

# managing risk with responsibility

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Jeffrey S. Moquin, Director Risk Management Department

November 21, 2005 Signature on File

TO: Ms. Irene Cejka, Principal

**Dolphin Bay Elementary School** 

FROM: Kenneth I. Partee, Project Manager, Occupational Health and Environmental

Control

Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment

Portable 42, 109, 110, 171N, 327, 339 and 994C

On November 8, 2005 the IAQ Assessment Team conducted an assessment of Portable 42, 109, 110, 171N, 327, 339 and 994C at **Dolphin Bay Elementary School**. The evaluation consisted of a walkthrough of the identified areas to assess the current condition of the location with regard to indoor air quality. This assessment included observations of the carpet, floor tile, ceiling tile, interior walls, false ceiling plenum, and accessible ventilation equipment.

Attached are the findings of this assessment along with recommendations for further assessment, remediation, or corrective actions, if needed.

Generally, the IAQ Assessment did not identify any existing conditions significantly impacting IAQ and thereby presenting immediate health and safety concerns 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.

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: Sam Gregg, Area Superintendent
Steven Friedman, Area Director
Jeffrey S. Moquin, Director, Risk Management
Angelino Garcia, Project Manager II, Facilities and Construction Management
Steve Feldman, Broward Teachers Union
Mark Dorsett, Manager 1, Physical Plant Operations Division, Zone 1
Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division

Roy Norton, Manager Custodial/Grounds, Physical Plant Operations Division Robert Krickovich, Coordinator, LEA, Facilities and Construction Management

KP/tc Enc.

	Dolpl	nin Bay Eleme	ntary School		Evaluation R	Requested	November	7, 2005
Time of Day	12:20 pm				Evalu	ation Date	November	8, 2005
Outdoor Cond	ditions T	emperature	93.9	Relative Humidity	44.3	Ambie	nt CO2	517
Fish	Temperature	Range F	Relative Humidity	Range	CO2	Ran	ge # C	ccupants
42	73.5	72 - 78	45	30% - 60%	1871	Max 700	> Ambient	3
Noticeable O	dor Yes		Visible water damage / staining?	Visible micro growth?	obial Am	ount of mat affected	terial	
Ceiling Type	Woo	od	No	No			None	
Wall Type	Plas	ter	No	No			None	
Flooring	Tile		No	No			None	
	Clean	Minor Du / Debris	~ -		Corrective	Action Re	equired	
Ceiling	Yes	No	No					
Walls	No	Yes	Yes		Replace	as necess	ary	
Flooring	No	Yes	Yes		Clean	and sanitiz	:e	
HVAC Supply	Grills No	Yes	Yes	Clean	with Wexcio	de disinfec	tant solution	n
HVAC Return	Grills No	Yes	Yes	Clean	with Wexcio	de disinfec	tant solution	n
Ceiling at Sup Grills	oply Yes	No	No					
Surfaces in R	oom No	Yes	Yes		Clean as	s appropri	ate	

3751

**Location Number** 

#### **Observations**

#### Findings:

- Plants on walk ramp to portable
- Elevated moisture readings on South wall around door
- Crack at center of West wall possible source of water intrusion
- Dust and debris on floor
- Dust and debris on environment surfaces
- Dust and debris on HVAC supply and return grills

#### Recommendations:

#### Site Based Maintenance:

- Recommend removing plants on walk ramp to portable
- Clean and sanitize floor
- Clean environmental surfaces as necessary
- 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

## Physical Plant Operations Division:

- Evaluate cause of moisture on South wall around door and repair/replace wall surfaces as appropriate
- Evaluate crack at center of West wall for possible source of water intrusion

	Dolphin Bay Ele	mentary School		<b>Evaluation Request</b>	November 7, 2005
Time of Day 11	:30 am			Evaluation D	November 8, 2005
Outdoor Conditions	Temperatur	e 93.9	Relative Humidity	44.3 Am	nbient CO2 517
Fink Tompo	oroturo –				
	76.2 <b>Range</b>	Relative Humidity 51.3	90		Range # Occupants 700 > Ambient 16
		Visible water	30% - 60% Visible micro		
Noticeable Odor	No	damage / staining			
Ceiling Type	Wood	No	No		None
Wall Type	Tackable	No	No		None
Flooring	Tile	No	No		None
Ceiling Walls Flooring HVAC Supply Grills HVAC Return Grills Ceiling at Supply Grills	Yes N	oris Cleaning No No No No No No No Yes		Repair at East	
Surfaces in Room	Yes	No			
bservations					
Findings: - No visible microbial - CO2 level was elevaturned on and set for Recommendations: Site Based Maintena - Ensure that both A/C - Continue to monitor appropriate	ated at the time of a fresh air during ass ance: C units are turned o	essment. In and set for fresh a	ir		or fresh air. Both units

3751

**Location Number** 

	Dolphin Bay El	ementary School	Evalu	nation Requested November 7, 2005
Time of Day	11:30 am			Evaluation Date November 8, 2005
Outdoor Condition	ns Temperatu	re 93.9	Relative Humidity 44	Ambient CO2 517
Fish Ten	nperature Range	Relative Humidity	/ Range CO2	Range # Occupants
110	78.2 <b>72 - 78</b>	50.9	<b>30% - 60%</b> 2579	Max 700 > Ambient
Noticeable Odor	No	Visible water damage / staining	Visible microbial g? growth?	Amount of material affected
Ceiling Type	Wood	No	No	None
Wall Type	Plaster	No	No	None
Flooring	Tile	No	No	None
		r Dust Needs ebris Cleaning	Cori	rective Action Required
Ceiling	Yes	No No		
Walls	Yes	No No		
Flooring	Yes	No		
HVAC Supply Gri	Ils Yes	No No		
HVAC Return Gri	IIs Yes	No No		
Ceiling at Supply Grills	Yes	No No		
Surfaces in Roon	n Yes M	lo No		
Observations				
- CO2 level and ter turned on and set f - Ants identified und Recommendation Site Based Mainte - Ensure that both	or fresh air during as der East A/C unit s: enance: A/C units are turned	sessment. on and set for fresh a	iir	were turned off by the teacher. Both units

appropriate

Physical Plant Operations Division:
- Initiate a work order for pest control for ants under East A/C unit

IAQ Assessment

3751

**Location Number** 

	Dolp	hin Bay Elem	entary School		Evaluati	ion Requested	November 7, 2005
Time of Day	11:55 am		<del></del>		E	Evaluation Date	November 8, 2005
Outdoor Cond	litions 7	emperature	93.9	Relative Humi	dity 44.3	Ambie	nt CO2 517
Fish	Temperature	Range	Relative Humidity	/ Range	CO2	Ran	ge # Occupants
171N	70.6	72 - 78	54.6	30% - 60%	670	Max 700	> Ambient 3
Noticeable O	dor Yes		Visible water damage / staining	Visible m g? grow		Amount of ma affected	terial
Ceiling Type	Wo	od	No	No	<b>)</b>		None
Wall Type	Tack	able	Yes	No	<b>)</b>	\	/arious
Flooring	Tile	Э	No	No			None
	Clean	Minor D / Debri		3	Correc	ctive Action Re	equired
Ceiling	Yes	No	No				
Walls	No	Yes	Yes		Repl	lace as necess	sary
Flooring	Yes	No	No				
HVAC Supply	Grills No	Yes	Yes	Clo	ean with We	excide disinfed	tant solution
HVAC Return	Grills No	Yes	Yes	Cle	ean with We	excide disinfed	etant solution
Ceiling at Sup Grills	oply Yes	No	No				
Surfaces in R	oom Yes	No	No				

3751

**Location Number** 

#### **Observations**

#### Findings:

- Elevated moisture readings on wall behind East A/C unit and South wall and door
- Dust and debris on HVAC supply and return grills
- Dust and debris on HVAC coils.

#### 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

#### Physical Plant Operations Division:

- Evaluate cause of moisture on wall behind East A/C unit and South wall and door and repair/replace wall surfaces and door as appropriate
- Clean HVAC coils on both units

	Dolp	hin Bay Eleme	entary School		Evaluatio	n Requested	Novem	ber 7, 2005
Time of Day	11:30 am				Ev	aluation Date	Novem	ber 8, 2005
Outdoor Condit	tions T	emperature	93.9	Relative Humidity	44.3	Ambie	nt CO2	517
Fish T 327  Noticeable Ode Ceiling Type	71.9  or No	72 - 78 [	Relative Humidity 47.3  Visible water damage / staining	30% - 60% Visible micro	2250 bial	Amount of mat affected	> Ambier	# Occupants nt 19
Wall Type	Tacka		No	No	Г		None	
Flooring [	Tile/R		No	No			None	
Ceiling Walls Flooring HVAC Supply ( HVAC Return ( Ceiling at Supply ( Grills	Grills Yes	Minor Du / Debris Yes No No No			Repair	r at East A/C	unit	
Surfaces in Ro	om Yes	No	No					
bservations								
Findings:  - No visible micro			peemont Only on	o of two A/C units w	oro on an	d not set for fr	ash air B	oth units

3751

**Location Number** 

#### O

- turned on and set for fresh air during assessment.
- Ceiling at East A/C unit has visible staining

#### Recommendations:

# Site Based Maintenance:

- Ensure that both A/C units are turned on and set for fresh air
- 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 Division:
- Evaluate cause of stained ceiling and repair. Repair ceiling as appropriate

Time of Day	10:45 am				E	Evaluation Date Noven	nber 8, 2005
Outdoor Condition	ns Temp	erature 9	93.9	Relative Humidity	44.3	Ambient CO2	517
Fish Ten		ange Rela	tive Humidity	Range	<b>CO2</b> 1478	Range Max 700 > Ambie	# Occupants
				30% - 60%			ent
Noticeable Odor	Yes		/isible water nage / staining	Visible micro growth?	biai	Amount of material affected	
Ceiling Type	2 x 4 Lay In	ı	No	No		None	
Wall Type	Tackable		Yes	No		Wall around main	door
Flooring	Tile		No	No		None	
	Clean	Minor Dust / Debris	Needs Cleaning		Correc	ctive Action Required	
Ceiling	Yes	No	No				
Walls	No	Yes	Yes		Rep	ace as necessary	
Flooring	Yes	No	No				
HVAC Supply Gri	lls Yes	No	No				
HVAC Return Gri	IIs Yes	No	No				
Ceiling at Supply Grills						N/A	
Surfaces in Roon	n Yes	No	No				
bservations							
Findings: - Elevated moisture - Dust and debris o - Temperature was	n HVAC coils						
Recommendation	s:						
Site Based Mainter - Continue to moniter appropriate		for any signs	of microbial g	rowth as well as dus	t and de	bris accumulation and cl	ean as
Physical Plant Op - Evaluate cause of - Clean HVAC coils - Evaluate and adju	f moisture on was on both units	all around ma		epair/replace wall sur rature	faces as	s appropriate	
Hurricane Rela	ited						

Dolphin Bay Elementary School

3751

November 7, 2005

**Location Number** 

**Evaluation Requested** 

	Dolphin	Bay Elementary	/ School		Evaluation	n Requested	November 7, 2005
Time of Day	10:45 am				Ev	aluation Date	November 8, 2005
Outdoor Condi	itions Tem	perature 9	3.9 F	Relative Humidity	44.3	Ambie	nt CO2 517
Fish	Temperature F	Range Relat	ive Humidity	Range	CO2	Ran	ge # Occupant
994C	71.7	2 - 78	50.8	30% - 60%	592	Max 700	> Ambient 3
Noticeable Od	lor Yes	<del>-</del>	isible water age / staining?	Visible micr growth?		Amount of mat affected	
Ceiling Type	2 x 4 Lay	ln	Yes	No		\	/arious
Wall Type	Tackable	;	Yes	No		V	/arious
Flooring	Tile		No	No			None
	Clean	Minor Dust / Debris	Needs Cleaning		Correcti	ve Action Re	quired
Ceiling	No	Yes	Yes		Replace c	eiling tiles a	nd grid
Walls	No	Yes	Yes		Repla	ce as necess	ary
Flooring	Yes	No	No				
HVAC Supply	Grills Yes	No	No				
HVAC Return	Grills No	Yes	Yes	Clear	with Wex	cide disinfec	tant solution
Ceiling at Sup Grills	ply					N/A	
Surfaces in Ro	oom No	Yes	Yes		Clean	as appropri	ate
hearvations							

3751

**Location Number** 

# Observations

#### Findings:

- Elevated moisture readings on North and East walls
- Rusted ceiling grids and stained ceiling tiles throughout the portable
- Dust and debris on HVAC return grills
- Dust and debris on environmental surfaces

#### Recommendations:

# Site Based Maintenance:

- Clean HVAC return grills with Wexcide disinfectant solution
- Clean environmental surfaces as appropriate
- 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 Division:

- Evaluate cause of moisture on Noth and East walls and repair/replace wall surface as appropriate
- Evaluate cause of rusted ceiling grids and stained ceiling tiles and repair. Replace ceiling grids and ceiling tiles as appropriate