

# managing risk with responsibility

| Aston A. Henry, Director<br>Risk Management Department |              |  | Telephone:<br>Fax: | 754 321-1900<br>754 321-1917       |  |
|--|--------------|--|--------------------|------------------------------------|--|
| October 15, 2014 Signature on File                     |              | Signature on File                            | For Custodial S    | upervisor Use Only                 |  |
| TO:  |              | artz, Principal<br>entary School             |                    | ues Addressed<br>ues Not Addressed |  |
| FROM:  |              | ovich, Coordinator I, LEA<br>ment Department |                    |                                    |  |
| SUBJECT:   | Indoor Air Q | uality (IAQ) Assessment                      |                    | •                                  |  |

On October 10, 2014, I conducted an assessment at **McNab 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: Shelley Meloni, Executive Director, Facilities & Construction
Mark Dorsett, Manager, Zone 1, Physical Plant Operations Division
Roy Norton, Manager, Custodial/Grounds, Physical Plant Operations Division
Aston Henry, Director, Risk Management
Sonja Coley, Senior Project Manager, Facilities & Construction
Broward Teachers Union
Federation of Public Employees

RK/tc Enc.

| McNab  | Elementary Evaluation Dat  | e October 10, 2014                | Time of Day 1:30   |  |
|--|--|-----------------------------------|--|--|
| Outdoor Conditions Tempera   | ture 89.9 Relative   | Humidity 55.0                     | Ambient CO2 343  |  |
|  |  | Range CO <sup>2</sup> 1051        | Range # Occupants MAX 700 > 30 Ambient                             |  |
| Noticeable Odor No  Ceiling 2' X 4' Lay in  Walls Block / Drywall  Floor 12" x 12" Vinyl   | Visible water damage /<br>staining?<br>Yes<br>Yes  | Visible microbial growth?  No  No | Amount of material affected  4 stained ceiling tiles  8' Tackboard |  |
| Ceiling Clean Yes Walls Clean Yes Flooring Clean Yes Room Surfaces No Clean  | HVAC Supply<br>Grills Clean<br>Inside of Supply<br>Duct Clean<br>Ceiling at Supply<br>Grills Clean | No Yes No                         | HVAC Return Grills Clean  Inside of Return Duct Clean  Yes         |  |
| Trash Removed Yes  Signs of Pests No  Room Cluttered No  | Exhaust Fans Working  Drain Traps Wet  Food if Stored in Room is in Sealed Containers              | N/A Yes N/A                       | Unapproved Chemicals / No Cleaners in Room  Air Fresheners in Room |  |
| Mechanical Equipment Location  Filters Installed Properly  Condensate Pan Clean  No  | _  | Yes No                            | Mechanical Room Clean No Inside of HVAC Unit Clean Yes             |  |
| Fresh Air Intake Location Pollutant Sources Near Air Intake  | Outside of Room  Trees / Auto Deelership   | ▼                                 | Fresh Air Intake Free of Obstruction Yes                           |  |
| Observations  Heavy dust build up on HVAC supply and return grills - Dust / Debris on surfaces - Dust build up on ceilings and fixtures at HVAC supply grills - Wall material under windows wet - Window sill not sealed to block on exterior of building - 4 stained ceiling tiles at window wall - Water stained tackboard left of emergency escape door - spotty stains on all tackboards - dust on elevated surfaces |  |                                   |  |  |

| Corrective Actions to be Completed by Site Based Staff |   |  |
|--|---|--|
| Thoroughly clean elevated surfaces                     | ▼ |  |
| Clean ceilings around HVAC supply grills               | ▼ |  |
| Clean HVAC supply and return grills with Wexcide       | ▼ |  |
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| Corrective Actions to be completed by 110          |   |
|--|---|
| Replace wall material under all windows            | ▼ |
| Remove all tackboard wall surfaces                 | ▼ |
| Evaluate and repair cause of stained ceiling tiles | ▼ |
| Remove and replace stained ceiling tiles           | ▼ |
| Repair HVAC to reduce CO2 levels                   | ▼ |
| Clean HVAC return grills and drops                 | ▼ |
| Clean HVAC supply grills and drops                 | ▼ |
|  | ▼ |

|  | McNab Eleme       | entary Evaluation Da   | ate October 10, 2014                  | Time of Day   | 1:30      |
|--|-------------------|--|---------------------------------------|---|-----------|
| Outdoor Conditions   | Temperature       | 89.9 Relativ   | ve Humidity 55.0                      | Ambient CO2 3   | 43        |
| Fish         Temper           935         71   |                   | Relative Humidity 53.8 3   | Range CC<br>0% - 60% 99               |   | 16        |
| Noticeable Odor           Ceiling         2' X 4'           Walls         Block / I           Floor         12" x 12   | Drywall           | Visible water damage / staining? Yes No No   | Visible microbial growth?  No  No  No | Amount of material affected  1 tile                                     |           |
| Walls Clean  | Yes<br>Yes<br>Yes | HVAC Supply<br>Grills Clean<br>Inside of Supply<br>Duct Clean<br>Ceiling at Supply<br>Grills Clean | No Yes No                             | HVAC Return<br>Grills Clean<br>Inside of Return<br>Duct Clean           | No No     |
| Trash Removed Signs of Pests Room Cluttered  | Yes<br>No<br>No   | Exhaust Fans Working  Drain Traps Wet  Food if Stored in Room is in Sealed Containers              | Yes                                   | Unapproved Chemicals /<br>Cleaners in Room<br>Air Fresheners<br>in Room | No No     |
| Mechanical Equipmer Filters Installed Proper Condensate Pan Cle  | rly Yes           | f 943 Filters Clean Cooling Coil Clean   | Yes                                   | Mechanical Room Clean Inside of HVAC Unit Clean                         | No<br>Yes |
| Fresh Air Intake Locati<br>Pollutant Sources Near<br>Intake  | r Air $\Box$      | side of Room<br>es / Auto Deelership   | ▼                                     | Fresh Air Intake Free<br>of Obstruction                                 | Yes       |
| Observations  Heavy dust build up on HVAC supply and return grills - Dust / Debris on surfaces - Dust build up on ceilings and fixtures at HVAC supply grills - Wall material under windows wet - Window sill not sealed to block on exterior of building - spotty stains on tackboard walls |                   |  |                                       |   |           |
| Corrective Actions to be Completed by Site Based Staff  Thoroughly clean elevated surfaces  Clean ceilings around HVAC supply grills  Corrective Actions to be Completed by PPO  Replace wall material under all windows  Remove all tackboard wall surfaces  ▼                              |                   |  |                                       |   |           |

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| Replace wall material under all windows | ▼ |
|---|---|
| Remove all tackboard wall surfaces      | ▼ |
| Clean HVAC return grills and drops      | ▼ |
| Clean HVAC supply grills and drops      | ▼ |
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fixtures at HVAC supply grills - Wall material under windows wet - Window sill not sealed to block on exterior of building - 1 stained ceiling tile over windows - 8 live plants

## Corrective Actions to be Completed by Site Based Staff

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| Corrective Actions to be completed by the Based of | ٠ |
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| Thoroughly clean elevated surfaces                 | ▼ |
| Clean ceilings around HVAC supply grills           | ▼ |
| Clean HVAC supply and return grills with Wexcide   | ▼ |
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| Corrective Actions to be completed by 110 |   |  |
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| Replace wall material under all windows   | ▼ |  |
| Repair HVAC to reduce CO2                 | ▼ |  |
| Clean HVAC return grills and drops        | ▼ |  |
| Clean HVAC supply grills and drops        | ▼ |  |
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| McNab   | Elementary Evaluation Da  | te October 10, 2014       | Time of Day 1:30   |
|---|---|---------------------------|--|
| Outdoor Conditions Tempera  | ature 89.9 Relative   | e Humidity 55.0           | Ambient CO2 343  |
|   | nge Relative Humidity - 78 56.4 30  | Range CO <sup>2</sup> 764 | Range # Occupants MAX 700 > 5 Ambient                              |
| Noticeable Odor No  | Visible water damage / staining?  | Visible microbial growth? | Amount of material affected  |
| Ceiling 2' X 4' Lay in  | Yes   | No                        | 1 tile   |
| Walls Block / Drywall  Floor 12" x 12" Vinyl  | No Yes  | No No                     | 6 sq ft  |
| Ceiling Clean Yes Walls Clean Yes   | HVAC Supply<br>Grills Clean<br>Inside of Supply<br>Duct Clean                         | No Yes                    | HVAC Return Grills Clean  Inside of Return No                      |
| Room Surfaces Clean  Yes  No  | Ceiling at Supply<br>Grills Clean   | No                        | Duct Clean   |
| Trash Removed Yes  Signs of Pests No  Room Cluttered No                             | Exhaust Fans Working  Drain Traps Wet  Food if Stored in Room is in Sealed Containers | N/A<br>No                 | Unapproved Chemicals / No Cleaners in Room  Air Fresheners in Room |
| Mechanical Equipment Location  Filters Installed Properly  Condensate Pan Clean  No | FISH 943 Filters Clean Cooling Coil Clean   | Yes I                     | Mechanical Room Clean No nside of HVAC Unit Clean Yes              |
| Fresh Air Intake Location  Pollutant Sources Near Air Intake                        | Outside of Room  Trees / Auto Deelership  |                           | Fresh Air Intake Free of Obstruction                               |
| Observations  |   |                           |  |
| Heavy dust build up on HVAC su<br>fixtures at HVAC supply grills - V                | Vall material under windows w   | et - Window sill not sea  | led to block on exterior of  |

building - 1 stained ceiling tile over windows - spotty stains on tackboards - sink trap @ teachers desk dry - flooring stained right side of windows

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

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| Corrective Actions to be completed by 11 C         |   |
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| Replace wall material under all windows            | ▼ |
| Remove all tackboard wall surfaces                 | ▼ |
| Evaluate and repair cause of stained ceiling tiles | ▼ |
| Remove and replace stained ceiling tiles           | ▼ |
| Clean HVAC return grills and drops                 | ▼ |
| Clean HVAC supply grills and drops                 | ▼ |
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| McNab  | Elementary Evaluation Dat                      | October 10, 2014              | Time of Day 1:30                        |
|--|--|-------------------------------|---|
| Outdoor Conditions Tempera   | ature 89.9 Relative                            | Humidity 55.0                 | Ambient CO2 343                         |
|  |  | Range CO <sup>2</sup> % - 60% | <del></del>                             |
| Noticeable Odor No   | Visible water damage / staining?               | Visible microbial growth?     | Amount of material affected             |
| Ceiling 2' X 4' Lay in   | Yes  | No                            | 1 tile                                  |
| Walls Block / Drywall  | Yes  | No                            | 4 sq ft                                 |
| Floor 12" x 12" Vinyl  | No   | No                            |   |
| Ceiling Clean Yes  | HVAC Supply<br>Grills Clean                    | No                            | HVAC Return Grills Clean                |
| Walls Clean Yes Flooring Clean Yes   | Inside of Supply<br>Duct Clean                 | Yes                           | Inside of Return Duct Clean No          |
| Room Surfaces No<br>Clean  | Ceiling at Supply<br>Grills Clean              | No                            |   |
| Trash Removed Yes  | Exhaust Fans Working                           | N/A                           | Unapproved Chemicals / Cleaners in Room |
| Signs of Pests No  | Drain Traps Wet                                | Yes                           | Air Fresheners No                       |
| Room Cluttered No  | Food if Stored in Room is in Sealed Containers | N/A                           | in Room                                 |
| Mechanical Equipment Location  | FISH 943                                       |                               | Mechanical Room Clean No                |
| Filters Installed Properly Yes   | Filters Clean                                  | Yes                           | Inside of HVAC Unit Clean Yes           |
| Condensate Pan Clean No  | Cooling Coil Clean                             | No                            |   |
| Fresh Air Intake Location  | Outside of Room                                | ▼                             | Fresh Air Intake Free Yes               |
| Pollutant Sources Near Air<br>Intake   | Trees / Auto Deelership                        | ▼                             | or Obstruction                          |
| Observations   |  |                               |   |
| Heavy dust build up on HVAC sufixtures at HVAC supply grills - Volume tile of building - 1 stained ceiling tile or | Wall material under windows we                 | et - Window sill not sea      | aled to block on exterior of            |
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#### Corrective Actions to be Completed by Site Based Staff

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|                  | Corrective Actions to be completed by       |
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| s 🔻              | Replace wall material under all window      |
| vs 🔻             | Repair water damaged wall over windo        |
| g tiles <b>▼</b> | Evaluate and repair cause of stained ceilin |
| es 🔻             | Remove and replace stained ceiling til      |
| ▼                | Clean HVAC return grills and drops          |
| ▼                | Clean HVAC supply grills and drops          |
| ▼                | Repair HVAC to reduce CO2 levels            |
| ▼                |   |

| McNab E   | lementary Eval                         | uation D     | october 1               | 0, 2014        | Time of Day                               | 1:30     |               |
|---|--|--------------|-------------------------|----------------|---|----------|---------------|
| Outdoor Conditions Temperate  | ure 89.9                               | Relativ      | e Humidity              | 55.0           | Ambient CO2 3                             | 43       | ]             |
| Fish Temperature Ran 943 72 -   | ·                                      | — <u> </u>   | Range<br>0% - 60%       | CO²            | Range # O MAX 700 >  Ambient              | ccupa    | nts           |
| Noticeable Odor   | Visible water da<br>staining?          |              | Visible micr<br>growth? |                | Amount of material affected               |          |               |
| Ceiling   |  |              |                         |                |   |          |               |
| Walls   |  |              |                         |                |   |          | _             |
| Floor   |  |              |                         |                |   |          |               |
| Ceiling Clean   | HVAC Su<br>Grills Cle                  |              |                         |                | HVAC Return<br>Grills Clean               |          |               |
| Walls Clean   | Inside of                              | Supply       |                         |                | Inside of Return                          |          | _             |
| Flooring Clean  | Duct Clea                              | an           |                         |                | Duct Clean                                |          |               |
| Room Surfaces Clean   | Ceiling at<br>Grills Cle               |              |                         |                |   |          |               |
| Trash Removed   | Exhaust Fans \                         | Working      |                         |                | napproved Chemicals /<br>leaners in Room  |          |               |
| Signs of Pests  | Drain Tr                               | aps Wet      |                         | _              | Air Fresheners                            |          | $\overline{}$ |
| Room Cluttered  | Food if Stored in<br>in Sealed Contain |              |                         |                | in Room                                   |          |               |
| Mechanical Equipment Location   | FISH 943                               |              |                         | м              | echanical Room Clean                      | No       | _             |
| Filters Installed Properly Yes  | Filter                                 | s Clean      | Yes                     | Ins            | de of HVAC Unit Clean                     | Ye       | s             |
| Condensate Pan Clean No   | Cooling Co                             | il Clean     | No                      |                |   |          |               |
| Fresh Air Intake Location   | Outside of Room                        |              |                         | T▼             | Fresh Air Intake Free                     | Ye       |               |
| Pollutant Sources Near Air Intake                                     | Trees / Auto Deelership ▼              |              | ▼                       | of Obstruction |   | <u>s</u> |               |
| Observations  |  |              |                         |                |   |          |               |
| Mechanical Room 943 - 1" standir<br>Slime on floor in mechanical roon |  |              |                         |                |   | rty -    |               |
| Corridor - 013 - Tackboards damp<br>educe quantity of tackboards)     | / stained - PPO To r                   | emove        | replace all tack        | boards in e    | ntire building. (May b                    | e able   | to            |
| Corrective Actions to be Complet                                      | ed by Site Based Sta                   | aff          | Correctiv               | ve Actions t   | o be Completed by Pl                      | PO       |               |
| Discard wet HVAC I  | ilters                                 | ▼            |                         | Condensat      | e drains and pans                         |          | ▼             |
| Clean floor in Mechani  |  | <b>▼</b>     |                         |                | s in all units                            |          | ▼             |
| Call in work orders when p  | ans overflow                           | ▼            | -                       |                | f all HVAC units<br>stem - units and drop | <u> </u> | ▼             |
|   |  | ▼            | Cicali cilli            | IG HVAC SY     | stem - units and urop                     | <u> </u> | ▼             |
|   |  | ▼            |                         |                |   |          | ▼             |
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