VOHS Consulting
Building A Healthy Workplace

January 30, 2020

To whom it may concern:

On January 29, 2020 I met with staff and parents of Parkview Elementary School during an open walkthrough tour and public meeting. At the end of the tour I introduced myself as Robin Van Driel, Principal of VanDriel OHS Consulting (VOHS). I have almost 20 years experience working in the environmental health and safety services industry. I have a Master of Science (MSc) focused in Occupational and Environmental Health from The University of British Columbia (UBC) and I am both a Canadian and American certified and registered occupational hygienist. I am a former WorkSafeBC occupational hygiene officer, where I held my most recent employment prior to starting VOHS. Mr. Ivan Cheung is one of our staff who attend Parkview Elementary during the indoor air quality (IAQ) investigations that our firm conducted. Mr. Cheung also completed the same MSc program at UBC as I did, but he also spent 5 years studying IAQ and moulds specifically.

At the meeting, I demonstrated three testing machines that were used to do numerous tests of the air quality in the school. I explained the machines were very sensitive in their readings and did a few demonstrations with those who were present. The type of equipment I had with me are the ones that provide air test results on the spot. In other words, there is no need to wait for lab results when using these devices. There were also other tests done during our investigation where the air was captured and sent to a laboratory for analysis. Both types of tests are used to get a good understanding for indoor air quality. The lab related tests we did was sent to an independent lab for analysis, with extra funds paid by the district to have the results expedited.

During our investigations, if at any point, we observed an issue that may pose a high risk of causing illness or injury we would have immediately informed the school district upon discovery. This was not necessary. Our written report included a recommendation that the findings be communicated to occupants. The reason we recommend this for staff, is due to their regulatory *right to know,* that all workers have. It was reported last night to all who were in attendance by Mr. Peter Jory, that our report was sent to the District's Occupational Health and Safety Committee for communication. Here is a summary of our the most recent findings and status that we shared:

- The level of chemicals found (Volatile Organic Compounds - VOCs) in the building were normal (readings matched products used when putting on the new roof).

- Carbon dioxide (CO_2) is a gas that gives us an indication of how effective ventilation is in a building. During one test, in room 18 of the school, the CO_2 level almost reached 1200 ppm for approximately 8 minutes. Target guideline range is to stay under 1,000 ppm on average, otherwise there is the potential to make a room feel "stuffy". To put this into perspective; at a level of 10,000 ppm the CO_2 will start to displace the oxygen we need. Mr. Trevor Bettcher and Mr. Glynn Warnica explained that through DDC and computer programming this has now been corrected.

- There are no devices that can immediately measure mould on site. They must be sent to a lab for microscopic evaluation. Apex and VOHS did two different types of tests for mould. One type can visually identify mould spores under a microscope immediately at the lab, where the other type requires the samples to incubate and grow for two weeks. The two tests go hand in hand.

- There are no regulations that specifically address mould. Standard practice is to compare indoor vs outdoor for quantity and variety of moulds found. Health effects are tricky because

what might bother one person may not bother another. If there was a problem, there would be a high concentration of different mould type found inside then what you would find outside. Not the case at Parkview. The type of mould inside (plant, wood and mushroom related) are the same as any found outside. Some moulds are considered allergens, but no allergenic moulds were found indoors that were different from the ones found outdoor.

- During our first investigation we did find higher concentration of moulds in the crawlspace. Recommendations were made that this should be dealt with. Operations reported to have cleaned the area and put in negative air pressure so any air from the crawl space does not vent into the school. The district indicated that the plan was to put a skim coat over the area but this may change to poly and sand, depending on insurance and further recommendations from professionals. The key is to keep the crawlspace dry so that mould does not have an environment to grow in.

I concluded the conversation by saying that the air quality findings at Parkview Elementary School are typical of school environments and no different than an average school. When questioned if I would send my children to the school, I said yes, as the air quality here was found to be typical of other schools.

Thank you to all who attended yesterday for your time and willingness to learn about our investigation process. I appreciated all your thoughtful questions and encourage you to continue supporting the school in its efforts to maintain it and keep it clean and safe for your children and students.

Wish you all the best, sincerely yours

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