

managing risk with responsibility

Aston A. Henry, Supervisor Telephone: 754 321-1900 Risk Management Department Fax: 754 321-1917

February 21, 2013 Signature on File

TO: Estella Eckhardt, Principal

Hallandale High School

FROM: Richard Rosa, Project Manager

Facilities Design and Construction

SUBJECT: Indoor Air Quality (IAQ) Assessment

<u>Fo</u>	r Custodial Supervisor Use Only
	Custodial Issues Addressed
	Custodial Issues Not Addressed

On February 7, 2013, I conducted an assessment at **Hallandale High School**. Attached are findings and recommendations for further assessment, remediation, or corrective actions needed.

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 site based custodial 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 us at 754-321-1907.

cc: Directors, School Performance & Accountability
Shelley Meloni, Executive Director, Facilities Design and Construction
Mark Dorsett, Manager, Zone 1, Physical Plant Operations Division
Roy Norton, Manager, Custodial/Grounds, Physical Plant Operations Division
Aston Henry, Supervisor, Risk Management
Sonja Coley, Senior Project Manager, Facilities Design and Construction
Broward Teachers Union
Federation of Public Employees

RR/tc Enc.

Hallandale High Eva	luation Date	February	7, 2013	Time of Day	1:00
Outdoor Conditions Temperature 79.8	Relative	Humidity _	60.2	Ambient CO2	426
Fish Temperature Range Relative Hur 600 70.8 72 - 78 65.6	 i	ange 60%	823	Range ; MAX 700 > Ambient	# Occupants
Noticeable Odor No Visible water do staining		Visible mic		Amount of material affects	ed
Ceiling 2' x 4' No		No]		
Walls Drywall No		No]		
Floor 12" x 12" Vinyl No		No]		
Ceiling Clean No HVAC S Grills Cl		No		HVAC Return Grills Clean	No
	f Supply ean	No		Inside of Retur Duct Clean	n No
Room Surfaces No Ceiling a Grills Cl	at Supply ean	No			
Trash Removed Yes Exhaust Fans		N/A		Unapproved Chemica Cleaners in Room	ls / No
Room Cluttered No Food if Stored in		N/A		Air Fresheners in Room	No
in Sealed Conta	iners	1477			
Mechanical Equipment Location FISH 604				Mechanical Room Cle	an Yes
Filters Installed Properly Yes Filte	ers Clean	Yes	ı	nside of HVAC Unit Cle	ean Yes
Condensate Pan Clean Yes Cooling C	oil Clean	Yes			
Fresh Air Intake Location Roof top			▼	Fresh Air Intake Fr	ee Yes
Pollutant Sources Near Air Intake Ongoing roofing pro	oject		▼	of Obstruction	
Observations					
The filter spacer in the HVAC system is not the prope system. Above the drop ceiling is the HVAC return air		e is a 1" gap	allowing	unfiltered air to bypa	ass the filter
Corrective Actions to be Completed by Site Based S	taff	Correcti	ve Action	s to be Completed by	y PPO
Clean dust from ceiling tiles or replace	▼	Repair	HVAC to	reduce humidity leve	el ▼
Thoroughly clean horizontal surfaces	 ▼ -		 	te filter spacer in HV <i>I</i> AC supply drops	AC ▼
Clean HVAC supply and return grills with Wexcide Clean dust from perimeter ceiling grid	╅		JIEAN HV	ao suppiy arops	▼
, , , , , , , , , , , , , , , , , , ,	▼				▼
	 ▼				▼
	▼ -				▼

	Hallandale	High Eval u	uation Dat	e Februar	y 7, 2013	Time of Day	1:30
Outdoor Conditions Ter	mperature	79.8	Relative	Humidity [60.2	Ambient CO2 4	26
Fish Temperature 603 73.2	Range 72 - 78	Relative Hum 59.8	i	Range % - 60%	CO ²		ccupants
Noticeable Odor No Ceiling 2' x 4' Walls Drywall		Visible water dar staining? No	mage /	Visible mi growt No	:h?	Amount of material affected	
Floor 12" x 12" Vinyl		No		No	_		
Ceiling Clean Walls Clean Flooring Clean Yes		HVAC Sup Grills Clea Inside of S Duct Clea	an Supply	No No		HVAC Return Grills Clean Inside of Return Duct Clean	No No
Room Surfaces No		Ceiling at Grills Clea	Supply	No		buct olean	
Trash Removed Yes Signs of Pests No Room Cluttered No		Exhaust Fans V Drain Tra Food if Stored in in Sealed Contain	aps Wet	N/A N/A		Unapproved Chemicals / Cleaners in Room Air Fresheners in Room	No No
Mechanical Equipment Loca Filters Installed Properly Condensate Pan Clean	Yes Yes	I 604 Filters Cooling Co	s Clean il Clean	Yes Yes		Mechanical Room Clean Inside of HVAC Unit Clean	Yes
Fresh Air Intake Location Pollutant Sources Near Air Intake	Roo	f top oing roofing proj	ject		▼	Fresh Air Intake Free of Obstruction	Yes
Observations							
The filter spacer in the HVA system. Above the drop ce				ere is a 1" ga	p allowing	g unfiltered air to bypass.	the filter
Corrective Actions to be C	ompleted b	ov Site Based Sta	aff	Correc	tive Action	ns to be Completed by Pl	
Clean dust from cei	-					reduce humidity level	
Thoroughly clean h			▼			ite filter spacer in HVAC	▼
Clean HVAC supply and r			⋥			AC supply drops	

Thoroughly clean horizontal surfaces Clean HVAC supply and return grills with Wexcide Clean dust from perimeter ceiling grid ▼ ▼

Repair HVAC to reduce humidity level	▼
Install appropriate filter spacer in HVAC	▼
Clean HVAC supply drops	▼
	\blacksquare
	\blacksquare
	\blacksquare
	▼
	▼

Hallanda	le High Evaluation Da	te February 7, 2013	Time of Day1	1:45
Outdoor Conditions Temperature	79.8 Relative	e Humidity 60.2	Ambient CO2 4	26
Fish Temperature Range 606 72.3 72 - 78		Range <u>CO</u> 2 % - 60 % 1059		ccupants
Noticeable Odor No	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling 2' x 4'	Yes	No	< 1 sq ft	
Walls Drywall	No	No		
Floor 12" x 12" Vinyl	No	No		
Ceiling Clean No Walls Clean Yes Flooring Clean Yes	HVAC Supply Grills Clean Inside of Supply Duct Clean	No No	HVAC Return Grills Clean Inside of Return Duct Clean	No No
Room Surfaces No Clean	Ceiling at Supply Grills Clean	No		
Trash Removed Yes Signs of Pests No	Exhaust Fans Working Drain Traps Wet	N/A	Unapproved Chemicals / Cleaners in Room	No
Room Cluttered No	Food if Stored in Room is in Sealed Containers	N/A	Air Fresheners in Room	No
Mechanical Equipment Location FIS	H 604		Mechanical Room Clean	Yes
Filters Installed Properly Yes	Filters Clean	Yes	Inside of HVAC Unit Clean	Yes
Condensate Pan Clean Yes	Cooling Coil Clean	Yes		
Pollutant Sources Near Air	of top going roofing project	▼	Fresh Air Intake Free of Obstruction	Yes
Observations				
The filter spacer in the HVAC system system. Above the drop ceiling is the		ere is a 1" gap allowin	g unfiltered air to bypass	the filter
Corrective Actions to be Completed	by Site Based Staff	Corrective Actio	ns to be Completed by PF	PO
Clean dust from ceiling tiles			o reduce humidity level	▼
Thoroughly clean horizontal			ate filter spacer in HVAC	▼
Clean HVAC supply and return grill		Clean H\	/AC supply drops	-

Clean dust from perimeter ceiling grid

Replace stained ceiling tiles after roof project

Hallandale High E	valuation Da	ate February	7, 2013	Time of Day	2:00
Outdoor Conditions Temperature 79.8	Relativ	e Humidity	60.2	Ambient CO2	426
Fish Temperature Range Relative H 608 72.3 72 - 78 61.9	 i	Range 0% - 60%	CO ² 894	Range MAX 700 > Ambient	# Occupants
Noticeable Odor No Visible water staining		Visible mici growth		Amount of material affect	ed
Ceiling 2' x 4' No]	No	1		
Walls Drywall No		No]		
Floor 12" x 12" Vinyl No		No			
Ceiling Clean No HVAC Grills Walls Clean Yes	Supply Clean	No		HVAC Return Grills Clean	No
	of Supply Clean	No		Inside of Retu Duct Clean	ırn No
Room Surfaces No Ceiling Clean Grills	g at Supply Clean	No			
Trash Removed Yes Exhaust Fa	_	N/A		Unapproved Chemic Cleaners in Room	als / No
Signs of Pests No Drair Room Cluttered No Food if Stored in Sealed Con				Air Fresheners in Room	No
Mechanical Equipment Location FISH 604				Mechanical Room Cl	ean Yes
Filters Installed Properly Yes Fi	Iters Clean	Yes	ı	nside of HVAC Unit CI	ean Yes
Condensate Pan Clean Yes Cooling	Coil Clean	Yes			
Fresh Air Intake Location Roof top			▼	Fresh Air Intake F	ree Yes
Pollutant Sources Near Air Intake Ongoing roofing p	oroject		▼	or obstruction	
Observations					
The filter spacer in the HVAC system is not the properties. Above the drop ceiling is the HVAC return a			allowing	unfiltered air to byp	ass the filter
Corrective Actions to be Completed by Site Based	Staff	Correcti	ve Action	s to be Completed b	by PPO
Clean dust from ceiling tiles or replace	▼	Repair	HVAC to	reduce humidity lev	rel ▼
Thoroughly clean horizontal surfaces Clean HVAC supply and return grills with Wexcide	▼ ▼			te filter spacer in HV AC supply drops	AC ▼
Clean HVAC supply and return grills with wexclose Clean dust from perimeter ceiling grid	₩ ▼		JIEGII FIV	ao suppiy drops	▼
	▼				▼
	▼				▼
	▼				▼

Hallanda	ale High Evalua	tion Date Febru	ary 7, 2013	Time of Day	2:15
Outdoor Conditions Temperature	e 79.8 F	Relative Humidity	60.2	Ambient CO2	126
Fish Temperature Range 609 72.3 72 - 78		ity Range 30% - 60%	CO		ccupants
Noticeable Odor No	Visible water dama staining?	age /	microbial owth?	Amount of material affected	
Ceiling 2' x 4'	No		No		
Walls Drywall	No		No		
Floor 12" x 12" Vinyl	No		No		
Ceiling Clean No Walls Clean Yes	HVAC Supp Grills Clear	No		HVAC Return Grills Clean	No
Flooring Clean Yes	Inside of Su Duct Clean	ipply No		Inside of Return Duct Clean	No
Room Surfaces No Clean	Ceiling at S Grills Clear				
Trash Removed Yes	Exhaust Fans Wo			Unapproved Chemicals / Cleaners in Room	No
Signs of Pests No Room Cluttered No	Drain Trap Food if Stored in R in Sealed Containe	oom is		Air Fresheners in Room	No
Mechanical Equipment Location FIS	SH 604			Mechanical Room Clean	Yes
· · ·		OL Voc			=
Filters Installed Properly Condensate Pan Clean Yes Yes	Filters (Inside of HVAC Unit Clean	Yes
Fresh Air Intake Location Ro	oof top			Fresh Air Intake Free	
Pollutant Sources Near Air	ngoing roofing proje	ct	▼	of Obstruction	Yes
Observations					
The filter spacer in the HVAC system system. Above the drop ceiling is the			gap allowin	g unfiltered air to bypass	the filter
Corrective Actions to be Completed	d by Site Based Staff	Corr	ective Action	ons to be Completed by P	 PO
Clean dust from ceiling tiles				to reduce humidity level	
Thoroughly clean horizonta				ate filter spacer in HVAC	▼
Clean HVAC supply and return gri		7 —		VAC supply drops	▼
Clean dust from perimeter c	eiling grid	'	<u> </u>		▼

Hallandale H	ligh Evaluation Date	February 7, 2013	Time of Day 2	2:30
Outdoor Conditions Temperature [79.8 Relative	Humidity 60.2	Ambient CO2 4	26
Fish Temperature Range 610 71.8 72 - 78		ange CO ² 928	Range # Oo MAX 700 > Ambient	cupants
Noticeable Odor No	Visible water damage / staining?	Visible microbial growth?	Amount of material affected	
Ceiling 2' x 4'	No	No		
Walls Drywall	No	No		
Floor 12" x 12" Vinyl	No	No		
Ceiling Clean No Walls Clean Yes	HVAC Supply Grills Clean	No	HVAC Return Grills Clean	No
Flooring Clean Yes	Inside of Supply Duct Clean	No	Inside of Return Duct Clean	No
Room Surfaces No Clean	Ceiling at Supply Grills Clean	No		
Trash Removed Yes	Exhaust Fans Working	N/A	Unapproved Chemicals / Cleaners in Room	No
Noon olatioida 110	Drain Traps Wet Food if Stored in Room is In Sealed Containers	N/A	Air Fresheners in Room	No
Mechanical Equipment Location FISH 6	604		Mechanical Room Clean	Yes
Filters Installed Properly Yes	Filters Clean	Yes	nside of HVAC Unit Clean	Yes
Condensate Pan Clean Yes	Cooling Coil Clean	Yes		
Fresh Air Intake Location Pollutant Sources Near Air Ongoi	op ng roofing project	▼	Fresh Air Intake Free of Obstruction	Yes
Observations Observations	<u> </u>			
The filter spacer in the HVAC system is system. Above the drop ceiling is the H		e is a 1" gap allowing	unfiltered air to bypass	the filter
Corrective Actions to be Completed by	Site Based Staff	Corrective Action	s to be Completed by PF	0
Clean dust from ceiling tiles or r			reduce humidity level	▼
Thoroughly clean horizontal su			te filter spacer in HVAC	
Clean HVAC supply and return grills v		Clean HV	AC supply drops	-

Hallandale High Eva	luation Date	February 7,	2013	Time of Day	2:45
Outdoor Conditions Temperature 79.8	Relative H	umidity 6	0.2	Ambient CO2	426
Fish Temperature Range Relative Hur	nidity Ra	nge	CO ²	Range ;	# Occupants
611 71.4 72 - 78 62.3	30% -	60%	905	MAX 700 >	
				Ambient	
Noticeable Odor No Visible water do staining	•	Visible micro growth?	bial	Amount of material affecte	ed
Ceiling 2' x 4' Yes		No		< 1 sq ft	
Walls Drywall No		No			
Floor 12" x 12" Vinyl No		No			
NO NO		NO			
Ceiling Clean No HVAC S		No		HVAC Return Grills Clean	No
Walls Clean Yes Inside of	f Supply [No		Inside of Retur	n
Flooring Clean Yes Duct Cle	an L	No		Duct Clean	" No
Room Surfaces No Ceiling a Grills Cl	at Supply ean	No			
Trash Removed Yes Exhaust Fans	Working [N/A		Unapproved Chemica Cleaners in Room	ls / No
Signs of Pests No Drain T	raps Wet	N/A		Ain Fussis susses	
Room Cluttered No Food if Stored in Sealed Conta		N/A		Air Fresheners in Room	No No
Mechanical Equipment Location FISH 604				Mechanical Room Cle	an Yes
Filters Installed Properly Yes Filte	rs Clean	Yes	Ir	nside of HVAC Unit Cle	an Yes
Condensate Pan Clean Yes Cooling C	oil Clean	Yes			
Fresh Air Intake Location Roof top			▼	Fresh Air Intake Fr	ee Yes
Pollutant Sources Near Air Intake Ongoing roofing pro	oject		▼	of Obstruction	
Observations					
The filter spacer in the HVAC system is not the prope system. Above the drop ceiling is the HVAC return air		is a 1" gap a	llowing	unfiltered air to bypa	ass the filter
Corrective Actions to be Completed by Site Based St	taff	Corrective	e Actions	s to be Completed by	y PPO
Clean dust from ceiling tiles or replace				reduce humidity leve	
Thoroughly clean horizontal surfaces	 ▼			e filter spacer in HVA	
Clean HVAC supply and return grills with Wexcide	 ▼	Clo	ean HVA	C supply drops	
Clean dust from perimeter ceiling grid	 ▼ 				- ▼
	₩				─
	 				<u>*</u>

Replace stained ceiling tiles after roof project

	Hallandale	High Evaluat	tion Date	February	7, 2013	Time of Day	3:00
Outdoor Conditions Ten	nperature	79.8 R	delative l	Humidity	60.2	Ambient CO2	426
Fish Temperature 612 71.2	Range 72 - 78	Relative Humidi 64.3	i i	ange - 60%	CO ² 865	Range # MAX 700 > Ambient	Occupants
Noticeable Odor No		Visible water dama staining?	ige/	Visible micr growth		Amount of material affected	l
Ceiling 2' x 4'		No		No			
Walls Drywall		No		No]		
Floor 12" x 12" Vinyl		No		No			
Ceiling Clean No		HVAC Supp Grills Clean		No		HVAC Return Grills Clean	No
Walls Clean Yes Flooring Clean Yes		Inside of Su Duct Clean	pply	No		Inside of Return Duct Clean	No
Room Surfaces No Clean		Ceiling at S Grills Clean		No			
Trash Removed Yes		Exhaust Fans Wo	rking	N/A		Unapproved Chemicals Cleaners in Room	s/ No
Signs of Pests No		Drain Trap	s Wet	N/A		Ata Frank and an	- No
Room Cluttered No		Food if Stored in Ro in Sealed Container		N/A		Air Fresheners in Room	No
Mechanical Equipment Loca	tion FISH	604				Mechanical Room Clea	n Yes
Filters Installed Properly	Yes	Filters C	Clean	Yes		Inside of HVAC Unit Clea	n Yes
Condensate Pan Clean	Yes	Cooling Coil (Clean	Yes			
Fresh Air Intake Location	Roof	top			▼	Fresh Air Intake Fred	e Yes
Pollutant Sources Near Air Intake	Ongo	ing roofing projec	:t		▼	or observed.	
Observations							
The filter spacer in the HVA system. Above the drop cei				e is a 1" gap	allowing	unfiltered air to bypas	is the filter
Corrective Actions to be Co	ompleted by	y Sita Rasad Staff		Carracti:	vo Ao4!o	no to be Commisted by	
Clean dust from ceil			-			ns to be Completed by reduce humidity level	
Thoroughly clean h			→ ⊢			te filter spacer in HVA	
Clean HVAC supply and re			1			AC supply drops	─

▼ ▼ ▼

Clean dust from perimeter ceiling grid

Ha	allandale High Eval	luation Date	February 7, 201	3 Time of Day	3:15
Outdoor Conditions Tempe	erature 79.8	Relative Hu	midity 60.2	Ambient CO2 4	26
	Range Relative Hun 72 - 78 63.7	nidity Rar		Range # O MAX 700 > Ambient	ccupants
Noticeable Odor No	Visible water da staining?	•	Visible microbial growth?	Amount of material affected	
Ceiling 2' x 4'	No		No		
Walls Drywall	No		No		
Floor 12" x 12" Vinyl	No		No		
Ceiling Clean No	HVAC Su Grills Cle		No	HVAC Return Grills Clean	No
Walls Clean Yes Flooring Clean Yes	Inside of Duct Cle		No	Inside of Return Duct Clean	No
Room Surfaces No Clean	Ceiling a Grills Cle		No		
Trash Removed Yes	Exhaust Fans	Working [N/A	Unapproved Chemicals / Cleaners in Room	No
Signs of Pests No	Drain T	raps Wet	N/A	Air Freshause	- Na
Room Cluttered No	Food if Stored in in Sealed Contai		N/A	Air Fresheners in Room	No
Mechanical Equipment Locatio	n FISH 604			Mechanical Room Clean	Yes
Filters Installed Properly	es Filter	rs Clean	Yes	Inside of HVAC Unit Clean	Yes
Condensate Pan Clean Y	es Cooling Co	oil Clean	Yes		
Fresh Air Intake Location	Roof top		▼	Fresh Air Intake Free	Yes
Pollutant Sources Near Air Intake	Ongoing roofing pro	oject	▼		
Observations					
The filter spacer in the HVAC s system. Above the drop ceiling			is a 1" gap allow	ring unfiltered air to bypass	the filter
Corrective Actions to be Com	pleted by Site Based St	aff	Corrective Ac	tions to be Completed by P	РО
Clean dust from ceiling	•	▼	•	C to reduce humidity level	▼
Thoroughly clean hori		 ▼ 		briate filter spacer in HVAC	▼
Clean HVAC supply and retu Clean dust from perim		₩ -	Ciean	HVAC supply drops	- ▼
Oloan duot nom pomin	otto. ooming grid				<u> </u>