

managing risk with responsibility

Jeffrey S. Moquin, DirectorTelephone: 754-321-3200Risk Management DepartmentFacsimile: 754-321-3290

June 26, 2008 Signature on File For Custodial Superv

TO: Ms. Raquel Cobb, Principal

The Quest Center

FROM: Edward See, Project Manager

Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment

For Custodial Supervisor Use Only									
Custodial Issues Addressed									
Custodial Issues Not Addressed									

On August 10, 2007 I conducted an evaluation of FISH 001, 101, 103, 109, 110, 112, 113, 127, 128, 128A, 128B, 128C, 128D, 232, 238 and 239 at The Quest Center. 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. Joel Herbst, Area Superintendent
Steven Friedman, Area Director
Jeffrey S. Moquin, Director, Risk Management
Herbert Lee, Project Manager, Facilities and Construction Management
Diane Watts, 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
Robert Krickovich, Coordinator, LEA, Facilities and Construction Management

ES/tc Enc.

	The Quest Center	Evaluation Requested July 27, 2007						
Time of Day 11:	00 am	Evaluation Date August 10, 2007						
Outdoor Conditions	Temperature 92 F	Relative Humidity 53.8 Ambient CO2 516						
Fish Tempe 001 Noticeable Odor Ceiling Type Wall Type Flooring Ceiling Walls Flooring	Trange Treatment,	Range CO2 Range # Occupants 30% - 60% Max 700 > Ambient Visible microbial Amount of material affected Corrective Action Required Remove and replace ceiling tiles						
HVAC Supply Grills HVAC Return Grills Ceiling at Supply	Yes No No No Yes No No No							
Grills Surfaces in Room	Yes No No							
Recommendations: Site Based Maintena		outh hallway next to skylight owth as well as dust and debris accumulation and clean as						
Physical Plant Operations: - Evaluate cause of stained ceiling tiles and repair as appropriate. Remove and replace stained ceiling tiles. Work was completed on work orders EQ01009 and EQ01010 (generated 8/12/07)								

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Time of Day	11:00 am				E	August 10, 2007
Outdoor Condi	tions Tem	perature	92	Relative Humidity	53.8	Ambient CO2 516
Fish ⁷	Temperature F	Range Rela	tive Humidity	Range	CO2	Range # Occupants
101	70 7	2 - 78	50.7	30% - 60%	772	Max 700 > Ambient 4
Noticeable Odor No			/isible water nage / staining	Visible micro g? growth?	Amount of material affected	
Ceiling Type	2' x 4' Lay	In	No No			None
Wall Type	Concrete	•	No	No	[None
Flooring	Vinyl		No	No		None
	Clean	Minor Dust / Debris	Needs Cleaning	ı	Correc	tive Action Required
Ceiling	Yes	No	No			
Walls	Yes	No	No			
Flooring	Yes	No	No			
HVAC Supply	Grills No	Yes	Yes	С	lean with	n Wexcide disinfectant
HVAC Return (Grills No	Yes	Yes	С	lean with	n Wexcide disinfectant
Ceiling at Supp Grills	oly No	Yes	Yes	R	emove a	nd replace ceiling tiles
Surfaces in Ro	om No	Yes	Yes		Clea	n as appropriate

The Quest Center

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July 27, 2007

Location Number

Evaluation Requested

Observations

Findings:

- Dust and debris on HVAC supply and return grills and on ceiling at supply grills
- Temperature was low at the time of the assessment
- Dust build up on environmental surfaces throughout the room
- FISH 109 AHU Room Water dripping from overhead duct and debris and visible microbial growth in drain pan

Recommendations:

Site Based Maintenance:

- Clean HVAC returns grills with Wexcide disinfectant solution
- 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 HVAC for proper operation and repair as appropriate to increase temperature
- Remove and replace ceiling tiles requiring cuts
- Clean coils and drain pan as appropriate in FISH 109

			The	Quest C	enter				Evaluat	ion Re	equested	d Ju	ıly 27	7, 2007
Time of Day	11:00) am							E	Evalua	ition Dat	t e Aug	gust 1	0, 2007
Outdoor Condi	itions	Tempo	erature	92		Rela	itive Hu	midity	53.8		Amb	ient CO2	2	516
Fish 103 [Tempera 69.1		nge - 78	5	Humidity 4.4	, ''	ange 5 - 60% Visibl	le micro	CO2 725	Amo		ange 00 > Amb		Occupants 2
Noticeable Od					e / stainin	g?		rowth?		71110	affecte	d		
Ceiling Type	2'	x 4' Lay In	1		No		L	No				None		
Wall Type		Wood			No			No				None		
Flooring		Vinyl			No			No				None		
	CI	lean	Minor D / Debr		Needs Cleaning)			Correc	ctive /	Action I	Required	l	
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 Sup Grills	ply [Yes	No]	No									
Surfaces in Ro	oom [Yes	No		No									
bservations														
Findings:	voo love	at the time	of the or		nt									
- Temperature v Recommendati		at the time	or the as	556551116	III									
Site Based Mai	intenanc	e.												
- Continue to mo appropriate			or any s	igns of r	nicrobial (growth	as well	as dus	t and de	bris a	ccumula	ation and	clear	n as
Physical Plant - Evaluate HVA0			ion and	repair as	appropri	ate to	increas	e tempe	erature					
Work was completed on work orders EQ01009 and EQ01010 (generated 8/12/07)														

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		The Quest C	enter		⊏valuati	on Requested	July 27, 2007
Time of Day	11:00 am				E	Evaluation Date	August 10, 2007
Outdoor Condi	tions Tempe	rature 92	Rela	ntive Humidity	53.8	Ambie	nt CO2 516
Fish	Temperature Rar	nge Relative	Humidity R	lange	CO2	Ran	ge # Occupants
110	69 72 -	78 52	2.2 30 %	60%	618	Max 700	> Ambient 2
Noticeable Od	or No		ole water e / staining?	Visible micro growth?		Amount of mat affected	terial
Ceiling Type	2' x 4' Lay In		No	No	[None
Wall Type	Wood		No	No	[None
Flooring	Vinyl		No	No			None
			Needs Cleaning		Correc	ctive Action Re	quired
Ceiling	Yes	No	No				
Walls	Yes	No	No				
Flooring	Yes	No	No				
HVAC Supply	Grills No	Yes	Yes	С	lean witl	h Wexcide disi	nfectant
HVAC Return (Grills No	Yes	Yes	С	lean witl	h Wexcide disi	nfectant
Ceiling at Sup Grills	ply No	Yes	Yes	R	emove a	ind replace cei	ling tiles
Surfaces in Ro	oom Yes	No	No				
Dbservations							

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Location Number

Findings:

- Dust and debris on HVAC supply and return grills and on ceiling at supply grills
- Temperature was low at the time of the assessment
- Multiple broken ceiling tiles

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:

- Evaluate HVAC for proper operation and repair as appropriate to increase temperature
- Remove and replace ceiling tiles requiring cuts

		The Que	st Center		Evaluatio	n Requested	July 27, 2007
Time of Day	11:00 am				Ev	aluation Date	August 10, 2007
Outdoor Condit	ions Tem	perature	92	Relative Humidity	53.8	Ambie	nt CO2 516
Fish T	emperature F	Range Rela	ative Humidity	Range	CO2	Ran	ge # Occupants
112		2 - 78	55	30% - 60%	693		> Ambient 2
Noticeable Ode	or No		Visible water nage / staining?	Visible micro growth?	bial	Amount of mat affected	erial
Ceiling Type	Drywall		No	No			None
Wall Type	Drywall		No	No			None
Flooring	Vinyl		No	No			None
	Clean	Minor Dust / Debris	Needs Cleaning		Correct	ive Action Re	quired
Ceiling	Yes	No	No				
Walls	Yes	No	No				
Flooring	Yes	No	No				
HVAC Supply (Grills Yes	No	No				
HVAC Return C	Grills				ı	Jnder door	
Ceiling at Supp Grills	oly Yes	No	No				
Surfaces in Ro	om Yes	No	No				
bservations							
Findings: - Temperature w	as low at the tim	e of the asses	sment				
Recommendation							
Site Based Mair	otononco:						
		n for any signs	of microbial gr	owth as well as dus	t and deb	ris accumulatio	on and clean as
Physical Plant (ation and repa	ir as appropriat	te to increase tempe	erature		
	1 -1 -1 -1		11 -1-1-				
Work was co	mpleted on	work orders	s EQ01009 a	and EQ01010 (g	jenerate	ed 8/12/07)	

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Time of Day	11:00 am				E	valuation Date August 10, 2007					
Outdoor Condi	tions Tem	nperature 9	92 R	Relative Humidity	53.8	Ambient CO2 516					
Fish	Temperature p	Range Relat	tive Humidity	Range	CO2	Range # Occupants					
113	71.4 7	72 - 78	51.4	30% - 60%	693	Max 700 > Ambient 1					
Noticeable Od	lor No		isible water age / staining?	Visible microl growth?	bial	Amount of material affected					
Ceiling Type	Drywall		No	No	[None					
Wall Type	Tile		No	No	[None					
Flooring	Tile		No	No	ſ	None					
	Clean	Minor Dust / Debris	Needs Cleaning		Correc	tive Action Required					
Ceiling	Yes	No	No								
Walls	Yes	No	No								
Flooring	Yes	No	No								
HVAC Supply	Grills					N/A					
HVAC Return	Grills No	Yes	Yes	Cl	ean with	n Wexcide disinfectant					
Ceiling at Sup Grills	ply Yes	No	No								
Surfaces in Ro	oom Yes	No	No								
bservations											
- Water not bein	is on HVAC retur ng poured down f from box of supp	loor drain regula	rly								
Recommendati	ions:										
 Clean HVAC re Ensure that wa Dispose of box Continue to me appropriate Physical Plant	Site Based Maintenance: - Clean HVAC returns grills with Wexcide disinfectant solution - Ensure that water is poured down drains at least once a week - Dispose of box of supplies - Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as										
- Evaluate HVA	C for proper oper	ation and repair	as appropriate	e to increase tempe	rature						

Work was completed on work orders EQ01009 and EQ01010 (generated 8/12/07)

IAQ Assessment

The Quest Center

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July 27, 2007

Location Number

Evaluation Requested

		i ne C	Quest Center		Evaluatio	on Requested [July	27, 2007	
Time of Day	11:00 am				E۱	valuation Date	Augus	st 10, 2007	
Outdoor Condi	itions Te	emperature	92	Relative Humidity	53.8	Ambier	nt CO2 [516	
Fish	Temperature	Range F	Relative Humidity	Range	CO2	Rang	ge	# Occupants	
128A	72.4	72 - 78	56.7	30% - 60%	588	Max 700	> Ambie	nt 1	
Noticeable Odor No			Visible water damage / staining	Visible micro g? growth?					
Ceiling Type	2' x 4' L	ay In	No	No			None		
Wall Type	Plaster/Ta	ackable	No	Yes		V	arious		
Flooring	Viny	d .	Yes	No	No				
	Clean	Minor Du / Debris	Cleaning	<u></u>		tive Action Re	<u> </u>		
Ceiling	No	Yes	Yes	L R	emove a	nd replace cei	ling tile		
Walls	No	Yes	Yes	Clean with Wexcide disinfectant					
Flooring	Yes	No	No						
HVAC Supply	Grills Yes	No	No						
HVAC Return	Grills Yes	No	No						
Ceiling at Sup Grills	pply Yes	No	No						
Surfaces in Ro	oom Yes	No	No						
bservations									
Findings: - Visible microbi - FISH 128 - 1 v	water stained c		minor microbial g	jrowth					

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Location Number

Site Based Maintenance:

- Wipe down walls with Wexcide disinfectant solution
- Adjust ceiling tile
- 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 tile and repair as appropriate. Remove and replace stained ceiling tile.

Time of Day 11:00 am Evaluation Date August 10, 2007
Outdoor Conditions Temperature 92 Relative Humidity 53.8 Ambient CO2 516
Fish Temperature Range Relative Humidity Range CO2 Range # Occupants 128B 73.7 72 - 78 56 30% - 60% 574 Max 700 > Ambient 1 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 Plaster/Tackable No Yes Various Flooring Vinyl Yes No None
Clean Minor Dust Needs Cleaning Corrective Action Required Ceiling Yes No No
Walls No Yes Clean with Wexcide disinfectant
Flooring Yes No No
HVAC Supply Grills Yes No No
HVAC Return Grills Yes No No
Ceiling at Supply Yes No No Grills
Surfaces in Room Yes No No
Findings: - Visible microbial growth on wall - 1 ceiling tile was not secure/in place Recommendations: Site Based Maintenance: - Wipe down walls with Wexcide disinfectant solution - Adjust ceiling tile - Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate Work was completed on work orders EQ01009 and EQ01010 (generated 8/12/07)

The Quest Center

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July 27, 2007

Location Number
Evaluation Requested

Time of Day	11:00 am]			Ev	August 10, 2007			
Outdoor Condi	tions Ten	nperature	92 R	elative Humidity	53.8	Ambient CO2 516			
_	_	<u></u>	<u></u>						
l			tive Humidity	Range	CO2	Range # Occupants			
128C	75.3	72 - 78		80% - 60%	590	Max 700 > Ambient 2			
Noticeable Od		dam	isible water age / staining?	Visible micro growth?		Amount of material affected			
Ceiling Type	2' x 4' Lay	/ In	No	No	L	None			
Wall Type	Plaster/Tac	kable	No	Yes		Various			
Flooring	Vinyl		Yes	No		None			
	Clean	Minor Dust / Debris	Needs Cleaning		Correct	ive Action Required			
Ceiling	Yes	No	No						
Walls	No	Yes	Yes	С	lean with	Wexcide disinfectant			
Flooring	Yes	No	No						
HVAC Supply	Grills Yes	No	No						
HVAC Return	Grills Yes	No	No						
Ceiling at Sup Grills	ply Yes	No	No						
Surfaces in Ro	oom Yes	No	No						
L Observations									
	al growth on wa								
- FISH 127 - AH	U Room - Stand	ling water and vi	sible microbial	growth in drain pa	ın				
Recommendati	ions:								
- Wipe down wa	Site Based Maintenance: - Wipe down walls 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								
		ppropriate in FIS	SH 127						
Physical Plant Operations: - Clean coils and drain pan as appropriate in FISH 127 Work was completed on work orders EQ01009 and EQ01010 (generated 8/12/07)									

The Quest Center

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July 27, 2007

Location Number
Evaluation Requested

		The	Quest Center		Evaluation	n Requested	July 27, 2007			
Time of Day	11:00 am				Eva	aluation Date	August 10, 2007			
Outdoor Cond	itions Te	emperature	92	Relative Humidity	53.8	Ambien	nt CO2 516			
Fish	Temperature	Range	Relative Humidity	Range	CO2	Rang	ge # Occupants			
128D	73.8	72 - 78	52.3	30% - 60%	564		- Ambient 2			
Noticeable Oc	dor No		Visible water damage / staining	Visible micro growth?		Amount of mate affected	erial			
Ceiling Type	2' x 4' La	ay In	No	No		ļ	None			
Wall Type	Plaster/Ta	ckable	No	Yes		Va	arious			
Flooring	Vinyl		Yes	No			None			
	Clean	Minor Dı / Debri			Correcti	ve Action Red	quired			
Ceiling	Yes	No	No							
Walls No Yes Clean with Wexcide disinfectant										
Flooring	Yes	No	No							
HVAC Supply	Grills Yes	No	No							
HVAC Return	Grills Yes	No	No							
Ceiling at Sup Grills	ply Yes	No	No							
Surfaces in Ro	oom Yes	No	No							
bservations										
Findings: - Visible microb	ial growth on w	all								
Recommendat	ions:									
Site Based Maintenance: - Wipe down walls 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										
Work was co	ompleted o	n work ord	lers EQ01009	and EQ01010 (generate	d 8/12/07)				

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		The	Quest Center	Evaluation Requested July 27, 200				
Time of Day	11:00 am		_		E	Evaluation Date	August	t 10, 2007
Outdoor Condi	tions T	emperature	92	Relative Humidity	53.8	Ambie	nt CO2	516
Fish	Temperature	Range	Relative Humidity	/ Range	CO2	Ran	ge #	Occupants
238	72	72 - 78	65.7	30% - 60%	524	Max 700	> Ambien	t 3
Noticeable Od	lor Yes		Visible water damage / staining	Visible micro g? growth?		Amount of ma	terial	
Ceiling Type	2' x 4' L	ay In	Yes	Yes		N	Multiple	
Wall Type	Drywall		No	Yes		V	/arious	
Flooring	Viny	1	No	No			None	
	Clean	Minor D / Debri		J	Correc	ctive Action Re	equired	
Ceiling	No	Yes	Yes	R	emove a	and replace cei	ling tiles	
Walls	No	Yes	Yes	С	lean wit	h Wexcide disi	nfectant	
Flooring	Yes	No	No					
HVAC Supply	Grills No	Yes	Yes	С	lean wit	h Wexcide disi	nfectant	
HVAC Return	Grills No	Yes	Yes	С	lean wit	h Wexcide disi	nfectant	
Ceiling at Sup Grills	ply No	Yes	Yes	R	emove a	and replace cei	ling tiles	
Surfaces in Ro	oom Yes	No	No					

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Location Number

Observations

Findings:

- Humidity was elevated at the time of the assessment
- Multiple bowed and stained ceiling tiles in this room and also FISH 232 and 239
- Visible microbial growth on furniture, walls and wall decorations
- Dust and debris on HVAC supply and return grills

Recommendations:

Site Based Maintenance:

- Wipe down furniture and walls with Wexcide disinfectant solution. Remove wall decorations.
- 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:

- Evaluate HVAC for proper operation and repair as appropriate to lower humidity level
- Evaluate cause of bowed and stained ceiling tiles throughout rooms and repair as appropriate. Remove and replace ceiling tiles as necessary.