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May 7, 2012

**Signature on File**

TO: Delicia Decembert, Principal  
**Hollywood Central Elementary School**

FROM: Robert Krickovich, Coordinator I, LEA  
Facilities and Construction Management

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 November 9, 2011, I conducted an assessment at **Hollywood Central 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: Area Superintendent  
Area Directors  
Shelley Meloni, Executive Director, Facilities and Construction Management  
Mark Dorsett, Acting Director, Physical Plant Operations Division, Maintenance  
Sonja Coley, Project Manager III, Facilities and Construction Management  
Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division  
Aston Henry, Supervisor, Risk Management  
Broward Teachers Union  
Federation of Public Employees

RK/tc  
Enc.

# IAQ Assessment

Location Number   
 Evaluation Requested   
 Evaluation Date

Hollywood Central Elementary

Time of Day

Outdoor Conditions      Temperature       Relative Humidity       Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="102"/>	<input type="text" value="75.8"/>	<input type="text" value="72 - 78"/>	<input type="text" value="64"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="811"/>	<input type="text" value="Max 700 &gt; Ambient"/>	<input type="text" value="3"/>
Noticeable Odor	<input type="text" value="No"/>		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	<input type="text" value="2 x 4 Lay In"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		
Wall Type	<input type="text" value="Plaster"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		
Flooring	<input type="text" value="Carpet"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Walls	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Flooring	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Supply Grills	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean as appropriate"/>
HVAC Return Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Ceiling at Supply Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Surfaces in Room	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>

**Observations**

**Findings**

- Humidity level elevated
- Tape residue on HVAC supply grills
- Visible microbial growth on bookcases

**Site Based Maintenance:**

- Clean HVAC supply grills and all bookcases. If microbial growth returns on bookcases they will need to be discarded and replaced.
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

**Physical Plant Operations:**

- Evaluate and repair HVAC system to lower humidity level.

- NOTE: Work orders EQ02244 through EQ02248 generated 12-1-11

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Location Number   
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Hollywood Central Elementary

Time of Day

Outdoor Conditions      Temperature       Relative Humidity       Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="103"/>	<input type="text" value="73.4"/>	<input type="text" value="72 - 78"/>	<input type="text" value="67.3"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="772"/>	<input type="text" value="Max 700 &gt; Ambient"/>	<input type="text" value="4"/>
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>	
Ceiling Type	<input type="text" value="2 x 4 Lay In"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		<input type="text" value="None"/>	
Wall Type	<input type="text" value="Plaster"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		<input type="text" value="None"/>	
Flooring	<input type="text" value="Carpet"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		<input type="text" value="None"/>	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Walls	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Flooring	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Supply Grills	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean as appropriate"/>
HVAC Return Grills	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean as appropriate"/>
Ceiling at Supply Grills	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean as appropriate"/>
Surfaces in Room	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean as appropriate"/>

**Observations**

**Findings**

- Humidity level elevated
- Dust build up on HVAC supply and return grills and on ceiling at supply grills
- Dust build up on surfaces throughout the room

**Site Based Maintenance:**

- Clean HVAC supply and return grills and ceiling around supply grills.
- Clean all surfaces in the room
- Followup with Physical Plant Operations on status of work orders previously generated to address water intrusion (J518656 and J520907)
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

**Physical Plant Operations:**

- Evaluate and repair HVAC system to lower humidity level.

- NOTE: Work orders EQ02244 through EQ02248 generated 12-1-11

# IAQ Assessment

Location Number   
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Hollywood Central Elementary

Time of Day

Outdoor Conditions      Temperature       Relative Humidity       Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="404"/>	<input type="text" value="71.9"/>	<input type="text" value="72 - 78"/>	<input type="text" value="76.1"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="494"/>	<input type="text" value="Max 700 &gt; Ambient"/>	<input type="text" value="3"/>
Noticeable Odor	<input type="text" value="Yes"/>		Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling Type	<input type="text" value="2 x 4 Lay In"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>
Wall Type	<input type="text" value="Plaster"/>		<input type="text" value="Yes"/>		<input type="text" value="No"/>		<input type="text" value="4 square feet at door"/>
Flooring	<input type="text" value="12 x 12 Vinyl"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Walls	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Paint as appropriate"/>
Flooring	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Supply Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Return Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Ceiling at Supply Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Surfaces in Room	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>

## Observations

**Findings**

- Deteriorated caulk around cabinets
- Water damaged wall left side of door
- Staining on walls
- Humidity level elevated
- Microbial growth on chilled water lines in FISH 405

**Site Based Maintenance:**

- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

**Physical Plant Operations:**

- Caulk all cabinets - Added to work order EQ01824
- Evaluate and repair cause of water damage to wall on left side of door and repair/replace wall material as necessary.
- Remove and replace all ceiling tiles
- Paint all walls with anti-microbial paint
- Repair HVAC system to lower humidity level. Pending additional information from Design Services re repair. EQ01820 in progress
- FISH 405 - Remove and replace chilled water pipe insulation and seal all penetrations in room to prevent outside air intrusion

- NOTE: Work orders EQ01820 and EQ01824 generated in August. EQ02244 through EQ02248 generated 12-1-11

# IAQ Assessment

Location Number

Hollywood Central Elementary

Evaluation Requested

Time of Day

Evaluation Date

Outdoor Conditions      Temperature       Relative Humidity       Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="520"/>	<input type="text" value="72.9"/>	<input type="text" value="72 - 78"/>	<input type="text" value="69.5"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="890"/>	<input type="text" value="Max 700 &gt; Ambient"/>	<input type="text" value="19"/>
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>	
Ceiling Type	<input type="text" value="2 x 4 Lay In"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		<input type="text" value="None"/>	
Wall Type	<input type="text" value="Tackboard"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		<input type="text" value="None"/>	
Flooring	<input type="text" value="12 x 12 Vinyl"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		<input type="text" value="None"/>	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Walls	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Flooring	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean as appropriate"/>
HVAC Supply Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Return Grills	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean as appropriate"/>
Ceiling at Supply Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Surfaces in Room	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>

**Observations**

**Findings**

- Humidity level elevated
- Dust build up on HVAC return grills
- Dust and debris in corners of room

**Site Based Maintenance:**

- Clean HVAC return grills
- Clean and sanitize flooring
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

**Physical Plant Operations:**

- Evaluate and repair HVAC system to lower humidity level.

- NOTE: Work orders EQ02244 through EQ02248 generated 12-1-11

# IAQ Assessment

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Time of Day

Outdoor Conditions      Temperature       Relative Humidity       Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="521"/>	<input type="text" value="74"/>	<input type="text" value="72 - 78"/>	<input type="text" value="74.3"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="821"/>	<input type="text" value="Max 700 &gt; Ambient"/>	<input type="text" value="17"/>
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>	
Ceiling Type	<input type="text" value="2 x 4 Lay In"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		
Wall Type	<input type="text" value="Plaster/Tackboard"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		
Flooring	<input type="text" value="12 x 12 Vinyl"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Walls	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Flooring	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Supply Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
HVAC Return Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Ceiling at Supply Grills	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Surfaces in Room	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>

**Observations**

**Findings**

- Humidity level elevated
- Door to room was propped open

**Site Based Maintenance:**

- Ensure windows and doors remain closed at all times. Open windows and doors allow humid untreated air into occupied space.
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

**Physical Plant Operations:**

- Evaluate and repair HVAC system to lower humidity level. Pending additional information from Design Services re repair. EQ01820 in progress

- NOTE: Work orders EQ01820 and EQ01824 generated in August. EQ02244 through EQ02248 generated 12-1-11