

Jeffrey S. Moquin, Director
Risk Management Department

Telephone: 754-321-3200
Facsimile: 754-321-3290

July 19, 2007

Signature on File

TO: Ms. Deborah Davey, Principal
Miramar High

FROM: Richard Rosa, Project Manager
Facilities and Construction Management

SUBJECT: Indoor Air Quality (IAQ) Assessment
FISH 312C and 312E

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

On July 17, 2007 I conducted an assessment of FISH 312C and 312E at **Miramar High**. 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. 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: Steven Friedman, Area Superintendent (Task Assigned)
Jacquelyn Box, Area Director
Jeffrey S. Moquin, Director, Risk Management
Rey Olivera, Project Manager, Facilities and Construction Management
Steve Feldman, 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

RR/tc
Enc.

IAQ Assessment

Miramar 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="312C"/>	<input type="text" value="72.1"/>	<input type="text" value="72 - 78"/>	<input type="text" value="66.2"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="442"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text" value="1"/>
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 2 Lay In"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text" value="None"/>		
Wall Type	<input type="text" value="Paneling"/>	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="@320 square feet"/>			
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="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
Walls	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="See below"/>
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 with Wexcide disinfectant"/>
HVAC Return Grills	<input type="text" value="No"/>	<input type="text" value="Yes"/>	<input type="text" value="Yes"/>	<input type="text" value="Clean with Wexcide disinfectant"/>
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:

- Visible microbial growth on paneling - North and South walls. Paneling is bowing. Windows behind the paneling are open.
- Dust and debris on HVAC supply and return grills (window unit)
- Humidity level was elevated

-Recommendations:

Site Based Maintenance:

- Clean HVAC supply and return grills with Wexcide disinfectant solution (window unit)
- Ensure that windows are kept closed
- 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 - possible roof leak - and repair as appropriate. Remove and replace ceiling tiles as appropriate.
- Evaluate cause of visible microbial growth on paneling and bowing of paneling and repair as appropriate. Remove paneling on North and South walls and evaluate wall behind paneling and repair/replace as appropriate. There is a 7' x 12' refrigerator in FISH 312A that is tightly against the wall behind the North wall of FISH 312C. The cold walls and the warm surrounding rooms are a possible source of the visible microbial growth on the paneling.
- Evaluate HVAC for proper operation and repair as appropriate to lower humidity level

IAQ Assessment

Miramar High School

Location Number 1751
 Evaluation Requested July 12, 2007
 Evaluation Date July 17, 2007

Time of Day 11:45 am

Outdoor Conditions Temperature 92.1 Relative Humidity 74.5 Ambient CO2 423

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
312E	76.2	72 - 78	70.7	30% - 60%	450	Max 700 > Ambient	2
Noticeable Odor	No		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	2 x 2 Lay In		Yes	Yes	@10 square feet		
Wall Type	Paneling		No	No	None		
Flooring	Concrete		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	See below
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	No	Yes	Yes	Clean as appropriate

Observations

Findings:

- Visible microbial growth and staining on ceiling - @10 square feet
- Dust and debris on HVAC supply and return grills (window unit)
- Dust build up on environmental surfaces
- Humidity level was elevated
- Paneling on East wall is bowing and is wet under the A/C. Windows are behind the paneling.

-Recommendations:

Site Based Maintenance:

- Clean HVAC supply and return grills with Wexcide disinfectant solution (window unit)
- 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

Physical Plant Operations:

- Evaluate cause of stained ceiling tiles - possible roof leak - and repair as appropriate. Remove and replace ceiling tiles as appropriate.
- Evaluate cause of bowed and wet paneling and repair as appropriate. Remove paneling on East wall and evaluate wall behind paneling and repair/replace as appropriate. Remove paneling under A/C unit and repair as appropriate.
- Evaluate HVAC for proper operation and repair as appropriate to lower humidity level