O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

April 18, 2022
J5174-04-03

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

Attn.: Ms. Kristen Tran,
Environmental Health & Safety Coordinator

RE: PCB BMP Quarterly Status Report, 2021-2022 School Year
Third Quarter, February, 2022
Doherty High School

Dear Kristen,

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 High School (Doherty). This status report represents the third quarter of the 2021-2022 school year. The objective of the BMP program is to reduce potential exposure to polychlorinated biphenyls (PCBs).

Certain materials used in the construction and renovation of buildings between 1950 and 1980 may contain PCBs. Doherty High School was constructed during this period. 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.

WPS and its staff are responsible for implementing the BMPs at Doherty High School. OTO personnel are responsible for conducting quarterly independent evaluations to provide WPS management with an assessment of the effectiveness of the BMPs implementation.

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.

We understand that WPS has modeled its BMP program for Doherty High School on EPA's guidelines. OTO's assessment of BMP effectiveness focuses on items 1 through 5 on this list. Regarding item 6, all school lavatories are equipped with soap and water and it is the responsibility of students and staff to maintain personal cleanliness. Item 7 on the list is not relevant to high school environments.

Assessment of BMPs at Doherty High School

We conducted the third quarter, 2021-2022 school year BMP assessment at Doherty on February 24, 2022, accompanied by representatives from the District and School environmental and facilities department. The Heating, Ventilation, and Air-Conditioning (HVAC) system was operating properly at the time of the BMP assessment.

Because window and door caulking in the School may contain PCBs, WPS has previously applied a layer of non-PCB caulk over the previously existing caulking to reduce the potential for exposures. OTO observed twenty-seven (27) classrooms or other representative spaces in the school selected at random during the assessment. Our observations focused on the presence of dust on windows, windowsills, and window frames as well as the univent systems that provide heating and ventilation to the classrooms.

The school spaces we observed included:

- Main office,
- Cafeteria,
- Transition hallways and stairs,
- Media Center/Library, and
- Other Selected classrooms or learning areas

Our general observations are summarized on Table 1 (attached). During the assessment the majority of rooms/areas observed were rated as "Very Good" (minimal dust or debris), and some areas rated as "Little" or "Moderate". We observed multiple rooms with

deteriorating non-PCB caulk. Windows with deteriorating caulk were identified at the time to District and School facilities representatives and are documented in the attached Table.

Based on our discussions and observations, it is our conclusion that the implementation of the BMPs at Doherty is generally effective. The univents were generally free of significant dust and visible oil leakage. We recommend that areas observed with deteriorating caulk receive an application of non-PCB caulk sealant, and that areas noted to have moderate dust accumulation be cleaned in accordance with "Practical Actions for Reducing Exposure to PCBs in Schools and Other Buildings" guidance.

Note that WPS has also authorized OTO to conduct annual indoor air monitoring for PCBs at Doherty. The full air testing reports are provided separately from the BMP reports, although we note that the air monitoring results have been well below USEPA guidelines for PCB concentrations in school air for each of the 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.

In 2012 WPS also encapsulated the suspect PCB containing caulk around the windows and doors at Doherty with an additional thick layer of non-PCB caulk. Exterior suspect caulking was likewise covered with new caulk to a height of eight feet above grade. WPS subsequently over-caulked the remainder of the building's exterior door, window, and expansion joints in September and October 2018. This over-caulking is repaired as needed to maintain its condition.

Finally, it is noted that WPS has applied to the state sponsored school building financing program for help with the replacement of the Doherty High School building. Currently, it is anticipated that the new Doherty High School building will open in 2024. Subsequent to the opening of the new School, the suspect PCB containing materials in the former Doherty High building 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 High School. We recommend that Facilities personnel visit the areas where caulk is deteriorating and install caulking where indicated. We also recommend that the next quarterly (Quarter 4 of the 2021-2022 School year) on-site visit be conducted June or July of 2022.

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

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

Alec Robinson,
Staff Scientist

Christine Arruda, CIEC
Senior Project Manager

Robert Kirchherr, CSP
Principal

Attachments Table 1 – Summary of Observations for Doherty High School

cc Mr. James Bedard,
Facilities Director

Table 1 - Summary of BMP Observations
Doherty Memorial High School
299 Highland Street
Worcester, MA 01602
February 24, 2022

Room	Condition of Caulk	Condition of Univents	Dust Accumulation	Comments
Main Office	VG	VG	VG	---
104	VG	VG	VG	---
101	VG	VG	L	---
107	VG	VG	VG	---
Cafeteria	VG	VG	L	---
100 to 200 Stairs (West)	VG	VG	VG	---
200 Hallway End Windows (By Stairs)	VG	VG	VG	Right window, bottom pane, bottom seam, 4" of caulk pulled almost off, caulk underneath still in place and 2" of caulk deteriorating
211	VG	VG	VG	---
209 (A & B)	VG	VG	L	---
205	VG	VG	VG	---
Media Center / Library	VG	VG	VG	---
204	VG	VG	L	---
202	VG	VG	L	---
Transition Hallway A	VG	VG	M	West side windows; 4th from the left, bottom pane, bottom seam deteriorating
312	VG	VG	L	Far right window, bottom pane, bottom seam deteriorating. 3rd window from right, middle pane, bottom seam deteriorating
306	VG	VG	VG	---
320	VG	VG	M	---
324	VG	VG	VG	White board blocking 2nd and 3rd windows from right
328	VG	VG	VG	Obstruction in 3rd window from left
Transition Hallway B	VG	VG	VG	East side windows; far right window, top pane, bottom seam deteriorating. 4th window from right, bottom pane blocked by wood. East side windows, 3rd window from left, blocked by wood
300 to 400 Stairs (Math Wing)	VG	VG	VG	---
426	VG	VG	VG	---
428	VG	VG	VG	---
423	VG	VG	VG	4th window from left, middle pane, duct tape over all seams
408	VG	VG	VG	---
404	VG	VG	VG	---
Gym Hallway	VG	VG	M	---

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