

RISK MANAGEMENT...

managing risk with responsibility

Aston A. Henry, Supervisor
Risk Management Department

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August 27, 2010

Signature on File

TO: Mr. James Neer, Principal
Monarch High School

FROM: Aston A. Henry, Supervisor
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment
**FISH 261, 263, 429, 430, 504, 515, 524, 553,
554 and 557**

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

On August 19, 2010, I conducted an assessment of FISH 261, 263, 429, 430, 504, 515, 524, 553, 554 and 557 at **Monarch High 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 754-321-1900.

cc: Sharon Airaghi, Area Superintendent
Jackie Haywood, Area Director
Jeffrey S. Moquin, Executive Director, Support Operations
Mark Dorsett, Acting Director, Physical Plant Operations Division, Maintenance
Dennis DiLeonardo, Project Manager, Facilities and Construction Management
Gary Itzkowitz, 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

AH/tc
Enc.

IAQ Assessment

Location Number 3541
 Evaluation Requested August 19, 2010
 Evaluation Date August 19, 2010

Monarch High School

Time of Day

Outdoor Conditions Temperature 93.7 Relative Humidity 62.3 Ambient CO2 371

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
261	71.2	72 - 78	69.1	30% - 60%	422	Max 700 > Ambient	
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		No		No		None	
Wall Type		No		No		None	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	No	Yes	Yes	Clean with Wexcide disinfectant
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

- Humidity level was elevated at the time of the assessment
- Microbial growth on walls, furniture and paper

Site Based Maintenance:

- Wipe down walls and furniture with Wexcide disinfectant solution. Discard papers with visible growth.
- 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 HVAC system for proper operation and repair as appropriate to lower humidity level

NOTE: Work order EQ01424 generated

IAQ Assessment

Location Number 3541
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Monarch High School

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Outdoor Conditions Temperature 93.7 Relative Humidity 62.3 Ambient CO2 371

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
263	70.5	72 - 78	69.4	30% - 60%	417	Max 700 > Ambient	
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		No		No		None	
Wall Type		No		No		None	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	No	Yes	Yes	Clean with Wexcide disinfectant
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
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 - Microbial growth on walls, furniture and paper

Site Based Maintenance:
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 - 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 HVAC system for proper operation and repair as appropriate to lower humidity level

NOTE: Work order EQ01424 generated

IAQ Assessment

Location Number
 Evaluation Requested
 Evaluation Date

Monarch High School

Time of Day

Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="429"/>	<input type="text" value="73.1"/>	<input type="text" value="72 - 78"/>	<input type="text" value="68.2"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="388"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text"/>
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="Drywall"/>		<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		
Flooring	<input type="text" value="Tile"/>		<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 (Cafeteria)

- Microbial growth on edges of tables
- Humidity level was elevated at the time of the assessment

Site Based Maintenance:

- Wipe down tables with Wexcide disinfectant solution
- 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 HVAC system for proper operation and repair as appropriate to lower humidity level

NOTE: Work order EQ01424 generated

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Outdoor Conditions Temperature 93.7 Relative Humidity 62.3 Ambient CO2 371

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
430	69.9	72 - 78	72	30% - 60%	383	Max 700 > Ambient	
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		No		No		None	
Wall Type		No		No		None	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	Yes	No	No	
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 (kitchen)

- Humidity level was elevated at the time of the assessment

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:

- Evaluate HVAC system for proper operation and repair as appropriate to lower humidity level

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IAQ Assessment

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Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
504	73.3	72 - 78	75.4	30% - 60%	383	Max 700 > Ambient	2
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		No		Yes		Various	
Ceiling Type	2 x 4 Lay In		No	Yes		Various	
Wall Type	Drywall		No	Yes		Various	
Flooring	Tile		No	No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace stained ceiling tiles
Walls	No	Yes	Yes	Clean with Wexcide disinfectant
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

- Humidity level was elevated at the time of the assessment
- Multiple ceiling tiles with microbial growth
- Microbial growth on walls, furniture and paper

Site Based Maintenance:

- Wipe down walls and furniture with Wexcide disinfectant solution. Discard papers with visible growth.
- 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 HVAC system for proper operation and repair as appropriate to lower humidity level
- Evaluate for cause of stained ceiling tiles and repair as appropriate. Remove and replace ceiling tiles as necessary.

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Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
515	72.6	72 - 78	58.4	30% - 60%	388	Max 700 > Ambient	
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Yes		No		Various	
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 stained ceiling tiles
Walls	Yes	No	No	
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
 - Stained ceiling tiles from previous A/C leak

Site Based Maintenance:
 - Remove and replace stained ceiling tiles
 - Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

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Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
524	72.3	72 - 78	63.2	30% - 60%	479	Max 700 > Ambient	
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		No		Yes		Various	
Ceiling Type	2 x 4 Lay In		No	Yes	Various		
Wall Type	Drywall		No	Yes	Various		
Flooring	Tile		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace stained ceiling tiles
Walls	No	Yes	Yes	Clean with Wexcide disinfectant
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	

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553		72 - 78		30% - 60%		Max 700 > Ambient	
Noticeable Odor	No		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	2 x 4 Lay In		No	Yes	Various		
Wall Type	Drywall		No	Yes	Various		
Flooring	Tile		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace stained ceiling tiles
Walls	No	Yes	Yes	Clean with Wexcide disinfectant
Flooring	Yes	No	No	
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554		72 - 78		30% - 60%		Max 700 > Ambient	
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		No		Yes		Various	
Ceiling Type	2 x 4 Lay In		No	Yes	Various		
Wall Type	Drywall		No	Yes	Various		
Flooring	Tile		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace stained ceiling tiles
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Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
557		72 - 78		30% - 60%		Max 700 > Ambient	
Noticeable Odor	No		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	2 x 4 Lay In		No	Yes	Various		
Wall Type	Drywall		No	Yes	Various		
Flooring	Tile		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace stained ceiling tiles
Walls	No	Yes	Yes	Clean with Wexcide disinfectant
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	

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