

January 22, 2007

Mr. Joseph T. Martella II
Senior Engineer
Rhode Island Department of Environmental Management
Office of Waste Management
235 Promenade Street
Providence, Rhode Island 02908-5025

Re: Community Response to City and E.A. Engineering Proposal for Testing Indoor Air at the Adelaide Avenue High School

Dear Mr. Martella:

After meeting with you and the Rhode Island Department of Environmental Management (RIDEM) Deputy Chief Counsel Brian Wagner Esq. on the afternoon of Friday January 5, 2007, we thought it best to memorialize the more salient points of our discussion. Although we reviewed a number of outstanding issues still pending at the Textron/Gorham Hazardous Waste Site, (Site) located on Adelaide Avenue, this document will address the ongoing concerns relevant to the Volatization of VOCs on both Parcels A and B.

The city of Providence, (City) the owner of record and a responsible party for both parcels; has retained E. A. Engineering as their representative and environmental consultant. To date, it appears that E.A. Engineering is responsible for designing the Vapor Intrusion Mitigation System, (VIMS), being installed at the sixty thousand (60,000) square foot Adelaide Avenue High School, (School) which is near completion on **Parcel B** of the Site. It is unclear from the information contained in the miscellaneous documents submitted by E.A. Engineering to the RIDEM whether they will perform the long term monitoring of the abovementioned system, or simply the start-up.

Since the Stop & Shop Corp. abandoned their facility on **Parcel A** last October, neither the City nor any of it's representatives have come forward to inform our community as to the disposition of the property or the status of the contamination known to be present. The original remediation plan submitted by Textron in 2001 has continued to fail in its purpose on all fronts. Including, but not limited to the integrity of the asphalt cap (680 car parking lot) installed in 2002. The City and Textron continue to implicate **Parcel A** for all of the Tetrachloroethylene (PCE) and Trichloroethylene (TCE) vapor issues impacting **Parcel B** and the High School. To date, five years after

implementing Textron's remediation plan, nothing has diminished the source of the PCE plume found on **Parcel A**. The quarterly groundwater testing results (*which both Textron, and Tom Deller, Executive Director of the PRA have been copied for five years*) has revealed a three-fold increase in the levels of PCE contamination. In fact, test results now indicate that the source area of the PCE is most likely a Dense Non Aqueous Phase Liquid (DNAPL). This simply means that there may be a pool of solvent located below the water table. Nothing will improve until this DNAPL is eradicated. Textron's inability to eliminate this pervasive and carcinogenic source of contamination is a result of half measures and their unwillingness to make the necessary investment. The vapor intrusion conditions at the High School would not exist today had the City, and specifically the Providence Redevelopment Agency (PRA) not allowed Textron to craft such a diluted remediation plan as part of the side agreement made between them in 1993. The questionable actions and dubious agreements between the City, the developers, and Textron pertaining to the Gorham/Textron Manufacturing Company property; has left the community with little confidence that the City or the PRA has the ability to resolve these outstanding issues impacting our neighborhoods and all of South Providence.

The bulleted items below highlight those questions and concerns, which the community has compiled for your review. As a direct result of the City's and Textron's 1993 agreement; essentially hijacking the process of characterizing the site, and listing this property as less contaminated than we now understand it to be; thus excluding the involvement and oversight of the Environmental Protection Agency (EPA) we are unable to qualify for any technical assistance grants or funding typically made available to hire our own experts. We therefore rely on our own limited knowledge, education, and resources in an attempt to respond to these complex and frequently overwhelming issues impacting our community, and especially our children. Please consider this limitation as you evaluate the validity and depth of our comments as a concerned and legitimate Stakeholder in this Site.

- Nowhere in the City's plans for the new High School on Adelaide Avenue is there mention of actual Site remediation. The Vapor Intrusion Mitigation System designed to hopefully keep the interior air of the school safe, is not a solution to the long-term problem. Once direct exposures have been mitigated, focus should be placed on cleaning up the source of vapor intrusion; i.e. soil and groundwater contamination as quickly and aggressively as possible. The City and the RIDEM should view mitigation as a short-term solution and your mutual stated intention should be to ensure that steps are taken to remediate the soil and groundwater. The community strongly supports the elimination of the source of hazardous vapors. Additionally, the long-term costs of operating and maintaining such a system easily offset the expense of actual site remediation.
- Our understanding is that the RIDEM has promulgated their generic soil and groundwater cleanup standards pursuant to the Connecticut Department of Environmental Protection's (CTDEP) vapor Volatization criteria. Connecticut's most recent standards for groundwater are: PCE- **150 ug/L**, TCE-**27 ug/L**, and

Vinyl Chloride (VC)- **1.6 ug/L**. Are these the cleanup values for the High School, and if so has the City or Textron complied?

- As the responsible party and performing party, the City is expected to implement the RAWP for Parcel B and the High School. Construction, installation, maintenance and continuous operation of a sub-slab ventilation (SSV) system designed to extract soil vapor from under the building will be monitored by the City and or its agents. The information, instruction, maintenance, and schedule of monitoring events for this system have not been consolidated into some form of operations manual, with all relevant data located in one document. The community has repeatedly requested the delivery of such a document from the City, but to date they have refused to provide one. If it exists, please have them produce it. If it does not exist, then the community is requesting that one be developed, so the community, parents of the children attending the High School, and any one else interested in reviewing the protocol for testing both the interior air and the sub-slab of the high school for the presence of methane or Volatile Organic Compounds (VOCs) can do so.
- In the City's RAWP Implementation Status Letter No. 2 for the High School, dated the 13th of December 2006, there is a section called **Proposed Sub-Slab and Indoor Air Sampling Locations**. In the first paragraph it states, "three representative sub-slab vapor samples and three representative indoor air samples are required prior to sub-slab venting system start-up, after system start-up but prior to building occupancy, and quarterly thereafter". This testing protocol appears to be completely contrary to what was established in the **Order of Approval**, dated June 9, 2006 and addressed to Alan Sepe, Acting Director, and the Department of Public Properties. It is our understanding that the Order of Approval issued by the RIDEM is a permanent compliance order and is recorded in the land evidence records of the City of Providence as required by law. **Item 6,e- (iv)** on page four of the **Order of Approval** stipulates, "The schedule for periodic compliance monitoring shall be weekly from system start-up through the first quarter of operation, followed by monthly provided that there are no exceedence of the applicable remedial Action Levels". Clearly the City needs to modify the frequency of their testing. This is but one example of why we believe a universal operations and testing manual needs to be developed by the City and made available to all stakeholders. Given Mr. Sepe's documented inability to manage and maintain other Providence Schools built on hazardous waste sites, the community needs to know that there is additional oversight and transparency protecting our children from the basic neglect and disrespect Mr. Sepe seems capable of.
- In the abovementioned Letter, continuing with the section called **Proposed Sub-Slab and Indoor Air Sampling Locations**; the City proposes to collect sub-slab vapor samples from monitoring points MP-2, MP-5, and MP-8. It is suggested that these three monitoring locations provide representative coverage of the sub-slab region. We strongly disagree with this assertion, and

believe additional sub-slab monitoring points need to be located within the interior of the "footprint" of the school building. The existing eight monitoring points are located on the perimeter of the slab, and penetrate less than ten (10) feet horizontally into the shallow region below the slab. How can this extremely limited "snapshot" of the outer edge of the building be representative of the sub-slab area? It has also been well documented that there is a wind effect at the perimeter of slab foundations that can frequently influence the outcome of testing results from within the region below the slab. This type of testing at the footing elevation can underestimate concentrations. Additionally 50% of the monitoring points are downgradient of the suction pits (designed to collect vapors from the sub-slab region) and the potential VOC source. They cannot accurately record any buildup or concentration of vapors as they are drawn towards the school. We are requesting the installation of six sub-slab vapor probes within the interior area of the school's floor surface. Enclosed is a general schematic for the installation of the probes.

- In paragraph three of the same section highlighted above, it is suggested that three interior air-testing locations will correspond to the continuous indoor methane monitoring locations. The tubing for the methane monitors will be located at ceiling height in their respective locations. This seems counterintuitive given that VOC vapors will typically collect at floor level. This is one of the many reasons cited to explain why children are much more vulnerable to the hazardous effects of VOCs. They are closer to the ground and thus are closer to and breath in more of the toxic vapors.
- Why collect sub-slab air samples only at monitoring points MP-2, MP-5, and MP-8? Since the City is required to sample weekly for the first quarter, wouldn't it be more insightful to utilize all the monitoring points? They would include not only the eight perimeter monitoring points, but also the six additional vapor probes the community wants installed within the interior of the school's footprint.
- . Please define what an **Action Level** would be in the event that concentrations of VOCs in the sub-slab air are detected at a level which exceeds this undefined threshold. The New York State Department of Health (NYSDH) has recently established a sub-slab concentration of between **50ug/m3 to < 250ug/m3** as an action level for TCE. If any vapor testing results from below the foundation meet or surpass this exceedence; a corresponding location within the interior of the High School would also be tested for an elevated level of TCE .If the indoor air testing results are greater than **0.25ug/m3** at any location; the frequency of testing in this particular area within the sub-slab region would be reassessed, and adjusted if the results warrant it. When and if the vapor intrusion values exceed **250ug/m3** anywhere below the foundation, an evaluation is made for the need to revisit the original Site Remediation Plan. At this point the Responsible Party(s) would be compelled to better characterize the site, and ideally develop a plan for eliminating all point sources of VOC and SVOC contamination impacting the site. In this instance, any and all vapors

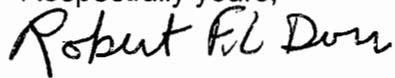
from the contamination of both the groundwater and soils originating on **Parcel A** would have to be included in such a reassessment.

- Outdoor ambient air sampling should be incorporated into the testing protocol, regardless of the sub-slab or interior air testing results. VOC and SVOC vapors being released into the outdoor air can absolutely impact the quality of the air within buildings, especially in the warmer weather when windows may be open. As you may recall, EA engineering recorded vapor levels as high as 4600ug/m³ emitting from the soil precisely where the footprint of the High School is now situated. The only TCE vapor values which the City used to develop the approved Vapor Intrusion Mitigation System for the school were collected in October '05. Two weeks prior to this sampling event, the entire footprint of the school was excavated to a depth of twelve to fifteen feet and all the soil removed was sifted to remove the building material which was buried on site by the City's demolition contractor in 1998. The massive stockpiling of soil around the site allowed it to be significantly aerated before being reinstalled into the hole. As the material was being returned to the excavated areas, the City's contractors compacted the soil every two (2) feet. The scope of this disturbance on site soil vapor samples was profound. There is also concern on the part of the community that the soil vapor sampling probes never penetrated below these disturbed grades further than four (4) to five (5) feet. Most Vapor Intrusion experts agree that one should always probe to multiple vertical testing depths. Five feet being the absolute minimum because there is now evidence that the ambient air can influence these shallow testing depths.
- As part of the implementation letters submitted by EA Engineering for the City, there is included an on going list of subcontractors working on the project. With respect to the design and installation of the Vapor Intrusion Mitigation System, the community wishes to request that the relevant contractors involved submit resumes highlighting their training and background with such technology. Especially that work done in public buildings and specifically schools. Please have EA Engineering submit the same, as well as a list of their completed systems over the last five years.

The issues and concerns included above are a collection of the comments, discussions, and thoughts many of us have compiled over the last few weeks at neighborhood meetings held throughout our community. We have tried to keep the issues on point, and distilled the essence of our discussions into clear and concise questions and requests.

If it will not be possible for the City to address these requests prior to the RIDEM public meeting on February 5, 2007, then they can have an opportunity at our meeting to make this information available. We are thanking you in advance for your attention to these details in a timely fashion.

Respectfully yours,



Robert F.L. Dorr for the communities impacted

Concerned Citizens of the Reservoir Triangle and South Providence

The Adelaide Avenue Coalition for Environmental Justice

RFD/mm

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