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December 8, 2004

- TO: Ms. Vera Ginn, Director Title I
- FROM: Aston A. Henry, Jr., Supervisor Risk Management Department
- SUBJECT: Indoor Air Quality (IAQ) Assessment Site and FISH 120, 129, 134, 136, 149 and 149A

On December 2 and 3, 2004 the IAQ Assessment Team conducted an assessment of the site and FISH 120, 129, 134, 136, 149 and 149A at **Title I**. The evaluation consisted of a walkthrough of the identified areas to assess the current condition of the location with regard to indoor air quality. This assessment included observations of the carpet, floor tile, ceiling tile, interior walls, false ceiling plenum, and accessible ventilation equipment.

Attached are the findings of this assessment along with recommendations for further assessment, remediation, or corrective actions, if needed.

Generally, the IAQ Assessment did not identify any existing conditions significantly impacting IAQ and thereby presenting immediate health and safety concerns 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 954-765-8864.

cc: Dr. Earlean Smiley, Deputy Superintendent
Leah Kelly, Executive Director, Student Support Services/ESE
Jeffrey S. Moquin, Director, Risk Management
Rodney Williams, Project Manager II, Facilities and Construction Management
Jerrod Neal, Broward Teachers Union
Mark Dorsett, Manager 1, Physical Plant Operations Division, Zone 1

AH/tc

|                           |               |                        | IAQ Ass                        | sessment     |                    |                           |        |              |
|---------------------------|---------------|------------------------|--------------------------------|--------------|--------------------|---------------------------|--------|--------------|
|                           |               | Title I So             | chool                          |              | Evaluat            | tion Requested            | Decer  | mber 2, 2004 |
| Time of Day               | 10:00 am      |                        |                                |              |                    | Evaluation Date           | Decer  | mber 3, 2004 |
| Outdoor Condit            | ions Tem      | perature               |                                | Relative Hun | nidity             | Ambier                    | nt CO2 |              |
| Fish T                    | emperature    | Range Relat            | ive Humidity                   | Range        | CO2                | Ran                       | ge     | # Occupants  |
| 120                       | 72.6 <b>7</b> | 2 - 78                 | 48.9                           | 30% - 60%    | 961                | < 1,000                   | PPM    | 5            |
| Noticeable Odd            | or No         | -                      | isible water<br>age / staining |              | microbial<br>owth? | Amount of mat<br>affected | erial  |              |
| Ceiling Type              | 2x4 Lay I     | n                      | Νο                             |              | No                 |                           | None   |              |
| Wall Type                 | Paneling      | l                      | No                             |              | No                 |                           | None   |              |
| Flooring                  | Tile          |                        | No                             |              | No                 |                           | None   |              |
|                           | Clean         | Minor Dust<br>/ Debris | Needs<br>Cleaning              |              | Corre              | ctive Action Re           | quired |              |
| Ceiling                   | Yes           | Νο                     | No                             |              |                    |                           |        |              |
| Walls                     | Yes           | No                     | No                             |              |                    |                           |        |              |
| Flooring                  | Yes           | Νο                     | No                             |              |                    |                           |        |              |
| HVAC Supply C             | Grills Yes    | Νο                     | No                             |              |                    |                           |        |              |
| HVAC Return G             | Grills Yes    | Νο                     | No                             |              |                    |                           |        |              |
| Ceiling at Supp<br>Grills | ly Yes        | No                     | No                             |              |                    |                           |        |              |
| Surfaces in Ro            | om Yes        | No                     | No                             |              |                    |                           |        |              |

Findings:

- HVAC duct work in the Southwest corner is blowing directly on the employee

## 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 Division:

- Relocate the HVAC supply grill to the center of the office

|                             |               |                        | IAQ As                          | sessment     |                      |                           |        |              |
|-----------------------------|---------------|------------------------|---------------------------------|--------------|----------------------|---------------------------|--------|--------------|
|                             |               | Title I S              | chool                           |              | Evaluat              | tion Requested            | Dece   | mber 2, 2004 |
| Time of Day                 | 2:00 pm       |                        |                                 |              | I                    | Evaluation Date           | Dece   | mber 2, 2004 |
| Outdoor Conditio            | ons Ten       | nperature 8            | 31.3                            | Relative Hur | nidity 52            | Ambie                     | nt CO2 | 432          |
| Fish Ter                    | nperature     | Range Rela             | tive Humidity                   | Range        | CO2                  | Ran                       | ge     | # Occupants  |
| 129                         | 73.9 <b>7</b> | 2 - 78                 | 62.3                            | 30% - 60%    | 716                  | < 1,000                   | PPM    | 2            |
| Noticeable Odor             | No            |                        | /isible water<br>age / staining |              | e microbial<br>owth? | Amount of mat<br>affected | erial  |              |
| Ceiling Type                | 2x4 Lay       | In                     | No                              |              | No                   |                           | None   |              |
| Wall Type                   | Drywall       |                        | No                              |              | No                   |                           | None   |              |
| Flooring                    | Tile          |                        | No                              |              | No                   |                           | None   |              |
|                             | Clean         | Minor Dust<br>/ Debris | Needs<br>Cleaning               |              | Corre                | ctive Action Re           | quired |              |
| Ceiling                     | Yes           | No                     | No                              |              |                      |                           |        |              |
| Walls                       | Yes           | No                     | No                              |              |                      |                           |        |              |
| Flooring                    | Yes           | No                     | No                              |              |                      |                           |        |              |
| HVAC Supply Gr              | ills Yes      | No                     | No                              |              |                      |                           |        |              |
| HVAC Return Gr              | ills Yes      | No                     | No                              |              |                      |                           |        |              |
| Ceiling at Supply<br>Grills | Yes           | No                     | No                              |              |                      |                           |        |              |
| Surfaces in Roor            | n Yes         | No                     | No                              |              |                      |                           |        |              |

## Findings:

- No visible signs of microbial growth or water intrusion

- Flower pot with water in room
- Humidity level is elevated

### Site Based Maintenance:

- Remove flower pot with water

- 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 Division:

- Evaluate and repair HVAC system in order to lower the humidity level

|                           |               |                         | IAQ Ass                        | essment           |         |                           |        |              |
|---------------------------|---------------|-------------------------|--------------------------------|-------------------|---------|---------------------------|--------|--------------|
|                           |               | Title I Sc              | hool                           |                   | Evaluat | ion Requested             | Dece   | mber 2, 2004 |
| Time of Day               | 2:10 pm       |                         |                                |                   | E       | Evaluation Date           | Dece   | mber 2, 2004 |
| Outdoor Condit            | ions Tem      | perature 8 <sup>°</sup> | 1.3 F                          | Relative Humi     | dity 52 | Ambie                     | nt CO2 | 432          |
| Fish T                    | emperature F  | Range Relat             | ive Humidity                   | Range             | CO2     | Ran                       | ge     | # Occupants  |
| 134                       | 73.1 <b>7</b> | 2 - 78                  | 58.7                           | 30% - 60%         | 689     | < 1,000                   | PPM    | 1            |
| Noticeable Odd            | or No         |                         | sible water<br>age / staining? | Visible m<br>grow |         | Amount of mat<br>affected | erial  |              |
| Ceiling Type              | 2x4 Lay I     | n                       | Νο                             | No                | >       |                           | None   |              |
| Wall Type                 | Drywall       |                         | No                             | No                | >       |                           | None   |              |
| Flooring                  | Tile          |                         | No                             | No                | >       |                           | None   |              |
|                           | Clean         | Minor Dust<br>/ Debris  | Needs<br>Cleaning              |                   | Correc  | ctive Action Re           | quired |              |
| Ceiling                   | Yes           | Νο                      | Νο                             |                   |         |                           |        |              |
| Walls                     | Yes           | No                      | No                             |                   |         |                           |        |              |
| Flooring                  | Yes           | No                      | No                             |                   |         |                           |        |              |
| HVAC Supply C             | Grills Yes    | No                      | No                             |                   |         |                           |        |              |
| HVAC Return G             | Grills Yes    | No                      | Νο                             |                   |         |                           |        |              |
| Ceiling at Supp<br>Grills | ly Yes        | Νο                      | No                             |                   |         |                           |        |              |
| Surfaces in Ro            | om Yes        | Νο                      | No                             |                   |         |                           |        |              |

## Findings:

- No visible signs of microbial growth or water intrusion

- Room is very stuffy if the door is closed

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

|                          |              |                        | IAQ As                           | sessment     |                 |                           |        |              |
|--------------------------|--------------|------------------------|----------------------------------|--------------|-----------------|---------------------------|--------|--------------|
|                          |              | Title I S              | chool                            |              | Evalua          | tion Requested            | Decer  | mber 2, 2004 |
| Time of Day              | 2:10 pm      |                        |                                  |              |                 | Evaluation Date           | Decer  | mber 2, 2004 |
| Outdoor Cond             | litions Terr | perature 8             | 31.3                             | Relative Hun | nidity 52       | Ambie                     | nt CO2 | 432          |
|                          | Temperature  | Range Rela             | tive Humidity                    | Range        | CO2             | Ran                       | ge     | # Occupants  |
| Site & 136               | 7            | 2 - 78                 |                                  | 30% - 60%    |                 | < 1,000                   | ) PPM  |              |
| Noticeable Oc            | dor No       |                        | /isible water<br>hage / staining |              | microbial owth? | Amount of mat<br>affected | terial |              |
| Ceiling Type             | 2x4 Lay I    | n                      | No                               |              | No              |                           | None   |              |
| Wall Type                | Drywall      |                        | No                               |              | No              |                           | None   |              |
| Flooring                 | Tile         |                        | No                               |              | No              |                           | None   |              |
|                          | Clean        | Minor Dust<br>/ Debris | Needs<br>Cleaning                |              | Corre           | ective Action Re          | quired |              |
| Ceiling                  |              |                        |                                  |              |                 |                           |        |              |
| Walls                    |              |                        |                                  |              |                 |                           |        |              |
| Flooring                 |              |                        |                                  |              |                 |                           |        |              |
| HVAC Supply              | Grills       |                        |                                  |              |                 |                           |        |              |
| HVAC Return              | Grills       |                        |                                  |              |                 |                           |        |              |
| Ceiling at Sup<br>Grills | oply         |                        |                                  |              |                 |                           |        |              |
| Surfaces in R            | oom          |                        |                                  |              |                 |                           |        |              |

### Findings:

- Roof leaks when it rains corridor 001, 002, and 003 and FISH 136
- Stained ceiling tiles in corridor 001, 002, and 003 and FISH 136
- Building is extremely humid when the humidity is escalated outside
- Broken PVC piping to HVAC drain pan on roof

### 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 Division:

- Check for roof leaks and repair/replace ceiling, tiles etc. as appropriate
- Evaluate and repair HVAC system in order to lower the humidity level
- Evaluate PVC piping on roof and repair as appropriate

|                             |                 |                        | IAQ As                           | sessment     |                      |                           |           |              |
|-----------------------------|-----------------|------------------------|----------------------------------|--------------|----------------------|---------------------------|-----------|--------------|
|                             |                 | Title I S              | School                           |              | Evaluat              | ion Requested             | Decei     | mber 2, 2004 |
| Time of Day                 | 10:15 am        |                        |                                  |              | I                    | Evaluation Date           | Decei     | mber 3, 2004 |
| Outdoor Conditior           | ns Tem          | perature               | 81.3                             | Relative Hur | nidity 52            | Ambie                     | nt CO2    | 432          |
|                             | perature R      | ange Rela              | ative Humidity                   | Range        | CO2                  | Ran                       | ge        | # Occupants  |
| 149 & 149A                  | 74.6 <b>7</b> 2 | 2 - 78                 | 42                               | 30% - 60%    | 938                  | < 1,000                   | PPM       | 2            |
| Noticeable Odor             | No              |                        | Visible water<br>nage / staining |              | e microbial<br>owth? | Amount of mat<br>affected |           |              |
| Ceiling Type                | 2x4 Lay Ir      | ١                      | Yes                              |              | No                   | One stai                  | ned ceili | ng tile      |
| Wall Type                   | Tackable        |                        | No                               |              | No                   |                           | None      |              |
| Flooring                    | Carpet          |                        | No                               |              | No                   |                           | None      |              |
|                             | Clean           | Minor Dust<br>/ Debris | Needs<br>Cleaning                | l            | Corre                | ctive Action Re           | quired    |              |
| Ceiling                     | Νο              | No                     | Yes                              |              | One                  | Stained Ceiling           | Tile      |              |
| Walls                       | Yes             | No                     | No                               |              |                      |                           |           |              |
| Flooring                    | Yes             | No                     | No                               |              |                      |                           |           |              |
| HVAC Supply Gri             | lls Yes         | No                     | No                               |              |                      |                           |           |              |
| HVAC Return Gril            | ls Yes          | No                     | No                               |              |                      |                           |           |              |
| Ceiling at Supply<br>Grills | Yes             | Νο                     | No                               |              |                      |                           |           |              |
| Surfaces in Room            | Yes             | Νο                     | No                               |              |                      |                           |           |              |

Findings:

- One stained ceiling tile

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 Division:

- Check for roof leaks and repair/replace ceiling tiles, etc. as appropriate

|                         |             |                      | IAQ As                             | sessment     |                 |                          |         |              |
|-------------------------|-------------|----------------------|------------------------------------|--------------|-----------------|--------------------------|---------|--------------|
|                         |             | Title                | I School                           |              | Evalu           | ation Requested          | Dece    | mber 2, 2004 |
| Time of Day             | 2:20 pm     |                      |                                    |              |                 | Evaluation Date          | Dece    | mber 2, 2004 |
| Outdoor Cond            | litions Te  | emperature           | 81.3                               | Relative Hun | nidity 5        | 2 Ambie                  | nt CO2  | 432          |
| Fish                    | Temperature | Range F              | Relative Humidity                  | Range        | CO2             | Ran                      | ge      | # Occupants  |
| Site                    |             | 72 - 78              |                                    | 30% - 60%    |                 | < 1,000                  | ) PPM   |              |
| Noticeable O            | dor No      |                      | Visible water<br>damage / staining |              | microbial owth? | Amount of ma<br>affected | terial  |              |
| Ceiling Type            |             |                      |                                    |              |                 |                          |         |              |
| Wall Type               |             |                      |                                    |              |                 |                          |         |              |
| Flooring                |             |                      |                                    |              |                 |                          |         |              |
|                         | Clean       | Minor Du<br>/ Debris |                                    |              | Corr            | rective Action Re        | equired |              |
| Ceiling                 |             |                      |                                    |              |                 |                          |         |              |
| Walls                   |             |                      |                                    |              |                 |                          |         |              |
| Flooring                |             |                      |                                    |              |                 |                          |         |              |
| HVAC Supply             | / Grills    |                      |                                    |              |                 |                          |         |              |
| HVAC Return             | Grills      |                      |                                    |              |                 |                          |         |              |
| Ceiling at Su<br>Grills | pply        |                      |                                    |              |                 |                          |         |              |
| Surfaces in R           | oom         |                      |                                    |              |                 |                          |         |              |

Findings: - Dust and debris in duct work throughout entire facility

Physical Plant Operations Division: - Evaluate and clean duct work throughout entire facility