



September 17, 2018
File No. 5171-06-01

Mr. James Bedard, Director of Environmental Management and Capital Projects
Worcester Public Schools
20 Irving Street
Worcester, MA 01609, MA 02035

RE: September 2018 - PCB BMP Quarterly Status Report
Doherty Memorial High School

In accordance with the Worcester Public School's (WPS) request, O'Reilly Talbot & Okun Associates, Inc. (OTO) is pleased to present this quarterly independent status report of the Best Management Practices (BMPs) implemented at the Doherty Memorial High School (Doherty). The objective of the BMP program is to reduce potential exposures to polychlorinated biphenyls (PCBs). WPS and its staff are responsible for implementing the BMPs, and OTO conducts quarterly evaluations to provide WPS management with an independent assessment of the effectiveness of their implementation.

As you know, certain building materials used in the construction and renovation of school buildings during the period between 1950 and 1980 may contain PCBs. The US Environmental Protection Agency (USEPA) has recommended that a BMP program be implemented in schools either built or renovated during this period. Doherty was constructed during this period.

Note that WPS also requested OTO to conduct annual indoor air monitoring for PCBs at Doherty. The reports of this air testing have been provided separately from the BMP reports, although we note that the results were well below USEPA guidelines for PCB concentrations in school air for each of the two sampling rounds completed to date.

Best Management Practices (BMPs)

In its July 28, 2015 guidance for school administrators and other building owners and managers titled "Practical Actions for Reducing Exposure to PCBs in Schools and Other Buildings," the USEPA described potentially useful BMPs, including:

1. Ensuring that ventilation systems are operating properly and are regularly inspected and maintained according to system manufacturer instructions and guidelines or ANSI/ASHRAE/ACCA Standard 180-2012—Standard Practice for Inspection and Maintenance of Commercial Building HVAC Systems. If system cleaning is needed, follow ANSI/ACCA Standard 6—Restoring the Cleanliness of HVAC Systems (2007);
2. Cleaning inside schools and other buildings frequently to reduce dust and residue;
3. Using a wet or damp cloth or mop to clean surfaces;
4. Using vacuum cleaners with high efficiency particulate air (HEPA) filters;

5. Not sweeping with dry brooms or using dry cloth wipes for dusting;
6. Washing hands with soap and water, particularly before eating; and
7. Washing children's toys.

OTO's assessment of BMP effectiveness focuses on items 1 through 5 on this list. For item 6 all school lavatories are equipped with soap and water. Item 7 is not relevant to a high school environment.

Assessment of BMPs at Doherty Memorial High School

We conducted our September 2018 BMP assessment at Doherty on September 11, 2018. We reviewed the operation of the HVAC/air handling equipment with school engineering staff. The system underwent a significant overhaul approximately one year ago and was operating properly at the time of the BMP assessment. We note that many classrooms have had their windows open during classroom hours due to the unseasonably warm weather in recent weeks.

OTO observed forty rooms or other spaces selected at random during the assessment at Doherty, or roughly 40% of rooms within the school. Our observations of these rooms focused on the presence of dust on windows, window sill and window frames and the Univent systems that provide heating and ventilation to the classrooms. The rooms we observed included:

- Library,
- Faculty break rooms;
- Administrative offices;
- Selected classrooms, and
- Hallway areas.

Our general observations are summarized on Table 1 (attached); representative photographs are attached. We discussed cleaning procedures with school staff emphasizing the importance of consistency with the BMPs. We were assured that the BMP recommendations were routinely followed in the school.

Based on our discussions and observations, it is our conclusion that the implementation of the BMPs at Doherty is very effective. The Univents were free of significant dust and visible oil leakage. Several rooms, mostly in the wood shop area, exhibited some accumulated dust, but this appeared to be recently generated sawdust. Several rooms exhibited dust that appeared to be mostly pollen, apparently due to open windows. The observed windowsills and blinds exhibited little dust. The storage of educational materials on windowsills and air vents, which was observed in previous visits, has virtually ceased.

Other USEPA Recommendation for Suspected PCBs in Schools

Although not technically BMPs, USEPA made three other recommendations in its July 28, 2015 guidance for PCBs in schools:

- Remove all PCB containing fluorescent light ballasts (FLBs);
- Give consideration to encapsulating suspected PCB containing materials (such as caulk) to further reduce the potential for PCB exposure; and
- Removing suspect PCB containing building materials during planned renovations and repairs.

As you know, WPS removed all suspect PCB containing FLBs in 2012. There are no suspected PCB FLBs remaining in the Worcester school system.

Also in 2012, WPS encapsulated the suspect PCB containing caulk around the windows at Doherty with an additional thick layer of non-PCB caulk. We observed this over-caulking in each room we visited and found that it was intact and in good condition. This over-caulking is repaired on an as-needed basis to maintain its condition.

Exterior suspect caulking was likewise covered with new caulk to a height of eight feet above grade. Only limited areas of uncoated caulk are present on the exterior, primarily where the metal window units meet the brick facing. No significant deterioration of the uncovered caulking at the tops of window units was observed.


Finally, it should be noted that Doherty has been accepted into a state sponsored school building financing program. Plans are now moving forward for the replacement of the Doherty High School structure in approximately 5 years. When Doherty is replaced, the suspect PCB containing materials will be removed and disposed of in accordance with USEPA requirements.

Conclusions and Recommendations


In conclusion, it is our opinion that the BMPs are being implemented in a highly effective manner at Doherty Memorial High School. We recommend that the next quarterly on-site visit be conducted in December, 2018.

Should you have questions or require additional information, please contact the undersigned.

Very truly yours,
O'Reilly, Talbot & Okun Associates, Inc.



Thomas B. Speight, CHMM
Project Manager



James D. Okun, LSP
Principal

Attachments

Table 1 – Summary of Observations for Doherty Memorial High School
Selected photographs from Doherty High School

Table 1 - Summary of BMP Observations
Doherty Memorial High School
299 Highland Street
Worcester, MA 01602
September 11, 2018

Room	Condition of Caulk	Condition of Univents	Dust Accumulation
202	VG	VG	VG
203A	VG	VG	VG
204	VG	VG	VG
Library	VG	VG	VG
205	VG	VG	VG
206 (Computer Lab)	VG	VG	Some
207	VG	VG	Some
208	VG	VG	Some, likely pollen
209	VG	VG	VG
210	Damaged	VG	VG
211	VG	VG	Some, likely pollen
214	VG	VG	VG
300	Obstructed	Obstructed	Obstructed
301	VG	VG	VG
304	VG	VG	VG
304B	VG	VG	Some
312	VG	VG	VG
314	VG	VG	VG
316	VG	VG	VG
318	VG	VG	VG
320	VG	VG	Partly obstructed, some dust
322	VG	VG	Numerous plants on windowsill
324	VG	VG	VG
326	VG	VG	VG
402	VG	VG	VG
403	VG	VG	VG
404	VG	VG	VG
405	VG	VG	VG
407	VG	VG	VG
408	VG	VG	VG
409	VG	VG	Some, likely pollen
410	VG	VG	VG
411	VG	VG	Some, likely pollen
412	VG	VG	VG
413	VG	VG	Some, likely pollen
416	VG	VG	VG
Gymnasium hallway	VG	VG	VG
Stairwell at east end of 400s wing	VG	VG	VG
Exterior of Doors by Office	VG	NA	NA
Exterior of Doors by Cafeteria	VG	NA	NA

CATEGORIZATION

Dust

Very good = minimal dust or debris

Some = enough dust to leave a residue on a gloved finger

Moderate = visible accumulations of dust

Significant = thick layer of dust

Site Photographs



Photograph 1: Typical windowsill, Room 202



Photograph 2: Typical windowsill, Room 206

Site Photographs



Photograph 3: Plants on windowsill, Room 322



Photograph 4: Damaged caulk, Room 210

Site Photographs



Photograph 5: Windowsill, Room 416



Photograph 6: Area of formerly disturbed caulk on ground floor north face of 400s wing.