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May 10, 2006

Secretary Stephen Pritchard
Executive Office of Environmental Affairs
Attn: MEPA Office
Analyst Richard Bourre, EOEA #13415
100 Cambridge Street
Suite 900
Boston, MA 02114

Susan Snow-Cotter, Director
Coastal Zone Management
251 Causeway Street, Suite 800
Boston, MA 02114

Mark Maloney, Director
Boston Redevelopment Authority
One City Hall Plaza
Boston City Hall, 9th Floor
Boston, MA 02201

RE: Health Concerns: Lovejoy Wharf Project/Comments for review/Municipal Harbor Plan Amendment/Final Project Impact Report and Draft Environmental Impact Report/EOEA # 13415

Dear Secretary Pritchard, Director Snow-Cotter, Director Maloney:

This report concerns the public health dangers associated with the proposed Lovejoy Wharf project in Boston, Massachusetts. These dangers are not adequately addressed in the public review documents referenced above.

I am a public Health Toxicologist who has been examining the effects of local air quality on health at the state and national levels. I am formerly head of the Environmental Epidemiology Section of the Connecticut Department of Public Health; Assistant Director of the Public Health Practice Group of the Agency for Toxic Substances and Disease Registry at the Federal Centers for Disease Control and Prevention in Atlanta, Georgia; Senior Scientist at the North East States for Coordinated Air Use Management (NESCAUM) in Boston; and Director of Public Health Programs at Environment and Human Health Inc. in North Haven, Connecticut. I have been responsible for evaluation of the human health impacts of numerous sites involving environmental air, water and soil contamination (see qualifications, attached).

I was asked to provide comment with respect to the two public comment review documents from the perspective of public health and air quality. I have the following comments:

1. The Draft Environmental Impact Report/Final Project Impact Report, Lovejoy Wharf is gravely incomplete. The Lovejoy Wharf Municipal Harbor Plan Amendment also omits consideration of critical information. Both review documents fail to consider exacerbation of both the plausible and expected health effects of the proposed activities on this uniquely located project site.

I base this conclusion on my review of:

> The Draft Environmental Impact Report/Final Project Impact report Lovejoy Wharf., March 2006 prepared by Epsilon Associates, Inc.
> Lovejoy Wharf, Municipal Harbor Plan Amendment March 2006
> DEIR/FPIR Appendix, Traffic Count and Pedestrian Data, March 2006
> Memo on Transportation, Air Quality and Public Health Issues with respect to the Lovejoy Warf project, prepared by Wig Zamore dated April 26, 2006 ("Zamore Memorandum").

These reports were provided to me by Buchanan & Associates. I am also familiar with the location from my work in Boston.

The April 26, 2006 Zamore Memorandum correctly identifies concerns for the air pollution and public health at the Strada 234 and Lovejoy Wharf sites and it correctly notes that the concerns are not adequately addressed in the filings. In fact, the documents do not identify or address any of the health implications of the project.

I observe that the project is uniquely and dangerously located immediately between two of the busiest state highways, carrying over 200,000 cars per day. Emissions from these vehicles are joined by emissions from over 50,000 diesel trains per day, at nearby North Station, and emissions from the I-93 tunnel adjacent to the site. Added to these locational dangers are the pollutants from the new on-site garage for hundreds of cars and the loading zone for commercial vehicles, often diesel trucks. The need for "cold starts" to the personal vehicles due to the proposed mechanized vehicle elevators adds to the pollutant levels in the narrow chasm of Beverly Place, immediately below the air intakes on the roof of the existing Strada234 residences. Collectively, these emissions (both the locational ones and the proposed new ones) cause a significant public health impact on the current residents, on the proposed residents of, and visitors to, the proposed project, and on visitors to the external, open air portions of the site. Members of the general public who are invited to the renovated wharf and into the site face serious public health concerns which must be more adequately studied and mitigated before this project should be advanced.

The evidence that shows direct links between episodic short term increases in emissions from motor vehicles and diesel engines as well as other particulates and increases in the rates of asthma heart attacks, cancer and other lung diseases is convincing to the most skeptical scientist and public health official.

All of the links have been reported in the peer review literature. The Zamore Memorandum identifies several key reports found in the peer review literature. I have recently prepared

reports for the Connecticut Fund for the Environment that provide a quantitative assessment of the nature of the health outcomes near sites with major traffic patterns and diesel emissions. The immediate effect of motor vehicle generated air pollution is seen at air levels found throughout New England, including Boston.

The health impacts are episodic. They occur during time periods of limited air mixing during periods of changes in the weather patterns. In Connecticut such events lasting from 6 to 48 hours occur on roughly 25% of the days. Those are days with air speeds in the range 3 to 5 miles per hour. Figures A-7 to A-12 in the Epsilon report clearly illustrate that low wind speeds occur in Boston and presumably at this site regularly. Emissions of large amounts of motor vehicle pollutants will create a hot spot and a diesel and particulate health risk zone.

Yet the review documents for the Lovejoy Wharf proposal on Environmental Impacts provide *no analysis of these risks*, and in fact make no mention of cardiovascular or respiratory disease as a health concern. These impacts are in fact the primary public health concern at the site carrying consequences of hospitalization and mortality for those people with susceptible health conditions. NESCAUM has shown that there are substantial numbers of people with conditions making them susceptible to lung and cardiovascular risk in Massachusetts and Boston.[1]

The only Air Quality Analysis is offered on pages 5.5-1 and following of the DEIR/FPIR. The analysis is limited to a single pollutant Carbon Monoxide (CO). Carbon monoxide is only one of the multitude of mobile source emissions. A micro scale for only carbon monoxide (CO), cannot form the basis for evaluation of health conclusions. The report attempts to justify with the argument that carbon monoxide is "the most abundant pollutant emitted by motor vehicles". That is not correct nor is the method the correct method of analysis. The most important toxic components of motor vehicles need to be considered.

Further, the report's analysis compares the modeled carbon monoxide levels to the Federal National Ambient Air Quality Standards of 9 and 35 PPM for 8-hour and 1-hour averages respectively. See Table 5.5-1 on page 5.5-11, "1-hour Total CO Impacts" that range from 3.7 to 5.8 PPM. But the values shown are <u>averages of the 1 hour modeling analysis</u>. The upper bound levels determine the health impacts. My review of Boston monitoring data show that there will be a substantial number of days when the values will exceed these average modeled calculations. The error is compounded when the background carbon monoxide given of 3 PPM for 1-hour concentrations.

More important, carbon monoxide is the wrong measure to use to evaluate the concern for public health, especially with respect to heart and lung diseases. These estimates of carbon monoxide are <u>not the most important exposures with respect to public health concerns</u>. Table 5.5-2 in the review document attempts to address some of the other air toxics but <u>that analysis omits motor vehicles, the most important factor for evaluation of the health impacts</u>. In fact, the entire rationale used in the analysis is incorrect and out of date with the current

[1] <u>Fine Particulate Matter National Ambient Air Quality Standards: Public Health Impact on Populations in the Northeastern United States</u>. Philip Johnson and John Graham Environmental Health Perspectives 113, (91) 1140 to 1147, 2005

science. Therefore, the Air Quality Analysis is fundamentally inadequate as it drastically underestimates the health risks associated with the unmitigated proposal.

2. The review documents also fail to address the added pollutants of concern proposed by the project itself, in the form of idling personal vehicles, delivery trucks, and "cold start" personal vehicles which made use of the proposed mechanical lift for interior parking spaces. These activities are also well-studied in peer review literature as dangerous additions to public health concerns, which ought to be mitigated. The technology necessary to identify the exposures of concern and reduce them have been identified during the work on Boston's "Big Dig" and the World Trade Center activities in New York. The work clearly shows that the emissions from construction sites represent serious added health risks for people who live and work near construction sites.

3. The recreational open space proposed at this uniquely challenged site is dangerous to public health. Public lawn space or lounging space would attract those with the risks and would involve activities that will increase the inhalation risk from the diminished air quality, exacerbated by the unmitigated additional air quality hazards proposed by the development itself.

In summary, a proper Environmental Impact review should submit the data to a mathematical exposure analysis to measure levels of health risk and this analysis should be done before the project is finalized. The result should be mitigated, or the negative impacts eliminated. I find no evidence in any of the reports discussing the two most important public health concerns: induction of lung disease and heart disease due to increased exposures to motor vehicle and diesel air pollutants. The Zamore Memorandum, with which I completely agree, clearly illustrates the details of the health concerns and supports these conclusions.

Sincerely,

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