

- Read the IAQ
 Backgrounder and
 the Background
 Information for
 this checklist.
- 2. Keep the
 Background
 Information and
 make a copy of
 this checklist for
 each ventilation
 unit in your school,
 as well as a
 copy for future
 reference.
- 3. Complete the Checklist.
 - Check the "yes," "no," or "not applicable" box beside each item. (A "no" response requires further attention.)
 - Make comments in the "Notes" section as necessary.
- 4. Return the checklist portion of this document to the IAQ Coordinator.

Na	ame: Andrew Dawson	
Sc	shool: CT River Academy	
Uı	nit Ventilator/AHU No: RTU-6	
Ro	pom or Area: Date Completed: 12-20-24	
1	gnature: Andrew Dansan	
l or	gnature:	7,0
<u> </u>		
1.	OUTDOOR AIR INTAKES	
1a.	Marked locations of all outdoor air intakes on a small floor plan (for example, a fire escape floor plan)	/N/A
1b.	Ensured that the ventilation system was on and operating in "occupied"	
	mode	u
	TIVITY 1: OBSTRUCTIONS	
1c.	Ensured that outdoor air intakes are clear of obstructions, debris, clogs, or covers	
1d.	Installed corrective devices as necessary (e.g., if snowdrifts or leaves	_
	frequently block an intake)	
AC	TIVITY 2: POLLUTANT SOURCES	
1e.	Checked ground-level intakes for pollutant sources (dumpsters, loading	
1f.	docks, and bus-idling areas)	M
	toilet, or laboratory exhaust fans; puddles; and mist from	_
1g.	air-conditioning cooling towers) Resolved any problems with pollutant sources located near outdoor air	Ш
- 8	intakes (e.g., relocated dumpster or extended exhaust pipe)	
AC	TIVITY 3: AIRFLOW	
	Obtained chemical smoke (or a small piece of tissue paper or light plastic)	
11.	Confirmed that outdoor air is entering the intake appropriately	u
2.	SYSTEM CLEANLINESS	
AC	TIVITY 4: AIR FILTERS	
	Replaced filters per maintenance schedule	
20.	Shut off ventilation system fans while replacing filters (prevents dirt from blowing downstream)	Q
	Vacuumed filter areas before installing new filters	
2d.	Confirmed proper fit of filters to prevent air from bypassing (flowing around) the air filter	
2e.	Confirmed proper installation of filters (correct direction for airflow)	ā

2. SYSTEM CLEANLINESS (continued) **ACTIVITY 5: DRAIN PANS** 2f. Ensured that drain pans slant toward the drain (to prevent water from Yes No N/A accumulating) 2g. Cleaned drain pans 2h. Checked drain pans for mold and mildew **ACTIVITY 6: COILS** 2i. Ensured that heating and cooling coils are clean **ACTIVITY 7: AIR-HANDLING UNITS, UNIT VENTILATORS** 2j. Ensured that the interior of air-handling unit(s) or unit ventilator (air-mixing chamber and fan blades) is clean 2k. Ensured that ducts are clean **ACTIVITY 8: MECHANICAL ROOMS** 21. Checked mechanical room for unsanitary conditions, leaks, and spills 2m. Ensured that mechanical rooms and air-mixing chambers are free of trash, chemical products, and supplies _____ 3. CONTROLS FOR OUTDOOR AIR SUPPLY 3a. Ensured that air dampers are at least partially open (minimum position) 3b. Ensured that minimum position provides adequate outdoor air for occupants **ACTIVITY 9: CONTROLS INFORMATION** 3c. Obtained and reviewed all design inside/outside temperature and humidity requirements, controls specifications, as-built mechanical drawings. and controls operations manuals (often uniquely designed)...... **ACTIVITY 10: CLOCKS, TIMERS, SWITCHES** 3d. Turned summer-winter switches to the correct position 3e. Set time clocks appropriately..... 3f. Ensured that settings fit the actual schedule of building use (including night/weekend use) **ACTIVITY 11: CONTROL COMPONENTS** 3g. Ensured appropriate system pressure by testing line pressure at both the occupied (day) setting and the unoccupied (night) setting 3h. Checked that the line dryer prevents moisture buildup...... 3i. Replaced control system filters at the compressor inlet based on the compressor manufacturer's recommendation (for example, when you blow down the tank)..... 3j. Set the line pressure at each thermostat and damper actuator at the proper level (no leakage or obstructions) **ACTIVITY 12: OUTDOOR AIR DAMPERS** 3k. Ensured that the outdoor air damper is visible for inspection..... 31. Ensured that the recirculating relief and/or exhaust dampers are visible for inspection 3m. Ensured that air temperature in the indoor area(s) served by each outdoor air damper is within the normal operating range



NOTE: It is necessary to ensure that the damper is operating properly and within the normal range to continue.



3. CO	INTROLS FOR OUTDOOR AIR SUPPLY (continued)			
3n. Che	cked that the outdoor air damper fully closes within a few minutes hutting off appropriate air handler	Yes/	No □	N/A
whe	cked that the outdoor air damper opens (at least partially with no delay) on the air handler is turned on	.⊌∕	۵	
min	n heating mode, checked that the outdoor air damper goes to its nimum position (without completely closing) when the room mostat is set to 85°F	. 🗆		\
pos to 6	a cooling mode, checked that the outdoor air damper goes to its minimur ition (without completely closing) when the room thermostat is set 0°F and mixed air thermostat is set to 45°F		٥	'
• 7.	The damper actuator links to the damper shaft, and any linkage set screws or bolts are tight			999
	to Activities 13–16 if the damper seems to be operating properly.	_		
ACTIVI 3s. Disc	Connected power to controls (for automatic reset only) to test continuity oss terminals		⊌′	_
red) tripp 3u. Asse	firmed (if applicable) that depressing the manual reset button (usually trips the freeze stat (clicking sound indicates freeze stat was ped)			b
close the	HVAC systems with water coils need protection from the cold. The freeze-coutdoor air damper and disconnect the supply air when tripped. The types $35^{\circ}F$ to $42^{\circ}F$.			
ACTIVI	TY 14: MIXED AIR THERMOSTATS			
	ured that the mixed air stat for heating mode is set no higher 65°F			∀′
	ared that the mixed air stat for cooling mode is set no lower the room thermostat setting			M
A CTIVI	TY 15: ECONOMIZERS			
3x. Con	firmed proper economizer settings based on design specifications or l practices		4	
NOTE: T	he dry-bulb is typically set at 65°F or lower.		^	
3z. Ensu	cked that sensor on the economizer is shielded from direct sunlight ared that dampers operate properly (for outside air, return air,	M		
exha	aust/relief air, and recirculated air), per the design specifications	A		
load of the Dry-bulk and enth	Economizers use varying amounts of cool outdoor air to assist with the content of the content of the content of the content of the conomizers, dry-bulb and entother conomizers wary the amount of outdoor air based on outdoor temperately economizers wary the amount of outdoor air based on outdoor tempidity level.	halpy ture,	2.	

3. CONTROLS FOR OUTDOOR AIR SUPPLY (continued) **ACTIVITY 16: FANS** 3aa. Ensured that all fans (supply fans and associated return or relief fans) that move outside air indoors continuously operate during occupied Yes/No N/A hours (even when room thermostat is satisfied)..... NOTE: If fan shuts off when the thermostat is satisfied, adjust control cycle as necessary to ensure sufficient outdoor air supply. 4. AIR DISTRIBUTION **ACTIVITY 17: AIR DISTRIBUTION** 4a. Ensured that supply and return air pathways in the existing ventilation system perform as required...... 4b. Ensured that passive gravity relief ventilation systems and transfer grilles between rooms and corridors are functioning...... NOTE: If ventilation system is closed or blocked to meet current fire codes, consult with a professional engineer for remedies. 4c. Made sure every occupied space has supply of outdoor air (mechanical system or operable windows) 4d. Ensured that supply and return vents are open and unblocked NOTE: If outlets have been blocked intentionally to correct drafts or discomfort, investigate and correct the cause of the discomfort and reopen the vents. 4e. Modified the HVAC system to supply outside air to areas without an outdoor air supply 4f. Modified existing HVAC systems to incorporate any room or zone layout and population changes 4g. Moved all barriers (for example, room dividers, large free-standing blackboards or displays, bookshelves) that could block movement of air in the room, especially those blocking air vents 4h. Ensured that unit ventilators are quiet enough to accommodate classroom activities 🗹 4i. Ensured that classrooms are free of uncomfortable drafts produced by air from supply terminals **ACTIVITY 18: PRESSURIZATION IN BUILDINGS** NOTE: To prevent infiltration of outdoor pollutants, the ventilation system is designed to maintain positive pressurization in the building. Therefore, ensure that the system, including any exhaust fans, is operating on the "occupied" cycle when doing this activity. 4j. Ensured that air flows out of the building (using chemical smoke) through windows, doors, or other cracks and holes in exterior wall (for example, floor joints, pipe openings)..... 5. EXHAUST SYSTEMS **ACTIVITY 19: EXHAUST FAN OPERATION** 5a. Checked (using chemical smoke) that air flows into exhaust fan grille(s) \square

If fans are running but air is not flowing toward the exhaust intake, check for the following:

- · Inoperable dampers
- · Obstructed, leaky, or disconnected ductwork
- Undersized or improperly installed fan
- · Broken fan belt





ACTIVITY 20: EXHAUST AIRFLOW

NOTE: Prevent migration of indoor contaminants from areas such as bathrooms, kitchens, and labs by keeping them under negative pressure (as compared to surrounding spaces). Yes No N/A 5b. Checked (using chemical smoke) that air is drawn into the room from adjacent spaces...... Stand outside the room with the door slightly open while checking airflow high and low in the door opening (see "How to Measure Airflow"). **ACTIVITY 21: EXHAUST DUCTWORK** 5d. Checked that the exhaust ductwork downstream of the exhaust fan (which is 6. QUANTITY OF OUTDOOR AIR ACTIVITY 22: OUTDOOR AIR MEASUREMENTS AND CALCULATIONS NOTE: Refer to "How to Measure Airflow" for techniques. 6a. Measured the quantity of outdoor air supplied (22a) to each ventilation 6b. Calculated the number of occupants served (22b) by the ventilation unit 6c. Divided outdoor air supply (22a) by the number of occupants (22b) to determine the existing quantity of outdoor air supply per person (22c)....... ACTIVITY 23: ACCEPTABLE LEVELS OF OUTDOOR AIR QUANTITIES 6d. Compared the existing outdoor air per person (22c) to the recommended levels in Table 1 6e. Corrected problems with ventilation units that supplied inadequate

NOTES

Section 6. - Building automation controls CO2 monitoring and modulates outside air demands accordingly.

quantities of outdoor air to ensure that outdoor air quantities (22c) meet the recommended levels in Table 1



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N	ame: Andrew Lawson	
S	chool: CT River Academy	
1	nit Ventilator/AHU No: RTU-5	
	17 70 74	,
1		
Si	gnature: Undrew Vansan	
L		
	×	
1.	OUTDOOR AIR INTAKES	
la.	Marked locations of all outdoor air intakes on a small floor plan (for example, a fire escape floor plan)	N/A
1b.	Ensured that the ventilation system was on and operating in "occupied" mode	ם נ
AC	CTIVITY 1: OBSTRUCTIONS	
1c.	Ensured that outdoor air intakes are clear of obstructions, debris, clogs,	
1.1	or covers	3 0
ra.	Installed corrective devices as necessary (e.g., if snowdrifts or leaves frequently block an intake)	ם נ
AC	CTIVITY 2: POLLUTANT SOURCES	
1e.	Checked ground-level intakes for pollutant sources (dumpsters, loading	
1.£	docks, and bus-idling areas)) (2/
11.	Checked rooftop intakes for pollutant sources (plumbing vents; kitchen, toilet, or laboratory exhaust fans; puddles; and mist from	
	air-conditioning cooling towers)	ם נ
1g.	Resolved any problems with pollutant sources located near outdoor air	
	intakes (e.g., relocated dumpster or extended exhaust pipe)	ט נ
AC	CTIVITY 3: AIRFLOW	
	Obtained chemical smoke (or a small piece of tissue paper or light plastic)	ם מ
li.	Confirmed that outdoor air is entering the intake appropriately	ם מ
2	SYSTEM CLEANLINESS	
	CTIVITY 4: AIR FILTERS Replaced filters per maintenance schedule	ם ו
	Shut off ventilation system fans while replacing filters (prevents dirt from	
	blowing downstream)	ם נ
	Vacuumed filter areas before installing new filters	ם נ
∠a.	Confirmed proper fit of filters to prevent air from bypassing (flowing around) the air filter	ם ם
2e.	Confirmed proper installation of filters (correct direction for airflow)	

2. SYSTEM CLEANLINESS (continued) **ACTIVITY 5: DRAIN PANS** Yes/No N/A 2f. Ensured that drain pans slant toward the drain (to prevent water from 2g. Cleaned drain pans 2h. Checked drain pans for mold and mildew **ACTIVITY 6: COILS** 2i. Ensured that heating and cooling coils are clean **ACTIVITY 7: AIR-HANDLING UNITS, UNIT VENTILATORS** 2j. Ensured that the interior of air-handling unit(s) or unit ventilator (air-mixing chamber and fan blades) is clean 2k. Ensured that ducts are clean **ACTIVITY 8: MECHANICAL ROOMS** 21. Checked mechanical room for unsanitary conditions, leaks, and spills 2m. Ensured that mechanical rooms and air-mixing chambers are free of trash. chemical products, and supplies _____ 3. CONTROLS FOR OUTDOOR AIR SUPPLY 3a. Ensured that air dampers are at least partially open (minimum position) 3b. Ensured that minimum position provides adequate outdoor air for occupants **ACTIVITY 9: CONTROLS INFORMATION** 3c. Obtained and reviewed all design inside/outside temperature and humidity requirements, controls specifications, as-built mechanical drawings, and controls operations manuals (often uniquely designed)...... **ACTIVITY 10: CLOCKS, TIMERS, SWITCHES** 3d. Turned summer-winter switches to the correct position 3e. Set time clocks appropriately...... 3f. Ensured that settings fit the actual schedule of building use (including night/weekend use) **ACTIVITY 11: CONTROL COMPONENTS** 3g. Ensured appropriate system pressure by testing line pressure at both the occupied (day) setting and the unoccupied (night) setting 3i. Replaced control system filters at the compressor inlet based on the compressor manufacturer's recommendation (for example, when you blow down the tank)..... 3j. Set the line pressure at each thermostat and damper actuator at the proper level (no leakage or obstructions) **ACTIVITY 12: OUTDOOR AIR DAMPERS** 3k. Ensured that the outdoor air damper is visible for inspection..... 31. Ensured that the recirculating relief and/or exhaust dampers are visible for inspection 3m. Ensured that air temperature in the indoor area(s) served by each



NOTE: It is necessary to ensure that the damper is operating properly and within the normal range to continue.

outdoor air damper is within the normal operating range......



3.	CONTROLS FOR OUTDOOR AIR SUPPLY (continued)			
3n.	Checked that the outdoor air damper fully closes within a few minutes of shutting off appropriate air handler		No	N/A
30.	Checked that the outdoor air damper opens (at least partially with no delay) when the air handler is turned on	/	Q	0
	If in heating mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 85°F	ב	a	b
	If in cooling mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 60°F and mixed air thermostat is set to 45°F		۵	b
3r.	 If the outdoor air damper does not move, confirmed the following items: The damper actuator links to the damper shaft, and any linkage set screws or bolts are tight	<u> </u>	000	
Pro	ceed to Activities 13–16 if the damper seems to be operating properly.			
	TIVITY 13: FREEZE STATS Disconnected power to controls (for automatic reset only) to test continuity across terminals	ב	∀′	
	Confirmed (if applicable) that depressing the manual reset button (usually red) trips the freeze stat (clicking sound indicates freeze stat was tripped)		o o	Y
clos	TE: HVAC systems with water coils need protection from the cold. The freeze-s te the outdoor air damper and disconnect the supply air when tripped. The typi ge is 35°F to 42°F.			
AC'	TIVITY 14: MIXED AIR THERMOSTATS			
3v.	Ensured that the mixed air stat for heating mode is set no higher than 65°F	ב ו		₹
3w.	Ensured that the mixed air stat for cooling mode is set no lower than the room thermostat setting	ָ נ		M
AC'	TIVITY 15: ECONOMIZERS			
	Confirmed proper economizer settings based on design specifications or local practices	ֿ נ	4	
NO	TE: The dry-bulb is typically set at 65°F or lower.			
	Checked that sensor on the economizer is shielded from direct sunlight Ensured that dampers operate properly (for outside air, return air,	1		<u> </u>
	exhaust/relief air, and recirculated air), per the design specifications	ן נ	ū	
load Dry and	TE: Economizers use varying amounts of cool outdoor air to assist with the cold of the room or rooms. There are two types of economizers, dry-bulb and enthenged -bulb economizers vary the amount of outdoor air based on outdoor temperated enthalpy economizers vary the amount of outdoor air based on outdoor temper humidity level.	alpy. ure,		

3. CONTROLS FOR OUTDOOR AIR SUPPLY (continued) **ACTIVITY 16: FANS** 3aa. Ensured that all fans (supply fans and associated return or relief fans) that move outside air indoors continuously operate during occupied No N/A hours (even when room thermostat is satisfied)..... NOTE: If fan shuts off when the thermostat is satisfied, adjust control cycle as necessary to ensure sufficient outdoor air supply. 4. AIR DISTRIBUTION **ACTIVITY 17: AIR DISTRIBUTION** 4a. Ensured that supply and return air pathways in the existing ventilation system perform as required..... 4b. Ensured that passive gravity relief ventilation systems and transfer grilles between rooms and corridors are functioning..... NOTE: If ventilation system is closed or blocked to meet current fire codes, consult with a professional engineer for remedies. 4c. Made sure every occupied space has supply of outdoor air (mechanical system or operable windows) 4d. Ensured that supply and return vents are open and unblocked NOTE: If outlets have been blocked intentionally to correct drafts or discomfort, investigate and correct the cause of the discomfort and reopen the vents. 4e. Modified the HVAC system to supply outside air to areas without an outdoor air supply 4f. Modified existing HVAC systems to incorporate any room or zone layout and population changes 4g. Moved all barriers (for example, room dividers, large free-standing blackboards or displays, bookshelves) that could block movement of air in the room, especially those blocking air vents 4h. Ensured that unit ventilators are quiet enough to accommodate classroom activities 4i. Ensured that classrooms are free of uncomfortable drafts produced by air from supply terminals **ACTIVITY 18: PRESSURIZATION IN BUILDINGS** NOTE: To prevent infiltration of outdoor pollutants, the ventilation system is designed to maintain positive pressurization in the building. Therefore, ensure that the system, including any exhaust fans, is operating on the "occupied" cycle when doing this activity. 4j. Ensured that air flows out of the building (using chemical smoke) through windows, doors, or other cracks and holes in exterior wall (for example, floor joints, pipe openings)..... 5. EXHAUST SYSTEMS **ACTIVITY 19: EXHAUST FAN OPERATION** 5a. Checked (using chemical smoke) that air flows into exhaust fan grille(s)

If fans are running but air is not flowing toward the exhaust intake, check for the following:

- Inoperable dampers
- · Obstructed, leaky, or disconnected ductwork
- · Undersized or improperly installed fan
- Broken fan belt





ACTIVITY 20: EXHAUST AIRFLOW

NOTE: Prevent migration of indoor contaminants from areas such as bathrooms, kitchens, and labs by keeping them under negative pressure (as compared to surrounding spaces).			
5b. Checked (using chemical smoke) that air is drawn into the room from adjacent spaces	No	N/A	
Stand outside the room with the door slightly open while checking airflow high and let the door opening (see "How to Measure Airflow").	ow in	_	
5c. Ensured that air is flowing toward the exhaust intake	M		
ACTIVITY 21: EXHAUST DUCTWORK 5d. Checked that the exhaust ductwork downstream of the exhaust fan (which is under positive pressure) is sealed and in good condition	Y		
6. QUANTITY OF OUTDOOR AIR			
ACTIVITY 22: OUTDOOR AIR MEASUREMENTS AND CALCULATIONS			
NOTE: Refer to "How to Measure Airflow" for techniques.			
6a. Measured the quantity of outdoor air supplied (22a) to each ventilation unit	0	₫⁄	
6b. Calculated the number of occupants served (22b) by the ventilation unit under consideration		\(\)	
6c. Divided outdoor air supply (22a) by the number of occupants (22b) to determine the existing quantity of outdoor air supply per person (22c)□		d	
ACTIVITY 23: ACCEPTABLE LEVELS OF OUTDOOR AIR QUANTITIES			
6d. Compared the existing outdoor air per person (22c) to the recommended			

levels in Table 1

 NOTES

Section 6. - Building automation controls CO2 monitoring and modulates outside air demands accordingly.

6e. Corrected problems with ventilation units that supplied inadequate



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 - Check the "yes,"
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Na	ame: Andrew Lawson		
Sc	shool: CT River Academy		
	nit Ventilator/AHU No: RTU-4		
1	1)-20-1	741	
Ro	pom or Area: Date Completed: 12-20-3	<u> </u>	
Si	gnature: Undrew Vousan		
	8		
1.	OUTDOOR AIR INTAKES		
la.	Marked locations of all outdoor air intakes on a small floor plan (for example, a fire escape floor plan)	No	A\/A □
1b.	Ensured that the ventilation system was on and operating in "occupied" mode	/ _	
AC	TIVITY 1: OBSTRUCTIONS		
1c.	Ensured that outdoor air intakes are clear of obstructions, debris, clogs,	/	
	or covers		
Id.	Installed corrective devices as necessary (e.g., if snowdrifts or leaves frequently block an intake)		ū
AC	TIVITY 2: POLLUTANT SOURCES		
1e.	Checked ground-level intakes for pollutant sources (dumpsters, loading		
1.0	docks, and bus-idling areas)		
lt.	Checked rooftop intakes for pollutant sources (plumbing vents; kitchen, toilet, or laboratory exhaust fans; puddles; and mist from		
	air-conditioning cooling towers)		
1g.	Resolved any problems with pollutant sources located near outdoor air	_	_
	intakes (e.g., relocated dumpster or extended exhaust pipe)		
AC	TIVITY 3: AIRFLOW	,	
1h.	Obtained chemical smoke (or a small piece of tissue paper or light plastic)	هر	
	Confirmed that outdoor air is entering the intake appropriately		
78	OVOTERA OF EARLY INCOME.		
2.	SYSTEM CLEANLINESS		
	TIVITY 4: AIR FILTERS	/	
	Replaced filters per maintenance schedule		
26.	Shut off ventilation system fans while replacing filters (prevents dirt from blowing downstream)		П
2c.	Vacuumed filter areas before installing new filters		_
	Confirmed proper fit of filters to prevent air from bypassing (flowing	/	
a .	around) the air filter		
Ze.	Confirmed proper installation of filters (correct direction for airflow)	u	

2. SYSTEM CLEANLINESS (continued) **ACTIVITY 5: DRAIN PANS** 2f. Ensured that drain pans slant toward the drain (to prevent water from Yes/No N/A accumulating) 2g. Cleaned drain pans 2h. Checked drain pans for mold and mildew **ACTIVITY 6: COILS** 2i. Ensured that heating and cooling coils are clean **ACTIVITY 7: AIR-HANDLING UNITS, UNIT VENTILATORS** 2j. Ensured that the interior of air-handling unit(s) or unit ventilator (air-mixing chamber and fan blades) is clean ______ 2k. Ensured that ducts are clean **ACTIVITY 8: MECHANICAL ROOMS** 21. Checked mechanical room for unsanitary conditions, leaks, and spills 2m. Ensured that mechanical rooms and air-mixing chambers are free of trash, chemical products, and supplies 3. CONTROLS FOR OUTDOOR AIR SUPPLY 3a. Ensured that air dampers are at least partially open (minimum position) 3b. Ensured that minimum position provides adequate outdoor air for occupants **ACTIVITY 9: CONTROLS INFORMATION** 3c. Obtained and reviewed all design inside/outside temperature and humidity requirements, controls specifications, as-built mechanical drawings, and controls operations manuals (often uniquely designed) **ACTIVITY 10: CLOCKS, TIMERS, SWITCHES** 3d. Turned summer-winter switches to the correct position 3e. Set time clocks appropriately..... 3f. Ensured that settings fit the actual schedule of building use (including night/weekend use) **ACTIVITY 11: CONTROL COMPONENTS** 3g. Ensured appropriate system pressure by testing line pressure at both the occupied (day) setting and the unoccupied (night) setting 3h. Checked that the line dryer prevents moisture buildup 3i. Replaced control system filters at the compressor inlet based on the compressor manufacturer's recommendation (for example, when you blow down the tank)..... 3j. Set the line pressure at each thermostat and damper actuator at the proper level (no leakage or obstructions) **ACTIVITY 12: OUTDOOR AIR DAMPERS** 3k. Ensured that the outdoor air damper is visible for inspection..... 31. Ensured that the recirculating relief and/or exhaust dampers are visible for inspection 3m. Ensured that air temperature in the indoor area(s) served by each





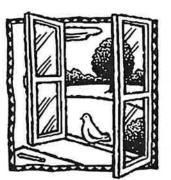
3.	CONTROLS FOR OUTDOOR AIR SUPPLY (continued)		
	of shutting off appropriate air handler	/No	N/A
30.	Checked that the outdoor air damper opens (at least partially with no delay) when the air handler is turned on	' _	
3p.	If in heating mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 85°F	۵	⊌′
	If in cooling mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 60°F and mixed air thermostat is set to 45°F	۵	\
31.	 If the outdoor air damper does not move, confirmed the following items: The damper actuator links to the damper shaft, and any linkage set screws or bolts are tight	0 0 0	
Duo	location, calibrated correctly)		T
AC	TIVITY 13: FREEZE STATS Disconnected power to controls (for automatic reset only) to test continuity across terminals	8	/
	Confirmed (if applicable) that depressing the manual reset button (usually red) trips the freeze stat (clicking sound indicates freeze stat was tripped)	0	Y
clos	TE: HVAC systems with water coils need protection from the cold. The freeze-state the outdoor air damper and disconnect the supply air when tripped. The typicage is 35°F to 42°F.		
AC	TIVITY 14: MIXED AIR THERMOSTATS		
3 v.	Ensured that the mixed air stat for heating mode is set no higher than 65°F		ď
3w.	Ensured that the mixed air stat for cooling mode is set no lower than the room thermostat setting	۵	M
AC'	TIVITY 15: ECONOMIZERS		
3x.	Confirmed proper economizer settings based on design specifications or local practices	⊌	_
NO.	TE: The dry-bulb is typically set at 65°F or lower.	_	
	Checked that sensor on the economizer is shielded from direct sunlight		<u>а</u>
load Dry and	TE: Economizers use varying amounts of cool outdoor air to assist with the cool of the room or rooms. There are two types of economizers, dry-bulb and enthalf-bulb economizers vary the amount of outdoor air based on outdoor temperature enthalpy economizers vary the amount of outdoor air based on outdoor temperature humidity level.	ру. г,	J

3. CONTROLS FOR OUTDOOR AIR SUPPLY (continued) **ACTIVITY 16: FANS** 3aa. Ensured that all fans (supply fans and associated return or relief fans) that move outside air indoors continuously operate during occupied Yes/No N/A hours (even when room thermostat is satisfied)...... NOTE: If fan shuts off when the thermostat is satisfied, adjust control cycle as necessary to ensure sufficient outdoor air supply. 4. AIR DISTRIBUTION **ACTIVITY 17: AIR DISTRIBUTION** 4a. Ensured that supply and return air pathways in the existing ventilation system perform as required...... 4b. Ensured that passive gravity relief ventilation systems and transfer grilles between rooms and corridors are functioning..... NOTE: If ventilation system is closed or blocked to meet current fire codes, consult with a professional engineer for remedies. 4c. Made sure every occupied space has supply of outdoor air (mechanical system or operable windows) 4d. Ensured that supply and return vents are open and unblocked NOTE: If outlets have been blocked intentionally to correct drafts or discomfort, investigate and correct the cause of the discomfort and reopen the vents. 4e. Modified the HVAC system to supply outside air to areas without an outdoor air supply 4f. Modified existing HVAC systems to incorporate any room or zone layout and population changes 4g. Moved all barriers (for example, room dividers, large free-standing blackboards or displays, bookshelves) that could block movement of air in the room, especially those blocking air vents 4h. Ensured that unit ventilators are quiet enough to accommodate classroom activities 🗹 4i. Ensured that classrooms are free of uncomfortable drafts produced by air from supply terminals ACTIVITY 18: PRESSURIZATION IN BUILDINGS NOTE: To prevent infiltration of outdoor pollutants, the ventilation system is designed to maintain positive pressurization in the building. Therefore, ensure that the system, including any exhaust fans, is operating on the "occupied" cycle when doing this activity. 4j. Ensured that air flows out of the building (using chemical smoke) through windows, doors, or other cracks and holes in exterior wall (for example, floor joints, pipe openings) 5. EXHAUST SYSTEMS **ACTIVITY 19: EXHAUST FAN OPERATION**

If fans are running but air is not flowing toward the exhaust intake, check for the following:

5a. Checked (using chemical smoke) that air flows into exhaust fan grille(s)

- Inoperable dampers
- · Obstructed, leaky, or disconnected ductwork
- · Undersized or improperly installed fan
- Broken fan belt





ACTIVITY 20: EXHAUST AIRFLOW

NOTE: Prevent migration of indoor contaminants from areas such as bathrooms, kitchens, and labs by keeping them under negative pressure (as compared to surrounding spaces). 5b. Checked (using chemical smoke) that air is drawn into the room from Yes No N/A adjacent spaces..... Stand outside the room with the door slightly open while checking airflow high and low in the door opening (see "How to Measure Airflow"). ACTIVITY 21: EXHAUST DUCTWORK 5d. Checked that the exhaust ductwork downstream of the exhaust fan (which is 6. QUANTITY OF OUTDOOR AIR ACTIVITY 22: OUTDOOR AIR MEASUREMENTS AND CALCULATIONS NOTE: Refer to "How to Measure Airflow" for techniques. 6a. Measured the quantity of outdoor air supplied (22a) to each ventilation 6b. Calculated the number of occupants served (22b) by the ventilation unit under consideration..... 6c. Divided outdoor air supply (22a) by the number of occupants (22b) to determine the existing quantity of outdoor air supply per person (22c)........ **ACTIVITY 23: ACCEPTABLE LEVELS OF OUTDOOR AIR QUANTITIES** 6d. Compared the existing outdoor air per person (22c) to the recommended levels in Table 1 6e. Corrected problems with ventilation units that supplied inadequate quantities of outdoor air to ensure that outdoor air quantities (22c) meet

the recommended levels in Table 1

NOTES

Section 6. - Building automation controls CO2 monitoring and modulates outside air demands accordingly.

- 7. :41



- Read the IAQ
 Backgrounder and
 the Background
 Information for
 this checklist.
- 2. Keep the
 Background
 Information and
 make a copy of
 this checklist for
 each ventilation
 unit in your school,
 as well as a
 copy for future
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- 3. Complete the Checklist.
 - Check the "yes,"
 "no," or
 "not applicable"
 box beside each
 item. (A "no"
 response
 requires further
 attention.)
 - Make comments in the "Notes" section as necessary.
- 4. Return the checklist portion of this document to the IAQ Coordinator.

Ventilation Checklist

Andrew Dawson

School	CT River Academy	
	entilator/AHU No: RTU-3	
1	or Area: Date Completed: 12-20-24	
1. OU	ITDOOR AIR INTAKES	
	rked locations of all outdoor air intakes on a small floor plan (for mple, a fire escape floor plan)	N/A
1b. Ens	ured that the ventilation system was on and operating in "occupied"	
ACTIV	ITY 1: OBSTRUCTIONS	
or c	ured that outdoor air intakes are clear of obstructions, debris, clogs,	
ld. Inst	alled corrective devices as necessary (e.g., if snowdrifts or leaves quently block an intake)	0
ACTIV	ITY 2: POLLUTANT SOURCES	
doc	cked ground-level intakes for pollutant sources (dumpsters, loading ks, and bus-idling areas)	\
toile	cked rooftop intakes for pollutant sources (plumbing vents; kitchen, et, or laboratory exhaust fans; puddles; and mist from conditioning cooling towers)	
1g. Rese	olved any problems with pollutant sources located near outdoor air	•
inta	kes (e.g., relocated dumpster or extended exhaust pipe)	
	ITY 3: AIRFLOW	
	ained chemical smoke (or a small piece of tissue paper or light plastic)	
2. SY	STEM CLEANLINESS	
ACTIV	ITY 4: AIR FILTERS	
	laced filters per maintenance schedule	
blov	t off ventilation system fans while replacing filters (prevents dirt from wing downstream)	
	uumed filter areas before installing new filters	
aroı	and) the air filter	
2e. Con	firmed proper installation of filters (correct direction for airflow)	

2. SYSTEM CLEANLINESS (continued) **ACTIVITY 5: DRAIN PANS** 2f. Ensured that drain pans slant toward the drain (to prevent water from Yes No N/A accumulating) 2g. Cleaned drain pans 2h. Checked drain pans for mold and mildew **ACTIVITY 6: COILS** 2i. Ensured that heating and cooling coils are clean **ACTIVITY 7: AIR-HANDLING UNITS, UNIT VENTILATORS** 2j. Ensured that the interior of air-handling unit(s) or unit ventilator (air-mixing chamber and fan blades) is clean 2k. Ensured that ducts are clean **ACTIVITY 8: MECHANICAL ROOMS** 21. Checked mechanical room for unsanitary conditions, leaks, and spills 2m. Ensured that mechanical rooms and air-mixing chambers are free of trash, chemical products, and supplies 3. CONTROLS FOR OUTDOOR AIR SUPPLY 3a. Ensured that air dampers are at least partially open (minimum position) 3b. Ensured that minimum position provides adequate outdoor air for occupants **ACTIVITY 9: CONTROLS INFORMATION** 3c. Obtained and reviewed all design inside/outside temperature and humidity requirements, controls specifications, as-built mechanical drawings, and controls operations manuals (often uniquely designed)...... **ACTIVITY 10: CLOCKS, TIMERS, SWITCHES** 3d. Turned summer-winter switches to the correct position 3e. Set time clocks appropriately..... 3f. Ensured that settings fit the actual schedule of building use (including night/weekend use) **ACTIVITY 11: CONTROL COMPONENTS** 3g. Ensured appropriate system pressure by testing line pressure at both the occupied (day) setting and the unoccupied (night) setting 3h. Checked that the line dryer prevents moisture buildup...... 3i. Replaced control system filters at the compressor inlet based on the compressor manufacturer's recommendation (for example, when you blow down the tank)..... 3j. Set the line pressure at each thermostat and damper actuator at the proper level (no leakage or obstructions) **ACTIVITY 12: OUTDOOR AIR DAMPERS** 3k. Ensured that the outdoor air damper is visible for inspection..... 31. Ensured that the recirculating relief and/or exhaust dampers are visible for inspection 3m. Ensured that air temperature in the indoor area(s) served by each





3.	CONTROLS FOR OUTDOOR AIR SUPPLY (continued)		
	of shutting off appropriate air handler	∕No □	N/A
	Checked that the outdoor air damper opens (at least partially with no delay) when the air handler is turned on		
	If in heating mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 85°F	۵	5
	If in cooling mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 60°F and mixed air thermostat is set to 45°F	0	b
	 If the outdoor air damper does not move, confirmed the following items: The damper actuator links to the damper shaft, and any linkage set screws or bolts are tight	000	8 8 8 8 8
Pro	ceed to Activities $13-16$ if the damper seems to be operating properly.		
	TIVITY 13: FREEZE STATS Disconnected power to controls (for automatic reset only) to test continuity across terminals	⊌∕	_
	Confirmed (if applicable) that depressing the manual reset button (usually red) trips the freeze stat (clicking sound indicates freeze stat was tripped)	<u> </u>	∀
3u.	Assessed the feasibility of replacing all manual reset freeze-stats with automatic reset freeze-stats	۵	
clos	TE: HVAC systems with water coils need protection from the cold. The freeze-stat te the outdoor air damper and disconnect the supply air when tripped. The typica ge is 35°F to 42°F.		
	TIVITY 14: MIXED AIR THERMOSTATS		
	Ensured that the mixed air stat for heating mode is set no higher than 65°F		ď
3w.	Ensured that the mixed air stat for cooling mode is set no lower than the room thermostat setting		Ø
AC'	TIVITY 15: ECONOMIZERS		
3x.	Confirmed proper economizer settings based on design specifications or local practices	4	, .
NO	TE: The dry-bulb is typically set at 65°F or lower.	_	
3y.	Checked that sensor on the economizer is shielded from direct sunlight		
	Ensured that dampers operate properly (for outside air, return air, exhaust/relief air, and recirculated air), per the design specifications		
load Dry and	TE: Economizers use varying amounts of cool outdoor air to assist with the coolid of the room or rooms. There are two types of economizers, dry-bulb and enthalpy-bulb economizers vary the amount of outdoor air based on outdoor temperature, enthalpy economizers vary the amount of outdoor air based on outdoor temperature, humidity level.	y.	

3. CONTROLS FOR OUTDOOR AIR SUPPLY (continued) **ACTIVITY 16: FANS** 3aa. Ensured that all fans (supply fans and associated return or relief fans) that move outside air indoors continuously operate during occupied Yes/No N/A hours (even when room thermostat is satisfied)..... NOTE: If fan shuts off when the thermostat is satisfied, adjust control cycle as necessary to ensure sufficient outdoor air supply. 4. AIR DISTRIBUTION **ACTIVITY 17: AIR DISTRIBUTION** 4a. Ensured that supply and return air pathways in the existing ventilation system perform as required...... 4b. Ensured that passive gravity relief ventilation systems and transfer grilles between rooms and corridors are functioning..... NOTE: If ventilation system is closed or blocked to meet current fire codes, consult with a professional engineer for remedies. 4c. Made sure every occupied space has supply of outdoor air (mechanical system or operable windows) 4d. Ensured that supply and return vents are open and unblocked NOTE: If outlets have been blocked intentionally to correct drafts or discomfort, investigate and correct the cause of the discomfort and reopen the vents. 4e. Modified the HVAC system to supply outside air to areas without an outdoor air supply 4f. Modified existing HVAC systems to incorporate any room or zone layout and population changes 4g. Moved all barriers (for example, room dividers, large free-standing blackboards or displays, bookshelves) that could block movement of air in the room, especially those blocking air vents 4h. Ensured that unit ventilators are quiet enough to accommodate classroom activities 4i. Ensured that classrooms are free of uncomfortable drafts produced by air from supply terminals **ACTIVITY 18: PRESSURIZATION IN BUILDINGS** NOTE: To prevent infiltration of outdoor pollutants, the ventilation system is designed to maintain positive pressurization in the building. Therefore, ensure that the system, including any exhaust fans, is operating on the "occupied" cycle when doing this activity. 4j. Ensured that air flows out of the building (using chemical smoke) through windows, doors, or other cracks and holes in exterior wall (for example, floor joints, pipe openings)...... 5. EXHAUST SYSTEMS **ACTIVITY 19: EXHAUST FAN OPERATION** 5a. Checked (using chemical smoke) that air flows into exhaust fan grille(s) If fans are running but air is not flowing toward the exhaust intake, check for the following:

• Inoperable dampers

· Broken fan belt

Obstructed, leaky, or disconnected ductworkUndersized or improperly installed fan

4 of 5



ACTIVITY 20: EXHAUST AIRFLOW

NOTE: Prevent migration of indoor contaminants from areas such as bathrooms, kitchens, and labs by keeping them under negative pressure (as compared to surrounding spaces).

			•	
5b.	Checked (using chemical smoke) that air is drawn into the room from adjacent spaces		No	N/A
	d outside the room with the door slightly open while checking airflow high an loor opening (see "How to Measure Airflow").	d l	ow in	
5c. I	Ensured that air is flowing toward the exhaust intake	3	V	
5d.	CIVITY 21: EXHAUST DUCTWORK Checked that the exhaust ductwork downstream of the exhaust fan (which is under positive pressure) is sealed and in good condition	נ	W	_
6.	QUANTITY OF OUTDOOR AIR			
ACT	TIVITY 22: OUTDOOR AIR MEASUREMENTS AND CALCULATION	S		
NO1	E: Refer to "How to Measure Airflow" for techniques.			
	Measured the quantity of outdoor air supplied (22a) to each ventilation unit	2	0	₫⁄
	Calculated the number of occupants served (22b) by the ventilation unit under consideration	נ		\(\)
	Divided outdoor air supply (22a) by the number of occupants (22b) to determine the existing quantity of outdoor air supply per person (22c))		\(\sigma\)
	TIVITY 23: ACCEPTABLE LEVELS OF OUTDOOR AIR QUANTITIES	S		
	Compared the existing outdoor air per person (22c) to the recommended levels in Table 1	ב		
6e.	Corrected problems with ventilation units that supplied inadequate quantities of outdoor air to ensure that outdoor air quantities (22c) meet			
	the recommended levels in Table 1)		

NOTES

Section 6. - Building automation controls CO2 monitoring and modulates outside air demands accordingly.



- 1. Read the IAQ
 Backgrounder and the Background Information for this checklist.
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 Background
 Information and
 make a copy of
 this checklist for
 each ventilation
 unit in your school,
 as well as a
 copy for future
 reference.
- 3. Complete the Checklist.
 - Check the "yes," "no," or "not applicable" box beside each item. (A "no" response requires further attention.)
 - Make comments in the "Notes" section as necessary.
- 4. Return the checklist portion of this document to the IAQ Coordinator.

Name: Andrew Dawson	
School: CT River Academy	
Unit Ventilator/AHU No: RTU - 2	_
Room or Area: Date Completed: 12-20-24	
Signature: Undrew Dansan	
*	
1. OUTDOOR AIR INTAKES	
1a. Marked locations of all outdoor air intakes on a small floor plan (for example, a fire escape floor plan)	/N/A
1b. Ensured that the ventilation system was on and operating in "occupied"	
mode	
A CTIVITY 1. OBSTRUCTIONS	
ACTIVITY 1: OBSTRUCTIONS 1c. Ensured that outdoor air intakes are clear of obstructions, debris, clogs,	
or covers	
1d. Installed corrective devices as necessary (e.g., if snowdrifts or leaves	_
frequently block an intake)	
ACTIVITY 2: POLLUTANT SOURCES	
1e. Checked ground-level intakes for pollutant sources (dumpsters, loading	
docks, and bus-idling areas)	
1f. Checked rooftop intakes for pollutant sources (plumbing vents; kitchen,	
toilet, or laboratory exhaust fans; puddles; and mist from	_
air-conditioning cooling towers) 1g. Resolved any problems with pollutant sources located near outdoor air	Ц
intakes (e.g., relocated dumpster or extended exhaust pipe)	
ACTIVITY 3: AIRFLOW	
1h. Obtained chemical smoke (or a small piece of tissue paper or light plastic)	0
The Committee that outdoor air is entering the intake appropriately	u
2. SYSTEM CLEANLINESS	
ACTIVITY 4: AIR FILTERS	
2a. Replaced filters per maintenance schedule	
2b. Shut off ventilation system fans while replacing filters (prevents dirt from	
blowing downstream)	
2c. Vacuumed filter areas before installing new filters.	
2d. Confirmed proper fit of filters to prevent air from bypassing (flowing around) the air filter	
2e. Confirmed proper installation of filters (correct direction for airflow)	_

2. SYSTEM CLEANLINESS (continued)

ACTIVITY 5: DRAIN PANS 2f. Ensured that drain pans slant toward the drain (to prevent water from Yes No N/A accumulating) 2g. Cleaned drain pans 🖸 🗸 🗹 2h. Checked drain pans for mold and mildew **ACTIVITY 6: COILS** 2i. Ensured that heating and cooling coils are clean ACTIVITY 7: AIR-HANDLING UNITS, UNIT VENTILATORS 2i. Ensured that the interior of air-handling unit(s) or unit ventilator (air-mixing chamber and fan blades) is clean 2k. Ensured that ducts are clean **ACTIVITY 8: MECHANICAL ROOMS** 21. Checked mechanical room for unsanitary conditions, leaks, and spills 2m. Ensured that mechanical rooms and air-mixing chambers are free of trash, chemical products, and supplies 3. CONTROLS FOR OUTDOOR AIR SUPPLY 3a. Ensured that air dampers are at least partially open (minimum position) 🗹 🗅 3b. Ensured that minimum position provides adequate outdoor air for occupants **ACTIVITY 9: CONTROLS INFORMATION** 3c. Obtained and reviewed all design inside/outside temperature and humidity requirements, controls specifications, as-built mechanical drawings, and controls operations manuals (often uniquely designed)...... ACTIVITY 10: CLOCKS, TIMERS, SWITCHES 3e. Set time clocks appropriately 3f. Ensured that settings fit the actual schedule of building use (including night/weekend use) ACTIVITY 11: CONTROL COMPONENTS 3g. Ensured appropriate system pressure by testing line pressure at both the occupied (day) setting and the unoccupied (night) setting 3i. Replaced control system filters at the compressor inlet based on the compressor manufacturer's recommendation (for example, when you blow down the tank)....... Set the line pressure at each thermostat and damper actuator at the proper level (no leakage or obstructions) **ACTIVITY 12: OUTDOOR AIR DAMPERS** 3k. Ensured that the outdoor air damper is visible for inspection...... 31. Ensured that the recirculating relief and/or exhaust dampers are visible for inspection 3m. Ensured that air temperature in the indoor area(s) served by each





3.	CONTROLS FOR OUTDOOR AIR SUPPLY (continued)			
3n.	Checked that the outdoor air damper fully closes within a few minutes of shutting off appropriate air handler	es/	No	N/A
	Checked that the outdoor air damper opens (at least partially with no delay) when the air handler is turned on	1		
3р.	If in heating mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 85°F	۵	_	5
3q.	If in cooling mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 60°F and mixed air thermostat is set to 45°F	ı	<u> </u>	\
3r.	If the outdoor air damper does not move, confirmed the following items: • The damper actuator links to the damper shaft, and any linkage set screws or bolts are tight	-		⊌′
	Moving parts are free of impediments (e.g., rust, corrosion)	_ _	0	Ø
	 Electrical wire or pneumatic tubing connects to the damper actuator	ב		3
	location, calibrated correctly)	ב		4
Pro	ceed to Activities 13–16 if the damper seems to be operating properly.			
AC	TIVITY 13: FREEZE STATS			
3s.	Disconnected power to controls (for automatic reset only) to test continuity across terminals	ב	∀	
OR				
3t.	Confirmed (if applicable) that depressing the manual reset button (usually red) trips the freeze stat (clicking sound indicates freeze stat was	_		\
311.	tripped)	7		M
<i>- - - - - - - - - -</i>	automatic reset freeze-stats	ב	Q	
clos	TE: HVAC systems with water coils need protection from the cold. The freeze-s te the outdoor air damper and disconnect the supply air when tripped. The typ tge is 35°F to 42°F.			
	TIVITY 14: MIXED AIR THERMOSTATS			
	Ensured that the mixed air stat for heating mode is set no higher than 65°F	ב		∀′
3w.	Ensured that the mixed air stat for cooling mode is set no lower than the room thermostat setting	ָ ב		M
AC'	TIVITY 15: ECONOMIZERS			
	Confirmed proper economizer settings based on design specifications or local practices	3	<u>M</u>	
NO	TE: The dry-bulb is typically set at 65°F or lower.			
3y.	Checked that sensor on the economizer is shielded from direct sunlight	4		
	Ensured that dampers operate properly (for outside air, return air, exhaust/relief air, and recirculated air), per the design specifications	1		
load Dry and	TE: Economizers use varying amounts of cool outdoor air to assist with the co l of the room or rooms. There are two types of economizers, dry-bulb and enth bulb economizers vary the amount of outdoor air based on outdoor temperate enthalpy economizers vary the amount of outdoor air based on outdoor tempe humidity level.	alpy. ure,	•	

3. CONTROLS FOR OUTDOOR AIR SUPPLY (continued)

ACTIVITY 16: FANS 3aa. Ensured that all fans (supply fans and associated return or relief fans) that move outside air indoors continuously operate during occupied Yes/No N/A hours (even when room thermostat is satisfied) NOTE: If fan shuts off when the thermostat is satisfied, adjust control cycle as necessary to ensure sufficient outdoor air supply. 4. AIR DISTRIBUTION **ACTIVITY 17: AIR DISTRIBUTION** 4a. Ensured that supply and return air pathways in the existing ventilation system perform as required...... 4b. Ensured that passive gravity relief ventilation systems and transfer grilles between rooms and corridors are functioning...... NOTE: If ventilation system is closed or blocked to meet current fire codes, consult with a professional engineer for remedies. 4c. Made sure every occupied space has supply of outdoor air (mechanical system or operable windows) 4d. Ensured that supply and return vents are open and unblocked NOTE: If outlets have been blocked intentionally to correct drafts or discomfort, investigate and correct the cause of the discomfort and reopen the vents. 4e. Modified the HVAC system to supply outside air to areas without an outdoor air supply 4f. Modified existing HVAC systems to incorporate any room or zone layout and population changes 4g. Moved all barriers (for example, room dividers, large free-standing blackboards or displays, bookshelves) that could block movement of air in the room, especially those blocking air vents 4h. Ensured that unit ventilators are quiet enough to accommodate classroom activities 4i. Ensured that classrooms are free of uncomfortable drafts produced by air from supply terminals **ACTIVITY 18: PRESSURIZATION IN BUILDINGS** NOTE: To prevent infiltration of outdoor pollutants, the ventilation system is designed to maintain positive pressurization in the building. Therefore, ensure that the system, including any exhaust fans, is operating on the "occupied" cycle when doing this activity. 4j. Ensured that air flows out of the building (using chemical smoke) through

5. EXHAUST SYSTEMS

ACTIVITY 19: EXHAUST FAN OPERATION

5a. Checked (using chemical smoke) that air flows into exhaust fan grille(s)

windows, doors, or other cracks and holes in exterior wall (for example, floor joints, pipe openings)......

If fans are running but air is not flowing toward the exhaust intake, check for the following:

- · Inoperable dampers
- · Obstructed, leaky, or disconnected ductwork
- · Undersized or improperly installed fan
- Broken fan belt





ACTIVITY 20: EXHAUST AIRFLOW

NOTE: Prevent migration of indoor contaminants from areas such as bathrooms, kitchens, and labs by keeping them under negative pressure (as compared to surrounding spaces).

5b.	Checked (using chemical smoke) that air is drawn into the room from adjacent spaces	No	A\N □	
	nd outside the room with the door slightly open while checking airflow high and door opening (see "How to Measure Airflow").	low in	!	
5c.	Ensured that air is flowing toward the exhaust intake			
	TIVITY 21: EXHAUST DUCTWORK Checked that the exhaust ductwork downstream of the exhaust fan (which is under positive pressure) is sealed and in good condition	œ'		
6.	QUANTITY OF OUTDOOR AIR			
AC	TIVITY 22: OUTDOOR AIR MEASUREMENTS AND CALCULATIONS			
NO	TE: Refer to "How to Measure Airflow" for techniques.			
6a.	Measured the quantity of outdoor air supplied (22a) to each ventilation unit	۵	७∕	
6b.	Calculated the number of occupants served (22b) by the ventilation unit under consideration		\sqrt	
6с.	Divided outdoor air supply (22a) by the number of occupants (22b) to determine the existing quantity of outdoor air supply per person (22c)		a	
ACTIVITY 23: ACCEPTABLE LEVELS OF OUTDOOR AIR QUANTITIES				
	Compared the existing outdoor air per person (22c) to the recommended levels in Table 1	۵		
6e.	Corrected problems with ventilation units that supplied inadequate quantities of outdoor air to ensure that outdoor air quantities (22c) meet the recommended levels in Table 1		٥	

NOTES

Section 6. - Building automation controls CO2 monitoring and modulates outside air demands accordingly.

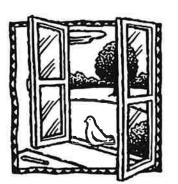


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 - Check the "yes," "no," or "not applicable" box beside each item. (A "no" response requires further attention.)
 - Make comments in the "Notes" section as necessary.
- Return the checklist portion of this document to the IAQ Coordinator.

Name: Andrew Dawson				
Sc	hool: CT River Academy			
Ur	nit Ventilator/AHU No: RTU - 1			_
Ro	pom or Area: Date Completed:D	<u>-2</u>	4	_
Si	gnature: Andrew Dansan			
1.	OUTDOOR AIR INTAKES			
la.	Marked locations of all outdoor air intakes on a small floor plan (for example, a fire escape floor plan)		No M	/N/A
1b.	Ensured that the ventilation system was on and operating in "occupied"	1	'	п
	mode	. 🗷	u	u
	TIVITY 1: OBSTRUCTIONS			
lc.	Ensured that outdoor air intakes are clear of obstructions, debris, clogs, or covers	. \	,	
1d.	Installed corrective devices as necessary (e.g., if snowdrifts or leaves		_	
	frequently block an intake)	. M	ч	u
	TIVITY 2: POLLUTANT SOURCES			
1e.	Checked ground-level intakes for pollutant sources (dumpsters, loading docks, and bus-idling areas)	П	П	
1f.	Checked rooftop intakes for pollutant sources (plumbing vents; kitchen,	_	_	
	toilet, or laboratory exhaust fans; puddles; and mist from air-conditioning cooling towers)	M		
1g.	Resolved any problems with pollutant sources located near outdoor air	_	• _	_
	intakes (e.g., relocated dumpster or extended exhaust pipe)	W		
	TIVITY 3: AIRFLOW	/		
	Obtained chemical smoke (or a small piece of tissue paper or light plastic). Confirmed that outdoor air is entering the intake appropriately			
11.	Comminded that outdoor are is entering the intake appropriately	. 2	_	u
2.	SYSTEM CLEANLINESS			
AC	TIVITY 4: AIR FILTERS		/	
	Replaced filters per maintenance schedule	Ø	а	
20.	Shut off ventilation system fans while replacing filters (prevents dirt from blowing downstream)	w/		
	Vacuumed filter areas before installing new filters	⊌′		
2d.	Confirmed proper fit of filters to prevent air from bypassing (flowing around) the air filter	\	/ 🗆	
2e.	Confirmed proper installation of filters (correct direction for airflow)			

2. SYSTEM CLEANLINESS (continued)

ACTIVITY 5: DRAIN PANS 2f. Ensured that drain pans slant toward the drain (to prevent water from Yes No N/A accumulating) 2g. Cleaned drain pans 2h. Checked drain pans for mold and mildew ______ **ACTIVITY 6: COILS** 2i. Ensured that heating and cooling coils are clean **ACTIVITY 7: AIR-HANDLING UNITS, UNIT VENTILATORS** 2j. Ensured that the interior of air-handling unit(s) or unit ventilator (air-mixing chamber and fan blades) is clean 2k. Ensured that ducts are clean **ACTIVITY 8: MECHANICAL ROOMS** 21. Checked mechanical room for unsanitary conditions, leaks, and spills 2m. Ensured that mechanical rooms and air-mixing chambers are free of trash. chemical products, and supplies 3. CONTROLS FOR OUTDOOR AIR SUPPLY 3a. Ensured that air dampers are at least partially open (minimum position) 3b. Ensured that minimum position provides adequate outdoor air for occupants..... **ACTIVITY 9: CONTROLS INFORMATION** 3c. Obtained and reviewed all design inside/outside temperature and humidity requirements, controls specifications, as-built mechanical drawings, and controls operations manuals (often uniquely designed)...... **ACTIVITY 10: CLOCKS, TIMERS, SWITCHES** 3d. Turned summer-winter switches to the correct position 3e. Set time clocks appropriately..... 3f. Ensured that settings fit the actual schedule of building use (including night/weekend use) **ACTIVITY 11: CONTROL COMPONENTS** 3g. Ensured appropriate system pressure by testing line pressure at both the occupied (day) setting and the unoccupied (night) setting 3h. Checked that the line dryer prevents moisture buildup...... 3i. Replaced control system filters at the compressor inlet based on the compressor manufacturer's recommendation (for example, when you blow down the tank)..... 3j. Set the line pressure at each thermostat and damper actuator at the proper level (no leakage or obstructions) **ACTIVITY 12: OUTDOOR AIR DAMPERS** 3k. Ensured that the outdoor air damper is visible for inspection..... 31. Ensured that the recirculating relief and/or exhaust dampers are visible for inspection 3m. Ensured that air temperature in the indoor area(s) served by each outdoor air damper is within the normal operating range.....



NOTE: It is necessary to ensure that the damper is operating properly and within the normal range to continue.



3. CONTROLS FOR OUTDOOR AIR S	UPPLY (continued)		
3n. Checked that the outdoor air damper fully close of shutting off appropriate air handler		Νο □	N/A
30. Checked that the outdoor air damper opens (at l when the air handler is turned on	east partially with no delay)		
3p. If in heating mode, checked that the outdoor air minimum position (without completely closing) thermostat is set to 85°F	when the room		\
3q. If in cooling mode, checked that the outdoor air position (without completely closing) when the to 60°F and mixed air thermostat is set to 45°F.	room thermostat is set	۵	4
 3r. If the outdoor air damper does not move, confir The damper actuator links to the damper sha screws or bolts are tight Moving parts are free of impediments (e.g., Electrical wire or pneumatic tubing connects The outside air thermostat(s) is functioning plocation, calibrated correctly) 	med the following items: ft, and any linkage set rust, corrosion)		
Proceed to Activities 13-16 if the damper seems to b	e operating properly.		
ACTIVITY 13: FREEZE STATS 3s. Disconnected power to controls (for automatic racross terminals		∀	_
3t. Confirmed (if applicable) that depressing the m red) trips the freeze stat (clicking sound indicate tripped)	es freeze stat was		Y
3u. Assessed the feasibility of replacing all manual automatic reset freeze-stats			
NOTE: HVAC systems with water coils need protectic close the outdoor air damper and disconnect the suprange is 35°F to 42°F.			
ACTIVITY 14: MIXED AIR THERMOSTATS			
3v. Ensured that the mixed air stat for heating mode than 65°F			¥
3w. Ensured that the mixed air stat for cooling mode than the room thermostat setting			4
ACTIVITY 15: ECONOMIZERS 3x. Confirmed proper economizer settings based or local practices	0 1	8	_
NOTE: The dry-bulb is typically set at 65°F or lower	:		
3y. Checked that sensor on the economizer is shield3z. Ensured that dampers operate properly (for outs exhaust/relief air, and recirculated air), per the content of the	ide air, return air.	<u> </u>	<u> </u>
NOTE: Economizers use varying amounts of cool or load of the room or rooms. There are two types of ec Dry-bulb economizers vary the amount of outdoor a and enthalpy economizers vary the amount of outdoor and humidity level.	tdoor air to assist with the cooli onomizers, dry-bulb and enthalp ir based on outdoor temperature,	<i>y</i> .	

3. CONTROLS FOR OUTDOOR AIR SUPPLY (continued)

ACTIVITY 16: FANS

NOTE: If fan shuts off when the thermostat is satisfied, adjust control cycle as necessary to ensure sufficient outdoor air supply.



ACTIVITY 17: AIR DISTRIBUTION

	Ensured that supply and return air pathways in the existing ventilation system	
	perform as required	
4b.	Ensured that passive gravity relief ventilation systems and transfer grilles	/
	between rooms and corridors are functioning	9
370		

NOTE: If ventilation system is closed or blocked to meet current fire codes, consult with a professional engineer for remedies.

4c.	Made sure every occupied space has supply of outdoor air (mechanical	•	
	system or operable windows)	, 🗆	
	Ensured that supply and return vents are open and unblocked		

NOTE: If outlets have been blocked intentionally to correct drafts or discomfort, investigate and correct the cause of the discomfort and reopen the vents.

4e.	Modified the HVAC system to supply outside air to areas without an outdoor	
	air supply	d (
4f.	Modified existing HVAC systems to incorporate any room or zone layout	_

- blackboards or displays, bookshelves) that could block movement of air in the room, especially those blocking air vents
- 4h. Ensured that unit ventilators are quiet enough to accommodate classroom activities
- 4i. Ensured that classrooms are free of uncomfortable drafts produced by air from supply terminals

ACTIVITY 18: PRESSURIZATION IN BUILDINGS

NOTE: To prevent infiltration of outdoor pollutants, the ventilation system is designed to maintain positive pressurization in the building. Therefore, ensure that the system, including any exhaust fans, is operating on the "occupied" cycle when doing this activity.

4j. Ensured that air flows out of the building (using chemical smoke) through windows, doors, or other cracks and holes in exterior wall (for example, floor joints, pipe openings).....

5. EXHAUST SYSTEMS

ACTIVITY 19: EXHAUST FAN OPERATION

5a. Checked (using chemical smoke) that air flows into exhaust fan grille(s)

If fans are running but air is not flowing toward the exhaust intake, check for the following:

- Inoperable dampers
- · Obstructed, leaky, or disconnected ductwork
- Undersized or improperly installed fan
- Broken fan belt





ACTIVITY 20: EXHAUST AIRFLOW		
NOTE: Prevent migration of indoor contaminants from areas such as bathrooms, kitch and labs by keeping them under negative pressure (as compared to surrounding space		
5b. Checked (using chemical smoke) that air is drawn into the room from adjacent spaces	No I	V/A
Stand outside the room with the door slightly open while checking airflow high and lot the door opening (see "How to Measure Airflow").	w in	
5c. Ensured that air is flowing toward the exhaust intake	M	
ACTIVITY 21: EXHAUST DUCTWORK 5d. Checked that the exhaust ductwork downstream of the exhaust fan (which is under positive pressure) is sealed and in good condition	Y	,
6. QUANTITY OF OUTDOOR AIR		
ACTIVITY 22: OUTDOOR AIR MEASUREMENTS AND CALCULATIONS		
NOTE: Refer to "How to Measure Airflow" for techniques.		
6a. Measured the quantity of outdoor air supplied (22a) to each ventilation unit□		₫⁄
under consideration		M
6c. Divided outdoor air supply (22a) by the number of occupants (22b) to determine the existing quantity of outdoor air supply per person (22c) □		d
ACTIVITY 23: ACCEPTABLE LEVELS OF OUTDOOR AIR QUANTITIES		
6d. Compared the existing outdoor air per person (22c) to the recommended		
6e. Corrected problems with ventilation units that supplied inadequate quantities of outdoor air to ensure that outdoor air quantities (22c) meet		
the recommended levels in Table 1		1 1

NOTES

Section 6. - Building automation controls CO2 monitoring and modulates outside air demands accordingly.

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