

Jeffrey S. Moquin, Director
Risk Management Department

Telephone: 754-321-3200
Facsimile: 754-321-3290

May 2, 2006

Signature on File

TO: Mr. Edmond Wade, Principal
Blanche Ely High School

FROM: Kenneth I. Partee, Project Manager
Occupational Health and Environmental Control
Risk Management Department

SUBJECT: Indoor Air Quality (IAQ) Assessment
FISH 291, 309, 315, 316, 317 and 320

On April 20, 2006 I conducted an assessment of FISH 291, 309, 315, 316, 317 and 320 at **Blanche Ely High 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.

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. Joanne Harrison, Area Superintendent
Jackie Haywood, Area Director
Jeffrey S. Moquin, Director, Risk Management
Ed Beraldi, Project Manager, Facilities and Construction Management
Jamie Daniels, Broward Teachers Union
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

KP/tc
Enc.

IAQ Assessment

Location Number 0361
 Evaluation Requested April 19, 2006
 Evaluation Date April 20, 2006

Blanche Ely High School

Time of Day 9:45 a.m.

Outdoor Conditions Temperature 85.3 Relative Humidity 55.5 Ambient CO2 540

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
291	71.5	72 - 78	52.5	30% - 60%	1018	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	Concrete/Particle		No	No	None		
Flooring	Tile		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Evaluate duct system
Walls	Yes	No	No	
Flooring	No	Yes	Yes	Clean and sanitize
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	No	Yes	Yes	Clean as appropriate

Observations

Findings:

- Spoke with teacher and advised that the room gets extremely hot in the lat morning/early afternoon
- Dust and debris on floor tile
- Dust and debris on HVAC supply and return grills
- Dust build up on environmental surfaces
- Unused insulation may be entering the room. Particles coming from HVAC supply grill

Recommendations:

Site Based Maintenance:

- Clean and sanitize floor
- Clean HVAC supply and return 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 false ceiling for unused insulation and remove as necessary
- Evaluate and repair false ceiling for integrity of duct system and clean ducts as appropriate

IAQ Assessment

Blanche Ely High School

Location Number
 Evaluation Requested
 Evaluation Date

Time of Day

Outdoor Conditions Temperature Relative Humidity Ambient CO2

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
<input type="text" value="309"/>	<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?	<input type="text" value="No"/>	Visible microbial growth?	<input type="text" value="No"/>	Amount of material affected	<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="Concrete/Particle"/>		<input type="text" value="No"/>		<input type="text" value="No"/>		<input type="text" value="None"/>
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="Yes"/>	<input type="text" value="No"/>	<input type="text" value="No"/>	<input type="text"/>
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:
 - Possible leaks from AHU #L and piping

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:
 - Evaluate AHU #L (valves) and piping for leaks and repair and reinsulate as appropriate

IAQ Assessment

Blanche Ely High School

Location Number 0361
 Evaluation Requested April 19, 2006
 Evaluation Date April 20, 2006

Time of Day 10:18 a.m.

Outdoor Conditions Temperature 85.3 Relative Humidity 55.5 Ambient CO2 540

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
315	73.2	72 - 78	56.1	30% - 60%	1066	Max 700 > Ambient	21
Noticeable Odor		Visible water damage / staining?		Visible microbial growth?		Amount of material affected	
Ceiling Type		No		No		None	
Wall Type		Yes		Yes		315A - rear of closet	
Flooring		No		No		None	

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Clean ceiling tile tracks
Walls	Yes	No	No	
Flooring	No	Yes	Yes	Clean and sanitize
HVAC Supply Grills	No	Yes	Yes	Clean with Wexcide disinfectant
HVAC Return Grills	No	Yes	Yes	Clean with Wexcide disinfectant
Ceiling at Supply Grills	No	Yes	Yes	Clean as appropriate
Surfaces in Room	No	Yes	Yes	Clean as appropriate

Observations

Findings:

- Possible mold on wall at rear of closet (FISH 315A)
- Dust and debris on floor tile
- Dust and debris on HVAC supply and return grills, ceiling at supply grills and on ceiling tile tracks
- Dust build up on environmental surfaces
- Items in closet - FISH 315A - are disorganized
- Humidity level was slightly above outside reading

Recommendations:

Site Based Maintenance:

- Clean wall at rear of closet with Wexcide disinfectant solution and monitor for return
- Clean and sanitize floor
- Clean HVAC supply and return grills and ceiling tile tracks with Wexcide disinfectant solution and clean ceiling at supply grills as appropriate
- Clean environmental surfaces throughout the room
- Organize items in FISH 315A (closet) to assist the custodial staff in their cleaning efforts
- 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 system for proper operation and repair as appropriate to lower humidity level

IAQ Assessment

Blanche Ely High School

Location Number 0361
 Evaluation Requested April 19, 2006
 Evaluation Date April 20, 2006

Time of Day 10:52 a.m.

Outdoor Conditions Temperature 85.3 Relative Humidity 55.5 Ambient CO2 540

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
316	71	72 - 78	57.9	30% - 60%	990	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	Concrete/Particle		No	No	None		
Flooring	Tile		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Clean as appropriate
Walls	Yes	No	No	
Flooring	No	Yes	Yes	Clean and sanitize
HVAC Supply Grills	No	Yes	Yes	Clean with Wexcide disinfectant
HVAC Return Grills	No	Yes	Yes	Clean with Wexcide disinfectant
Ceiling at Supply Grills	No	Yes	Yes	Clean as appropriate
Surfaces in Room	No	Yes	Yes	Clean as appropriate

Observations

Findings:

- Dust build up on ceiling tiles and shirts are hanging from ceiling tile track
- Dust, debris and paper on floor tile
- Dust and debris on HVAC supply and return grills and on ceiling at supply grills
- Dust build up on environmental surfaces and dust and debris build up on whiteboard marker trays
- Excess paper in the room
- Occupant has refrigerator in the closet (316A) that has surface mold, large bag of clothing and unsealed food on refrigerator
- Humidity level was slightly above outside reading

Recommendations:

Site Based Maintenance:

- Clean ceiling tiles as appropriate and remove shirts hanging from ceiling tile track
- Clean and sanitize floor
- Clean HVAC supply and return grills with Wexcide disinfectant solution and clean ceiling at supply grills as appropriate
- Clean environmental surfaces throughout the room
- Encourage occupant to remove and/or organize excess paper to assist the custodial staff in their cleaning efforts
- Clean refrigerator as appropriate, remove large bag of clothing and place food in sealed containers
- 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 system for proper operation and repair as appropriate to lower humidity level
- Evaluate insulation in false ceiling

IAQ Assessment

Location Number 0361
 Evaluation Requested April 19, 2006
 Evaluation Date April 20, 2006

Blanche Ely High School

Time of Day 10:37 a.m.

Outdoor Conditions Temperature 85.3 Relative Humidity 55.5 Ambient CO2 540

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
317	71.9	72 - 78	58.1	30% - 60%	1141	Max 700 > Ambient	22
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	Concrete		No	No	None		
Flooring	Tile		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Clean ceiling tile tracks
Walls	Yes	No	No	
Flooring	No	Yes	Yes	Clean and sanitize
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	No	Yes	Yes	Clean as appropriate

Observations

Findings:

- Air leak at rear windows
- Dust and debris on floor tile
- Dust and debris on HVAC supply and return grills and on ceiling tile tracks
- Dust build up on environmental surfaces
- Books and papers are disorganized in FISH 317 and boxes/decorations are disorganized in closet area - FISH 317A
- Humidity level was slightly above outside reading

Recommendations:

Site Based Maintenance:

- Clean and sanitize floor
- Clean HVAC supply and return grills and ceiling tile tracks with Wexcide disinfectant solution
- Clean environmental surfaces throughout the room
- Organize papers and books in FISH 317 and boxes/decoration in FISH 317A to assist the custodial staff in their cleaning efforts
- 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 rear windows for air leaks and reseal as appropriate
- Evaluate HVAC system for proper operation and repair as appropriate to lower humidity level

IAQ Assessment

Blanche Ely High School

Location Number 0361
 Evaluation Requested April 19, 2006
 Evaluation Date April 20, 2006

Time of Day 10:52 a.m.

Outdoor Conditions Temperature 85.3 Relative Humidity 55.5 Ambient CO2 540

Fish	Temperature	Range	Relative Humidity	Range	CO2	Range	# Occupants
320	71.4	72 - 78	47.1	30% - 60%	622	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		Yes	Yes	4 ceiling tiles		
Wall Type	Concrete		No	No	None		
Flooring	Tile		No	No	None		

	Clean	Minor Dust / Debris	Needs Cleaning	Corrective Action Required
Ceiling	No	Yes	Yes	Replace as appropriate
Walls	No	Yes	Yes	Clean as appropriate
Flooring	No	Yes	Yes	Clean and sanitize
HVAC Supply Grills	No	Yes	Yes	Clean with Wexcide disinfectant
HVAC Return Grills	No	Yes	Yes	Clean with Wexcide disinfectant
Ceiling at Supply Grills	No	Yes	Yes	Clean as appropriate
Surfaces in Room	No	Yes	Yes	Clean as appropriate

Observations

Findings:

- Visible microbial growth on 4 ceiling tiles
- Dust and debris on floor tile
- Dust and debris on HVAC supply and return grills and on ceiling at supply grills
- Excess paper in room
- Dust build up on environmental surfaces and walls
- Damaged condensate line at outside rear of room

Recommendations:

Site Based Maintenance:

- Clean and sanitize floor
- Clean HVAC supply and return grills with Wexcide disinfectant solution and clean ceiling at supply grills as appropriate
- Clean environmental surfaces and walls throughout the room
- Encourage occupant to remove and/or organize excess paper to assist the custodial staff in their cleaning efforts
- 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 for leaks and repair. Replace ceiling tiles as appropriate.
- Evaluate and repair condensate line at outside rear of room