

# RISK MANAGEMENT...

*managing risk with responsibility*

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Risk Management Department

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July 25, 2005

TO: Mr. David Olafson, Principal  
**Plantation Middle School**

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

SUBJECT: Indoor Air Quality (IAQ) Assessment  
FISH 150, 152G, 160, 201

On July 21, 2005 the IAQ Assessment Team conducted an assessment of FISH 150, 152G, 160 and 201 at **Plantation Middle School**. 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 754-321-3200.

cc: Dr. Verda Farrow, Area Superintendent  
David Goldstein, Area Director  
Jeffrey S. Moquin, Director, Risk Management  
Wayne Thrasher, Project Manager II, Facilities and Construction Management  
Gary Itzkowitz, 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

Plantation Middle School

Evaluation Requested

Time of Day

Evaluation Date

Outdoor Conditions      Temperature       Relative Humidity       Ambient CO2

|  |  |                                      |                                   |  |                                  |   |                                      |
|--|--|--------------------------------------|-----------------------------------|--|----------------------------------|---|--------------------------------------|
| Fish                                       | Temperature                              | Range                                | Relative Humidity                 | Range                                  | CO2                              | Range   | # Occupants                          |
| <input type="text" value="150 &amp; 160"/> | <input type="text" value="70.3"/>        | <input type="text" value="72 - 78"/> | <input type="text" value="58.8"/> | <input type="text" value="30% - 60%"/> | <input type="text" value="684"/> | <input type="text" value="Max 700 &gt; Ambient"/> | <input type="text" value="6"/>       |
| Noticeable Odor                            | <input type="text" value="No"/>          |                                      | Visible water damage / staining?  |  | Visible microbial growth?        |   | Amount of material affected          |
| Ceiling Type                               | <input type="text" value="Plaster"/>     |                                      | <input type="text" value="Yes"/>  |  | <input type="text" value="No"/>  |   | <input type="text" value="Various"/> |
| Wall Type                                  | <input type="text" value="Plaster"/>     |                                      | <input type="text" value="Yes"/>  |  | <input type="text" value="No"/>  |   | <input type="text" value="Various"/> |
| Flooring                                   | <input type="text" value="Tile/Carpet"/> |                                      | <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="No"/> | <input type="text" value="No"/>  | <input type="text" value="Yes"/> | <input type="text" value="150A and 160 stained ceiling"/>    |
| Walls                    | <input type="text" value="No"/> | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean as appropriate"/>            |
| Flooring                 | <input type="text" value="No"/> | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean and sanitize carpets"/>      |
| HVAC Supply Grills       | <input type="text" value="No"/> | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean with Wexcide disinfectant"/> |
| HVAC Return Grills       | <input type="text" value="No"/> | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean with Wexcide disinfectant"/> |
| Ceiling at Supply Grills | <input type="text" value="No"/> | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean with Wexcide disinfectant"/> |
| Surfaces in Room         | <input type="text" value="No"/> | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean as appropriate"/>            |

## Observations

### Findings:

- Stained ceiling in FISH 150A and 160
- Staining on walls throughout all adjacent rooms
- Dust and debris on HVAC supply and return grills
- Dust and debris on carpet throughout all adjacent rooms - FISH 150C has odor

### Recommendations:

#### Site Based Maintenance:

- Clean and/or repaint ceiling in 150A and 160
- Clean walls throughout all adjacent rooms with Wexcide disinfectant solution
- Clean HVAC supply and return grills with Wexcide disinfectant solution
- Clean and sanitize carpet throughout all adjacent rooms
- Continue to monitor this location for any signs of microbial growth as well as dust and debris accumulation and clean as appropriate

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|                                   |   |                                      |                                   |  |                                  |   |                                      |
|-----------------------------------|---|--------------------------------------|-----------------------------------|--|----------------------------------|---|--------------------------------------|
| Fish                              | Temperature                               | Range                                | Relative Humidity                 | Range                                  | CO2                              | Range   | # Occupants                          |
| <input type="text" value="152G"/> | <input type="text" value="67.9"/>         | <input type="text" value="72 - 78"/> | <input type="text" value="47.3"/> | <input type="text" value="30% - 60%"/> | <input type="text" value="706"/> | <input type="text" value="Max 700 &gt; Ambient"/> | <input type="text"/>                 |
| Noticeable Odor                   | <input type="text" value="No"/>           |                                      | Visible water damage / staining?  |  | Visible microbial growth?        |   | Amount of material affected          |
| Ceiling Type                      | <input type="text" value="2 x 4 Lay in"/> |                                      | <input type="text" value="Yes"/>  |  | <input type="text" value="No"/>  |   | <input type="text" value="Various"/> |
| Wall Type                         | <input type="text" value="Plaster"/>      |                                      | <input type="text" value="Yes"/>  |  | <input type="text" value="No"/>  |   | <input type="text" value="Various"/> |
| Flooring                          | <input type="text" value="Tile/Carpet"/>  |                                      | <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="No"/>  | <input type="text" value="No"/>  | <input type="text" value="Yes"/> | <input type="text" value="Stained ceiling tiles"/>           |
| Walls                    | <input type="text" value="No"/>  | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean as appropriate"/>            |
| 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="No"/>  | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean with Wexcide disinfectant"/> |
| HVAC Return Grills       | <input type="text" value="No"/>  | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean with Wexcide disinfectant"/> |
| Ceiling at Supply Grills | <input type="text" value="No"/>  | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean with Wexcide disinfectant"/> |
| Surfaces in Room         | <input type="text" value="No"/>  | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean as appropriate"/>            |

## Observations

### Findings:

- Temperature is low
- Stained ceiling tiles
- Visible microbial growth on wall. Previously cleaned and keeps coming back.
- Dust and debris on HVAC supply and return grills

### Recommendations:

#### Site Based Maintenance:

- Adjust thermostat to increase temperature
- Replace stained ceiling tiles
- Clean HVAC supply and return grills with Wexcide disinfectant solution
- 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 cause of microbial growth on wall and repair and seal/paint as appropriate

# IAQ Assessment

Plantation Middle School

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Outdoor Conditions      Temperature       Relative Humidity       Ambient CO2

|                                  |   |                                      |                                   |  |                                  |   |                      |
|----------------------------------|---|--------------------------------------|-----------------------------------|--|----------------------------------|---|----------------------|
| Fish                             | Temperature                               | Range                                | Relative Humidity                 | Range                                  | CO2                              | Range   | # Occupants          |
| <input type="text" value="201"/> | <input type="text" value="70.6"/>         | <input type="text" value="72 - 78"/> | <input type="text" value="58.5"/> | <input type="text" value="30% - 60%"/> | <input type="text" value="567"/> | <input type="text" value="Max 700 &gt; Ambient"/> | <input type="text"/> |
| Noticeable Odor                  |   | Visible water damage / staining?     |                                   | Visible microbial growth?              |                                  | Amount of material affected                       |                      |
| <input type="text" value="No"/>  |   | <input type="text" value="Yes"/>     |                                   | <input type="text" value="No"/>        |                                  | <input type="text" value="Various"/>              |                      |
| Ceiling Type                     | <input type="text" value="2 x 4 Lay in"/> |                                      | <input type="text" value="Yes"/>  | <input type="text" value="No"/>        |                                  | <input type="text" value="Various"/>              |                      |
| Wall Type                        | <input type="text" value="Plaster"/>      |                                      | <input type="text" value="Yes"/>  | <input type="text" value="No"/>        |                                  | <input type="text" value="Various"/>              |                      |
| Flooring                         | <input type="text" value="Tile/Carpet"/>  |                                      | <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="No"/>  | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean as appropriate"/>            |
| 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="No"/>  | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean with Wexcide disinfectant"/> |
| HVAC Return Grills       | <input type="text" value="No"/>  | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean with Wexcide disinfectant"/> |
| Ceiling at Supply Grills | <input type="text" value="No"/>  | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean with Wexcide disinfectant"/> |
| Surfaces in Room         | <input type="text" value="No"/>  | <input type="text" value="Yes"/> | <input type="text" value="Yes"/> | <input type="text" value="Clean as appropriate"/>            |

**Observations**

**Findings:**

- Ceiling tiles are bowed and trim at ceiling is rusted
- Visible microbial growth on wall next to elevator. Previously cleaned and keeps coming back.
- Dust and debris on HVAC supply and return grills

**Recommendations:**

**Site Based Maintenance:**

- Clean HVAC supply and return grills with Wexcide disinfectant solution
- 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 bowed ceiling tiles and rusted trim at ceiling and repair/replace as appropriate
- Evaluate cause of microbial growth at wall next to elevator and repair as appropriate