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Risk Management Department

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February 24, 2014

Signature on File

TO: Kellee Stroup, Principal  
**Country Hills Elementary 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 February 18, 2014, I conducted an assessment at **Country Hills Elementary 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

Country Hills Elementary

Evaluation Date February 18, 2014

Time of Day 6:30

Outdoor Conditions Temperature 61.0

Relative Humidity 60.4

Ambient CO2 546

Fish	Temperature	Range	Relative Humidity	Range	CO <sup>2</sup>	Range	# Occupants
<span style="border: 1px solid black; padding: 2px;">130</span>	<span style="border: 1px solid black; padding: 2px;">67.6</span>	<span style="border: 1px solid black; padding: 2px;">72 - 78</span>	<span style="border: 1px solid black; padding: 2px;">67.8</span>	<span style="border: 1px solid black; padding: 2px;">30% - 60%</span>	<span style="border: 1px solid black; padding: 2px;">484</span>	<span style="border: 1px solid black; padding: 2px;">MAX 700 &gt; Ambient</span>	<span style="border: 1px solid black; padding: 2px;">1</span>
Noticeable Odor		<span style="border: 1px solid black; padding: 2px;">No</span>	Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling	<span style="border: 1px solid black; padding: 2px;">2' X 4' Lay in</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>
Walls	<span style="border: 1px solid black; padding: 2px;">Drywall</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>
Floor	<span style="border: 1px solid black; padding: 2px;">12" x 12" Vinyl</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>
Ceiling Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	HVAC Supply Grills Clean		<span style="border: 1px solid black; padding: 2px;">No</span>	HVAC Return Grills Clean		<span style="border: 1px solid black; padding: 2px;">No</span>
Walls Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of Supply Duct Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of Return Duct Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>
Flooring Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Ceiling at Supply Grills Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>			
Room Surfaces Clean	<span style="border: 1px solid black; padding: 2px;">No</span>						
Trash Removed	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Exhaust Fans Working		<span style="border: 1px solid black; padding: 2px;">No</span>	Unapproved Chemicals / Cleaners in Room		<span style="border: 1px solid black; padding: 2px;">No</span>
Signs of Pests	<span style="border: 1px solid black; padding: 2px;">No</span>	Drain Traps Wet		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Air Fresheners in Room		<span style="border: 1px solid black; padding: 2px;">No</span>
Room Cluttered	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Food if Stored in Room is in Sealed Containers		<span style="border: 1px solid black; padding: 2px;">N/A</span>			
Mechanical Equipment Location	<span style="border: 1px solid black; padding: 2px;">Above Ceiling</span>					Mechanical Room Clean	<span style="border: 1px solid black; padding: 2px;">N/A</span>
Filters Installed Properly	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Filters Clean		<span style="border: 1px solid black; padding: 2px;">No</span>	Inside of HVAC Unit Clean		<span style="border: 1px solid black; padding: 2px;">N/A</span>
Condensate Pan Clean	<span style="border: 1px solid black; padding: 2px;">N/A</span>	Cooling Coil Clean		<span style="border: 1px solid black; padding: 2px;">N/A</span>			
Fresh Air Intake Location	<span style="border: 1px solid black; padding: 2px;">Roof top</span> ▼					Fresh Air Intake Free of Obstruction	<span style="border: 1px solid black; padding: 2px;">Yes</span>
Pollutant Sources Near Air Intake	<span style="border: 1px solid black; padding: 2px;">None</span> ▼						

**Observations**

Dust on all surfaces - Dust build up on HVAC supply and return grills - Dust and debris on A/C filters - Exhaust fan in restroom 130A not working - Soiled carpets in room - Room cluttered (papers, boxes and books throughout)

Returned to room at 7:15 found humidity to be 58.9% evaluate HVAC and dampers.

**Corrective Actions to be Completed by Site Based Staff**

Thoroughly clean horizontal surfaces	▼
Clean HVAC supply and return grills with Wexcide	▼
Remove and replace A/C filters	▼
Remove and replace A/C Filters	▼
Remove and clean carpets in room	▼
Thoroughly clean and sanitize flooring	▼
Encourage occupant to reduce clutter	▼
	▼

**Corrective Actions to be Completed by PPO**

Repair HVAC to reduce humidity level	▼
Evaluate and repair exhaust fans	▼
Verify exhaust fan interlock with HVAC	▼
Evaluate and repair HVAC system as needed	▼
	▼
	▼
	▼
	▼

# IAQ Assessment

Country Hills Elementary

Evaluation Date February 18, 2014

Time of Day 6:30

Outdoor Conditions    Temperature 61.0

Relative Humidity 60.4

Ambient CO2 546

Fish	Temperature	Range	Relative Humidity	Range	CO <sup>2</sup>	Range	# Occupants
<span style="border: 1px solid black; padding: 2px;">131</span>	<span style="border: 1px solid black; padding: 2px;">71.0</span>	<span style="border: 1px solid black; padding: 2px;">72 - 78</span>	<span style="border: 1px solid black; padding: 2px;">65.2</span>	<span style="border: 1px solid black; padding: 2px;">30% - 60%</span>	<span style="border: 1px solid black; padding: 2px;">495</span>	<b>MAX 700 &gt; Ambient</b>	<span style="border: 1px solid black; padding: 2px;">1</span>
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>	
Ceiling	<span style="border: 1px solid black; padding: 2px;">2' X 4' Lay in</span>		<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;"></span>		
Walls	<span style="border: 1px solid black; padding: 2px;">Drywall</span>		<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;"></span>		
Floor	<span style="border: 1px solid black; padding: 2px;">12" x 12" Vinyl</span>		<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;"></span>		

Ceiling Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	HVAC Supply Grills Clean	<span style="border: 1px solid black; padding: 2px;">No</span>	HVAC Return Grills Clean	<span style="border: 1px solid black; padding: 2px;">No</span>
Walls Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of Supply Duct Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of Return Duct Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>
Flooring Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Ceiling at Supply Grills Clean	<span style="border: 1px solid black; padding: 2px;">No</span>		
Room Surfaces Clean	<span style="border: 1px solid black; padding: 2px;">No</span>				

Trash Removed	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Exhaust Fans Working	<span style="border: 1px solid black; padding: 2px;">No</span>	Unapproved Chemicals / Cleaners in Room	<span style="border: 1px solid black; padding: 2px;">No</span>
Signs of Pests	<span style="border: 1px solid black; padding: 2px;">No</span>	Drain Traps Wet	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Air Fresheners in Room	<span style="border: 1px solid black; padding: 2px;">No</span>
Room Cluttered	<span style="border: 1px solid black; padding: 2px;">No</span>	Food if Stored in Room is in Sealed Containers	<span style="border: 1px solid black; padding: 2px;">N/A</span>		

Mechanical Equipment Location	<span style="border: 1px solid black; padding: 2px;">Above Ceiling</span>	Mechanical Room Clean	<span style="border: 1px solid black; padding: 2px;">N/A</span>
Filters Installed Properly	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Filters Clean	<span style="border: 1px solid black; padding: 2px;">No</span>
Condensate Pan Clean	<span style="border: 1px solid black; padding: 2px;">N/A</span>	Cooling Coil Clean	<span style="border: 1px solid black; padding: 2px;">N/A</span>
		Inside of HVAC Unit Clean	<span style="border: 1px solid black; padding: 2px;">N/A</span>

Fresh Air Intake Location	<span style="border: 1px solid black; padding: 2px;">Roof top</span> ▼	Fresh Air Intake Free of Obstruction	<span style="border: 1px solid black; padding: 2px;">Yes</span>
Pollutant Sources Near Air Intake	<span style="border: 1px solid black; padding: 2px;">None</span> ▼		

**Observations**

Odor of rubber balls stored in room (tub with 9 playground balls stored by door) - Dust on all surfaces - Dust build up on HVAC supply and return grills and ceilings at supply grills - Dust and debris on A/C filters - Exhaust fan in restroom 131A not working - Soiled carpets in room

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- Corrective Actions to be Completed by Site Based Staff**
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|--|---|
| Thoroughly clean horizontal surfaces             | ▼ |
| Clean HVAC supply and return grills with Wexcide | ▼ |
| Clean ceilings around HVAC supply grills         | ▼ |
| Remove and replace A/C Filters                   | ▼ |
| Remove and clean carpets in room                 | ▼ |
| Thoroughly clean and sanitize flooring           | ▼ |
|  | ▼ |
|  | ▼ |
|  | ▼ |

- Corrective Actions to be Completed by PPO**
- |   |   |
|---|---|
| Repair HVAC to reduce humidity level      | ▼ |
| Evaluate and repair exhaust fans          | ▼ |
| Verify exhaust fan interlock with HVAC    | ▼ |
| Evaluate and repair HVAC system as needed | ▼ |
|   | ▼ |
|   | ▼ |
|   | ▼ |
|   | ▼ |

# IAQ Assessment

Country Hills Elementary

Evaluation Date February 18, 2014

Time of Day 6:30

Outdoor Conditions Temperature 61.0

Relative Humidity 60.4

Ambient CO2 546

Fish	Temperature	Range	Relative Humidity	Range	CO <sup>2</sup>	Range	# Occupants
132	71.4	72 - 78	61.8	30% - 60%	492	MAX 700 > Ambient	1
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling		Walls		Floor			
No		2' X 4' Lay in		Drywall		12" x 12" Vinyl	
No		No		No		No	
Ceiling Clean	Yes	HVAC Supply Grills Clean	No	HVAC Return Grills Clean	No		
Walls Clean	Yes	Inside of Supply Duct Clean	Yes	Inside of Return Duct Clean	Yes		
Flooring Clean	Yes	Ceiling at Supply Grills Clean	No				
Room Surfaces Clean	No						
Trash Removed	Yes	Exhaust Fans Working	No	Unapproved Chemicals / Cleaners in Room	No		
Signs of Pests	No	Drain Traps Wet	Yes	Air Fresheners in Room	No		
Room Cluttered	No	Food if Stored in Room is in Sealed Containers	N/A				
Mechanical Equipment Location	Above Ceiling					Mechanical Room Clean	N/A
Filters Installed Properly	Yes	Filters Clean	No	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**

Dust on all surfaces - Heavy dust on top of books - Dust build on HVAC supply and return grills - Dust and debris on A/C filters - Exhaust fan in restroom 132A not working - Soiled carpets in room - Live plant in room in woven basket

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**Corrective Actions to be Completed by Site Based Staff**

Thoroughly clean horizontal surfaces	▼
Clean HVAC supply and return grills with Wexcide	▼
Remove and replace A/C filters	▼
Remove and clean carpets in room	▼
Thoroughly clean and sanitize flooring	▼
Remove live plants from room	▼
	▼
	▼
	▼

**Corrective Actions to be Completed by PPO**

Repair HVAC to reduce humidity level	▼
Evaluate and repair exhaust fans	▼
Verify exhaust fan interlock with HVAC	▼
Evaluate and repair HVAC system as needed	▼
	▼
	▼
	▼
	▼