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October 25, 2012

*Signature on File*

TO: Cyntheria Hunt, Principal  
**Broward Estates Elementary School**

FROM: Robert Krickovich, Coordinator I, LEA  
Facilities Design and Construction

SUBJECT: Indoor Air Quality (IAQ) Assessment

| <u>For Custodial Supervisor Use Only</u> |                                |
|--|--------------------------------|
| <input type="checkbox"/>                 | Custodial Issues Addressed     |
| <input type="checkbox"/>                 | Custodial Issues Not Addressed |
| _____                                    |                                |
| _____                                    |                                |

On October 22, 2012, I conducted an assessment at **Broward Estates Elementary 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

RK/tc  
Enc.



# IAQ Assessment

Broward Estates Elementary

Evaluation Date October 22, 2012

Time of Day 11:45

Outdoor Conditions    Temperature 84.5    Relative Humidity 46.1    Ambient CO2 459

|   |   |   |   |   |  |  |  |   |
|---|---|---|---|---|--|--|--|---|
| Fish  | Temperature   | Range   | Relative Humidity   | Range   | CO <sup>2</sup>  | Range  | # Occupants  |   |
| <span style="border: 1px solid black; padding: 2px;">701</span> | <span style="border: 1px solid black; padding: 2px;">75.3</span>            | <span style="border: 1px solid black; padding: 2px;">72 - 78</span> | <span style="border: 1px solid black; padding: 2px;">39.9</span>                  | <span style="border: 1px solid black; padding: 2px;">30% - 60%</span> | <span style="border: 1px solid black; padding: 2px;">1079</span> | <span style="border: 1px solid black; padding: 2px;">MAX 700 &gt; Ambient</span> | <span style="border: 1px solid black; padding: 2px;">17</span>                           |   |
| Noticeable Odor   |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>     | Visible water damage / staining?  |   | Visible microbial growth?  |  | Amount of material affected  |   |
| Ceiling   | <span style="border: 1px solid black; padding: 2px;">2' X 4' Lay in</span>  |   | <span style="border: 1px solid black; padding: 2px;">No</span>                    |   | <span style="border: 1px solid black; padding: 2px;">No</span>   |  | <span style="border: 1px solid black; padding: 2px;"></span>                             |   |
| Walls   | <span style="border: 1px solid black; padding: 2px;">Plaster</span>         |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>                   |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>  |  | <span style="border: 1px solid black; padding: 2px;">30 Sq ft damage 3" microbial</span> |   |
| Floor   | <span style="border: 1px solid black; padding: 2px;">12" x 12" Vinyl</span> |   | <span style="border: 1px solid black; padding: 2px;">No</span>                    |   | <span style="border: 1px solid black; padding: 2px;">No</span>   |  | <span style="border: 1px solid black; padding: 2px;"></span>                             |   |
| Ceiling Clean   |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>     | HVAC Supply Grills Clean  |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>  | HVAC Return Grills Clean   |  | <span style="border: 1px solid black; padding: 2px;">No</span>  |
| Walls Clean   |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>     | Inside of Supply Duct Clean   |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>  | Inside of Return Duct Clean  |  | <span style="border: 1px solid black; padding: 2px;">No</span>  |
| Flooring Clean  |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>     | Ceiling at Supply Grills Clean  |   | <span style="border: 1px solid black; padding: 2px;">N/a</span>  |  |  |   |
| Room Surfaces Clean   |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>     |   |   |  |  |  |   |
| Trash Removed   |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>     | Exhaust Fans Working  |   | <span style="border: 1px solid black; padding: 2px;">N/A</span>  | Unapproved Chemicals / Cleaners in Room  |  | <span style="border: 1px solid black; padding: 2px;">No</span>  |
| Signs of Pests  |   | <span style="border: 1px solid black; padding: 2px;">No</span>      | Drain Traps Wet   |   | <span style="border: 1px solid black; padding: 2px;">N/A</span>  | Air Fresheners in Room   |  | <span style="border: 1px solid black; padding: 2px;">No</span>  |
| Room Cluttered  |   | <span style="border: 1px solid black; padding: 2px;">No</span>      | Food if Stored in Room is in Sealed Containers                                    |   | <span style="border: 1px solid black; padding: 2px;">N/A</span>  |  |  |   |
| Mechanical Equipment Location                                   |   |   | <span style="border: 1px solid black; padding: 2px;">Floor Mounted in Room</span> |   |  | Mechanical Room Clean  |  | <span style="border: 1px solid black; padding: 2px;">N/A</span> |
| Filters Installed Properly                                      |   | <span style="border: 1px solid black; padding: 2px;">N/A</span>     | Filters Clean   |   | <span style="border: 1px solid black; padding: 2px;">N/A</span>  | Inside of HVAC Unit Clean  |  | <span style="border: 1px solid black; padding: 2px;">N/A</span> |
| Condensate Pan Clean  |   | <span style="border: 1px solid black; padding: 2px;">N/A</span>     | Cooling Coil Clean  |   | <span style="border: 1px solid black; padding: 2px;">N/A</span>  |  |  |   |
| Fresh Air Intake Location                                       |   |   | <span style="border: 1px solid black; padding: 2px;">Outside of Room</span> ▼     |   |  | Fresh Air Intake Free of Obstruction   |  | <span style="border: 1px solid black; padding: 2px;">Yes</span> |
| Pollutant Sources Near Air Intake                               |   |   | <span style="border: 1px solid black; padding: 2px;">Grass / Trees</span> ▼       |   |  |  |  |   |

**Observations**

**Musty odor in room - Visible water damage both sides of floor mounted fan coil unit - One small area 3" long by 1/2" wide visible microbial growth right side of unit - Unit needs to be removed and cleaned and source of water damage repaired - Replace all water damaged wall material**

**Corrective Actions to be Completed by Site Based Staff**

|   |   |
|---|---|
| Clean visible microbial from right side of unit | ▼ |
| Clean HVAC return grills with Wexcide           | ▼ |
|   | ▼ |
|   | ▼ |
|   | ▼ |
|   | ▼ |
|   | ▼ |
|   | ▼ |
|   | ▼ |

**Corrective Actions to be Completed by PPO**

|   |   |
|---|---|
| Clean inside of HVAC Unit                     | ▼ |
| Evaluate and repair cause of water damage     | ▼ |
| Remove and replace wall material as necessary | ▼ |
| Caulk all windows in building                 | ▼ |
|   | ▼ |
|   | ▼ |
|   | ▼ |
|   | ▼ |

# IAQ Assessment

Broward Estates Elementary

Evaluation Date October 22, 2012

Time of Day 11:45

Outdoor Conditions    Temperature 84.5

Relative Humidity 46.1

Ambient CO2 459

|   |   |   |   |   |   |  |   |   |
|---|---|---|---|---|---|--|---|---|
| Fish  | Temperature   | Range   | Relative Humidity   | Range   | CO <sup>2</sup>   | Range  | # Occupants   |   |
| <span style="border: 1px solid black; padding: 2px;">702</span> | <span style="border: 1px solid black; padding: 2px;">73.4</span>            | <span style="border: 1px solid black; padding: 2px;">72 - 78</span> | <span style="border: 1px solid black; padding: 2px;">46.1</span>                  | <span style="border: 1px solid black; padding: 2px;">30% - 60%</span> | <span style="border: 1px solid black; padding: 2px;">746</span> | <span style="border: 1px solid black; padding: 2px;">MAX 700 &gt; Ambient</span> | <span style="border: 1px solid black; padding: 2px;">12</span>        |   |
| Noticeable Odor   |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>     | Visible water damage / staining?  |   | Visible microbial growth?                                       |  | Amount of material affected   |   |
| Ceiling   | <span style="border: 1px solid black; padding: 2px;">2' X 4' Lay in</span>  |   | <span style="border: 1px solid black; padding: 2px;">No</span>                    |   | <span style="border: 1px solid black; padding: 2px;">No</span>  |  | <span style="border: 1px solid black; padding: 2px;"></span>          |   |
| Walls   | <span style="border: 1px solid black; padding: 2px;">Plaster</span>         |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>                   |   | <span style="border: 1px solid black; padding: 2px;">No</span>  |  | <span style="border: 1px solid black; padding: 2px;">6 Sq feet</span> |   |
| Floor   | <span style="border: 1px solid black; padding: 2px;">12" x 12" Vinyl</span> |   | <span style="border: 1px solid black; padding: 2px;">No</span>                    |   | <span style="border: 1px solid black; padding: 2px;">No</span>  |  | <span style="border: 1px solid black; padding: 2px;"></span>          |   |
| Ceiling Clean   |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>     | HVAC Supply Grills Clean  |   | <span style="border: 1px solid black; padding: 2px;">Yes</span> | HVAC Return Grills Clean   |   | <span style="border: 1px solid black; padding: 2px;">No</span>  |
| Walls Clean   |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>     | Inside of Supply Duct Clean   |   | <span style="border: 1px solid black; padding: 2px;">Yes</span> | Inside of Return Duct Clean  |   | <span style="border: 1px solid black; padding: 2px;">No</span>  |
| Flooring Clean  |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>     | Ceiling at Supply Grills Clean  |   | <span style="border: 1px solid black; padding: 2px;">N/a</span> |  |   |   |
| Room Surfaces Clean   |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>     |   |   |   |  |   |   |
| Trash Removed   |   | <span style="border: 1px solid black; padding: 2px;">No</span>      | Exhaust Fans Working  |   | <span style="border: 1px solid black; padding: 2px;">N/A</span> | Unapproved Chemicals / Cleaners in Room  |   | <span style="border: 1px solid black; padding: 2px;">No</span>  |
| Signs of Pests  |   | <span style="border: 1px solid black; padding: 2px;">No</span>      | Drain Traps Wet   |   | <span style="border: 1px solid black; padding: 2px;"></span>    | Air Fresheners in Room   |   | <span style="border: 1px solid black; padding: 2px;">No</span>  |
| Room Cluttered  |   | <span style="border: 1px solid black; padding: 2px;">No</span>      | Food if Stored in Room is in Sealed Containers                                    |   | <span style="border: 1px solid black; padding: 2px;">N/A</span> |  |   |   |
| Mechanical Equipment Location                                   |   |   | <span style="border: 1px solid black; padding: 2px;">Floor Mounted in Room</span> |   |   | Mechanical Room Clean  |   | <span style="border: 1px solid black; padding: 2px;">N/A</span> |
| Filters Installed Properly                                      |   | <span style="border: 1px solid black; padding: 2px;">N/A</span>     | Filters Clean   |   | <span style="border: 1px solid black; padding: 2px;">N/A</span> | Inside of HVAC Unit Clean  |   | <span style="border: 1px solid black; padding: 2px;">N/A</span> |
| Condensate Pan Clean  |   | <span style="border: 1px solid black; padding: 2px;">N/A</span>     | Cooling Coil Clean  |   | <span style="border: 1px solid black; padding: 2px;">N/A</span> |  |   |   |
| Fresh Air Intake Location                                       |   |   | <span style="border: 1px solid black; padding: 2px;">Outside of Room</span> ▼     |   |   | Fresh Air Intake Free of Obstruction   |   | <span style="border: 1px solid black; padding: 2px;">Yes</span> |
| Pollutant Sources Near Air Intake                               |   |   | <span style="border: 1px solid black; padding: 2px;">Grass / Trees</span> ▼       |   |   |  |   |   |

**Observations**

**Odor of bad food in room - Visible water damage left side of floor mounted fan coil unit - Unit needs to be removed and cleaned and source of water damage repaired - Replace all water damaged wall material.**

**Corrective Actions to be Completed by Site Based Staff**

|  |   |
|--|---|
| Be sure to remove all trash and food at the end of | ▼ |
| the day  | ▼ |
| Clean HVAC return grills with Wexcide              | ▼ |
|  | ▼ |
|  | ▼ |
|  | ▼ |
|  | ▼ |
|  | ▼ |

**Corrective Actions to be Completed by PPO**

|   |   |
|---|---|
| Clean inside of HVAC Unit                     | ▼ |
| Evaluate and repair cause of water damage     | ▼ |
| Remove and replace wall material as necessary | ▼ |
| Caulk all windows in building                 | ▼ |
|   | ▼ |
|   | ▼ |
|   | ▼ |
|   | ▼ |

