

# RISK MANAGEMENT...

managing risk with responsibility

Jeffrey S. Moquin, Director  
Risk Management Department

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

September 9, 2008

**Signature on File**

TO: Dr. David Basile, Principal  
**South Plantation High School**

FROM: Edward See, Project Manager  
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment  
**Auditorium/Stage**

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

On August 28, 2008 I conducted an assessment of the Auditorium/Stage at **South Plantation 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. 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 754-321-3200.

cc: Dr. Verda Farrow, Area Superintendent  
Fran Bolden, Area Director  
Jeffrey S. Moquin, Director, Risk Management  
Wayne Thrasher, Project Manager, Facilities and Construction Management  
Juana Romanuik, Project Manager, Facilities and Construction Management  
Charles Ricks, Project Manager, Facilities and Construction Management  
Rob Jindrcek, Project Manager, Energy Management, Physical Plant Operations  
Ralph Eckhardt, Broward Teachers Union  
Roy Jarrett, National Federation of Public and Private 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

# IAQ Assessment

Location Number 2351  
 Evaluation Requested August 20, 2008  
 Evaluation Date August 28, 2008

South Plantation High School

Time of Day 3:30 pm

Outdoor Conditions      Temperature 85.1      Relative Humidity 54.3      Ambient CO2 403

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
Stage Area	<span style="border: 1px solid black; padding: 2px;">74.9</span>	<span style="border: 1px solid black; padding: 2px;">72 - 78</span>	<span style="border: 1px solid black; padding: 2px;">58.3</span>	<span style="border: 1px solid black; padding: 2px;">30% - 60%</span>	<span style="border: 1px solid black; padding: 2px;">506</span>	<span style="border: 1px solid black; padding: 2px;">Max 700 &gt; Ambient</span>	<span style="border: 1px solid black; padding: 2px;">47</span>
<b>Noticeable Odor</b>	<span style="border: 1px solid black; padding: 2px;">No</span>		<b>Visible water damage / staining?</b>	<b>Visible microbial growth?</b>	<b>Amount of material affected</b>		
<b>Ceiling Type</b>	<span style="border: 1px solid black; padding: 2px;">Acoustic</span>		<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">2 ceiling tiles</span>		
<b>Wall Type</b>	<span style="border: 1px solid black; padding: 2px;">Drywall/Plaster</span>		<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">None</span>		
<b>Flooring</b>	<span style="border: 1px solid black; padding: 2px;">Carpet/Concrete</span>		<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">None</span>		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
<b>Ceiling</b>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Remove and replace ceiling tiles</span>
<b>Walls</b>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;"></span>
<b>Flooring</b>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;"></span>
<b>HVAC Supply Grills</b>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">20 foot ceiling - PPO Clean</span>
<b>HVAC Return Grills</b>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;"></span>
<b>Ceiling at Supply Grills</b>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">20 foot ceiling - PPO Clean</span>
<b>Surfaces in Room</b>	<span style="border: 1px solid black; padding: 2px;">Yes</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;">No</span>	<span style="border: 1px solid black; padding: 2px;"></span>

**Observations**

**Findings:**  
**Environmental paramaters in auditorium area - 70.7 temp, 67.2 RH, 503 CO2**  
 - Humidity level was elevated in auditorium area  
 - 2 stained ceiling tiles in SW exit foyer (20 foot ceiling)  
 - Dust build up on HVAC supply grills and on ceiling at supply grills (20 foot ceiling)  
 - Musty odor in room  
 - Clutter in AHU room (**FISH 295**) - boxes  
 - Damaged insulation on chilled water lines in AHU room (**FISH 295**)

**Recommendations:**

**Site Based Maintenance:**  
 - Remove boxes from FISH 295 - AHU 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/EMS:**  
 - Evaluate HVAC system for proper operation and repair as appropriate to lower humidity level - **EMS**  
 - Evaluate cause of stained ceiling tiles in SW exit foyer and repair as appropriate. Remove and replace stained ceiling tiles.  
 - Clean HVAC supply grills and ceiling at supply grills (20 foot ceiling)  
 - Evaluate insulation on chilled water lines in **FISH 295**