space.

 * Building has a generator for backup power.

 * Isolation room has no windows. The space has conditioned air provided from an AHU part of the central system and return grille to transfer air within the space to a return fan on the roof.

Key Areas / Usage

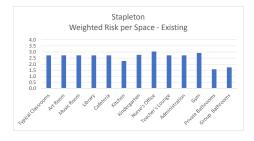
Classrooms, music room, gym, library, nurse, pause, counseling, cafeteria and administration.

									Recommen	ded Strategie	es								
	HVAC-1 Increase Vent	HVAC-2 Increase Vent	HVAC-3 Increase Vent	HVAC-4 Increase	HVAC-5 Ensure Window	HVAC-6 Improve	HVAC-7 Space CO2	HVAC-8 Retro-CX Central Air	HVAC-9 Retro-CX Space	HVAC-10 Provide In-Space	HVAC-11 Improve Exhaust from	HVAC-12 Provide UV-GI		HVAC-14 Improve Air Flow	HVAC-15 Add Humidification	HVAC-16 Add Humidification	Elec-1 Provide Lighting	Elec-2 Provide FA	Plumb-1 Provide Sensor
	Quantity (Space Level)	Fraction (Central Systems)	Running Time	Filtration (Central Systems)	Functionality	Window/Door Operations (keep open)	Monitoring	Handlers	Terminal Units	Air Filtration	Spaces	Lights (Central Systems)	(Within Spaces)	Directivity (Spaces)	(Central Systems)	(Within Spaces)	Occ Sensors	Hold-Opens for Fire Doors	Ctrl on Plumb Fixtures
mplementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
		Ventilation,		Filtration	Ventilation,	Ventilation,	Ventilation	Ventilation,	Ventilation,	Filtration	Ventilation, airflow	Filtration	scheduling	Airflow Pattern,	Humidification	Humidification	scheduling,	Door	Plumbing
	pattern, pressurization	pressurization	scheduling		airflow	scheduling		pressurization	pressurization		pattern,			pressurization			lighting	openers	operators
improvement:					pattern						pressurization						controls		
Typical Classrooms	Х		Х		Х	Х	Х		X	Х	Х		Х	Х		Х	Х	Х	Х
Art Room	Х		Х			Х	Х		X	Х	Х		Х	Х		Х	Х	Х	Х
Music Room	Х		Х		X	X	X		X	Х	Х		Х	X		X	X	Х	
Library	Х		Х		X	X	X		X	Х	Х		X	X		X	X	Х	
Cafeteria	Х		Х		X	X	Х		Х	Х	X		Х	X		Х	Х	Х	X
Kitchen	Х		Х		X	X	Х		Х	Х	X		Х	X		Х	Х	Х	X
Kindergarten	X		Х		X	Х	Х		Х	Х	X		Х	X		Х	Х	Х	X
Nurse's Office	Х		Х		Х	Х	Х		Х	Х	Х		Х	Х		Х	Х	Х	X
Teacher's Lounge	Х		Х		Х	Х	Х		Х	Х	Х		Х	Х		Х	Х	Х	Х
Administration	Х		Х		Х	Х	Х		Х	Х	Х		Х	Х		Х	Х	Х	
Gym		Х	Х	Х	Х	Х	Х	Х			Х	Х			Х		Х	Х	Х
Private Bathrooms			Х				Х				Х						Х		Х
Group Bathrooms			Х				Х				Х						Х		Х
Isolation Room	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х

						Buildin	g Systems	Risk Summary	- Existing							
				Rate 1-4, 1=n	neets ASHRA	E design guid	delines for C	OVID-19 or N/A,	2=adequate/mee	ets code, 3=po	or, 4= None					•
	Weight Factor	Typical Classrooms	Art Room	Music Room	Library	Cafeteria	Kitchen	Kindergarten	Nurse's Office	Teacher's Lounge	Administration	Gym	Private Bathrooms	Group Bathrooms		Category Averages
Space Type	-	Typical Classrooms	Specialty Classrooms (shop etc.)	Specialty Classrooms (shop etc.)	Library	Cafeteria	Kitchen	Typical Classrooms	Nurse's Office	Break rooms /Lounge	Administration	Gvm	Private Bathrooms	Group Bathrooms	Isolation Room	
Space Priority (1-10)	-	1	2	2	4	5	6	1	2	5	7	4	10	4	1	
Airflow Pattern	16%	2	2	2	2	2	3	2	2 3	2	2	. 3	2.0	3.0	4.0	
Ventilation	16%	2	2	2	2	2	2	2	2	2	2	2	2.0	2.0	4.0	2.8
Filtration	16%	3	3	3	3	3	3	3	3	3	3	3	1.0	1.0	4.0	2.2 2.2
Pressurization	10%	3	3	3	3	3	3	3	3	3	3	3	2.0	2.0		
Scheduling	10%	2	2	2	2	2	2	2	2 2	2	2 2	. 2	1.0			
Humidification	16%	4	4	4	4	4	1	4	1 4	4	1 4	4	1.0			
Plumbing Operators	4%	1	1	1	1	1	4	1	4	1	1	1	4.0			
Lighting controls	2%	1	1	1	1	1	3	3	3	1	1	3	3.0			2.3
Door Openers	10%	4	4	4	4	4	1	4	1 4	. 4	1 4	4	1.0	1.0	4.0	2.3
Total	100%	22	22	22	22	22	22	24	1 28	22	2 22	. 25	5 17	18	36	
Weighted Risk Weight Based on Priority Weighted Score Based on Pri Risk Multi	iority 7.71	2.7 12% 0.3	2.7 11% 0.3	11%			2.3 3% 0.1	12%	11%	5%	. 1%	7%	-4%	7%	4.0 12% 0.5	100%

School Score (1-4) 2.9 Moderate Risk Weighted Totals

Score Sc	ale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Thayer School - COVID Risk Assessment - Proposed

Building Description Masonr Building Address 50 Lawn Building Date (originally const 905 Building Square Footage Proposed Scope of Work Increas Masonry building; 3 Levels (B, 1, 2); pitched roof 50 Lawrence Street

Increase ventilation run time - building flush out, Provide in space HEPA filtration, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from isolation room, increase exhaust to other areas.

Key Areas / Usage

								Re	commended S	trategies									
	HVAC-1	HVAC-2	HVAC-3	HVAC-4	HVAC-5 Ensure Window	HVAC-6	HVAC-7 Space CO2	HVAC-8 Retro-CX Central Air	HVAC-9 Retro-CX Space	HVAC-10 Provide In-Space	HVAC-11	HVAC-12	HVAC-13 Provide UV-GI	HVAC-14 Improve Air Flow	HVAC-15 Add Humidification	HVAC-16 Add Humidification	Elec-1	Elec-2 Provide FA	Plumb-1 Provide Sensor
	Increase Vent Quantity (Space Level)	Increase Vent Fraction (Central Systems)	Increase Vent Running Time	(Central Systems)	Functionality	Operations (keep open)	Monitoring	Handlers	Terminal Units	Air Filtration	Improve Exhaust from Spaces	Provide UV-GI Lights (Central Systems)	Lights (Within Spaces)	Directivity (Spaces)	(Central Systems)	(Within Spaces)	Provide Lighting Occ Sensors		Ctrl on Plumb
Implementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling	Filtration	Ventilation, airflow	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern,	Filtration		Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting		Plumbing operators
Risk Category improvement:					pattern			,			pressurization						controls		-
Typical Classrooms	✓	✓	✓	Х	✓	✓	✓		X	√			Х			Х	Х	X	X
Private Bathrooms										Х	✓		Х	Х		Х	Х	X	X
Isolation Room					1	✓	✓			√	✓		Х	Х		Х	Х	X	X

X = applicable, ✓ = proposed

Building Systems	Risk Summary	- Existing

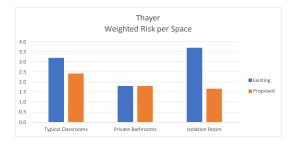
				Rate 1-4, 1=1	meets ASHR.	AE design guidelines	for COVID-19	or N/A, 2=adeo	uate/meets code	e, 3=poor, 4:	= None				
	Weight Factor	Typical	Private	Isolation											Category
	weight Factor	Classrooms	Bathrooms	Room											Averages
		Typical	Private	Isolation											
Space Type	-	Classrooms	Bathrooms	Room											
Durana Balanita (4.40)	-	1	2	1	SELECT	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	
Space Priority (1-10)		_	_		TYPE		TYPE			TYPE		TYPE	ITPE		
Airflow Pattern	16%	2	2	1											1.7
Ventilation	16%	2	2	1											1.7
Filtration	16%	2	2 1	1											1.3
Pressurization	10%	2	2	1											1.7
Scheduling	10%	1	3	1											1.7
Humidification	16%	4	1	4											3.0
Plumbing Operators	4%	1	4	4											3.0
Lighting controls	2%		4	4											4.0
Door Openers	10%	4	1	1											2.0

Total 100%

Weighted Risk		2.4	1.8	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weight Based on Priority		42%	17%	42%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Weighted Score Based on Priority		1.0	0.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
Risk Multi	2.67														

School Score (1-4) 2.0 Moderate Risk Weighted Totals

Score S	Scale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Thayer School - COVID Risk Assessment

Building Description	Masonry building; 3 Levels (B, 1, 2); pitched roof
Building Address	50 Lawrence Street
Building Date (originally con	ns 1905
Building Square Footage	10,800
HVAC System Description & other key infrastructure observations	* Low pressure steam heating is provided by a gas fired boiler. * Terminal heat is provided by radiators located throughout the spaces. Radiators are controlled by manually adjusted thermostatic regulators. * Air conditioning is provided in four classrooms via packaged air conditioners located above the ceilings. Air is distributed to ceiling supply diffusers. * The heating system is on DDC control to enable the boiler only. * The Isolation Room has operable windows, a steam raditor and a bathroom that is not exhausted. * Lighting is manually controlled via toggle switches * Plumbing fixtures are all manually operated

Key Areas / Usage

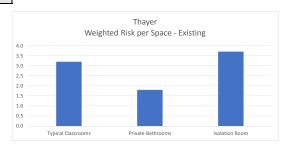
								Re	commended St	rategies									
	HVAC-1	HVAC-2	HVAC-3	HVAC-4	HVAC-5	HVAC-6	HVAC-7	HVAC-8	HVAC-9	HVAC-10	HVAC-11	HVAC-12	HVAC-13	HVAC-14	HVAC-15	HVAC-16	Elec-1	Elec-2	Plumb-1
	Increase Vent	Increase Vent	Increase Vent	Increase Filtration		Improve Window/Door	Space CO2	Retro-CX Central Air	Retro-CX Space	Provide In-Space		Provide UV-GI	Provide UV-GI	Improve Air Flow	Add Humidification	Add Humidification	Provide Lighting		Provide Sensor
	Quantity (Space Level)	Fraction (Central Systems)	Running Time	(Central Systems)	Functionality	Operations (keep open)	Monitoring	Handlers	Terminal Units	Air Filtration	Spaces	Lights (Central Systems)	Lights (Within	Directivity (Spaces)	(Central Systems)	(Within Spaces)	Occ Sensors	for Fire Door	Ctrl on Plumb
	(Space Level)	systems)										Systems)	Spaces)					for Fire Door	Fixtures
Implementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow	Ventilation,	Ventilation,	Filtration	Ventilation,	Ventilation, scheduling	Ventilation	Ventilation,	Ventilation,	Filtration	Ventilation,	Filtration	scheduling	Airflow Pattern,	Humidification	Humidification	scheduling,	Door	Plumbing
	pattern, pressurization	pressurization	scheduling		airflow			pressurization	pressurization		airflow pattern,			pressurization			lighting	openers	operators
Risk Category improvement:					pattern						pressurization						controls		
Typical Classrooms	Х	Х	Х	Х					Х	Х			Х			Х	Х	Х	Х
Private Bathrooms										Х	Х		Х	Х		Х	Х	Х	Х
Isolation Room					Х	Х				Х	Х		Х	Х		Х	Х	Х	Х

						Building Syste	ms Risk Su	ımmary - Existi	ing						
				Rate 1-4, 1=r	meets ASHRA	AE design guidelines f	or COVID-19	or N/A, 2=adeo	uate/meets code	, 3=poor, 4:	= None				
	Weight Factor	Typical	Private	Isolation											Category
	Weight Factor	Classrooms	Bathrooms	Room											Averages
Space Type	-	Typical Classrooms	Private Bathrooms	Isolation Room											
	-	1	2	1	SELECT SPACE	SELECT SPACE TYPE	SELECT SPACE	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE	SELECT SPACE TYPE	SELECT SPACE	SELECT SPACE	SELECT SPACE TYPE	
Space Priority (1-10)					TYPE		TYPE	017102 1112	017102 1112	TYPE	017102 1112	TYPE	TYPE	0.7.02 2	
Airflow Pattern	16%	3	2	4											3.0
Ventilation	16%	3	2	4											3.0
Filtration	16%	3	1	4											2.7
Pressurization	10%	2	2	4											2.7
Scheduling	10%	4	3	4											3.7
Humidification	16%	4	1	4											3.0
Plumbing Operators	4%	1	4	4											3.0
Lighting controls	2%	4	4	4											4.0
Door Openers	10%	4	1	1											2.0

100% 3.7 **42%** 1.5 3.2 **42% 1.3** 1.8 17% 0.3 0.0 **0% 0.0** 0.0 **0% 0.0** 0.0 **0% 0.0** Weighted Risk 0.0 0.0 0.0 0.0 0.0 0.0 0.0 100% 3.2 Weight Based on Priority
Weighted Score Based on Priority 0% 0.0 0% 0.0 0% 0.0 0% 0.0 0% 0.0 0% 0% 0.0 Risk Multi 2.67

School Score (1-4) 3.2 High Risk Weighted Totals

Score Sc	cale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Woodrow Wilson School - COVID Risk Assessment - Proposed

Building Description Mason
Building Address 169 LeL
Building Date (originally cons 1998
Building Square Footage
Proposed Scope of Work Increas Masonry building; 2 Levels; flat, accessible roof 169 LeLand Street

Increase ventilation run time - building flush out, Replace central system filters with minimum MERV-13, Provide in space HEPA filtration, Maximize ventilation at RTUs, provide space level CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office and isolation room, Increase exhaust run time for all other spaces.

Key Areas / Usage

								Recom	mended Strate	gies - Prop	osed								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors		Ctrl on Plumb
Implementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling	Filtration	Ventilation, airflow	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern,	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting		Plumbing operators
Risk Category improvement:					pattern						pressurization						controls		!
Library		✓	✓	✓			✓	Х	X	✓		X	Х		X	X	X	Χ	
Group Bathrooms	X		✓					X			✓		Х				X	Х	Х
Corridor		✓	✓	√	✓	✓		Х				Х	Х		Х		X	Х	
Typical Classrooms		√	✓	√	✓	1	✓	Х		√		Х	X	X	Х	X	X	Х	Х
Isolation Room		✓	✓	√				X		✓	✓	Х	X	X	X	X	X		Х
Administration		✓	1	✓	✓	✓	✓	Х		✓		Х	Х	Х	Х	X	X	Х	
Nurse's Office	√	✓	1	✓			✓	X		✓	✓	Χ	Χ	Х	Х	Х	χ		Χ

X = applicable, ✓ = proposed

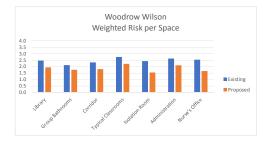
			F	ate 1-4, 1=m	eets ASHRAE	design guidel	ines for COVID-1	9 or N/A, 2=ade	quate/meets cod	le, 3=poor, 4	4= None					
	Weight Factor	Library	Group Bathrooms	Corridor	Typical Classrooms	Isolation Room	Administration	Nurse's Office								Category Averages
Space Type	-	Library	Group Bathrooms	Assembly Areas	Typical Classrooms	Isolation Room	Administration	Nurse's Office								
Space Priority (1-10)	•	4	4	4	1	1	7	2	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	
Airflow Pattern	16%	1	2	2	2	1.0	2	1		111-		111-	1117			1.6
Ventilation	16%		1	1	1	1.0	1	1								1.0
Filtration	16%		1	1	1	1	1	1								1.0
Pressurization	10%	2	2	2	2	1	2	1								1.7
Scheduling	10%	1	1	1	1	1	1	1								1.0
Humidification	16%	4	1	4	4	4.0	4	4								3.6
Plumbing Operators	4%	1	3	1	4	1.0	1	4								2.1
Lighting controls	2%	4	4	4	4	4.0	4	4								4.0
Door Openers	10%	4	4	1	4	1.0	4	1								2.7

Total 100%

Weighted Risk		1.9	1.8	1.8	2.2	1.5	2.1	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weight Based on Priority		11%	11%	11%	24%	24%	-2%	20%	0%	0%	0%	0%	0%	0%	0%	100%
Weighted Score Based on Priority		0.2	0.2	0.2	0.5	0.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8
Dick Multi	6 F7															

School Score (1-4) 1.8 Low Risk
Average of Weighted Totals

Score S	cale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Woodrow Wilson School - COVID Risk Assessment

Building Description	Masonry building; 2 Levels; flat, accessible roof
Building Address	169 LeLand Street
Building Date (originally con	ns 1998
Building Square Footage	100,695
HVAC System Description	* Building is fully air conditioned by seven variable air volume (VAV) AHUs which currently include MERV 8 filtration. Existing MERV 8 filters are
& other key infrastructure observations	scheduled to be replaced with MERV 14. AHU #s 1, 2, 3, 6, and 7 are equipped with humidification but the humidifiers have been turned off due to moisture problems.
	 Air handling units include hot water and chilled water coils and are sid to be running at 10% OA typically with the capability to ramp up to 25%. The library includes ceiling supply air along the perimeter of the space, finned tube radiation perimeter heating, and the ceiling return is loated on the corridor side of the space. This indicates all airflow would be directed towards the corridor. Crorup bathrooms include metering faucets and manual flush operators. Supply and exhaust air is provided. *Corridor spaces include operable windows and also are supplied with air from the central air handling system. *Typical classrooms include operable windows, supply and return at the ceiling with sidewally supply on opposite sides of the room. Plumbing fixtures are manually operated. *No Lighting controls. *the COVID Isolation room is an interior space which includes both supply and return air. *A typical office space includes ceiling supply and return, finned tube radiation, and operable windows. *The school nurse's space includes ceiling supply and return, curtained rest beds, and separate bathrooms with manually operated fixtures.
Key Areas / Usage	

								R	ecommended S	Strategies									
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Elec-2 Provide FA Hold-Opens for Fire Doors	Plumb-1 Provide Sensor Ctrl on Plumb Fixtures
Implementation Complexity:	HIGH	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	MED	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurizatior	Ventilation,	Ventilation, scheduling	Filtration	Ventilation, airflow	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern,	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling,		Plumbing operators
Risk Category improvement:					pattern						pressurization						controls		
Library		Х	Х	Х			Х	Х	Х			Х	Х		Х	Х	Х	Х	
Group Bathrooms	Х		Х					Х			Х		Х				Х	Х	Х
Corridor		Х	Х	Х	Х	Х		Х				Х	Х		Х		Х	Х	
Typical Classrooms		Х	Х	Х	Х	Х	Х	Х		Х		Х	Х	Х	Х	Х	Х	Х	Х
Isolation Room		Х	Х	Х				Х		Х	Х	Х	Х	Х	Х	Х	Х		Х
Administration		Х	Х	Х	Х	Х	Х	Х	,	X		Х	Х	Х	Х	Х	Х	Х	
Nurse's Office	Х	X	X	Х			Х	X		Х	Х	X	Х	Х	Х	Х	Х		X

	Building Systems Risk Summary	- Existing
Rate 1-4 1=meets ASHRAF de	sign guidelines for COVID-19 or N/A	2=adequate/meets.co

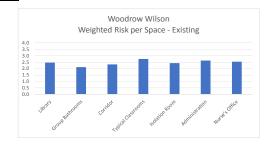
			F	Rate 1-4, 1=m	neets ASHRAE	design guidel	lines for COVID-1	9 or N/A, 2=ade	equate/meets cod	le, 3=poor,	4= None					
	Weight Factor	Library	Group Bathrooms	Corridor	Typical Classrooms	Isolation Room	Administration	Nurse's Office								Category Averages
Space Type	-	Library	Group Bathrooms	Assembly Areas	Typical Classrooms	Isolation Room	Administration	Nurse's Office								
Space Priority (1-10)	-	4	4	4	1	1	7	2	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	SELECT SPACE TYPE	
Airflow Pattern	16%	5 1	2	2	2	2.0	2	2								2.4
Ventilation	16%	5 2	2	2	2	2.0	2	2								2.8
Filtration	16%	5 2	2 1	2	2	2.0	2	2								2.2
Pressurization	10%	5 2	2	2	2	3.0	2	3								2.2
Scheduling	10%	5	3	3	3	3.0	3	3								3.0
Humidification	16%	6 4	1	4	. 4	4.0	4	. 4								1.7
Plumbing Operators	4%	5 1	3	1	4	1.0	1	4								2.8
Lighting controls	2%		4	4	. 4	4.0	4	4								2.3
Door Openers	10%	6	4	1	4	1.0	4	1								2.3

Total 100%

Weighted Risk		2.5	2.1	2.3	2.7	2.4	2.6	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weight Based on Priority		11%	11%	11%	24%	24%	-2%	20%	0%	0%	0%	0%	0%	0%	0%	100%
Weighted Score Based on Priority		0.3	0.2	0.3	0.7	0.6	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5
Risk Multi	6.57															

School Score (1-4) 2.5 Moderate Risk Average of Weighted Totals

Score	Scale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Walsh Middle School - COVID Risk Assessment - Proposed

Masonry building; 2 Levels, flat, accessible roof 301 Brook Street

Building Description Masonr Building Address 301 Bro Building Date (originally cons 1969 Building Square Footage Proposed Scope of Work Increas Increase percentage of outdoor air at space level, Increase ventilation run time - building flush out, Provide in space HEPA filtration, Maximize ventilation at RTUs, provide CO2 monitoring, ensure window functionality and keep open as much as possible, ensure exhaust from nurse's office

Summary

and increase exhaust run time in other areas.

Key Areas / Usage Classrooms, music room, gym, library, auditorium, art room, science room, cafeteria and administration.

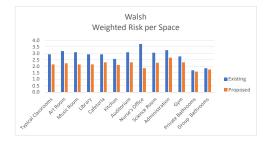
								Re	ecommended	Strategies - Pro	oposed								
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Elec-2 Provide FA Hold-Opens for Fire Doors	Plumb-1 Provide Sensor Ctrl on Plumb Fixtures
Implementation Complexity:	MED	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	HIGH	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling	Filtration	Ventilation, airflow pattern	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern, pressurization	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting controls		Plumbing operators
Typical Classrooms	✓		1		✓ ✓	1	✓		Х	Х	Х		Х			Х	X	Х	_
Art Room	✓		4		4	1	✓		Х	Х	Х		Х			Х	Х	Х	Х
Music Room	✓		✓		✓	✓	✓		Х	Х	Х		Х			Х	Х	Х	
Library		✓	✓	X	✓	✓	✓	✓		Х	X	Χ			X		X	Х	
Cafeteria		✓	1	X	✓	✓	✓	✓		Х	Х	Х		Х	Х		X	Х	X
Kitchen				Х		✓		√		X	✓	Х			X		X	Х	X
Auditorium			✓				✓		X	X			X			X	X	Х	
Nurse's Office			√		✓	✓	✓			X	✓		X			X	X	Х	X
Science Room	✓		✓		✓	✓	1		Х	Х	Х		Х			Х	Х	Х	X
Administration	_				✓	✓.	✓			Х			Х			Х	Х	Х	X
Gym	✓	✓	✓	Х		✓	✓	✓		Х	Х	Х			Х		Х	Х	X
Private Bathrooms	Х		✓		1				Х		✓		Х				Х		X
Group Bathrooms	X		✓		✓				Х		✓		Х				Х		X

X = applicable, ✓ = proposed

						Building	Systems Ri	isk Summary -	Proposed							
				Rate 1-4, 1=m	neets ASHRAI	design guid	elines for CC	VID-19 or N/A,	2=adequate/mee	ts code, 3=pod	or, 4= None					
	Weight Factor	Typical Classrooms	Art Room	Music Room	Library	Cafeteria	Kitchen	Auditorium	Nurse's Office	Science Room	Administration	Gym	Private Bathrooms	Group Bathrooms		Category Averages
Space Type	-	Typical Classrooms	Specialty Classrooms (shop etc.)	Specialty Classrooms (shop etc.)	Library	Cafeteria	Kitchen	Assembly Areas	Nurse's Office	Specialty Classrooms (shop etc.)	Administration	Gym	Private Bathrooms	Group Bathrooms		
Space Priority (1-10)	-	1	2	2	4	5	6	4	2	2	7	4	10	4	SELECT SPACE TYPE	
Airflow Pattern	16%	2	2	2	2	2	3	2	1	2	2 3	2	2 2.0			2.0
Ventilation	16%	1	1	1	1	1	1	1	1	1	2	1	1 2.0			1.2
Filtration	16%	2	2	2	2	3.0	3	3	1	2	2	3	3 1.0			1.9
Pressurization	10%	2	2	2	2	2	2	2	1	2	2 3	2	2.0	2.0		1.9
Scheduling	10%	1	1	1	1	1	1	1	1	1	2	1	1 1	1		1.0
Humidification	16%	4	4	4	4	4.0	1	4	4	4	4	4	1.0			3.1
Plumbing Operators	4%	1	3	1	1	1.0	4	1	4	4	1	1	1 4.0			2.1
Lighting controls	2%	3	3	3	3	3.0	3	3	3	3	3	3	3.0			2.8 2.5
Door Openers	10%	3	3	3	3	3.0	3	3	3	3	3	3	3 1.0	1.0		2.5
Total	100%	19	21	19	19	20	21	20	19	22	23	20) 17	7 18	()
Weighted Risk Weight Based on Priority Weighted Score Based on Prio Risk Multi	ority 8.15	2.1 13% 0.3		12%	2.1 8% 0.2	2.3 6% 0.1			12%	12%	2%	8%	-3%	8%	0.0 0% 0. 0	6 100%

School Score (1-4) 2.22 Moderate Risk Weighted Totals

Score S	Scale
No Updates Required	<1
Low Risk	1-2
Moderate Risk	2-3
High Risk	3-4





Walsh Middle School - COVID Risk Assessment

Building Description	Masonry building; 2 Levels, flat, accessible roof
Building Address	301 Brook Street
Building Date (originally con	ns 1969
Building Square Footage	201,000
HVAC System Description	* The gym includes a two heating and ventilating (H&V) units with overhead air distribution and low return.
& other key infrastructure	* The cafeteria has a dedicated H&V unit with underfloor air distribution at the perimeter. The unit is newer. The space also has operable windows.
observations	* The kitchen and servery has a dedicated H&V unit with overhead air distribution. The unit is newer. * Steam heating is provided by low pressure dual fuel boilers. * The building currently has DDC controls for the heating system.
	* Typical classrooms are served by wall mounted unit ventilators that supplies air for ventilation and heating. A second unit ventilator exhausts the spaces.
	* The building currently has DDC controls and monitoring of outdoor air, static pressure, and airflows at BMS.
	* The library has sidewall supply grilles that provide air for ventilation and heating. The space also has perimeter fin tube radiation for heating. * The teachers' lounge has wall convectors for heating and operable windows for ventilation.
	* Group and private bathrooms have manual light switch controls. * Isolation room is a large bathroom with one sidewall exhaust grille. The room is interior and has no operable windows or ventilation supply.
	* The nurse's office has perimeter fin tube for heating, operable windows for ventilation and next site operable windows of ventilation supply.
	* The Auditorium has an overhead air distribution system and is served by a single H&V unit located in a mezzanine on the stage. * All plumbing fixtures have manual operators.
	* The lecture hall has an overhead air distribution system and is served by a single H&V unit located in a mechanical closet. The room has no windows.
	* The main office has perimeter heating and window A/C units to provide cooling. Operable windows are provided for ventilation. * Corridor has magnet door holds on fire-rated doors. There are occupant sensors for automatic lighting control.
	* Isolation room has no windows and window mounted air conditioner and is exhausted to a return fan on the roof. The bathroom to be used by patrons in the isolation room has exhaust and manual operators on plumbing equipment.
Key Areas / Usage	Classrooms, music room, gym, library, auditorium, art room, science room, cafeteria and administration.

	Recommended Strategies																		
	HVAC-1 Increase Vent Quantity (Space Level)	HVAC-2 Increase Vent Fraction (Central Systems)	HVAC-3 Increase Vent Running Time	HVAC-4 Increase Filtration (Central Systems)	HVAC-5 Ensure Window Functionality	HVAC-6 Improve Window/Door Operations (keep open)	HVAC-7 Space CO2 Monitoring	HVAC-8 Retro-CX Central Air Handlers	HVAC-9 Retro-CX Space Terminal Units	HVAC-10 Provide In-Space Air Filtration	HVAC-11 Improve Exhaust from Spaces	HVAC-12 Provide UV-GI Lights (Central Systems)	HVAC-13 Provide UV-GI Lights (Within Spaces)	HVAC-14 Improve Air Flow Directivity (Spaces)	HVAC-15 Add Humidification (Central Systems)	HVAC-16 Add Humidification (Within Spaces)	Elec-1 Provide Lighting Occ Sensors	Elec-2 Provide FA Hold-Opens for Fire Doors	Plumb-1 Provide Sensor Ctrl on Plumb Fixtures
Implementation Complexity:	MED	MED	LOW	MED	LOW	LOW	MED	MED	MED	HIGH	MED	HIGH	MED	HIGH	HIGH	MED	MED	MED	MED
	Ventilation, airflow pattern, pressurization	Ventilation, pressurization	Ventilation, scheduling	Filtration	Ventilation, airflow	Ventilation, scheduling	Ventilation	Ventilation, pressurization	Ventilation, pressurization	Filtration	Ventilation, airflow pattern,	Filtration	scheduling	Airflow Pattern, pressurization	Humidification	Humidification	scheduling, lighting		Plumbing operators
Risk Category improvement:					pattern						pressurization						controls		
Typical Classrooms	X		X		Х	Х			Х	Х	X		Х			Х	Х	Х	
Art Room			Х		Х	Х			Х	Х	X		X			X	Х	Х	X
Music Room			Х		Х	Х			Х	Х	X		Х			Х	Х	Х	
Library		Х	Х	Х	Х	Х		Х		Х	Х	Х			Х		Х	Х	
Cafeteria		Х	Х	Х	Х	Х		Х		Х	Х	Х		Х	Х		Х	Х	Х
Kitchen			Х	Х		Х		Х		Х	Х	Х			Х		Х	Х	X
Auditorium	Х		Х				Х		Х	Х			Х			Х	Х	Х	
Nurse's Office			Х		Х	Х				Х	Х		Х			Х	Х	Х	X
Science Room			Х		Х	Х			Х	Х	Х		Х			Х	Х	Х	Х
Administration			Х		Х	Х				Х			Х			Х	Х	Х	Х
Gym	Х	Х	Х	Х		Х		Х		Х	Х	Х			Х		Х	Х	Х
Private Bathrooms	Х		Х		Х				Х		Х		Х				Х		Х
Group Bathrooms	Х		Х		Х				Х		Х		Х				Х		X

						Building	Systems R	isk Summary	- Existing							
				Rate 1-4, 1=m	eets ASHRAE	E design guide	elines for CO	VID-19 or N/A,	2=adequate/mee	ts code, 3=poc	or, 4= None					
	Weight Factor	Typical Classrooms	Art Room	Music Room	Library	Cafeteria	Kitchen	Auditorium	Nurse's Office	Room	Administration	Gym	Private Bathrooms	Group Bathrooms		Category Averages
Space Type	•	Typical Classrooms	Specialty Classrooms (shop etc.)	Specialty Classrooms (shop etc.)	Library	Cafeteria	Kitchen	Assembly Areas	Nurse's Office	Specialty Classrooms (shop etc.)	Administration	Gym	Private Bathrooms	Group Bathrooms		
Space Priority (1-10)	-	1	2	2	4	5	6	4	2	2	7	4	10	4	SELECT SPACE TYPE	
Airflow Pattern	16%	3	3	3	2	3.0	3	3	4	3	4	2	2.0			2.7 2.3 2.6 2.7
Ventilation	16%	2	3	3	3	2.0	2	3	3	2	3	2	2 2.0			2.3
Filtration	16%	3	3	3	3	3.0	3	3	4	3	3	3	3 1.0			2.6
Pressurization	10%	3	3	3	3	3.0	3	3	4	3	3	3	3 2.0			2.7
Scheduling	10%	3	3	3	3	3.0	3	3	4	3	3	3	3 2.0			2.7
Humidification	16%	4	4	4	4	4.0	1	4	4	4	4	4	1.0			3.1
Plumbing Operators	4%	1	3	1	1	1.0	4	1	4	4	1	1	1 4.0			2.1
Lighting controls	2%	3	3	3	3	3.0	3	3	3	3	3	3	3.0			2.8
Door Openers	10%	3	3	3	3	3.0	3	3	3	3	3	3	1.0	1.0		2.5
Total	100%	25	28	26	25	25	25	26	33	28	27	24	4 18	3 19	()
Weighted Risk Weight Based on Priority Weighted Score Based on Pri Risk Multi	ority 8.15	2.9 13% 0.4	3.2 1 2 % 0.4	3.1 12% 0.4	2.9 8% 0.2	2.9 6% 0.2	2.6 4% 0.1	3.1 8% 0.2			2%		-3%	8%		6 100%

School Score (1-4) 3.08 High Risk Weighted Totals

Score Scale									
No Updates Required	<1								
Low Risk	1-2								
Moderate Risk	2-3								
High Risk	3-4								

