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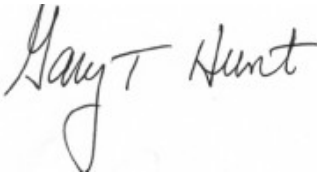
Dear Reader:

The accompanying document entitled *Proposed Enhanced Air Monitoring- Approach and Conceptual Design for 130 Liberty Street* is provided for informational purposes as it does not currently represent the final monitoring measures to be implemented during the deconstruction of the 130 Liberty Street property. Further input is currently being solicited from both regulators and the general public regarding the deconstruction project. The accompanying plan will be revised accordingly in response to inputs received from the reviewer community.

The enclosed document should be considered a companion document to the monitoring plan prepared by the general contractor for the 130 Liberty Street property, Gilbane and their contractor Weston. The monitoring program planned by them is contained in Section 2 of the Phase I Plan submitted by Gilbane on December 13, 2004. Readers of these monitoring plans should be aware that at the present time there are apparent redundancies or some degree of overlap in the types of monitoring offered by the two companion programs. It is the intent of LMDC to revise these two monitoring programs to ensure that the contractor and owner programs are complementary, while maintaining necessary overlap for Quality Assurance/Quality Control purposes.

Comments on the accompanying LMDC document should be directed to the 130 Liberty Street section on LMDC's website, [www.RenewNYC.com](http://www.RenewNYC.com).

Sincerely,



Gary T Hunt  
Vice-President TRC

# **Proposed Enhanced Exterior Air Monitoring Approach and Conceptual Design 130 Liberty Street**

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**October 8, 2004  
REVISED DRAFT**

*Prepared by*  
TRC Environmental Corporation

**TRC**  
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# **DRAFT Proposed Enhanced Exterior Air Monitoring Plan Deconstruction of 130 Liberty Street**

## **Project Purpose and Objectives**

The principal purpose of the air monitoring program will be to monitor air quality in the vicinity of 130 Liberty Street during the deconstruction of the former Deutsche Bank building. The program will consist of monitoring of potential fugitive dusts in the vicinity of the deconstruction site on both a real-time or continuous basis as well as a time-weighted or integrated basis.

The concept plan that follows was prepared with the knowledge that a separate ambient air monitoring plan will be proposed as part of the 130 Liberty Street Deconstruction Plan. LMDC intends this proposed concept to complement the Deconstruction Plan; any unnecessary redundancies or omissions inherent in the two plans will be reconciled with the participation of the public and regulatory agencies.

Principal objectives of the program are as follows:

- ❑ Monitor dusts as total particulate (TP) on a real-time or continuous basis such that fugitive dusts associated with the building deconstruction are maintained below predetermined action levels.
- ❑ In the event that fugitive dusts levels exceed predetermined action levels building deconstruction management personnel are notified such that corrective actions can be taken immediately to mitigate further dust releases.
- ❑ Monitor PM<sub>10</sub> or respirable particulate matter on a real time basis and provide assurances that levels of respirable particulate matter are below National Ambient Air Quality Standards (NAAQS) of 150 ug/m<sup>3</sup>.
- ❑ Collect particulate matter on a time-weighted or integrated basis such that samples are available for monitoring of target compounds potentially associated with and/or characteristic of World Trade Center (WTC) dust based upon prior monitoring studies.

## **Network Design**

Due to the unique circumstances associated with this deconstruction project different types of monitoring sites are recommended for inclusion in the active monitoring network. These are as follows:

- ❑ **Street Level Stations-** There are five (5) street level stations in the current monitoring network. These locations essentially represent sidewalk settings situated around the perimeter of the building. A number of these stations will be maintained in the monitoring network proposed for use during the deconstruction project.

- **Upper Level Stations-** there is the potential for dusts to be released during building deconstruction at upper levels of the 40-story structure in such a manner that street level locations are not impacted. Accordingly, the proposed network will make use of a number of monitoring sites in place at elevated locations above street level. Actual stations pending access will be placed on roof-tops setbacks or on the sides of buildings directly across streets that serve as the perimeter of the deconstruction site.

### **Siting Criteria and Network Operations**

The proposed LMDC network will be comprised of a number of stations in simultaneous operation at all times that building deconstruction activities are in progress. The placement of sampling stations will follow US Environmental Protection Agency (EPA) and Army Corps of Engineers (ACOE) siting criteria for placement of ambient particulate sampling systems in relation to nearby roads and buildings etc. to the extent possible. Strict adherence to these criteria at all stations may not be possible given the topography and logistics of the urbanized environment characteristic of the Lower Manhattan setting.

All of the ground level stations in the vicinity of the deconstruction site will be hard-wired to a central computer housed in the site vicinity. Data at these locations will be logged at each of the stations. The stations situated at elevated sites above street level will collect data continuously and telemeter the data to the central computer. All of the monitoring stations in the immediate vicinity of the deconstruction site will monitor total particulate on a real-time basis. These data will be measured continuously at each of the sites as well as on the data logger contained in the on-site computer center. These data will be stored and archived as averages for each of the stations. In the event that any average exceeds the predetermined action level for total particulate of  $150 \text{ ug/m}^3$  a signal will be received by the network manager via cell phone or pager. The network manager in turn will immediately notify the deconstruction field manager such that corrective action can be taken to mitigate further releases of fugitive dusts from the site.

### **Target Compound Selection**

In February 2002, a multi-agency task force headed by EPA was specifically formed to evaluate indoor environments for the presence of contaminants that might pose long-term health risks to local residents. As part of this evaluation, a task force sub-committee was established (COPC Committee) to identify Contaminants of Potential Concern that are likely associated with the WTC disaster and establish health-based benchmarks for those contaminants in support of planned residential cleanup efforts in Lower Manhattan.

In addition a number of other studies conducted by EPA (EPA/600/R-03/142 December 2003) and the Lower Manhattan Development Corporation (work performed by Louis Berger Group) were examined as a means of establishing a listing of target parameters appropriate to satisfy the purpose and objectives of the current deconstruction project. These objectives include active real time monitoring of fugitive dusts such that mitigation efforts can be initiated if warranted as well as identifying levels of contaminants of concern associated with any fugitive dusts released. In this manner the deconstruction project can proceed while providing an ample margin of safety for human health and the environment in the vicinity of the project site.

Based upon these criteria the following target parameters were selected for inclusion in the monitoring program:

- ❑ Total Particulate
- ❑ PM<sub>10</sub>-Respirable Particulate
- ❑ Asbestos
- ❑ Crystalline Silica
- ❑ PCDDs/PCDFs
- ❑ PAHs
- ❑ PCBs
- ❑ Fibrous Glass (Man-Made Vitreous Fibers/MMVF)
- ❑ Metals (barium, beryllium, cadmium, chromium, copper, lead, manganese, nickel and zinc).
- ❑ Semi-volatile organics/WTC combustion by-products (eg brominated flame retardants, PCNs and PBDEs)

### **Meteorological Monitoring**

Due to the complex nature of wind movement in and around buildings in the urbanized setting of Lower Manhattan monitoring of wind velocity and direction on a continuous basis is warranted. Data available from regional National Weather Stations such as Newark Airport, LaGuardia and Kennedy Airports will be used to complement localized data..

### **Sample Collection/Monitoring Schedule**

Samples will be collected according to the schedule and frequency noted below:

- ❑ **Total particulate**- measured on a continuous or “real-time” basis at each of the network sites. Particulate levels will be measured, recorded and stored as five-minute averages. In this manner data will be available for direct comparison to the proposed action level of 150 ug/m<sup>3</sup> expressed as an average value.
- ❑ **PM<sub>10</sub>**- measured at each of the stations on a continuous or “real time” basis. Data will be measured continuously and recorded as averages. Time-weighted average PM<sub>10</sub> concentrations will be derived for both the workday (anticipated eight hours) and for a 24-hour daily reporting period. The latter data are directly comparable to the NAAQS of 150 ug/m<sup>3</sup> for PM<sub>10</sub> expressed as a 24-hour average concentration. The eight (8) hour or work day average will be used for comparison to the PM<sub>10</sub> Action Level of 150 ug/m<sup>3</sup> as the basis for selection of samples for laboratory analyses.
- ❑ **Semivolatile Organics** (PAHs, PCDDs/PCDFs, PCBs PCNs and WTC combustion by-products). Samples will be collected concurrent with the deconstruction work day using PS-1 Andersen/Tisch or performance equivalent hi-volume filter/sorbent samplers deployed at each of the ground level stations and the elevated locations. In the event that the real-time total particulate action level of 150 ug/m<sup>3</sup> is exceeded at any station during

the work-day for consecutive periods (eg. 3 periods) or the PM<sub>10</sub> NAAQS of 150 ug/m<sup>3</sup> (expressed as an 8-hour average corresponding to the work day) is exceeded at any station the corresponding PS-1 sample will be selected for laboratory analyses. In the event that no samples are selected during a weekly sampling period based upon exceedances of the TP Action Level or the PM<sub>10</sub> NAAQS, the sample with the highest corresponding measured TP or PM<sub>10</sub> concentration will be selected for analyses on a weekly basis.

- **Metals-** Filter samples will be collected on a daily basis using TEOM Total Particulate samplers outfitted with ACCU filter holders at each of the ground level stations and each of the elevated locations in the vicinity of the deconstruction site. In the event that the real-time total particulate action level of 150 ug/m<sup>3</sup> is exceeded at any station during the work-day for consecutive periods (eg 3 periods) or the PM<sub>10</sub> NAAQS of 150 ug/m<sup>3</sup> (expressed as an 8-hour average) is exceeded at any station the corresponding filter sample will be selected for laboratory analyses. Analyses of selected filter samples will be performed using x-ray fluorescence (XRF) techniques. In addition to the metal target parameters listed earlier, analyses can be performed for approximately forty (40) elements/metals. These data can be used to develop metallic profiles for dusts collected and ultimately assist in identifying the origins of dusts deposited on the filter media should this type of information be needed at a later time. In the event that no samples are selected during a weekly sampling period based upon exceedances of the TP Action Level or the PM<sub>10</sub> NAAQS the sample with the highest corresponding measured TP or PM<sub>10</sub> concentration will be selected for analyses on a weekly basis.
  
- **Asbestos/Crystalline Silica/Fibrous Glass-** Samples will be collected concurrent with the deconstruction work day using 25mm MCEF cassettes samplers deployed at each of the ground level stations and each of elevated locations. In the event that the real-time total particulate action level of 150 ug/m<sup>3</sup> is exceeded at any station during the work day for consecutive periods (eg 3 periods) or the PM<sub>10</sub> NAAQS of 150 ug/m<sup>3</sup> (expressed as an 8-hour average) is exceeded at any station the corresponding MCEF cassette sample will be selected for laboratory analyses. Asbestos analyses will be performed by PCM and TEM. Fibrous glass or MMVF and crystalline silica analyses will be performed by NIOSH Method 7400/7500 or performance equivalent method. In the event that no samples are selected during a weekly sampling period based upon exceedances of the TP Action Level or the PM<sub>10</sub> NAAQS the sample with the highest corresponding measured TP or PM<sub>10</sub> concentration will be selected for analyses on a weekly basis.