

Aston A. Henry, Director
Risk Management Department

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August 20, 2013

Signature on File

TO: Wendy Doll, Principal
Cooper City High School

FROM: Robert Krickovich, Coordinator I, LEA
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment

<u>For Custodial Supervisor Use Only</u>	
<input type="checkbox"/>	Custodial Issues Addressed
<input type="checkbox"/>	Custodial Issues Not Addressed

On August 8, 2013, I conducted an assessment at **Cooper City High School**. Attached are findings and recommendations for further assessment, remediation, or corrective actions needed.

The IAQ assessment did identify one or more existing conditions impacting IAQ and has generated appropriate work orders to correct deficiencies in systems and maintenance that could contribute to decreased indoor air quality. At the time of the assessment, these concerns were not an immediate health or safety concern to building occupants. However, due to individual sensitivities and predisposing health factors, it is possible that some building occupants may elicit a health response to agents and / or conditions identified during the evaluation. Therefore, to further improve IAQ, prevent development of future IAQ-related problems, and to reduce the potential for IAQ-related complaints by building occupants, the IAQ Assessment Team recommends appropriate follow up of each item identified and listed in the attached evaluation.

Please ensure that your Head Facilities Serviceperson receives a copy of this correspondence so that the recommendations requiring their attention can be addressed. In an attempt to separate IAQ issues from general maintenance items, the attached assessment may contain direction for site based staff to generate a work order through COMPASS. Within two weeks a representative from the Custodial/Grounds Department will conduct a follow-up visit to ensure that all site based custodial issues have been appropriately addressed.

Should any questions arise, or if the current concerns continue after the attached recommendations have been addressed, please feel free to contact us at 754-321-1907.

cc: Shelley Meloni, Task Assigned Chief Facilities & Construction Officer, Facilities & Construction
Mark Dorsett, Manager, Zone 1, Physical Plant Operations Division
Roy Norton, Manager, Custodial/Grounds, Physical Plant Operations Division
Aston Henry, Director, Risk Management
Sonja Coley, Senior Project Manager, Facilities & Construction
Broward Teachers Union
Federation of Public Employees

RK/tc
Enc.

IAQ Assessment

Cooper City High

Evaluation Date August 8, 2013

Time of Day 11:15

Outdoor Conditions Temperature 85.2 Relative Humidity 74.1 Ambient CO2 460

Fish	Temperature	Range	Relative Humidity	Range	CO ²	Range	# Occupants
125	70.8	72 - 78	60.7	30% - 60%	468	MAX 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling		Walls		Floor			
No		2' X 4' Lay in		Metal / Drywall		12" x 12" Vinyl	
No		No		No		No	

Ceiling Clean	<input type="checkbox"/> Yes	HVAC Supply Grills Clean	<input type="checkbox"/> Yes	HVAC Return Grills Clean	<input type="checkbox"/> Yes
Walls Clean	<input type="checkbox"/> Yes	Inside of Supply Duct Clean	<input type="checkbox"/> Yes	Inside of Return Duct Clean	<input type="checkbox"/> N/A
Flooring Clean	<input type="checkbox"/> Yes	Ceiling at Supply Grills Clean	<input type="checkbox"/> Yes		
Room Surfaces Clean	<input type="checkbox"/> Yes				

Trash Removed	<input type="checkbox"/> Yes	Exhaust Fans Working	<input type="checkbox"/> N/A	Unapproved Chemicals / Cleaners in Room	<input type="checkbox"/> No
Signs of Pests	<input type="checkbox"/> No	Drain Traps Wet	<input type="checkbox"/> N/A	Air Fresheners in Room	<input type="checkbox"/> No
Room Cluttered	<input type="checkbox"/> No	Food if Stored in Room is in Sealed Containers	<input type="checkbox"/> N/A		

Mechanical Equipment Location	Roof Top	Mechanical Room Clean	<input type="checkbox"/> N/A
Filters Installed Properly	<input type="checkbox"/> N/A	Filters Clean	<input type="checkbox"/> N/A
Condensate Pan Clean	<input type="checkbox"/> N/A	Cooling Coil Clean	<input type="checkbox"/> N/A
		Inside of HVAC Unit Clean	<input type="checkbox"/> N/A

Fresh Air Intake Location	Roof top	Fresh Air Intake Free of Obstruction	<input type="checkbox"/> Yes
Pollutant Sources Near Air Intake	None		

Observations

Corrective Actions to be Completed by Site Based Staff

	▼
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Corrective Actions to be Completed by PPO

Set temperature to 72 - 78 degrees	▼
	▼
	▼
	▼
	▼
	▼
Work Orders EQ07669 & EQ07670 generated 8/8	▼
for roofing and HVAC	▼
	▼

IAQ Assessment

Cooper City High

Evaluation Date August 8, 2013

Time of Day 11:15

Outdoor Conditions Temperature 85.2

Relative Humidity 74.1

Ambient CO2 460

Fish	Temperature	Range	Relative Humidity	Range	CO ²	Range	# Occupants	
134	71.2	72 - 78	66.9	30% - 60%	477	MAX 700 > Ambient	2	
Noticeable Odor		Yes	Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling	2' X 4' Lay in		No		No			
Walls	Metal / Drywall		No		Yes		Spotty on metal walls	
Floor	12" x 12" Vinyl		No		No			
Ceiling Clean		Yes	HVAC Supply Grills Clean		Yes	HVAC Return Grills Clean		Yes
Walls Clean		Yes	Inside of Supply Duct Clean		Yes	Inside of Return Duct Clean		N/A
Flooring Clean		Yes	Ceiling at Supply Grills Clean		Yes			
Room Surfaces Clean		Yes						
Trash Removed		Yes	Exhaust Fans Working		N/A	Unapproved Chemicals / Cleaners in Room		No
Signs of Pests		No	Drain Traps Wet		N/A	Air Fresheners in Room		No
Room Cluttered		No	Food if Stored in Room is in Sealed Containers		N/A			
Mechanical Equipment Location			Roof Top			Mechanical Room Clean		N/A
Filters Installed Properly		N/A	Filters Clean		N/A	Inside of HVAC Unit Clean		N/A
Condensate Pan Clean		N/A	Cooling Coil Clean		N/A			
Fresh Air Intake Location			Roof top ▼			Fresh Air Intake Free of Obstruction		Yes
Pollutant Sources Near Air Intake			None ▼					

Observations

Slight musty odor - Humidity elevated - spotty microbial growth on wall surfaces

Corrective Actions to be Completed by Site Based Staff

Clean wall surfaces	▼
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Corrective Actions to be Completed by PPO

Repair HVAC to reduce humidity level	▼
	▼
	▼
	▼
Work Orders EQ07669 & EQ07670 generated 8/8	▼
for roofing and HVAC	▼
	▼
	▼

IAQ Assessment

Cooper City High

Evaluation Date August 8, 2013

Time of Day 11:15

Outdoor Conditions Temperature 85.2

Relative Humidity 74.1

Ambient CO2 460

Fish	Temperature	Range	Relative Humidity	Range	CO ²	Range	# Occupants
135	73.5	72 - 78	63.5	30% - 60%	470	MAX 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Yes		No		No			
Ceiling	2' X 4' Lay in		No	No			
Walls	Metal / Drywall		No	Yes	Spotty on metal walls		
Floor	12" x 12" Vinyl		No	No			

Ceiling Clean	Yes	HVAC Supply Grills Clean	Yes	HVAC Return Grills Clean	Yes
Walls Clean	Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	N/A
Flooring Clean	Yes	Ceiling at Supply Grills Clean	Yes		
Room Surfaces Clean	Yes				

Trash Removed	Yes	Exhaust Fans Working	N/A	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests	No	Drain Traps Wet	N/A	Air Fresheners in Room	No
Room Cluttered	No	Food if Stored in Room is in Sealed Containers	N/A		

Mechanical Equipment Location	Roof Top	Mechanical Room Clean	N/A
Filters Installed Properly	N/A	Filters Clean	N/A
Condensate Pan Clean	N/A	Cooling Coil Clean	N/A
		Inside of HVAC Unit Clean	N/A

Fresh Air Intake Location	Roof top ▼	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	None ▼		

Observations

Slight musty odor - Humidity elevated - spotty microbial growth on wall surfaces

Corrective Actions to be Completed by Site Based Staff

Clean wall surfaces	▼
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Corrective Actions to be Completed by PPO

Repair HVAC to reduce humidity level	▼
	▼
	▼
	▼
	▼
Work Orders EQ07669 & EQ07670 generated 8/8	▼
for roofing and HVAC	▼
	▼
	▼

IAQ Assessment

Cooper City High

Evaluation Date August 8, 2013

Time of Day 11:15

Outdoor Conditions Temperature 85.2

Relative Humidity 74.1

Ambient CO2 460

Fish	Temperature	Range	Relative Humidity	Range	CO ²	Range	# Occupants
137	73.5	72 - 78	63.2	30% - 60%	480	MAX 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Yes		No		No			
Ceiling	2' X 4' Lay in		No	No			
Walls	Metal / Drywall		No	Yes	Spotty on metal walls		
Floor	12" x 12" Vinyl		No	No			

Ceiling Clean	Yes	HVAC Supply Grills Clean	Yes	HVAC Return Grills Clean	Yes
Walls Clean	Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	N/A
Flooring Clean	Yes	Ceiling at Supply Grills Clean	Yes		
Room Surfaces Clean	Yes				

Trash Removed	Yes	Exhaust Fans Working	N/A	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests	No	Drain Traps Wet	N/A	Air Fresheners in Room	No
Room Cluttered	No	Food if Stored in Room is in Sealed Containers	N/A		

Mechanical Equipment Location	Roof Top			Mechanical Room Clean	N/A
Filters Installed Properly	N/A	Filters Clean	N/A	Inside of HVAC Unit Clean	N/A
Condensate Pan Clean	N/A	Cooling Coil Clean	N/A		

Fresh Air Intake Location	Roof top ▼	Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	None ▼		

Observations

Slight musty odor - Humidity elevated - spotty microbial growth on wall surfaces

Corrective Actions to be Completed by Site Based Staff

Clean wall surfaces	▼
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Corrective Actions to be Completed by PPO

Repair HVAC to reduce humidity level	▼
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	▼
	▼
	▼
Work Orders EQ07669 & EQ07670 generated 8/8 for roofing and HVAC	▼
	▼
	▼

IAQ Assessment

Cooper City High

Evaluation Date August 8, 2013

Time of Day 11:15

Outdoor Conditions Temperature 85.2

Relative Humidity 74.1

Ambient CO2 460

Fish	Temperature	Range	Relative Humidity	Range	CO ²	Range	# Occupants
144	70.8	72 - 78	66.2	30% - 60%	483	MAX 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling		Walls		Floor			
2' X 4' Lay in		Metal / Drywall		12" x 12" Vinyl			
Yes		No		No			
Yes		No		Yes		Spotty on metal walls	
Yes		No		No			
Ceiling Clean		Walls Clean		Flooring Clean		Room Surfaces Clean	
Yes		Yes		Yes		Yes	
		HVAC Supply Grills Clean		HVAC Return Grills Clean			
		Yes		Yes		Yes	
		Inside of Supply Duct Clean		Inside of Return Duct Clean			
		Yes		Yes		N/A	
		Ceiling at Supply Grills Clean					
		Yes					
Trash Removed		Signs of Pests		Room Cluttered		Exhaust Fans Working	
Yes		No		No		N/A	
				Food if Stored in Room is in Sealed Containers		Unapproved Chemicals / Cleaners in Room	
				N/A		No	
						Air Fresheners in Room	
						No	
Mechanical Equipment Location		Roof Top				Mechanical Room Clean	
N/A		N/A				N/A	
Filters Installed Properly		Filters Clean		Condensate Pan Clean		Cooling Coil Clean	
N/A		N/A		N/A		N/A	
Fresh Air Intake Location		Roof top				Fresh Air Intake Free of Obstruction	
None		None				Yes	

Observations

Slight musty odor - Humidity elevated - spotty microbial growth on wall surfaces - spotty microbial growth on movie screen

Corrective Actions to be Completed by Site Based Staff

Clean wall surfaces	▼
Discard movie screen	▼
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Corrective Actions to be Completed by PPO

Repair HVAC to reduce humidity level	▼
	▼
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	▼
Work Orders EQ07669 & EQ07670 generated 8/8	▼
for roofing and HVAC	▼
	▼
	▼

IAQ Assessment

Cooper City High

Evaluation Date August 8, 2013

Time of Day 11:15

Outdoor Conditions Temperature 85.2 Relative Humidity 74.1 Ambient CO2 460

Fish	Temperature	Range	Relative Humidity	Range	CO ²	Range	# Occupants
150	71.0	72 - 78	62.5	30% - 60%	472	MAX 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
<input type="checkbox"/> Yes		<input type="checkbox"/> No		<input type="checkbox"/> No		<input style="width: 100%;" type="text"/>	
Ceiling	<input style="width: 100%;" type="text" value="2' X 4' Lay in"/>		<input type="checkbox"/> No	<input type="checkbox"/> No	<input style="width: 100%;" type="text"/>		
Walls	<input style="width: 100%;" type="text" value="Metal / Drywall"/>		<input type="checkbox"/> No	<input type="checkbox"/> No	<input style="width: 100%;" type="text"/>		
Floor	<input 12"="" style="width: 100%;" type="text" value="12" vinyl"="" x=""/>		<input type="checkbox"/> No	<input type="checkbox"/> No	<input style="width: 100%;" type="text"/>		
Ceiling Clean	<input type="checkbox"/> Yes	HVAC Supply Grills Clean	<input type="checkbox"/> Yes	HVAC Return Grills Clean	<input type="checkbox"/> Yes		
Walls Clean	<input type="checkbox"/> Yes	Inside of Supply Duct Clean	<input type="checkbox"/> Yes	Inside of Return Duct Clean	<input type="checkbox"/> N/A		
Flooring Clean	<input type="checkbox"/> Yes	Ceiling at Supply Grills Clean	<input type="checkbox"/> Yes				
Room Surfaces Clean	<input type="checkbox"/> Yes						
Trash Removed	<input type="checkbox"/> Yes	Exhaust Fans Working	<input type="checkbox"/> N/A	Unapproved Chemicals / Cleaners in Room	<input type="checkbox"/> No		
Signs of Pests	<input type="checkbox"/> No	Drain Traps Wet	<input type="checkbox"/> N/A	Air Fresheners in Room	<input type="checkbox"/> No		
Room Cluttered	<input type="checkbox"/> No	Food if Stored in Room is in Sealed Containers	<input type="checkbox"/> N/A				
Mechanical Equipment Location	<input style="width: 100%;" type="text" value="Roof Top"/>			Mechanical Room Clean	<input type="checkbox"/> N/A		
Filters Installed Properly	<input type="checkbox"/> N/A	Filters Clean	<input type="checkbox"/> N/A	Inside of HVAC Unit Clean	<input type="checkbox"/> N/A		
Condensate Pan Clean	<input type="checkbox"/> N/A	Cooling Coil Clean	<input type="checkbox"/> N/A				
Fresh Air Intake Location	<input style="width: 100%;" type="text" value="Roof top"/> ▼			Fresh Air Intake Free of Obstruction	<input type="checkbox"/> Yes		
Pollutant Sources Near Air Intake	<input style="width: 100%;" type="text" value="None"/> ▼						

Observations

Slight musty odor - Humidity elevated - spotty microbial growth on wall in room 150A

Corrective Actions to be Completed by Site Based Staff

Clean wall surfaces in 150A	▼
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Corrective Actions to be Completed by PPO

Repair HVAC to reduce humidity level	▼
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	▼
	▼
	▼
Work Orders EQ07669 & EQ07670 generated 8/8	▼
for roofing and HVAC	▼
	▼
	▼

IAQ Assessment

Cooper City High

Evaluation Date August 8, 2013

Time of Day 11:15

Outdoor Conditions Temperature 85.2 Relative Humidity 74.1 Ambient CO2 460

Fish	Temperature	Range	Relative Humidity	Range	CO ²	Range	# Occupants
162	69.4	72 - 78	70.3	30% - 60%	475	MAX 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling		Walls		Floor			
No		Yes		No		8 stained tiles	
2' X 4' Lay in		Metal / Drywall		12" x 12" Vinyl		280 Sq Ft	
No		No		No			
Yes		Yes		Yes			
Ceiling Clean	Yes	HVAC Supply Grills Clean	Yes	HVAC Return Grills Clean	Yes		
Walls Clean	Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	N/A		
Flooring Clean	No	Ceiling at Supply Grills Clean	Yes				
Room Surfaces Clean	Yes						
Trash Removed	Yes	Exhaust Fans Working	N/A	Unapproved Chemicals / Cleaners in Room	No		
Signs of Pests	No	Drain Traps Wet	N/A	Air Fresheners in Room	No		
Room Cluttered	No	Food if Stored in Room is in Sealed Containers	N/A				
Mechanical Equipment Location	Roof Top			Mechanical Room Clean	N/A		
Filters Installed Properly	N/A	Filters Clean	N/A	Inside of HVAC Unit Clean	N/A		
Condensate Pan Clean	N/A	Cooling Coil Clean	N/A				
Fresh Air Intake Location	Roof top ▼			Fresh Air Intake Free of Obstruction	Yes		
Pollutant Sources Near Air Intake	None ▼						

Observations

9 ceiling tiles removed due to roof leaks - 8 stained ceiling tiles - 3 light fixtures with water in lenses - Floor tile water damaged

Corrective Actions to be Completed by Site Based Staff

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Corrective Actions to be Completed by PPO

Repair HVAC to reduce humidity level	▼
Repair roofing	▼
	▼
	▼
Work Orders EQ07669 & EQ07670 generated 8/8	▼
for roofing and HVAC	▼
	▼
	▼

IAQ Assessment

Cooper City High

Evaluation Date August 8, 2013

Time of Day 11:15

Outdoor Conditions Temperature 85.2

Relative Humidity 74.1

Ambient CO2 460

Fish	Temperature	Range	Relative Humidity	Range	CO ²	Range	# Occupants
172	64.4	72 - 78	47.6	30% - 60%	467	MAX 700 > Ambient	2
Noticeable Odor		No	Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling	2' X 4' Lay in		No		No		
Walls	Metal / Drywall		No		No		
Floor	12" x 12" Vinyl		No		No		
Ceiling Clean	Yes	HVAC Supply Grills Clean		Yes	HVAC Return Grills Clean		Yes
Walls Clean	Yes	Inside of Supply Duct Clean		Yes	Inside of Return Duct Clean		N/A
Flooring Clean	Yes	Ceiling at Supply Grills Clean		Yes			
Room Surfaces Clean	Yes						
Trash Removed	Yes	Exhaust Fans Working		N/A	Unapproved Chemicals / Cleaners in Room		No
Signs of Pests	No	Drain Traps Wet		N/A	Air Fresheners in Room		No
Room Cluttered	No	Food if Stored in Room is in Sealed Containers		N/A			
Mechanical Equipment Location	Roof Top					Mechanical Room Clean	N/A
Filters Installed Properly	N/A	Filters Clean		N/A	Inside of HVAC Unit Clean		N/A
Condensate Pan Clean	N/A	Cooling Coil Clean		N/A			
Fresh Air Intake Location	Roof top ▼					Fresh Air Intake Free of Obstruction	Yes
Pollutant Sources Near Air Intake	None ▼						

Observations

Room to cold -
6 stained ceiling tiles in room 172A - water stains on wall and carpet - spotty microbial growth on wall in 172A

Corrective Actions to be Completed by Site Based Staff

Clean wall surfaces in 172A	▼
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Corrective Actions to be Completed by PPO

Set temperature to 72 - 78 degrees	▼
Repair roofing in 172A	▼
Remove water damaged carpet in 172A	▼
Do not replace flooring	▼
	▼
Work Orders EQ07669 & EQ07670 generated 8/8	▼
for roofing and HVAC	▼
	▼

