

February 6, 2007

COMMUNITY AIR MONITORING PLAN

**Atlantic Yards Arena and Redevelopment Project
Brooklyn, New York**

Prepared for

**ATLANTIC YARDS DEVELOPMENT CO., LLC
BROOKLYN ARENA, LLC**

ROUX ASSOCIATES, INC.

Environmental Consulting & Management



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- 1. Site Plan

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1.0 INTRODUCTION

This Community Air Monitoring Plan (CAMP) was prepared by Roux Associates, Inc. (Roux Associates) for the Atlantic Yards Arena and Redevelopment Project (Block and/or portions of Blocks 927, 1118, 1119, 1120, 1121, 1127, 1128, and 1129) located in Brooklyn, New York (Site). The Site is bordered by Atlantic Avenue to the north, Fourth and Flatbush Avenues to the west, Dean and Pacific Streets to the south, and Vanderbilt Avenue to the east (Figure 1). The six full and two partial Tax Blocks of the Site, including the Metropolitan Transportation Authority (MTA) bus yard (Bus Yard) and the Long Island Rail Road (LIRR) Vanderbilt Rail Yard (VD Yard) comprise the Atlantic Yards Arena and Redevelopment Project (Project).

This CAMP will be implemented during the excavation of Site soils (or other activities that involve moving existing Site soils around or off the Site) in connection with the construction of the Project or any related excavation or remediation. Specifically, this CAMP outlines the air quality monitoring procedures to be followed to protect the downwind community (i.e., offsite receptors, including residents and workers) from potential airborne contaminant releases that may be as a direct result of the Project excavation activities. This CAMP is consistent with the New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan (included as Appendix A).

Test results of previous sampling activities at the Site indicate that some areas of the Site contain varying levels of metals, volatile organic compounds (VOCs), and semivolatile organic compounds (SVOCs), particularly polynuclear aromatic hydrocarbons (PAHs), which exceed the New York State Department of Environmental Conservation (NYSDEC) regulatory guidance levels. The metals and SVOCs were primarily observed in the historic fill materials present at varying depths below the Site and are typical of historic fill material that was used throughout the development of many areas of New York City. VOCs were detected above NYSDEC regulatory guidance levels in the soils in close proximity to and beneath former and/or current gasoline filling stations.

2.0 SOIL EXCAVATION SCOPE OF WORK

The Project includes excavation of the entire Project Site (where not already excavated) to an average depth of approximately 30 feet below land surface (ft bls) and the construction of an 850,000-square foot sports arena for the Nets professional basketball team, an urban complex of housing, commercial and retail space, a new VD Yard and eight acres of publicly accessible open space. The Project anticipates excavation of approximately one million cubic yards of soil. This excavation is not anticipated to progress into the groundwater table.

When sampling is completed and prior to excavation, excavated material will be placed directly into disposal trucks for appropriate offsite disposal. When excavation precedes waste characterization sampling, excavated material will be stockpiled in various areas of the Site.

3.0 AIR MONITORING PROCEDURES FOR INTRUSIVE ACTIVITIES

The following sections describe the specific CAMP monitoring procedures for both particulates and volatile organic compounds.

3.1 Particulate Monitoring

The air will be monitored in real-time during the excavation of Site soils (or other activities that involve moving existing Site soils/fill around or off the Site) in connection with the construction of the Project or any related excavation or remediation. Air monitoring for particulates (i.e., dust) will be performed continuously during Project excavation activities using both air monitoring equipment and visual observations. Monitoring equipment capable of measuring particulate matter smaller than 10 microns (PM-10) and capable of integrating (averaging) over periods of 15 minutes or less, at a minimum, will be set up at one upwind (background) and one downwind location, at heights approximately 4 feet to 5 feet above land surface (i.e., the breathing zone). This equipment will log the 15-minute average concentrations for subsequent downloading and reporting. An audible alarm on the downwind particulate monitoring device will be set at 90 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) above the background level (i.e., the upwind location). Upwind concentrations will be measured at the start of each workday and periodically throughout the day thereafter to establish background conditions.

The CAMP coordinator will record the wind direction and speed as described below. These readings will allow the CAMP coordinator to ensure that CAMP equipment is located appropriately based upon the wind direction. The particulate monitoring equipment will be calibrated at the start of each day and as necessary throughout the day.

The monitoring results will be compared to the following:

- If the downwind PM-10 particulate level is $100 \mu\text{g}/\text{m}^3$ greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques shall be employed. Work may continue with dust suppression techniques, provided that downwind PM-10 particulate levels do not exceed $150 \mu\text{g}/\text{m}^3$ above the upwind level and provided that no visible dust is migrating from the work area. (Dust suppression techniques will also be applied in other circumstances as described in the Hazardous Materials Health and Safety Plan [HASp]).
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than $150 \mu\text{g}/\text{m}^3$ above the upwind level, work shall be reevaluated and

changes initiated to reduce particulate levels to less than $150 \mu\text{g}/\text{m}^3$ above background conditions and to prevent visible dust migration, including work stoppage if necessary.

Meteorological Data - Meteorological data consisting of wind speed, wind direction, temperature, and barometric pressure will be recorded at a minimum of three times each day. These results will be utilized to position the particulate monitoring equipment in appropriate upwind and downwind locations. A Davis Corporation wireless instrument station (or equivalent) will be used to collect all meteorological monitoring data.

Potential Suppression Techniques - If the integrated particulate level at the downwind location exceeds the upwind level by more than $100 \mu\text{g}/\text{m}^3$ at any time during intrusive activities, then dust suppression techniques will be employed.

Work may continue with dust suppression techniques, provided that downwind PM-10 levels are not more than $150 \mu\text{g}/\text{m}^3$ greater than the upwind levels; all measures necessary to ensure PM-10 levels of less than $150 \mu\text{g}/\text{m}^3$ above background will be utilized. Dust suppression measures to be employed have been detailed in the HASP.

There may also be situations where visible dust is generated by excavation activities and migrates to downwind locations but is not detected by the monitoring equipment at or above the action levels. Therefore, if visible dust is observed leaving the working area, dust suppression techniques such as those described in the HASP will be employed.

If dust suppression techniques do not lower particulates to below $150 \mu\text{g}/\text{m}^3$ or visible dust persists, additional measures, including work suspension if necessary, will be implemented to remedy the situation.

All air monitoring data, meteorological data, and the locations of monitoring equipment will be recorded in the onsite files and will be available for NYSDEC, NYSDOH, and ESDC review.

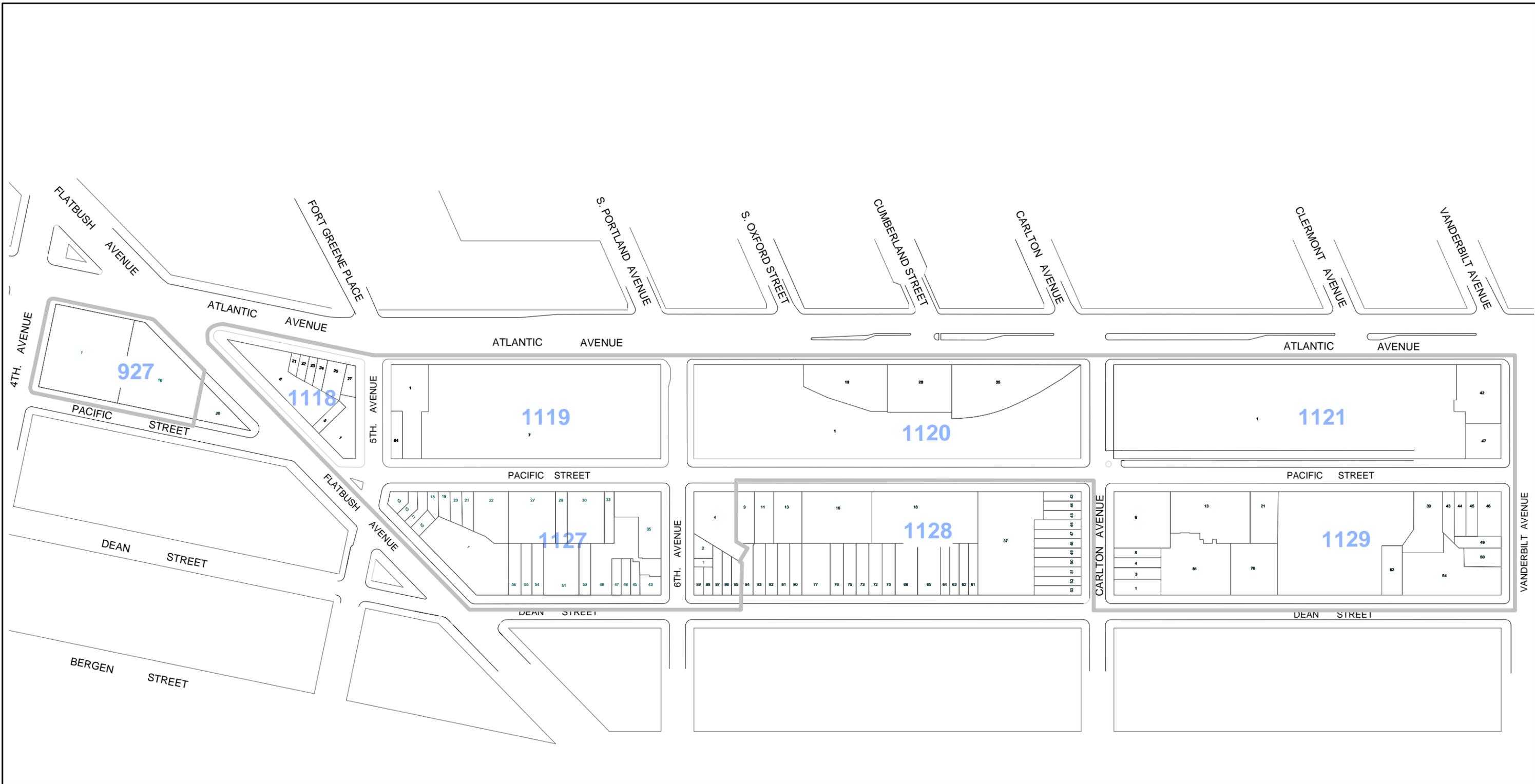
3.2 Volatile Organic Compound Monitoring

Volatile organic compounds (VOCs) will be monitored at the downwind perimeter of the immediate work area or Site perimeter on a continuous basis. The VOC monitoring component of the CAMP will only be implemented at work areas that are known or suspected to contain

VOCs (e.g., some of the current/former gasoline filling stations). Upwind concentrations will be measured at the start of each workday and periodically thereafter (not less than three times per day) to establish background conditions. The monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present (Minirae 2000 Photoionization detector or equivalent). The equipment will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

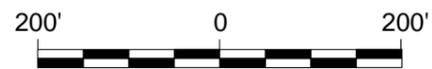
- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or Site perimeter exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted in the area of concern and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or Site perimeter persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities in the area of concern must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level at the downwind perimeter of the work area or Site perimeter is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is more than 25 ppm above background at the downwind perimeter of the work area or Site perimeter, activities must be halted in the area of concern until corrective measures are identified and implemented to reduce emissions as described above.

All air monitoring data and the locations of monitoring equipment will be recorded in the onsite files and will be available for NYSDEC, NYSDOH, and ESDC review.



EXPLANATION

- SITE BOUNDARY
- 1120** TAX BLOCK
- 35 TAX LOT



SITE PLAN

Title:

ATLANTIC YARDS ARENA AND REDEVELOPMENT PROJECT

Prepared For: ATLANTIC YARDS DEVELOPMENT CO., LLC
AND BROOKLYN ARENA, LLC

ROUX Environmental Consulting & Management	ROUX ASSOCIATES INC	Compiled by: F.C.	Date: 20DEC06	1
		Prepared by: F.C.	Scale: AS SHOWN	
		Project Mgr: D.M.	Office: NY	
		File No: FCR1421707.WOR	Project: 92414Y03	

VANDERBILT AVENUE

APPENDIX A

NYSDOH Generic Community Air Monitoring Plan

APPENDIX 1A

New York State Department of Health Generic Community Air Monitoring Plan

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.