

managing risk with responsibility

Jeffrey S. Moquin, Director Risk Management Department Telephone: 754-321-3200 Facsimile: 754-321-3290

For Custodial Supervisor Use Only

September 5, 2007

Signature on File

TO: Mr. David Olafson,, Principal Plantation Middle School

FROM: Edward See, Project Manager Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment

FISH 150A-F, 150H and 150K

Custodial Issues Addressed
Custodial Issues Not Addressed

On April 28, 2008 I conducted an assessment of FISH 150A-F, 150H and 150K at **Plantation Middle 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
Jan Beal, Area Director
Jeffrey S. Moquin, Director, Risk Management
Wayne Thrasher, Project Manager, Facilities and Construction Management
Ruby Fitzgerald, Broward Teachers Union
Roy Jarrett, National Federation of Public and Private Employees
Mark Dorsett, Manager 1, Physical Plant Operations Division, Zone 1
Robert Krickovich, Coordinator, LEA, Facilities and Construction Management

ES/tc Enc.

	Plantation Middle School	Evaluation Requested April 16, 2008
Time of Day 2:3	30 pm	Evaluation Date April 28, 2008
Outdoor Conditions	Temperature 91.4 Relativ	e Humidity 42.1 Ambient CO2 436
Fish Temper	rature Range Relative Humidity Ran	ge CO2 Range # Occupants
150A 71	.9 72 - 78 46.3 30% - 6	60% 771 Max 700 > Ambient 5
Noticeable Odor	No Visible water damage / staining?	/isible microbial Amount of material growth? affected
Ceiling Type P	laster/Drywall No	No None
Wall Type P	laster/Drywall No	No None
Flooring	Carpet No	No None
	Clean Minor Dust Needs / Debris 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 signs of water intr	usion or microbial growth	
Recommendations:		
Site Based Maintenar - Continue to monitor the appropriate		well as dust and debris accumulation and clean as

0551

		Plantation Mido	lle School		Evalua	tion Requested	April 16	5, 2008
Time of Day	2:30 pm					Evaluation Date	April 28	3, 2008
Outdoor Condi	tions Te	mperature	91.4	Relative Hum	dity 42.1	1 Ambie	ent CO2	436
Fish 150B	Temperature 72.7	Range Rel	ative Humidity	Range 30% - 60%	CO2 745	Rar Max 700	nge # 0 > Ambient	Occupants 2
Noticeable Od		7	Visible water	Visible ı	nicrobial	Amount of ma		
Ceiling Type	Plaster/Dr		nage / staining No	gro ^ر N	wth?	affected	None	
Wall Type	Plaster/Dr	<u></u>	No	N			None	
Flooring	Carpe		No	N			None	
	Clean	Minor Dust / Debris	Needs Cleaning		Corre	ctive Action Re	equired	
Ceiling	Yes	No	No					
Walls	Yes	No	No					
Flooring	Yes	No	No					
HVAC Supply	Grills Yes	No	No					
HVAC Return	Grills No	Yes	Yes		Clean wi	th Wexcide dis	infectant	
Ceiling at Sup Grills	ply Yes	No	No					
Surfaces in Ro	oom Yes	No	No					
Observations								
	ater intrusion or is on HVAC retu	microbial growth	า					
Recommendat		ani gillis						
	eturn grills with	Wexcide disinfe on for any signs		rowth as well as	s dust and de	ebris accumulati	on and clear	n as

0551

	Plantation Middle Schoo	<u></u>	Evaluation Requested	April 16, 2008
Time of Day 2:30 pr	m		Evaluation Date	April 28, 2008
Outdoor Conditions	Temperature 91.4	Relative Humidity	42.1 Ambier	nt CO2 436
Fish Temperature 150C 77.6 Noticeable Odor	72 - 78 35.2 Visible wa	30% - 60% visible micro	 bial Amount of mat	> Ambient 2
Ceiling Type Plast	damage / sta	ining? growth?	affected	None
	er/Drywall No	No		None
	Carpet	No		None
Clea		eds	Corrective Action Re	
Ceiling	No N	0		
Walls	No N	0		
Flooring	s No N	0		
HVAC Supply Grills Ye	No N	0		
HVAC Return Grills Ye	No N	0		
Ceiling at Supply Grills	No N	0		
Surfaces in Room Ye	No N	0		
Recommendations: Site Based Maintenance:	musty odor in the morning. No		t and debris accumulatio	on and clean as

0551

	PI	antation Middle	School		Eva	aluation F	Requested	April 1	6, 2008
Time of Day	2:30 pm					Evalu	ıation Date	April 2	28, 2008
Outdoor Condi	tions Temp	perature 91	.4	Relative Hum	nidity	42.1	Ambien	t CO2	436
		· —	ve Humidity		СО		Rang		Occupants
150D	73.2 72	- 78	46	30% - 60%	82		Max 700 >	Ambient	t 2
Noticeable Od	or No		sible water ge / staining		microbial owth?	l Am	ount of mate affected	erial	
Ceiling Type	Plaster/Dryw	all	No	_ N	No		ı	None	
Wall Type	Plaster/Dryw	all	No		No		N	lone	
Flooring	Carpet		No	N	No		ı	None	
	Clean	Minor Dust / Debris	Needs Cleaning		Co	orrective	Action Rec	quired	
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 Supp Grills	ply Yes	No	No						
Surfaces in Ro	oom Yes	No	No						
bservations									
Findings: - No signs of wa	ter intrusion or mi	crobial growth							
	chemicals in roon								
Recommendati	ons:								
Site Based Mai	ntenance:								
- Remove non-a	pproved chemical onitor this location	s from room (air	r freshener)	rowth as well a	ae duet ar	nd dehrie	accumulatio	n and clea	ın as
appropriate	onitor this location	ioi arry signs of	microbiai g	iowiii as well a	is dust an	iu uebris	accumulation	ii aiiu cica	iii as

0551

	Pl	antation Middle	School		Eva	luation Re	equested _	April 16	, 2008
Time of Day	2:30 pm					Evalua	tion Date	April 28	, 2008
Outdoor Condi	tions Temp	perature 91	.4	Relative Hur	nidity 2	42.1	Ambient	CO2	436
Fish 150E Noticeable Od	76.2 72	- 78 Vi	ve Humidity 42 sible water		CO2 843 e microbial owth?	3	Range Max 700 > bunt of mater affected	Ambient	Occupants 2
Ceiling Type	Plaster/Dryw		No	_	No			lone	
Wall Type	Plaster/Dryw	all	No		No		N	one	
Flooring	Carpet		No		No		N	lone	
	Clean	Minor Dust / Debris	Needs Cleaning		Со	orrective A	Action Req	uired	
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 Support Grills	ply Yes	No	No						
Surfaces in Ro	oom Yes	No	No						
bservations									
Findings: - No signs of wa	ter intrusion or mi	crobial growth							
Recommendati	ons:								
Site Based Mai - Continue to mo appropriate	ntenance: onitor this location	for any signs o	f microbial g	rowth as well	as dust and	d debris a	ccumulation	and clean	as

0551

	PI	antation Middle	School		Evaluation	Requested	April 16, 2008
Time of Day	2:30 pm				Eva	luation Date	April 28, 2008
Outdoor Condi	tions Temp	perature 91	.4	Relative Humidity	42.1	Ambient	CO2 436
150F	71.9 72	- 78	44.6	Range 30% - 60% Visible micro	CO2 797	Range Max 700 >	Ambient 1
Noticeable Od	or No		ge / staining		ibiai A	mount of mater affected	riai
Ceiling Type	Plaster/Dryw	rall	No	No		N	lone
Wall Type	Plaster/Dryw	all [No	No		N	one
Flooring	Carpet		No	No		N	lone
	Clean	Minor Dust / Debris	Needs Cleaning		Correctiv	e Action Req	uired
Ceiling	Yes	No	No				
Walls	Yes	No	No				
Flooring	Yes	No	No				
HVAC Supply	Grills Yes	No	No				
HVAC Return (Grills No	Yes	Yes	CI	lean with V	Vexcide disinf	fectant
Ceiling at Sup Grills	ply Yes	No	No				
Surfaces in Ro	oom Yes	No	No				
bservations							
Findings: - No signs of wa - Dust and debri	ter intrusion or mi s on HVAC return	crobial growth grills					
Recommendati	ons:						
Site Based Mai - Clean HVAC re - Continue to mo appropriate	eturn grills with We	excide disinfecta for any signs of	ant solution microbial g	rowth as well as dus	t and debris	s accumulation	and clean as

0551

Outdoor Conditions Temperature 91.4 Relative Humidity 42.1 Ambient CO2 436 Fish Temperature Range 150H 73.8 72.78 46.2 30%. e00% 791 Max. 700 > Ambient 2 Range 150H No No No No No No No No No N		PI	antation Middle	School		Evaluation	Requested [April 16, 2008
Fish Temperature Range Relative Humidity Range CO2 Range # Occupants 150H 73.8 72 - 78 46.2 30% - 60% 791 Max 700 > Ambient 2 Noticeable Odor No Visible water damage / staining? Celling Type Plaster/Drywall No No None Wall Type Plaster/Drywall No No None Flooring Carpet No No No None Clean Minor Dust / Debris Cleaning Celling Yes No No No No None HVAC Supply Grills Yes No No No No Celling at Supply Yes No No No No No No Celling at Supply Yes No No No No No No Celling at Supply Yes No No No No No Celling Surfaces in Room Yes No No No No No No No Celling at Supply Yes No No No No No No No Celling at Supply Yes No	Time of Day	2:30 pm				Eva	luation Date	April 28, 2008
150H 73.8 72 - 78 46.2 30% - 60% 791 Max 700 - Ambient 2	Outdoor Cond	litions Temp	perature 9	1.4 R	elative Humidity	42.1	Ambier	nt CO2 436
Noticeable Odor No Visible water damage / staining? Visible microbial growth? Amount of material affected Celling Type Plaster/Drywall No No No None Wall Type Plaster/Drywall No No No None Flooring Carpet No No No None Clean Minor Dust / Debris Cleaning Ceiling Yes No No No No None Walls Yes No No No No No None Flooring Yes No No No No Corrective Action Required Flooring Yes No	Fish	Temperature R	ange Relat	ive Humidity	Range	CO2	Ran	ge # Occupants
Ceiling Type Plaster/Drywall No No No None Wall Type Plaster/Drywall No No None Flooring Carpet No No No None Clean Minor Dust / Debris Cleaning Ceiling Yes No No No No None Walls Yes No No No No No No None Flooring Yes No	150H	73.8 72	2 - 78	46.2	0% - 60%	791	Max 700 :	> Ambient 2
Wall Type Plaster/Drywall No No No None Clean Minor Dust / Debris No No None	Noticeable O	dor No				bial A		erial
Flooring Carpet No No No None Clean Minor Dust / Debris Cleaning Corrective Action Required Ceiling Yes No No No Walls Yes No No No Flooring Yes No No No HVAC Supply Grills Yes No No No HVAC Return Grills Yes No No No Ceiling at Supply Yes No No No Crills Surfaces in Room Yes No No No Surfaces in Room Yes No No No No Surfaces in Room Yes No	Ceiling Type	Plaster/Dryw	/all	No	No			None
Ceiling Yes No No No Sulls Yes No No Sulls Yes No Signs of water intrusion or microbial growth 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 Physical Plant Operations:	Wall Type	Plaster/Dryw	/all	No	No			None
Ceiling Yes No No No	Flooring	Carpet		No	No			None
Walls Yes No No No Flooring Yes No No No HVAC Supply Grills Yes No No No HVAC Return Grills Yes No No No Ceiling at Supply Yes No No No Surfaces in Room Yes No No No Surfaces in Room Yes No No No Surfaces in Room Yes No No No Signs of water intrusion or microbial growth Recommendations: Site Based Maintenance:		Clean				Correctiv	e Action Re	quired
Flooring Yes No No No HVAC Supply Grills Yes No No No Ceiling at Supply Yes No No No Surfaces in Room Yes No No No Surfaces in Room Yes No No No Rooms Surfaces in Room Yes No No No Surfaces in Room Yes No No No Surfaces in Room Yes No No No No Supply Grills Supply Supply Supply No No No No No No No Supply Supply No No No No No Supply Supply No No Signs of water intrusion or microbial growth 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 Physical Plant Operations:	Ceiling	Yes	No	No				
HVAC Supply Grills Yes No No No Ceiling at Supply Yes No No No Grills Surfaces in Room Yes No No No Surfaces in Room Yes No No No Surfaces in Room Yes No No No No Supply Grills Findings: - No signs of water intrusion or microbial growth 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 Physical Plant Operations:	Walls	Yes	No	No				
HVAC Return Grills Yes No No Some Ceiling at Supply Yes No No No Surfaces in Room Yes No Surfaces in Room Yes No No No Surfaces in Room Yes No Surfaces in Room Yes No No No Surfaces in Room Yes No No No No Surfaces in Room Yes No No No No Surfaces in Room Yes No Surfaces in Room Yes No No No No Surfaces in Room Yes No No No No No Surfaces in Room Yes No	Flooring	Yes	No	No				
Ceiling at Supply Grills Surfaces in Room Yes No No No Deservations Findings: - No signs of water intrusion or microbial growth 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 Physical Plant Operations:	HVAC Supply	Grills Yes	No	No				
Surfaces in Room Yes No No Observations Findings: - No signs of water intrusion or microbial growth 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 Physical Plant Operations:	HVAC Return	Grills Yes	No	No				
Disservations Findings: - No signs of water intrusion or microbial growth 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 Physical Plant Operations:		oply Yes	No	No				
Findings: - No signs of water intrusion or microbial growth 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 Physical Plant Operations:	Surfaces in R	oom Yes	No	No				
	- No signs of war Recommendar Site Based Mar - Continue to mappropriate	tions: nintenance: nonitor this location	for any signs o				s accumulatio	on and clean as

0551

			Plantat	ion M	liddle School			Evaluat	ion Re	quested [April	16, 2008
Time of Day	2:3	30 pm						E	Evaluat	tion Date	April	28, 2008
Outdoor Condi	tions	Т	emperat	ure	91.4	Relative	Humidit	y 42.1		Ambie	nt CO2 [436
Fish 150K	Tempe	rature 5.3	Range 72 - 78	_	Relative Humidity	/ Range		CO2 787		Ran Max 700	J	# Occupants
Noticeable Od	lor [No			Visible water damage / stainin		ible micr		Amo	unt of mat	terial	
Ceiling Type	Р	laster/E	Drywall		No	_	No				None	
Wall Type	Р	Plaster/D	Orywall		No		No				None	
Flooring		Carp	et		No		No				None	
	(Clean		or Du Debris		3		Corre	ctive A	Action Re	quired	
Ceiling		Yes		No	No							
Walls		Yes		No	No							
Flooring		Yes		No	No							
HVAC Supply	Grills	Yes		No	No							
HVAC Return	Grills								N	I/A		
Ceiling at Sup Grills	ply	Yes		No	No							
Surfaces in Ro	oom	Yes		No	No							
Dbservations												
Findings: - No signs of wa	ater intr	rusion c	or microbi	al gro	owth							
Recommendati	ions:											
Site Based Mai - Continue to mo appropriate	ntenai onitor t	nce: his loca	ation for a	ny się	gns of microbial	growth as w	ell as du	ust and de	ebris ac	ccumulatio	on and cle	ean as

0551