

Aston A. Henry, Supervisor
Risk Management Department

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April 13, 2012

Signature on File

TO: Dr. Paul Fetscher, Principal
Everglades High School

FROM: Richard Rosa, Project Manager
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 February 17, 2012, I conducted an assessment at **Everglades High 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

RR/tc
Enc.

IAQ Assessment

Location Number
 Evaluation Requested
 Evaluation Date

Everglades 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="318E"/>	<input type="text" value="70.6"/>	<input type="text" value="72 - 78"/>	<input type="text" value="65.8"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="807"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text"/>
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="Drywall"/>		<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="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

- Elevated humidity and low temperature
- 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 with Wexcide disinfectant solution and wipe down ceiling tiles at supply grills.
- Thoroughly clean all horizontal surfaces throughout the room
- FISH 373 - AHU 2-1 - Ensure proper size filters are installed to prevent bypass
- 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 and increase temperature

- NOTE: Work orders EQ02345, EQ02346 and EQ02347 generated 3-21-12

IAQ Assessment

Location Number 3731
 Evaluation Requested February 10, 2012
 Evaluation Date February 17, 2012

Everglades High School

Time of Day 9:20

Outdoor Conditions Temperature 73.7 Relative Humidity 74.7 Ambient CO2 509

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
372	71.8	72 - 78	66.2	30% - 60%	1130	Max 700 > Ambient	20
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	No	Yes	Yes	Clean as appropriate
HVAC Supply Grills	No	Yes	Yes	Clean as appropriate
HVAC Return Grills	No	Yes	Yes	Clean as appropriate
Ceiling at Supply Grills	No	Yes	Yes	Clean as appropriate
Surfaces in Room	No	Yes	Yes	Clean as appropriate

Observations

Findings

- Elevated humidity
- Dust build up on HVAC supply and return grills and on ceiling at supply grills
- Dust build up on surfaces throughout the room
- Cobwebs in low corners at floor

Site Based Maintenance:

- Clean HVAC supply and return grills with Wexcide disinfectant solution and wipe down ceiling tiles at supply grills.
- Thoroughly clean all horizontal surfaces throughout the room
- Thoroughly sweep low corners in the room to remove cobwebs
- FISH 373 - AHU 2-1 - Ensure proper size filters are installed to prevent bypass
- 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

- NOTE: Work orders EQ02345, EQ02346 and EQ02347 generated 3-21-12

IAQ Assessment

Location Number 3731
 Evaluation Requested February 10, 2012
 Evaluation Date February 17, 2012

Everglades High School

Time of Day 9:20

Outdoor Conditions Temperature 73.7 Relative Humidity 74.7 Ambient CO2 509

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
376	70.8	72 - 78	64.6	30% - 60%	963	Max 700 > Ambient	20
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	No	Yes	Yes	Clean as appropriate
HVAC Return Grills	No	Yes	Yes	Clean as appropriate
Ceiling at Supply Grills	No	Yes	Yes	Clean as appropriate
Surfaces in Room	No	Yes	Yes	Clean as appropriate

Observations

Findings

- Elevated humidity and low temperature
- 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 with Wexcide disinfectant solution and wipe down ceiling tiles at supply grills.
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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 and increase temperature

- NOTE: Work orders EQ02345, EQ02346 and EQ02347 generated 3-21-12

IAQ Assessment

Location Number 3731
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Time of Day 9:20

Outdoor Conditions Temperature 73.7 Relative Humidity 74.7 Ambient CO2 509

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
377	71.7	72 - 78	65.3	30% - 60%	1122	Max 700 > Ambient	18
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		Yes	No	less than 50 square feet		
Flooring	12 x 12 Vinyl		No	No	None		

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

Observations

Findings

- Elevated humidity
- Water damaged wall material at bottom of entire window wall
- Dust build up on HVAC supply and return grills and on ceiling at supply grills
- Dust build up on surfaces throughout the room
- Cobwebs in low corners at floor

Site Based Maintenance:

- Clean HVAC supply and return grills with Wexcide disinfectant solution and wipe down ceiling tiles at supply grills.
- Thoroughly clean all horizontal surfaces throughout the room
- Thoroughly sweep low corners in the room to remove cobwebs
- FISH 373 - AHU 2-1 - Ensure proper size filters are installed to prevent bypass
- 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
- Evaluate for cause of water damaged wall material at bottom of entire window wall and repair as appropriate (@50 sq. ft. in 377 and @75 sq. ft. in 378). Remove and replace wall material as necessary. Also evaluate exterior of building for possible stress cracks that may be contributing to water intrusion.

IAQ Assessment

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 Evaluation Date February 17, 2012

Everglades High School

Time of Day 9:20

Outdoor Conditions Temperature 73.7 Relative Humidity 74.7 Ambient CO2 509

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
378	73.4	72 - 78	63.8	30% - 60%	1336	Max 700 > Ambient	38
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		Yes	No		less than 75 square feet	
Flooring	12 x 12 Vinyl		No	No		None	

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

Observations

Findings

- Elevated humidity
- Water damaged wall material at bottom of entire window wall
- Dust build up on HVAC supply and return grills and on ceiling at supply grills
- Dust build up on surfaces throughout the room
- Cobwebs in low corners at floor

Site Based Maintenance:

- Clean HVAC supply and return grills with Wexcide disinfectant solution and wipe down ceiling tiles at supply grills.
- Thoroughly clean all horizontal surfaces throughout the room
- Thoroughly sweep low corners in the room to remove cobwebs
- FISH 373 - AHU 2-1 - Ensure proper size filters are installed to prevent bypass
- 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
- Evaluate for cause of water damaged wall material at bottom of entire window wall and repair as appropriate (@50 sq. ft. in 377 and @75 sq. ft. in 378). Remove and replace wall material as necessary. Also evaluate exterior of building for possible stress cracks that may be contributing to water intrusion.

IAQ Assessment

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Everglades High School

Time of Day 9:20

Outdoor Conditions Temperature 73.7 Relative Humidity 74.7 Ambient CO2 509

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
385	69.3	72 - 78	61.2	30% - 60%	1063	Max 700 > Ambient	1
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		Yes		Yes		24 square feet	
Ceiling Type	2 x 4 Lay In		Yes	Yes	24 square feet		
Wall Type	Ceramic Tile		No	No	None		
Flooring	Quarry Tile		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				N/A
HVAC Return Grills				N/A
Ceiling at Supply Grills				N/A
Surfaces in Room	No	Yes	Yes	Clean as appropriate

Observations

Findings

- Elevated humidity and low temperature
- Dust build up on surfaces throughout the room
- Microbial growth on ceiling

Site Based Maintenance:

- Wipe down all surfaces, including ceiling, with Wexcide disinfectant solution once exhaust fan damper has been repaired.
- FISH 373 - AHU 2-1 - Ensure proper size filters are installed to prevent bypass
- 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 and increase temperature
- Evaluate exhaust fan damper for proper operation and repair as appropriate

- NOTE: Work orders EQ02345, EQ02346 and EQ02347 generated 3-21-12

IAQ Assessment

Location Number 3731
 Evaluation Requested February 10, 2012
 Evaluation Date February 17, 2012

Everglades High School

Time of Day 9:20

Outdoor Conditions Temperature 73.7 Relative Humidity 74.7 Ambient CO2 509

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
386	68.3	72 - 78	64.6	30% - 60%	1011	Max 700 > Ambient	1
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		Yes		Yes		6 square feet	
Ceiling Type	2 x 4 Lay In		Yes	No		None	
Wall Type	Ceramic Tile		No	No		None	
Flooring	Quarry Tile		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				N/A
HVAC Return Grills				N/A
Ceiling at Supply Grills				N/A
Surfaces in Room	No	Yes	Yes	Clean as appropriate

Observations

Findings

- Elevated humidity and low temperature
- Dust build up on surfaces throughout the room
- Microbial growth on ceiling

Site Based Maintenance:

- Wipe down all surfaces, including ceiling, with Wexcide disinfectant solution once exhaust fan damper has been repaired.
- FISH 373 - AHU 2-1 - Ensure proper size filters are installed to prevent bypass
- 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 and increase temperature
- Evaluate exhaust fan damper for proper operation and repair as appropriate

- NOTE: Work orders EQ02345, EQ02346 and EQ02347 generated 3-21-12