

RISK MANAGEMENT...

managing risk with responsibility

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October 19, 2009

Signature on File

TO: Mr. Jonathan Williams, Principal
Northeast High School

FROM: Edward See, Project Manager
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment
FISH 013, 014, 257, 261, 263, 272 and 289

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

On October 12, 2009, I conducted an assessment of FISH 013, 014, 257, 261, 263, 272 and 289 at **Northeast 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
David Hall, Area Director
Jeffrey S. Moquin, Executive Director, Support Operations
Aston Henry, Supervisor, Risk Management
Robert Goode, Project Manager, Facilities and Construction Management
Dane Ramson, Broward Teachers Union
Roy Jarrett, Federation of Public Employees
Mark Dorsett, Manager 1, Physical Plant Operations Division, Zone 1
Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division

ES/tc
Enc.

IAQ Assessment

Location Number 1241

Northeast High School

Evaluation Requested October 6, 2009

Time of Day 3:00 pm

Evaluation Date October 12, 2009

Outdoor Conditions Temperature 92.6 Relative Humidity 65.2 Ambient CO2 371

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
257	77.9	72 - 78	55.8	30% - 60%	1064	Max 700 > Ambient	2
Noticeable Odor	Yes		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	2 x 4 Lay In		No	Yes	Various		
Wall Type	Drywall		Yes	Yes	Various		
Flooring	12 x 12 Vinyl		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Remove and replace ceiling tiles
Walls	No	Yes	Yes	Clean as appropriate
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	Yes	Yes	

Observations

Findings: (Closet)

- Musty odor in closet and hallway (FISH 014)
- Visible microbial growth on walls and ceiling tiles
- No A/C supply in room
- Exhaust fan running but not tied in to the HVAC system
- FISH 014 (hallway) - multiple stained ceiling tiles (active leak)
- FISH 014 (hallway) - Hole in ceiling tile open to false ceiling plenum - return air vent? - no vent cover

Recommendations:

Site Based Maintenance:

- Wipe down walls with Wexcide disinfectant solution and remove and replace ceiling tiles as necessary
- 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 exhaust fan in closet (FISH 257)
- Evaluate for cause of stained ceiling tiles in FISH 014 and repair as appropriate. Remove and replace ceiling tiles as necessary.
- Evaluate hole in ceiling tile in FISH 014 - return air vent with no cover?

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Time of Day 3:00 pm

Evaluation Date October 12, 2009

Outdoor Conditions Temperature 92.6 Relative Humidity 65.2 Ambient CO2 371

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
261	71	72 - 78	58.4	30% - 60%	1068	Max 700 > Ambient	3
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		No		No		None	
Ceiling Type	2 x 4 Lay In		No	No	None		
Wall Type	Drywall		No	No	None		
Flooring	12 x 12 Vinyl		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Clean as appropriate
Walls	Yes	No	No	
Flooring	Yes	No	No	
HVAC Supply Grills	Yes	No	No	
HVAC Return Grills	No	Yes	Yes	Clean with Wexcide disinfectant
Ceiling at Supply Grills	No	Yes	Yes	Clean as appropriate
Surfaces in Room	No	Yes	Yes	Clean as appropriate

Observations

Findings:

- Occupants advised there is a musty odor in the room on Monday mornings
- Dust build up on ceiling tiles at HVAC supply grills
- Dust and debris on HVAC return grills
- Dust build up on environmental surfaces

Recommendations:

Site Based Maintenance:

- Clean ceiling tiles at HVAC supply grills. If necessary, remove and replace ceiling tiles.
- Clean HVAC return grills with Wexcide disinfectant solution
- Thoroughly clean environmental surfaces throughout the room
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

IAQ Assessment

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 Evaluation Date October 12, 2009

Northeast High School

Time of Day 3:00 pm

Outdoor Conditions Temperature 92.6 Relative Humidity 65.2 Ambient CO2 371

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
263	70.3	72 - 78	64.7	30% - 60%	993	Max 700 > Ambient	3
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		No		No		None	
Ceiling Type	2 x 4 Lay In		No	No		None	
Wall Type	Drywall		No	No		None	
Flooring	12 x 12 Vinyl		No	No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Clean as appropriate
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:

- Dust build up on ceiling tiles
- Temperature was low and humidity level was slightly elevated at the time of the assessment

Recommendations:

Site Based Maintenance:

- Clean ceiling tiles to remove dust. If necessary, remove and replace ceiling tiles.
- 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 increase temperature and lower humidity

IAQ Assessment

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Northeast High School

Evaluation Requested October 6, 2009

Time of Day 3:00 pm

Evaluation Date October 12, 2009

Outdoor Conditions Temperature 92.6 Relative Humidity 65.2 Ambient CO2 371

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
272	69.7	72 - 78	62.2	30% - 60%	915	Max 700 > Ambient	3
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		No		No		None	
Ceiling Type	2 x 4 Lay In		No	No		None	
Wall Type	Drywall		No	No		None	
Flooring	12 x 12 Vinyl		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:

- Temperature was low and humidity level was slightly elevated at the time of the assessment
- FISH 013 (hallway) - temperature was 71.1 and humidity was 54.7%

Recommendations:

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 increase temperature and lower humidity

IAQ Assessment

Northeast High School

Location Number
 Evaluation Requested
 Evaluation Date

Time of Day

Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="289"/>	<input type="text" value="70.9"/>	<input type="text" value="72 - 78"/>	<input type="text" value="56.5"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="1099"/>	<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="Yes"/>		<input type="text" value="No"/>		<input type="text" value="1 ceiling tile"/>	
Ceiling Type	<input type="text" value="2 x 4 Lay In"/>		<input type="text" value="Yes"/>	<input type="text" value="No"/>		<input type="text" value="1 ceiling tile"/>	
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="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="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Remove and replace ceiling tile"/>
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:
 - 1 stained ceiling tile (active leak)

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 for cause of stained ceiling tile and repair as appropriate. Remove and replace ceiling tiles as necessary.