

August 29, 2019
File No. 5174-01-06

Worcester Public Schools
20 Irving Street
Worcester, MA 01609, MA 02035

Attn.: Mr. James Bedard,
Director of Environmental Management and Capital Projects

RE: August 2019 - PCB BMP Quarterly Status Report
Doherty Memorial High School

Dear Jim,

In accordance with the Worcester Public School's (WPS) authorization, O'Reilly Talbot & Okun Associates, Inc. (OTO) is pleased to present this quarterly 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 independent evaluations to provide WPS management with an assessment of the effectiveness of their implementation.

Certain building materials used in the construction and renovation of buildings between 1950 and 1980 may contain PCBs. The US Environmental Protection Agency (USEPA) has recommended that a BMP program be implemented in schools and other buildings either constructed or renovated during this period. Doherty Memorial High School was constructed during this period.

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 high school environments.

Assessment of BMPs at Doherty Memorial High School

We conducted the Summer 2019 BMP assessment at Doherty on August 12, 2019 with representatives from the School facilities department. We reviewed the operation of the HVAC/air handling equipment with school facilities staff. The system underwent a significant overhaul in 2017 and was operating properly at the time of the BMP assessment.

OTO observed thirty (30) classrooms or other spaces selected at random during the assessment; this is roughly 25% of rooms within the school. Our observations focused on the presence of dust on windows, window sills and window frames as well as the univent systems that provide heating and ventilation to the classrooms. Pollen residues were observed on several windowsills. Some windowsills were obstructed with book storage, art displays or other materials.

The school spaces we observed included:

- Library,
- Cafeteria
- Administrative offices;
- Selected classrooms, and
- Hallway areas.

Our general observations are summarized on Table 1 (attached). We conveyed to School facility personnel the areas observed to have small amounts of missing caulk which are to be repaired, and discussed cleaning procedures with facilities personnel 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 effective. The univents were free of significant dust and visible oil leakage. Several rooms exhibited slight accumulation of dust, most commonly where windowsills were obstructed by classroom materials. Because window and door caulking may contain PCBs, WPS has previously applied an additional layer of non-PCB caulk over the previously existing caulking. The exterior over-caulking was observed to be intact.

Note that WPS has also authorized 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 air monitoring results were well below USEPA guidelines for PCB concentrations in school air for each of the three sampling rounds completed to date.

Other USEPA Recommendations 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.

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 suspect PCB containing caulk around the windows and doors 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 as-needed 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. We observed this over-caulking at selected points on the building exterior and found that it was intact and in good condition. No significant deterioration of the uncovered caulking at the tops of window units was observed.

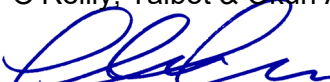
Finally, it should be noted that Doherty has been accepted into the state school building financing program. Plans are now moving forward for the replacement of the Doherty High School structure in approximately 5 years. When Doherty is replaced, the suspect PCB containing materials will be removed and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

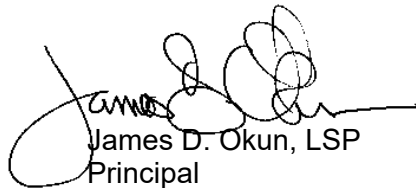
Conclusions and Recommendations

In conclusion, it is our opinion that the BMPs are being implemented in an effective manner at Doherty Memorial High School. We recommend that the next quarterly on-site visit be conducted in November, 2019, prior to the start of the school year.

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

Sincerely,
O'Reilly, Talbot & Okun Associates, Inc.


Christine Arruda, CIEC
Project Manager


James D. Okun, LSP
Principal

Attachments

Table 1 – Summary of Observations for Doherty Memorial High School

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Doherty Memorial High School
299 Highland Street
Worcester, MA 01602
August 12, 2019

Room	Condition of Caulk	Condition of Univents	Dust Accumulation	Comments
Guidance Office	VG	VG	VG	---
107	VG	VG	VG	---
Cafeteria	VG	VG	VG	---
Stairwell by Cafeteria	VG	VG	VG	---
Windows at west end of 200s hall	VG	VG	VG	---
214	VG	VG	VG	---
209	VG	VG	VG	Missing 2" piece of caulk
The Media Center/Library	VG	VG	VG	---
202/ Television Room	VG	VG	VG	Far left, 2nd pane from bottom, missing 2" piece of caulk
324	VG	VG	VG	Lower sill, caulk missing
300	VG	VG	VG	---
303B	VG	VG	VG	---
308	VG	VG	VG	---
326	VG	VG	VG	---
330	VG	VG	VG	Far left, lower caulk lifting off
332	VG	VG	VG	---
321C	VG	VG	VG	---
Windows at west end of 400s hall	VG	VG	VG	3" piece of caulk missing, some caulk lifting
425	VG	VG	VG	---
426	VG	VG	VG	---
419	VG	VG	VG	---
420	VG	VG	VG	2 windows far right, loose (held with tape over caulk)
416	VG	VG	VG	Far left, 2nd window to left, lower pane, bottom caulk removed
410	VG	VG	VG	---
408	VG	VG	VG	From left, 4th set of windows, small area caulk missing from middle pane left side
405	VG	VG	VG	---
403	VG	VG	VG	---
	VG	VG	VG	Some
426	VG	VG	VG	VG
428	VG	VG	VG	VG

CATEGORIZATION

Very good = minimal dust or debris

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

Moderate = visible accumulations of dust

Significant = thick layer of dust