

Attachment B: TEX Preliminary Recommendations

Measurement Type	Objective	Sampling Method	Costs
Site Characterization: One time sampling			
Soil Samples http://www.gmslab.com lead, chromium, arsenic, zinc, cadmium, copper, mercury and nickel	To determine if the area surrounding the waste transfer station experiences higher than average heavy metal concentrations	50 soil samples taken in evenly spaced transects radiating from the waste transfer station.	\$50 to \$250 per sample Total= \$10,000
Stationary Monitoring: Permanently installed monitoring stations to capture the daily, weekly and annual cycle of pollutants of interest. Measurements are taken continuously and can be utilized to determine periods and locations of high pollutant concentrations.			
AQMESH Air Sensors http://www.aqmesh.com Nitric oxide, Nitrogen dioxide, Ozone, Temperature, Atmospheric pressure , Relative humidity, Particle count, Particulate Matter 2.5 microns, Particulate Matter 10 microns, Carbon monoxide, Sulphur dioxide	To determine if the area surrounding the waste transfer station experiences higher than average air pollutant concentrations	12 Station locations: North, East, West and South boundaries of facility. Four additional stations one block from operations in each direction. 1 station in Mason Park 1 station at ETHS 2 control stations in similar trafficked locations in Evanston (e.g. Dempster, Emerson)	\$15,000 per station Total = \$180,000 -25% discount = \$135,000 Ongoing replacement cost \$2,000 per year Total = \$24,000
Mobile Sensors: Mobile sensors allow for the quantification of an individual's exposure to an air pollutant (Exposure = Time x concentration). Additionally, mobile sensors engage the community in process of monitoring the areas air quality facilitating the transfer of results back to the community.			

Air Beam Particulate Matter 2.5	To access the level of exposure to particulate matter of a resident in the vicinity of the waste transfer station.	50 units distributed to residents of the area and high school students.	\$250 per unit Total = \$12,500
SPME Fibers (http://www.sigmaaldrich.com) Volatiles, trace compound analysis, organic compounds	To determine the chemical constituents of the odor generated at the waste transfer station	20 Fibers: Fibers can be utilized to sample air during high odor days. Fibers are reusable and will be distributed to residents in the vicinity of the waste transfer station.	\$500 per unit Total = \$10,000

A review of the available literature identified the following potential pollutants associated with waste transfer stations:

- Heavy metals (e.g. Lead, Mercury) generated by the improper disposal of lightbulbs, batteries and electronics.
- Organic compounds released during decomposition
- Vehicle pollutants (e.g. Nitrogen dioxide, carbon monoxide) due to increased large vehicle traffic
- Particulate matter generated during transfer operations.

The following sensors and sampling techniques are recommended to characterize and monitor the levels of pollution being generated.