

RISK MANAGEMENT...

managing risk with responsibility

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November 22, 2010

Signature on File

TO: Dr. Patricia Patterson, Principal
Nob Hill Elementary School

FROM: Aston A. Henry, Supervisor
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment
**Portable 266CX, 505C, 506C, 547C, 548C,
853 and 856VE**

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

On November 4, 2010, I conducted an assessment of **Portable 266CX, 505C, 506C, 547C, 548C, 853 and 856VE** at **Nob Hill Elementary 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: Dr. Desmond Blackburn, Area Superintendent
Carle Shaw, Area Director
Jeffrey S. Moquin, Executive Director, Support Operations
Greg Boardman, Project Manager, Facilities and Construction Management
Ralph Eckhart, Broward Teachers Union
Roy Jarrett, Federation of Public Employees
Mark Dorsett, Manager I, Physical Plant Operations Division, Zone 1
Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division
Robert Krickovich, Coordinator, LEA, Facilities and Construction Management

AH/tc
Enc.

IAQ Assessment

Location Number
 Evaluation Requested
 Evaluation Date

Nob Hill Elementary School

Time of Day

Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="P-266CX"/>	<input type="text" value="71.5"/>	<input type="text" value="72 - 78"/>	<input type="text" value="56.2"/>	<input type="text" value="30% - 60%"/>	<input type="text" value="819"/>	<input type="text" value="Max 700 > Ambient"/>	<input type="text" value="3"/>
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 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/Tackable"/>		<input type="text" value="Yes"/>	<input type="text" value="Yes"/>		<input type="text" value="South wall"/>	
Flooring	<input type="text" value="Tile"/>		<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="Evaluate and repair"/>
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
 - Elevated moisture content in South wall under A/C unit with minor microbial growth

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 cause of elevated moisture content in South wall under A/C unit

NOTE: EQ01548 generated to address findings

IAQ Assessment

Location Number 2671
 Evaluation Requested October 21, 2010
 Evaluation Date November 4, 2010

Nob Hill Elementary School

Time of Day 3:45 pm

Outdoor Conditions Temperature 79.7 Relative Humidity 60 Ambient CO2 412

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
P-505C	74	72 - 78	57.5	30% - 60%	1399	Max 700 > Ambient	2
Noticeable Odor	No		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	2 x 4 Lay In		No	No	None		
Wall Type	Drywall/Tackable		Yes	No	North wall		
Flooring	Tile		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	No	Yes	Yes	Evaluate and repair
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

- Elevated moisture content in North wall under A/C unit
- CO2 level was elevated at the time of the assessment

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 cause of elevated moisture content in North wall under A/C unit
- Evaluate HVAC system for proper operation and repair as appropriate to lower CO2 level

NOTE: EQ01518 and EQ01524 generated to address findings

IAQ Assessment

Location Number 2671
 Evaluation Requested October 21, 2010
 Evaluation Date November 4, 2010

Nob Hill Elementary School

Time of Day 3:45 pm

Outdoor Conditions Temperature 79.7 Relative Humidity 60 Ambient CO2 412

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
P-506C	71.6	72 - 78	49.7	30% - 60%	1382	Max 700 > Ambient	3
Noticeable Odor	No		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	2 x 4 Lay In		No	No	None		
Wall Type	Drywall/Tackable		Yes	Yes	North wall		
Flooring	Tile		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	No	Yes	Yes	Evaluate and repair
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

- Elevated moisture content in North wall under A/C unit
- Visible microbial growth under posters and items hanging on wall
- CO2 level was elevated at the time of the assessment
- Dust and debris on A/C grills
- Dust build up on A/C filters

Site Based Maintenance:

- Wipe down walls with Wexcide disinfectant solution
- Clean A/C grills with Wexcide disinfectant solution
- Remove and replace A/C filters
- 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 elevated moisture content in North wall under A/C unit
- Evaluate HVAC system for proper operation and repair as appropriate to lower CO2 level

NOTE: EQ01519 and EQ01525 generated to address findings

IAQ Assessment

Location Number 2671
 Evaluation Requested October 21, 2010
 Evaluation Date November 4, 2010

Nob Hill Elementary School

Time of Day 3:45 pm

Outdoor Conditions Temperature 79.7 Relative Humidity 60 Ambient CO2 412

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
P-547C	73.9	72 - 78	51.6	30% - 60%	1065	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/Tackable		No	No	None		
Flooring	Tile		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
 - No issues identified at the time of the assessment

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

IAQ Assessment

Location Number 2671
 Evaluation Requested October 21, 2010
 Evaluation Date November 4, 2010

Nob Hill Elementary School

Time of Day 3:45 pm

Outdoor Conditions Temperature 79.7 Relative Humidity 60 Ambient CO2 412

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
P-548C	73.1	72 - 78	54.4	30% - 60%	927	Max 700 > Ambient	2
Noticeable Odor	No		Visible water damage / staining?	Visible microbial growth?	Amount of material affected		
Ceiling Type	2 x 4 Lay In		Yes	No	2 ceiling tiles		
Wall Type	Drywall/Tackable		Yes	No	West wall		
Flooring	Tile		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	Evaluate and repair
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
 -Elevated moisture content in West wall under A/C unit
 - 2 stained ceiling tiles

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 cause of elevated moisture content in West wall under A/C unit
 - Evaluate cause of stained ceiling tiles and repair as appropriate. Remove and replace stained ceiling tiles as necessary.

NOTE: EQ01520 and EQ01523 generated to address findings

IAQ Assessment

Location Number
 Evaluation Requested
 Evaluation Date

Nob Hill Elementary School

Time of Day

Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="P-853"/>	<input type="text"/>	<input type="text" value="72 - 78"/>	<input type="text"/>	<input type="text" value="30% - 60%"/>	<input type="text"/>	<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/Tackable"/>	<input type="text" value="Yes"/>	<input type="text" value="No"/>	<input type="text" value="East wall"/>			
Flooring	<input type="text" value="Tile"/>	<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="Evaluate and repair"/>
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
 - A/C unit not in operation at time of the assessment
 - Elevated moisture content in East wall under A/C unit

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 cause of elevated moisture content in East wall under A/C unit

NOTE: EQ01521 generated to address findings

IAQ Assessment

Location Number 2671
 Evaluation Requested October 21, 2010
 Evaluation Date November 4, 2010

Nob Hill Elementary School

Time of Day 3:45 pm

Outdoor Conditions Temperature 79.7 Relative Humidity 60 Ambient CO2 412

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
P-856VE	72.2	72 - 78	59.2	30% - 60%	1127	Max 700 > Ambient	2
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/Tackable		Yes	No	East wall		
Flooring	Tile		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	Yes	No	No	
Walls	No	Yes	Yes	Evaluate and repair
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

- Elevated moisture content in East wall under A/C unit
- CO2 level was elevated at the time of the assessment
- Dust and debris on A/C grills
- Dust build up on A/C filters

Site Based Maintenance:

- Clean A/C grills with Wexcide disinfectant solution
- Remove and replace A/C filters
- 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 elevated moisture content in East wall under A/C unit
- Evaluate HVAC system for proper operation and repair as appropriate to lower CO2 level

NOTE: EQ01522 and EQ01526 generated to address findings