Mystic River
WATERSHED ASSOCIATION

September 22, 2023

MassDEP Air Assessment Branch
Sen. Wm. X. Wall Experiment Station
37 Shattuck St.
Lawrence, MA 01843-1398
sean.m.dunn@mass.gov

Re: Comment on Draft 2023 DEP Annual Ambient Air Quality Monitoring Network Plan

Dear Mr. Dunn,

The Mystic River Watershed Association (MyRWA) is a nonprofit organization dedicated to the improvement of the Mystic River watershed for a healthy environment and healthy people. The organization uses a network of volunteers, citizen scientists, and academic partnerships to track environmental conditions, develop actionable data, and work with community partners toward clean air, clean water, restored habitat, and a healthy environment for people.

MyRWA is currently working on an EPA-funded air quality monitoring project entitled **"Community-Led Improvement of Air Quality and Health in the Lower Mystic" (CLEANAIR)** in partnership with Tufts University (Dr. John Durant and Dr. Neelakshi Hudda), the Cambridge Health Alliance, Somerville Transportation Equity Partnership (STEP), AIR Inc., and the Cities of Malden and Everett. The goal of the project is to improve air quality and health in communities in the watershed that are most burdened by transportation-related air pollution (TRAP) and disease. The project couples the work of community advisory boards (CABs) and research-grade air quality monitoring to identify and address air quality problems.

The CLEANAIR team evaluated the Draft 2023 DEP Annual Air Quality Monitoring Network Plan and noted the invitation to identify additional sites for PM2.5 monitoring. Based on our knowledge about the presence of environmental justice populations in the Lower Mystic, elevated population exposures to TRAP, adverse health outcomes, and gaps in monitoring coverage, our team recommends that DEP add monitoring sites in the City of Everett, MA, and Charlestown, MA.

We highlight that both communities are identified as Environmental Justice Communities (https://www.mass.gov/info-details/massgis-data-2020-environmental-justice-populations) and have a markedly higher exposure to TRAP. As Table 1 demonstrates, populations in Charlestown and Everett are in the 99th percentile in Air Toxics Cancer and Respiratory Risks and 98th and 97th percentiles, respectively, for exposures to diesel particulate matter.

Table 1. Summary of select demographic and environmental indicators from EPA EJ Screen

Indicators By Community	Percentile in Massachusetts			
	Charlestown*	Everett	East Boston+	Malden
Environmental				
2017 Diesel PM	98	87	93	86
2017 Air Toxics Cancer Risk	99	99	99	99
2017 Air Toxics Respiratory HI	99	98	99	96
Traffic Proximity	95	77	90	75
Demographics				
People of Color	57	84	90	82
Linguistically Isolated	68	89	97	89
Under Age 5	86	63	64	63
Over Age 64	29	29	14	37

*Charlestown is a neighborhood in Boston, MA. The data presented in this table is based on the following five census tracts: 25025040600,25025040300,25025040100,25025040401,25025040801

+East Boston is a neighborhood in Boston, MA. The data presented in this table I based on the following five census tracts: 5025050200,25025050600,25025050700,25025050400,25025050101

Tufts University has performed an initial survey of air quality in Everett using the Tufts Air Pollution Monitoring Laboratory (TAPL). TAPL is a suite of sophisticated monitoring tools housed in an electric vehicle capable of making high-resolution measurements of PM2.5, NOx, and ultrafine particles. The graphic below was made using data collected by TAPL, and it illustrates the dramatic difference in ultrafine particle concentrations between the industrial/high traffic areas in Everett to the South and the less-urbanized sections to the North. Ultrafine concentrations can be highly variable at local spatial scales.

We commend the choice of studying ultrafine concentrations at Chinatown and Von Hillern site and recommend that communities in Lower Mystic that house the transportation infrastructure that supports metropolitan Boston be considered for future ultrafine monitoring.

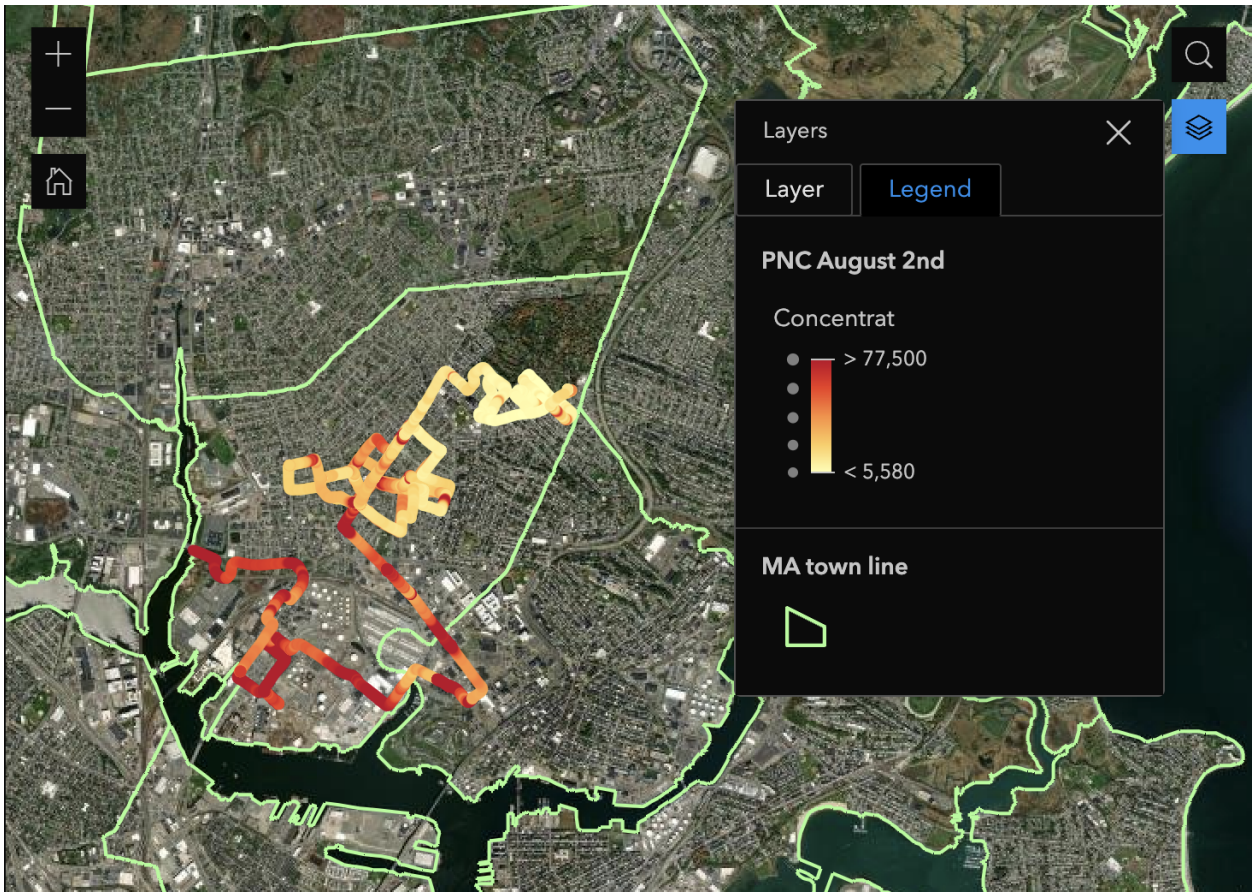

Figure 1. Ultrafine particle data collected in Everett, MA by Tufts University using TAPL on August 2, 2023

Because relatively little attention has been focussed on air quality issues in Everett and Charlestown, two communities that are highly impacted by TRAP as well as other air pollutants, we believe that these communities should be considered by the DEP as critical locations to site PM2.5 monitors and ultrafine particle monitors in the future.
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Patrick Herron
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Mystic River Watershed Association

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