

# RISK MANAGEMENT...

managing risk with responsibility

Aston A. Henry, Supervisor  
Risk Management Department

Telephone: 754 321-1900  
Fax: 754 321-1917

July 13, 2010

**Signature on File**

TO: Ms. Joesetta Campbell, Principal  
**Fairway Elementary School**

FROM: Richard Rosa, Project Manager  
Facilities and Construction Management

SUBJECT: Indoor Air Quality (IAQ) Assessment  
**FISH 301, 770, 773 and 853**

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

On June 16, 2010 I conducted an assessment of FISH 301, 770, 773 and 853 at **Fairway Elementary School**. This evaluation included observations of the flooring system, ceiling tiles, false ceiling plenum, environmental surfaces, interior and exterior walls, and the accessible ventilation equipment. Additionally, environmental parameter measurements were taken to include temperature, relative humidity, and carbon dioxide. The detailed findings, along with the recommended corrective action can be found on the attached IAQ Assessment Worksheets.

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 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 me at 754-321-1637.

cc: Dr. Joel Herbst, Area Superintendent  
Valerie Wanza, Area Director  
Jeffrey S. Moquin, Executive Director, Support Operations  
Mark Dorsett, Acting Director, Physical Plant Operations Division, Maintenance  
Aston Henry, Supervisor, Risk Management  
Jack Cooper, Senior Project Manager, Facilities and Construction Management  
Iris Froehlich, Broward Teachers Union  
Roy Jarrett, Federation of Public Employees  
Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division  
Robert Krickovich, Coordinator, LEA, Facilities and Construction Management

RR/tc  
Enc.

# IAQ Assessment

Location Number 1641

Fairway Elementary School

Evaluation Requested June 10, 2010

Time of Day 8:00 am

Evaluation Date June 16, 2010

Outdoor Conditions      Temperature 82.5      Relative Humidity 74.6      Ambient CO2 409

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
301	67.5	72 - 78	54.7	30% - 60%	424	Max 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Yes		No		None	
Wall Type		No		Yes		50 square feet	
Flooring		Yes		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	No	Yes	Yes	Evaluate and repair
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

## Observations

**Findings**  
 - Elevated moisture content in walls - possible water intrusion from exterior

**Site Based Maintenance:**  
 - Staff is currently working on summer cleaning schedule  
 - 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 cause of elevated moisture content in wall and repair as appropriate. Repair/replace wall material as necessary.

WORK ORDER EQ01402

# IAQ Assessment

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Fairway Elementary School

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Time of Day 8:00 am

Evaluation Date June 16, 2010

Outdoor Conditions      Temperature 82.5      Relative Humidity 74.6      Ambient CO2 409

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<span style="border: 1px solid black; padding: 2px;">770</span>	<span style="border: 1px solid black; padding: 2px;">72.8</span>	<span style="border: 1px solid black; padding: 2px;">72 - 78</span>	<span style="border: 1px solid black; padding: 2px;">58.5</span>	<span style="border: 1px solid black; padding: 2px;">30% - 60%</span>	<span style="border: 1px solid black; padding: 2px;">432</span>	<span style="border: 1px solid black; padding: 2px;">Max 700 &gt; Ambient</span>	<span style="border: 1px solid black; padding: 2px;">2</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;">None</span>	
Ceiling Type	<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;">None</span>		
Wall Type	<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;">None</span>		
Flooring	<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;">None</span>		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<span style="border: 1px solid black; padding: 2px;">Yes</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;">Yes</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>
Flooring	<span style="border: 1px solid black; padding: 2px;">Yes</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>
HVAC Supply Grills	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Address with summer cleaning</span>
HVAC Return Grills	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Address with summer cleaning</span>
Ceiling at Supply Grills	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Address with summer cleaning</span>
Surfaces in Room	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Address with summer cleaning</span>

## Observations

**Findings**

- Dust build up on HVAC supply and return grills, ceiling tiles at supply grills and environmental surfaces.
- HFSP advised of previous leak (February 2010) from sink in FISH 773 that penetrated through the wall and puddled on the floor. The leak was repaired by maintenance. All materials were dry at the time of the assessment.

**Site Based Maintenance:**

- Staff is currently working on summer cleaning schedule
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

# IAQ Assessment

Location Number 1641

Fairway Elementary School

Evaluation Requested June 10, 2010

Time of Day 8:00 am

Evaluation Date June 16, 2010

Outdoor Conditions      Temperature 82.5      Relative Humidity 74.6      Ambient CO2 409

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
773	76.2	72 - 78	50.7	30% - 60%	453	Max 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Yes		No		2 ceiling tiles	
Wall Type		No		No		None	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace ceiling tiles
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	No	Yes	Yes	Address with summer cleaning
HVAC Return Grills	No	Yes	Yes	Address with summer cleaning
Ceiling at Supply Grills	No	Yes	Yes	Address with summer cleaning
Surfaces in Room	No	Yes	Yes	Address with summer cleaning

## Observations

- Findings**
- 2 stained ceiling tiles adjacent to range hood
  - Dust build up on HVAC supply and return grills, ceiling tiles at supply grills and environmental surfaces.
  - HFSP advised of previous leak (February 2010) from sink in FISH 773 that penetrated through the wall and puddled on the floor. The leak was repaired by maintenance. All materials were dry at the time of the assessment.

**Site Based Maintenance:**

- Remove and replace stained ceiling tiles
- Staff is currently working on summer cleaning schedule
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

# IAQ Assessment

Location Number 1641

Fairway Elementary School

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Time of Day 8:00 am

Evaluation Date June 16, 2010

Outdoor Conditions      Temperature 82.5      Relative Humidity 74.6      Ambient CO2 409

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<span style="border: 1px solid black; padding: 2px;">853</span>	<span style="border: 1px solid black; padding: 2px;">73.4</span>	<span style="border: 1px solid black; padding: 2px;">72 - 78</span>	<span style="border: 1px solid black; padding: 2px;">53.4</span>	<span style="border: 1px solid black; padding: 2px;">30% - 60%</span>	<span style="border: 1px solid black; padding: 2px;">687</span>	<span style="border: 1px solid black; padding: 2px;">Max 700 &gt; Ambient</span>	<span style="border: 1px solid black; padding: 2px;">2</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;">Yes</span>		<span style="border: 1px solid black; padding: 2px;">Yes</span>		<span style="border: 1px solid black; padding: 2px;">14 ceiling tiles</span>	
Ceiling Type	<span style="border: 1px solid black; padding: 2px;">2 x 4 Lay In</span>		<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">14 ceiling tiles</span>		
Wall Type	<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;">None</span>		
Flooring	<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;">None</span>		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Remove and replace ceiling tiles</span>
Walls	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Address with summer cleaning</span>
Flooring	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Address with summer cleaning</span>
HVAC Supply Grills	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Address with summer cleaning</span>
HVAC Return Grills	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Address with summer cleaning</span>
Ceiling at Supply Grills	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Address with summer cleaning</span>
Surfaces in Room	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Address with summer cleaning</span>

## Observations

**Findings**

- 14 stained ceiling tiles. Possible leak from roof, sprinkler or chilled water pipe.
- Dust build up on HVAC supply and return grills, ceiling tiles at supply grills, walls, floor and environmental surfaces.

**Site Based Maintenance:**

- Staff is currently working on summer cleaning schedule
- 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 cause of stained ceiling tiles and repair as appropriate. Remove and replace stained ceiling tiles as necessary.

WORK ORDER EQ01402