Fairfield Public Schools
Fairfield, CT 06825

TO: Dr. David Title and Members of the Board of Education

FROM: Salvatore Morabito

DATE: July 19, 2012

RE: Osborn Hill Window Replacement Project Testing
Additional PCB Testing **"Results"**

This letter is to notify you that the Fairfield Public School District has received the laboratory results for the additional Polychlorinated Biphenyl (PCB) testing conducted at Osborn Hill School on June 26, 27 and July 10, 2012. The additional testing was performed in several locations throughout the building in order to determine the extent of areas requiring additional specialized cleaning.

The results of these additional tests determined that specialized cleaning will be required in the gym, the gym corridor, the entry lobby, the upper grade corridor and several classrooms along the upper grade corridor. The specialized cleaning will include cleaning of HVAC ductwork in several locations.

The additional tests also determined that the spray-on fireproofing on the gym roof steel is the probable source of PCBs within the building. This fireproofing will be completely removed (abated). Once this source material is removed and specialized cleaning is performed in the affected areas within the building, it is expected that PCB levels will be lowered below the EPA recommended limits.

Our testing company (AMC Environmental) has notified both the CT DEEP and the EPA of its findings. We will be meeting with AMC shortly to discuss the results of the additional testing and the development of the self-implementing on-site cleaning and disposal plan. Once the plan is approved by the EPA the specialized cleaning and abatement will be scheduled.

If you have any questions or concerns regarding these PCB test results or the upcoming clean-up, please feel free to contact me at (203) 255-7363.

Thank you.

c: Bev Dyer
Central Office Administration
Sands Cleary

ENVIRONMENTAL, LLC

July 18, 2012

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Mr. Sal Morabito
Fairfield Public Schools
501 Kings Highway East
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RE: Osborne Hill School in Fairfield, CT

Dear Mr. Morabito:

On March 24, 2012 AMC Environmental was retained by the Town of Fairfield Board of Education to conduct a pre-renovation hazardous materials inspection at Osborne Hill School in Fairfield, CT. The purpose of the inspection was to properly identify and characterize potential environmental hazards that may be associated with an anticipated window replacement project. Included in this assessment were lead-based paint, asbestos, and PCB's. Interior and exterior window caulking and glazing was tested from each building era and window type. Materials were sorted into homogeneous groups. A preliminary inspection was conducted on March 22, 23, and 24, 2012. Preliminary data reports that PCB's do exist in both the caulking and glazing on the interior and exterior of the building. Concentrations greater than and less than 50 ppm were identified. The report was issued on April 25, 2012 and AMC stated that additional testing would be required. The table below lists the results of the PCB samples. See report dated April 25, 2012.

Sample Number	Component	Window Type	Location	Result in mg/Kg
March 24, 2012 Initial Bulk Samples				
3-24/PCB-01	Window Frame Caulk	2	Façade D – Exterior	ND
3-24/PCB-02	Window Frame Caulk	1	Façade C – Exterior	1.6
3-24/PCB-03	**Window Glazing Compound (original)**	**M**	**Façade B – Exterior**	**580**
3-24/PCB-04	Window Frame Caulk (original)	1	Façade C – Exterior	ND
3-24/PCB-05	**Window Frame Caulk**	**5**	**Façade C – Exterior**	**6900**
3-24/PCB-06	Window Glazing Compound (composite)	1	Rooms 1 & 5 – Interior	2.6
3-24/PCB-07	**Window Glazing Compound**	**M**	**Gym Hall – Interior**	**94**
3-24/PCB-08	Window Frame Caulk	1	Room 112 – Interior	9.6
3-24/PCB-09	Window Glazing Compound	1	Room 112 – Interior	4.4
3-24/PCB-10	**Window Glazing Compound**	**5**	**Room 116 – Interior**	**710**

May 4, 2012

Following the issue of the report to the board of education, AMC Environmental spoke with Kim Tisa from Region 1 EPA and verbally disclosed the preliminary results. The conversation transpired into the EPA providing guidance on this situation. EPA recommended that follow up air and wipe samples be obtained from the areas that documented the greatest hazard. AMC reviewed the results and concluded that the areas requiring the most attention were on the inside of the building in rooms 116 and in the hallway outside of the gym (see report dated June 12, 2012 for results and sampling locations). These two areas displayed the highest source PCB concentrations on the interior of the school. AMC obtained air (2) and wipe (4) samples in the two rooms on May 4, 2012. Results of the air sampling indicate that the sample taken from the hallway outside of the gym was over two times the recommended limit for airborne PCB concentrations in an elementary school. The wipe samples were obtained from the floor and window sills in both areas as well. The results of the wipe samples document three of the four to be unacceptable. Due to this elevated concentration, AMC recommended that an immediate cleaning response be implemented and follow up testing be performed. AMC developed a simple guidance document on how to properly clean the area using the appropriate work practices. The results to the air sampling and wipe report were issued to the board of education on June 12, 2012. The specialized cleaning document was issued on the 25th and a copy of it was sent to Kim Tisa as well.

Sample Number	Location	Results ug/m^3
	May 4, 2012 Air Samples	
PCB-Air-01	***Hallway Outside Gymnasium***	***0.72 ug/m^3***
PCB-Air-02	Inside Classroom 116	0.099 ug/m^3
	May 4, 2012 Wipe Samples	
PCB-Wipe-01	**Hall Outside Gymnasium – Floor**	**4.2 ug/wipe**
PCB-Wipe-02	**Hall Outside Gymnasium – Window Sill**	**4.2 ug/wipe**
PCB-Wipe-03	**Room 116 – Floor**	**1.7 ug/wipe**
PCB-Wipe-04	Room 116 – Window Sill	ND

AAIS Corporation was contracted to do the cleanup at Osborne Hill School on Friday May 25, 2012. No children were present during the clean-up efforts. AMC was onsite during the majority of cleaning, and again onsite the following morning. Air scrubbers were placed throughout the school as well as within the isolated work areas. The machines ran overnight for approximately 10-12 hours. The machines were shut down on Saturday May 26, 2012 and AMC proceeded with running several (8) air samples (680 Homolog) throughout the school. Additionally, PCB wipe samples (8082 method) were taken in the two areas (room 116 and hall outside gym) where previous samples had failed. The initial results following the cleanup efforts in some cases increased, which is often typical following such an event. The hallway outside the gym was resampled on June 2, 2012 to see if concentrations decreased. The result showed a significant decrease in airborne concentrations however hazards are still present and further action is required to consider the indoor environment acceptable. The report was issued to the Board of Education on June 7, 2012. The details of this sampling are listed in the table below.

Sample Number	Location	Results ng/m^3
	May 26, 2012 Air Samples	
PCB-Air-01	Boiler Room Hall	0.30 ug/m^3
PCB-Air-02	Inside Classroom 125	0.24 ug/m^3
PCB-Air-03	Inside Classroom 116	0.10 ug/m^3
PCB-Air-04	***Hall Outside Room 119***	***0.36 ug/m^3***
PCB-Air-05*	***Hall Outside Gymnasium***	***1.1 ug/m^3***
PCB-Air-06	***Hall Outside Cafeteria***	***0.41 ug/m^3***
PCB-Air-07	Inside Classroom 110	0.17 ug/m^3
PCB-Air-08	Hall Outside Room 104	0.20 ug/m^3
	June 2, 2012 Air Samples	
PCB-Air-01	***Hall Outside Gymnasium***	***0.34 ug/m^3***
	May 26, 2012 Wipe Samples	
PCB-Wipe-01	**Hall Outside Gymnasium – Floor**	**3.2 ug/wipe**
PCB-Wipe-02	**Hall Outside Gymnasium – Floor**	**4.3 ug/wipe**
PCB-Wipe-03	**Hall Outside Gymnasium – Window Sill**	**3.2 ug/wipe**
PCB-Wipe-04	Room 116 – Floor	0.23 ug/wipe
PCB-Wipe-05	Room 116 – Window Sill	0.74 ug/wipe

AMC and the board of education met on June 18, 2012 to discuss the next steps and options. The primary objective is to return the school back to acceptable levels and maintain those levels before school starts in the fall. The intentions are to re-clean the un-acceptable areas as well as apply interim controls to the windows. This would include encapsulating the caulking and glazing with a material such as Sika Guard 550W or 670 W elastocolor. (See report dated June 12, 2012)

June 26 and 27, 2012

With this concept in mind, AMC returned to Osborne Hill School on June 26 and 27, 2012 to collect additional air, wipe, and bulk samples within the facility in an attempt to fully grasp the parameters of the problems. In this assessment exhaust ducts, indoor air, and building materials other than window caulk and glazing were inspected and sampled. Areas of the school were isolated from one another by critical barriers and sealed doors. The building was separated by its mechanical exhaust systems and building dates and tested accordingly. Nineteen additional air samples were set up throughout the school in both classrooms and hallways. Wipe samples were obtained in the supply and return exhaust registers in all areas where previous air samples were elevated. During this assessment, areas and rooms not originally tested were included. The gymnasium and APR room were examples of this.

The results of the air testing document several areas of concerns within the school. The kindergarten wing (rooms 101-110) documented acceptable levels of PCB concentrations during all air tests performed thus far. The remaining hallways and rooms 113 thru 125 have all

documented some degree of unacceptable air levels. The most unique result was obtained from the gymnasium. Significantly high levels of air borne PCB concentrations were documented in this room. The high airborne levels within the gymnasium prompted AMC to begin assessing other possible sources of PCB containing materials.

PCB dust wipes were also obtained during this assessment inside exhaust supply and return registers in the areas where elevated air samples have been identified. The duct work is metal and it is insulated. The ductwork is an exhaust unit and helps circulate fresh air to the school. It is not for heating or cooling. The original heating system in the building was an oil fired boiler with radiant heat. The boilers have been replaced and are now gas fired. The results of the duct work wipe samples document PCB to be present over the 1 PPM threshold. The most unique sample was obtained from the main hallway outside of the gymnasium. The sample result documented 70 PPM was present within the supply duct. This is clearly a major contributing factor to the elevated air levels within the school. Settled dust over several years of renovations and repairs has accumulated within the ductwork. All ductwork will be required to be properly cleaned and decontaminated. The table below shows the results for the air and dust wipe samples obtained on June 26 and 27, 2012 (see report dated July 12, 2012).

Sample Number	Location	Results ng/m^3
June 26, 2012 Air Samples		
PCB-Air-01	Room 121	130 ng/m^3
PCB-Air-02	Room 119	220 ng/m^3
PCB-Air-03	Outside Room 120 in hall	290 ng/m^3
PCB-Air-04	Room 118	260 ng/m^3
PCB-Air-05	***Room 124***	***380 ng/m^3***
PCB-Air-06	***Outside Room 116 in hall***	***820 ng/m^3***
PCB-Air-07	***Room 125***	***460 ng/m^3***
PCB-Air-08	***Outside Room 113 in hall***	***1400 ng/m^3***
PCB-Air-09	Room 101	170 ng/m^3
PCB-Air-10	Outside Room 108 in hall	270 ng/m^3
PCB-Air-11	Room 109	150 ng/m^3
PCB-Air-12	Room 107	92 ng/m^3
PCB-Air-13	Room 103	140 ng/m^3
PCB-Air-14	Room 105	250 ng/m^3
PCB-Air-15	***Room 112***	***590 ng/m^3***
June 27, 2012		
PCB-Air-16	APR Room	180 ng/m^3
PCB-Air-17	***Gym***	***2900 ng/m^3***
PCB-Air-18	Library	260 ng/m^3
PCB-Air-19	***Front Entry Hall***	***420 ng/m^3***

June 27, 2012 Wipe Samples		
PCB-Wipe-01	**Room 120 Exhaust Return**	**4.7 ug/wipe**
PCB-Wipe-02	**Room 121 Exhaust Return**	**6.0 ug/wipe**
PCB-Wipe-03	**Hall outside Gym supply**	**70 ug/wipe**
PCB-Wipe-04	**Hall outside Gym Exhaust Return**	**2.24 ug/wipe**

July 10, 2012

On July 10, 2012 AMC returned to Osborne Hill School (OHS) to inspect the facility for other potential PCB sources that may be contributing to the elevated air and dust concentrations within the school. As it was explained to us by the BOE, all lighting and ballasts were removed and replaced in 1996. Despite this information, AMC verified this by inspecting several ballasts throughout the school. The result of the inspection confirmed that the lighting ballasts were in fact electronic. Proceeding with the inspection, AMC sampled source materials from the hallways and gymnasium that may also be a PCB containing material. Additionally, a single air sample was collected in the boiler room to rule out any potential sources of PCB containing material.

Spray on fireproofing insulation, wall paint, hardwood floor sealant, foam inside wall crash pads, cove base adhesives, and foam under the hardwood floors were sampled within the gym. Also, PCB wipe samples were collected from the supply and return registers from this room.

In the hallways, samples of skylight caulk, stone tile sealant, cove base adhesive, ceiling tile and window caulking from an interior partition wall was obtained. The building materials sampled will assist in identifying all potential sources of PCB's so that interim controls can be implemented. Once identified and controlled, the indoor environment can be returned to acceptable levels.

Sample Number	Location	Results ng/m^3
	July 10, 2012 Air Sample	
PCB-Air-01	Boiler Room	6.2 ng/m^3
	July 10, 2012 Wipe Samples	
PCB-Wipe-01	**Exhaust Supply**	**112 ug/wipe**
PCB-Wipe-02	**Exhaust Return**	**357 ug/wipe**

See **Appendix A** for analytical results and diagram.

The table below documents the findings of the additional bulk samples that were obtained.

Sample Number	Component and Location	Results mg/Kg
	July 10, 2012 Bulk Samples	
PCB-01	**Spray applied fireproofing – gymnasium**	**30,000 mg/Kg**
PCB-02	**Foam associated w/ crash pads – gymnasium**	**350 mg/Kg**

Sample Number	Component and Location	Results mg/Kg
July 10, 2012 - continued Bulk Samples		
PCB-03	**Foam under hardwood floors – gymnasium**	**170 mg/Kg**
PCB-04	**Hardwood floor sealant – gymnasium**	**3,300 mg/Kg**
PCB-05	**Acoustical panel insulation – gymnasium**	**350 mg/Kg**
PCB-06	**Vinyl cove base adhesive – gymnasium**	**130 mg/Kg**
PCB-07	**Wall paint – gymnasium**	**1,500 mg/Kg**
PCB-08	**Expansion caulk – gymnasium**	**350 mg/Kg**
PCB-09	**Stone tile sealant – hallway**	**900 mg/Kg**
PCB-10	**Paint on block wall – hallway**	**170 mg/Kg**
PCB-11	Ceiling tile – hallway	24 mg/Kg
PCB-12	**Caulk around skylight – hallway**	**78 mg/Kg**
PCB-13	**Interior window frame caulk – hallway**	**50 mg/Kg**
PCB-14	Vinyl cove base adhesive – hallway	36 mg/Kg

See **Appendix B** for analytical results and diagram.

Based on the results of the samples obtained on the July 10, 2012 inspection, several PCB sources other than window caulking and glazing were identified within the building.

The air sample that was obtained from the boiler room at the opening of the tunnels documented acceptable levels of PCBs in air.

The wipe samples collected in the gymnasium documented significantly elevated samples of PCB dust in the exhaust system within the gymnasium. The exhaust system tested in the gymnasium is limited to that room. The settled dust in the duct work clearly contributes to the elevated air concentrations found in this room and will require vigorous cleaning and decontamination under controlled conditions.

The bulk samples obtained within the gymnasium clearly identify the main source of PCB contamination within the room and possibly within other areas of the school as well. The spray applied fire proofing sampled from the ceiling in the gymnasium documented PCB concentrations at 30,000 ppm. This appears to be the main source of the problems within the school. Due to a roofing project that is currently in session, pieces of the ceiling (Rectum) have fallen to the ground. The fallen debris has contributed to elevated air and dust concentrations. The failed samples in the hallway outside of the gym collected from previous assessments are likely due from the spray-on fireproofing concentrations.

Additional bulk samples were collected from within the gymnasium and main hallways. All samples documented detectable amounts of PCB concentrations, many of which exceeded 50 ppm. AMC intends on returning to Osborne Hill School (OHS) to collect duplicate samples of some the materials to confirm that they are in fact PCB containing and not PCB contaminated. AMC will in some cases decontaminate a surface, such as the gym hardwood floor, and then collect a new sample. It is unclear if the debris from the spray-on did not contaminate the sample during the July 10, 2012 assessment.

Moving forward, AMC will meet with the Fairfield BOE and explain the findings of the sampling and work to develop a plan to clean up and abate the school. AMC will also seek guidance from the EPA and DEEP on this matter and discuss the next steps of this project. The goal is to develop a self-implementing onsite cleaning and disposal plan to remove the PCB containing materials within the gym, and clean all the duct work within the school. Efforts to return the indoor air of the school back to acceptable levels are of first priority. The window replacement project will be put on hold until the building is properly decontaminated.

Very truly yours,

Richard Onofrio
Environmental Consultant

Attachments