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September 11, 2012

Signature on File

TO: Jeanette Johnson, Principal  
**McFatter Technical Center**

FROM: Richard Rosa, Project Manager  
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 August 30, 2012, I conducted an assessment at **Broward Fire Academy**. 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.

# IAQ Assessment

Broward Fire Academy

 Evaluation Date August 30, 2012

 Time of Day 10:30

 Outdoor Conditions    Temperature 86.7

 Relative Humidity 71

 Ambient CO2 414

|  |   |   |   |   |   |  |  |
|--|---|---|---|---|---|--|--|
| Fish   | Temperature   | Range   | Relative Humidity   | Range   | CO <sup>2</sup>   | Range  | # Occupants  |
| <span style="border: 1px solid black; padding: 2px;">P-424C</span> | <span style="border: 1px solid black; padding: 2px;">77.7</span>            | <span style="border: 1px solid black; padding: 2px;">72 - 78</span> | <span style="border: 1px solid black; padding: 2px;">47.9</span>                  | <span style="border: 1px solid black; padding: 2px;">30% - 60%</span> | <span style="border: 1px solid black; padding: 2px;">970</span> | <span style="border: 1px solid black; padding: 2px;">MAX 700 &gt; Ambient</span> | <span style="border: 1px solid black; padding: 2px;"></span>                     |
| Noticeable Odor  |   | <span style="border: 1px solid black; padding: 2px;">No</span>      | Visible water damage / staining?  |   | Visible microbial growth?                                       |  | Amount of material affected  |
| Ceiling  | <span style="border: 1px solid black; padding: 2px;">2' x 4'</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;">various &lt; 4 sq ft</span> |
| Walls  | <span style="border: 1px solid black; padding: 2px;">Drywall</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>                     |
| 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;">No</span>      | HVAC Supply Grills Clean  |   | <span style="border: 1px solid black; padding: 2px;">No</span>  | HVAC Return Grills Clean   |  |
| Walls Clean  |   | <span style="border: 1px solid black; padding: 2px;">No</span>      | Inside of Supply Duct Clean   |   | <span style="border: 1px solid black; padding: 2px;">No</span>  | Inside of Return Duct Clean  |  |
| Flooring Clean   |   | <span style="border: 1px solid black; padding: 2px;">No</span>      | Ceiling at Supply Grills Clean  |   | <span style="border: 1px solid black; padding: 2px;">No</span>  |  |  |
| Room Surfaces Clean  |   | <span style="border: 1px solid black; padding: 2px;">No</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  |  |
| Signs of Pests   |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>     | Drain Traps Wet   |   | <span style="border: 1px solid black; padding: 2px;">N/A</span> | Air Fresheners in Room   |  |
| Room Cluttered   |   | <span style="border: 1px solid black; padding: 2px;">Yes</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;">Window unit</span>           |   |   | Mechanical Room Clean  |  |
| Filters Installed Properly   |   | <span style="border: 1px solid black; padding: 2px;">No</span>      | Filters Clean   |   | <span style="border: 1px solid black; padding: 2px;">No</span>  | Inside of HVAC Unit Clean  |  |
| Condensate Pan Clean   |   | <span style="border: 1px solid black; padding: 2px;">No</span>      | Cooling Coil Clean  |   | <span style="border: 1px solid black; padding: 2px;">No</span>  |  |  |
| Fresh Air Intake Location  |   |   | <span style="border: 1px solid black; padding: 2px;">Window unit</span> ▼         |   |   | Fresh Air Intake Free of Obstruction   |  |
| Pollutant Sources Near Air Intake                                  |   |   | <span style="border: 1px solid black; padding: 2px;">Grass and landscape</span> ▼ |   |   | <span style="border: 1px solid black; padding: 2px;">Yes</span>                  |  |

### Observations

Check roof for leaks. Replace ceiling tiles once repairs have been made. The ceiling light fixtures had condensation on inside of lens cover. Personnel state that both HVAC window units are left on during the week and turned off on weekends, thus supper cooling and warming the room and condensing on all surfaces. Clean both window unit HVAC coils. Clean the HVAC grill with wexcide and change filters per SBBC policy. Set temperature between SBBC Range and monitor.

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

|   |   |
|---|---|
| Open light fixtures and dry                 | ▼ |
| The floor is due for summer cleaning        | ▼ |
| Room is due for a summer cleaning           | ▼ |
| Generate a work order for pest control      | ▼ |
| Monitor temperature in portable             | ▼ |
| Replace stained ceiling tiles after repairs | ▼ |
|   | ▼ |
|   | ▼ |

### Corrective Actions to be Completed by PPO

|  |   |
|--|---|
| Evaluate and repair cause of stained ceiling tiles | ▼ |
| Clean both window unit coils                       | ▼ |
| Evaluate the need for new door thresholds          | ▼ |
|  | ▼ |
|  | ▼ |
|  | ▼ |
|  | ▼ |

# IAQ Assessment

Broward Fire Academy

 Evaluation Date August 30, 2012

 Time of Day 10:30

 Outdoor Conditions    Temperature 86.7

 Relative Humidity 71

 Ambient CO2 414

|  |   |   |  |   |   |  |  |
|--|---|---|--|---|---|--|--|
| Fish   | Temperature   | Range   | Relative Humidity  | Range   | CO <sup>2</sup>   | Range  | # Occupants  |
| <span style="border: 1px solid black; padding: 2px;">P-723C</span> | <span style="border: 1px solid black; padding: 2px;">73.6</span>            | <span style="border: 1px solid black; padding: 2px;">72 - 78</span> | <span style="border: 1px solid black; padding: 2px;">51.1</span> | <span style="border: 1px solid black; padding: 2px;">30% - 60%</span> | <span style="border: 1px solid black; padding: 2px;">462</span> | <span style="border: 1px solid black; padding: 2px;">MAX 700 &gt; Ambient</span> | <span style="border: 1px solid black; padding: 2px;"></span>                     |
| Noticeable Odor  |   | <span style="border: 1px solid black; padding: 2px;">No</span>      | Visible water damage / staining?                                 |   | Visible microbial growth?                                       |  | Amount of material affected  |
| Ceiling  | <span style="border: 1px solid black; padding: 2px;">2' x 4'</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;">various &lt; 6 sq ft</span> |
| Walls  | <span style="border: 1px solid black; padding: 2px;">Tack Board</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;">No stains but wet</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;">No</span> | HVAC Supply Grills Clean       | <span style="border: 1px solid black; padding: 2px;">No</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;">No</span> | Inside of Supply Duct Clean    | <span style="border: 1px solid black; padding: 2px;">No</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;">No</span> | Ceiling at Supply Grills Clean | <span style="border: 1px solid black; padding: 2px;">No</span> |                             |  |
| Room Surfaces Clean | <span style="border: 1px solid black; padding: 2px;">No</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;">Yes</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;">Yes</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;">Window unit</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;">No</span>          | Filters Clean      | <span style="border: 1px solid black; padding: 2px;">No</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;">No</span>          | Cooling Coil Clean | <span style="border: 1px solid black; padding: 2px;">No</span> |   |   |

|                                   |   |                                      |   |
|-----------------------------------|---|--------------------------------------|---|
| Fresh Air Intake Location         | <span style="border: 1px solid black; padding: 2px;">Window unit</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 and landscape</span> ▼ |                                      |   |

### Observations

Tack board is wet on East, West and South walls of portable. Remove tack board and replace per SBBC specs. Evaluate the exterior siding for water intrusion. Check roof for leaks. Replace ceiling tiles once repairs have been made. The ceiling light fixtures had condensation on inside of lens cover. Personnel states that both HVAC window units are left on during the week and turned off on weekends, thus super cooling and warming the room and condensing on all surfaces. Clean both HVAC coils. Clean the HVAC grill with wexcide and change filters per SBBC policy. I instructed site personnel to remove and bag stained ceiling tiles before entering into classroom.

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

|   |   |
|---|---|
| Open light fixtures and dry                 | ▼ |
| The floor is due for summer cleaning        | ▼ |
| Room is due for a summer cleaning           | ▼ |
| Generate a work order for pest control      | ▼ |
| Replace stained ceiling tiles after repairs | ▼ |
|   | ▼ |
|   | ▼ |
|   | ▼ |

### Corrective Actions to be Completed by PPO

|  |   |
|--|---|
| Evaluate and repair cause of stained ceiling tiles | ▼ |
| Clean both window unit coils                       | ▼ |
| Evaluate and repair cause of water damage          | ▼ |
| Remove and replace wall material as necessary      | ▼ |
| Evaluate the need for new door thresholds          | ▼ |
|  | ▼ |
|  | ▼ |
|  | ▼ |

# IAQ Assessment

Broward Fire Academy

 Evaluation Date August 30, 2012

 Time of Day 10:30

 Outdoor Conditions    Temperature 86.7

 Relative Humidity 71

 Ambient CO2 414

|  |   |   |  |   |   |  |  |
|--|---|---|--|---|---|--|--|
| Fish   | Temperature   | Range   | Relative Humidity  | Range   | CO <sup>2</sup>   | Range  | # Occupants  |
| <span style="border: 1px solid black; padding: 2px;">P-724C</span> | <span style="border: 1px solid black; padding: 2px;">81.8</span>            | <span style="border: 1px solid black; padding: 2px;">72 - 78</span> | <span style="border: 1px solid black; padding: 2px;">63.1</span> | <span style="border: 1px solid black; padding: 2px;">30% - 60%</span> | <span style="border: 1px solid black; padding: 2px;">483</span> | <span style="border: 1px solid black; padding: 2px;">MAX 700 &gt; Ambient</span> | <span style="border: 1px solid black; padding: 2px;"></span>                     |
| Noticeable Odor  |   | <span style="border: 1px solid black; padding: 2px;">No</span>      | Visible water damage / staining?                                 |   | Visible microbial growth?                                       |  | Amount of material affected  |
| Ceiling  | <span style="border: 1px solid black; padding: 2px;">2' x 4'</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;">various &lt; 4 sq ft</span> |
| Walls  | <span style="border: 1px solid black; padding: 2px;">Tack Board</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;">No stains but wet</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;">No</span> | HVAC Supply Grills Clean       | <span style="border: 1px solid black; padding: 2px;">No</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;">No</span> | Inside of Supply Duct Clean    | <span style="border: 1px solid black; padding: 2px;">No</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;">No</span> | Ceiling at Supply Grills Clean | <span style="border: 1px solid black; padding: 2px;">No</span> |                             |  |
| Room Surfaces Clean | <span style="border: 1px solid black; padding: 2px;">No</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;">Yes</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;">Yes</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;">Window unit</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;">No</span>          | Filters Clean      | <span style="border: 1px solid black; padding: 2px;">No</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;">No</span>          | Cooling Coil Clean | <span style="border: 1px solid black; padding: 2px;">No</span> |                           |   |

|                                   |   |  |  |                                      |   |
|-----------------------------------|---|--|--|--------------------------------------|---|
| Fresh Air Intake Location         | <span style="border: 1px solid black; padding: 2px;">Window unit</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 and landscape</span> ▼ |  |  |                                      |   |

### Observations

Tack board is wet throughout portable. Remove all tack board and replace per SBBC specification. Evaluate the exterior siding for water intrusion. Check roof for leaks. Replace ceiling tiles once repairs have been made. Though the temperature was warm at the time of assessment, the ceiling light fixtures had condensation on inside of lens cover. Personnel state that both HVAC window units are left on during the week and turned off on weekends, thus supper cooling and warming the room and condensing on all surfaces. Clean both HVAC coils. Clean the HVAC grill with wexcide and change filters per SBBC policy. Cluttered EMT storage portable.

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

|   |   |
|---|---|
| Open light fixtures and dry                 | ▼ |
| The floor is due for summer cleaning        | ▼ |
| Room is due for a summer cleaning           | ▼ |
| Generate a work order for pest control      | ▼ |
| Replace stained ceiling tiles after repairs | ▼ |
|   | ▼ |
|   | ▼ |
|   | ▼ |

### Corrective Actions to be Completed by PPO

|  |   |
|--|---|
| Evaluate and repair cause of stained ceiling tiles | ▼ |
| Clean the HVAC coil                                | ▼ |
| Evaluate and repair cause of water damage          | ▼ |
| Remove and replace wall material as necessary      | ▼ |
| Evaluate the need for new door thresholds          | ▼ |
|  | ▼ |
|  | ▼ |
|  | ▼ |