

RISK MANAGEMENT...

managing risk with responsibility

Aston A. Henry, Supervisor
Risk Management Department

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

October 2, 2009

Signature on File

TO: Mr. Karlton Johnson, Principal
Blanche Ely High School

FROM: Edward See, Project Manager
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment
FISH 090A, 801, 803, 806, 814, 815, 819, 829, 841

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

On August 19, 2009, I conducted an assessment of FISH 090A, 801, 803, 806, 814, 815, 819, 829 and 841 at **Blanche Ely 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
Aston Henry, Supervisor, Risk Management
Robert Bellot, Project Manager, Facilities and Construction Management
Lynn Cavall, 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
Robert Krickovich, Coordinator, LEA, Facilities and Construction Management

ES/tc
Enc.

IAQ Assessment

Location Number 0361

Blanche Ely High School

Evaluation Requested August 18, 2009

Time of Day 8:30 am

Evaluation Date August 19, 2009

Outdoor Conditions Temperature 91.3 Relative Humidity 55.1 Ambient CO2 392

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
090A		72 - 78		30% - 60%		Max 700 > Ambient	
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	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: Prep Area
 - Active leak
 - Visible microbial growth around HVAC supply and return grills

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

Note: Physical Plant Operations is working on issues previously identified in building, including HVAC concerns, replacement of supply and return grills, and replacing ceiling tiles requiring multiple cuts.

IAQ Assessment

Location Number 0361

Blanche Ely High School

Evaluation Requested August 18, 2009

Time of Day 8:30 am

Evaluation Date August 19, 2009

Outdoor Conditions Temperature 91.3 Relative Humidity 55.1 Ambient CO2 392

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
801	71.1	72 - 78	63.4	30% - 60%	390	Max 700 > Ambient	
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		Yes		No		3 ceiling tiles	
Ceiling Type	2 x 4 Lay In		Yes	No		3 ceiling tiles	
Wall Type	Drywall		No	No		None	
Flooring	Vinyl		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	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings:

- 3 stained ceiling tiles
- Temperature was low and humidity level was slightly elevated at the time of the assessment

Recommendations:

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

Note: Physical Plant Operations is working on issues previously identified in building, including HVAC concerns, replacement of supply and return grills, and replacing ceiling tiles requiring multiple cuts.

IAQ Assessment

Location Number 0361

Blanche Ely High School

Evaluation Requested August 18, 2009

Time of Day 8:30 am

Evaluation Date August 19, 2009

Outdoor Conditions Temperature 91.3 Relative Humidity 55.1 Ambient CO2 392

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
803	78.5	72 - 78	46.3	30% - 60%	427	Max 700 > Ambient	
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		Yes		No		2 ceiling tiles	
Ceiling Type	2 x 4 Lay In		Yes	No		2 ceiling tiles	
Wall Type	Drywall		No	No		None	
Flooring	Vinyl		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	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings:

- 2 stained ceiling tiles
- Temperature was slightly elevated at the time of the assessment

Recommendations:

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

Note: Physical Plant Operations is working on issues previously identified in building, including HVAC concerns, replacement of supply and return grills, and replacing ceiling tiles requiring multiple cuts.

IAQ Assessment

Location Number 0361

Blanche Ely High School

Evaluation Requested August 18, 2009

Time of Day 8:30 am

Evaluation Date August 19, 2009

Outdoor Conditions Temperature 91.3 Relative Humidity 55.1 Ambient CO2 392

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
806	72	72 - 78	46.3	30% - 60%	427	Max 700 > Ambient	
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		Yes		No		multiple	
Ceiling Type	2 x 4 Lay In		Yes	No		multiple	
Wall Type	Drywall		No	No		None	
Flooring	Vinyl		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	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings:

- Multiple stained ceiling tiles. Mainly around supply and return vents

Recommendations:

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

Note: Physical Plant Operations is working on issues previously identified in building, including HVAC concerns, replacement of supply and return grills, and replacing ceiling tiles requiring multiple cuts.

IAQ Assessment

Location Number 0361

Blanche Ely High School

Evaluation Requested August 18, 2009

Time of Day 8:30 am

Evaluation Date August 19, 2009

Outdoor Conditions Temperature 91.3 Relative Humidity 55.1 Ambient CO2 392

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
814	70.4	72 - 78	63.4	30% - 60%	410	Max 700 > Ambient	
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		Yes		No		multiple	
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	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings:

- Multiple stained ceiling tiles
- Rust on HVAC return grills
- Temperature was low and humidity was slightly elevated at the time of the assessment

Recommendations:

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

Note: Physical Plant Operations is working on issues previously identified in building, including HVAC concerns, replacement of supply and return grills, and replacing ceiling tiles requiring multiple cuts.

IAQ Assessment

Location Number 0361

Blanche Ely High School

Evaluation Requested August 18, 2009

Time of Day 8:30 am

Evaluation Date August 19, 2009

Outdoor Conditions Temperature 91.3 Relative Humidity 55.1 Ambient CO2 392

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
815	71	72 - 78	64.3	30% - 60%	400	Max 700 > Ambient	
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		Yes		No		multiple	
Ceiling Type	2 x 4 Lay In		Yes	No		multiple	
Wall Type	Drywall		No	No		None	
Flooring	Vinyl		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	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings:

- Multiple stained ceiling tiles
- Condensation on light panels and grids at HVAC return
- Temperature was low and humidity was slightly elevated at the time of the assessment

Recommendations:

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

Note: Physical Plant Operations is working on issues previously identified in building, including HVAC concerns, replacement of supply and return grills as necessary, and replacing ceiling tiles requiring multiple cuts.

IAQ Assessment

Location Number 0361

Blanche Ely High School

Evaluation Requested August 18, 2009

Time of Day 8:30 am

Evaluation Date August 19, 2009

Outdoor Conditions Temperature 91.3 Relative Humidity 55.1 Ambient CO2 392

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
819	72.3	72 - 78	62.1	30% - 60%	415	Max 700 > Ambient	
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
No		Yes		No		multiple	
Ceiling Type	2 x 4 Lay In		Yes	No		multiple	
Wall Type	Drywall		No	No		None	
Flooring	Vinyl		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	Yes	No	No	
HVAC Return Grills	Yes	No	No	
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings:

- Multiple stained ceiling tiles
- Rust on HVAC return grills
- Humidity was slightly elevated at the time of the assessment

Recommendations:

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

Note: Physical Plant Operations is working on issues previously identified in building, including HVAC concerns, replacement of supply and return grills, and replacing ceiling tiles requiring multiple cuts.

IAQ Assessment

Location Number 0361

Blanche Ely High School

Evaluation Requested August 18, 2009

Time of Day 8:30 am

Evaluation Date August 19, 2009

Outdoor Conditions Temperature 91.3 Relative Humidity 55.1 Ambient CO2 392

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
829	69.4	72 - 78	69.5	30% - 60%	394	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:

- Temperature was low and humidity was elevated at the time of the assessment

Recommendations:

Site Based Maintenance:

- Clean HVAC supply and return grills 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

Note: Physical Plant Operations is working on issues previously identified in building, including HVAC concerns, replacement of supply and return grills as necessary, and replacing ceiling tiles requiring multiple cuts.

IAQ Assessment

Location Number 0361

Blanche Ely High School

Evaluation Requested August 18, 2009

Time of Day 8:30 am

Evaluation Date August 19, 2009

Outdoor Conditions Temperature 91.3 Relative Humidity 55.1 Ambient CO2 392

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
831	68.7	72 - 78	70.1	30% - 60%	392	Max 700 > Ambient	
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	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 was elevated at the time of the assessment

Recommendations:
Site Based Maintenance:
 - Clean HVAC supply and return grills 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

Note: Physical Plant Operations is working on issues previously identified in building, including HVAC concerns, replacement of supply and return grills as necessary, and replacing ceiling tiles requiring multiple cuts.

IAQ Assessment

Location Number 0361

Blanche Ely High School

Evaluation Requested August 18, 2009

Time of Day 8:30 am

Evaluation Date August 19, 2009

Outdoor Conditions Temperature 91.3 Relative Humidity 55.1 Ambient CO2 392

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
835	69.4	72 - 78	69.8	30% - 60%	388	Max 700 > Ambient	
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	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 with Wexcide disinfectant
HVAC Return Grills	No	Yes	Yes	Clean with Wexcide disinfectant
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings:

- Visible microbial growth on HVAC supply and return grills
- Temperature was low and humidity was elevated at the time of the assessment

Recommendations:

Site Based Maintenance:

- Clean HVAC supply and return grills 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

Note: Physical Plant Operations is working on issues previously identified in building, including HVAC concerns, replacement of supply and return grills as necessary, and replacing ceiling tiles requiring multiple cuts.

IAQ Assessment

Location Number
 Evaluation Requested
 Evaluation Date

Blanche Ely 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="836"/>	<input type="text" value="68.5"/>	<input type="text" value="72 - 78"/>	<input type="text" value="70.9"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="399"/>	<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="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:
 - Temperature was low and humidity was elevated at the time of the assessment

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

Note: Physical Plant Operations is working on issues previously identified in building, including HVAC concerns, replacement of supply and return grills as necessary, and replacing ceiling tiles requiring multiple cuts.

IAQ Assessment

Location Number 0361

Blanche Ely High School

Evaluation Requested August 18, 2009

Time of Day 8:30 am

Evaluation Date August 19, 2009

Outdoor Conditions Temperature 91.3 Relative Humidity 55.1 Ambient CO2 392

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
841	70.6	72 - 78	65.4	30% - 60%	476	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	No	Yes	Yes	Clean with Wexcide disinfectant
HVAC Return Grills	No	Yes	Yes	Clean with Wexcide disinfectant
Ceiling at Supply Grills	Yes	No	No	
Surfaces in Room	Yes	No	No	

Observations

Findings:

- Visible microbial growth on HVAC supply and return grills
- Temperature was low and humidity was elevated at the time of the assessment

Recommendations:

Site Based Maintenance:

- Clean HVAC supply and return grills 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

Note: Physical Plant Operations is working on issues previously identified in building, including HVAC concerns, replacement of supply and return grills as necessary, and replacing ceiling tiles requiring multiple cuts.