

**ROUX ASSOCIATES INC**



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June 26, 2003

Mr. Anthony Karwiel  
New York State Department of Environmental Conservation  
Division of Environmental Remediation, 12th Floor  
625 Broadway  
Albany, New York 12233-7013

Re: Modified Soil Management Plan  
Former Manufactured Gas Plant (MGP)  
124-136 Second Avenue, Brooklyn, New York  
Agreement Index Number: A2-0430-0009

Dear Mr. Karwiel:

On behalf of FC Gowanus Associates, LLC, included please find the modified Soil Management Plan (SMP), based on your comment correspondence of June 23, 2003, and the attached Plan of Ground Intrusive Construction Activity. The required Health and Safety Plan (HASP), specific to the site development activity, has been submitted and is pending your review/approval. Please provide feedback on the HASP in order to facilitate further development activity at the referenced site.

The generic SMP will now be incorporated into the modified Operation, Maintenance, and Monitoring Plan (OM&M), and the OM&M submitted for your review.

Please contact me if you have any questions.

Sincerely,

ROUX ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "W. A. Fisher".

William A. Fisher, CHMM  
Senior Engineer/  
Project Manager

Attachments

cc: Gregory Lowe, FC Gowanus Associates, LLC  
Michael Goldban, FC Gowanus Associates, LLC  
Mark Chertok, Sive Paget & Riesel, P.C.  
Warren Karp, Greenberg Traurig, LLP  
Lindsay McGrady, Lowes Companies, Inc.  
Michael Johnas, E.W. Howell, Inc.  
Charles McGuckin, P.E., Roux Associates, Inc.

# **SOIL MANAGEMENT PLAN**

**124-136 Second Avenue  
Brooklyn, New York  
Site No. V00405-2**

**Revised**

**June 26, 2003**

*Prepared for:*

**FC GOWANUS ASSOCIATES, LLC**  
One MetroTech Center North  
Brooklyn, New York 11201

*Prepared by:*

**ROUX ASSOCIATES, INC.**  
1377 Motor Parkway  
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**TABLE OF CONTENTS**

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1.0 INTRODUCTION .....1  
    1.1 Applicability.....1  
2.0 SITE MANAGEMENT .....2  
    2.1 Temporary Controls .....2  
    2.2 Health and Safety .....2  
    2.3 Coal Tar Impacted Soil .....3  
    2.4 Coal Tar Impacted Water.....3  
    2.5 Air Monitoring .....4  
    2.6 Odor and Dust Control.....4  
    2.7 Equipment/Personnel Decontamination.....4  
    2.8 Impacted Soil Management .....5  
    2.9 Backfilling.....5  
    2.10 Notification/Reporting .....6

**PLATE**

Soil Management Plan Implementation Depths

**ATTACHMENT**

Plan of Ground Intrusive Construction Activity for Lowe’s Home Center Development

**APPENDIX**

1A New York State Department of Health Generic Community Air Monitoring Plan

## 1.0 INTRODUCTION

This Soil Management Plan (SMP) has been prepared by Roux Associates, Inc. (Roux Associates) on behalf of FC Gowanus Associates, LLC (FC Gowanus) for the Former Manufactured Gas Plant, located at 124-136 Second Avenue, Brooklyn, New York (Site). The SMP was required to address the April 18, 2003 letter from James Van Hoesen, of the New York State Department of Environmental Conservation (NYSDEC) to Gregory Lowe, of Forest City Ratner Company (FCRC), and as a condition of the Voluntary Cleanup Agreement (VCA) No. V00405-2 between NYSDEC and FC Gowanus. The Site has been previously remediated per the terms and conditions of the VCA No. V00405-2, as documented in the Remediation Completion Report (Roux Associates, May 2003). This SMP has been prepared as an addendum to the Operation, Maintenance, and Monitoring Plan (OM&M), and will be incorporated into the OM&M accordingly. The SMP establishes procedures to follow in the event that coal tar impacted media is encountered during activities associated with the commercial development of the Site, and subsurface/intrusive activities as defined below.

### 1.1 Applicability

SMP procedures will be followed upon encountering soils exhibiting visual or olfactory evidence of impact, during any activity that disturbs soils at the Site. Based on historical remediation activity (by others), and subsurface investigation and remediation work implemented by FC Gowanus as part of the VCA, the SMP shall also be implemented during any and all future Site development and modifications that require the following:

- Subsurface/intrusive activities at any depth greater than the vertical limits of previous remediation efforts within former Gasholders #1, #2, and #3, former Hotspots A and BC, and associated areas, as indicated in the Soil Management Plan Implementation Depths Map (Plate 1); and
- Subsurface/intrusive activities at any depth greater than four feet within the Site limits, excluding former Gasholders #1, #2, and #3, former Hotspots A and BC, and associated areas, as indicated on the Soil Management Plan Implementation Depths Map (Plate 1).

## **2.0 SITE MANAGEMENT**

During construction related and other future Site activities, the potential exists to encounter coal tar impacted soil and/or water. These activities include, but are not limited to, installation of utilities, excavation to facilitate pile installation, installation of drainage lines and catch basins, site grading, and all other subsurface and intrusive activities. If impacted soil and/or water are encountered, the contractor must immediately notify the Site owner and/or owner's representative, who shall then notify NYSDEC. Concentrations of contaminants in the work zone shall be monitored in accordance with the activity specific and site specific Health and Safety Plan (HASP) during excavation or other intrusive activities where the potential exists to encounter coal tar impacted media, as previously defined. All intrusive work areas shall be protected through temporary control measures and all impacted media shall be properly managed as discussed below.

### **2.1 Temporary Controls**

Temporary controls shall be implemented during excavation or other intrusive activities. Temporary fencing and signage shall be used to keep the public out of work areas where the potential exists to encounter coal tar impacted media. Erosion control, including but not limited to hay bales, silt fencing, and temporary berms, shall be used to control the migration of potentially contaminated media across the site into sewers, catch basins and other drainage structures, and into the Gowanus Canal. Traffic control procedures shall be implemented when activities have the potential to affect both onsite and offsite traffic.

### **2.2 Health and Safety**

These procedures shall be followed to manage any excavated/removed material that is deemed coal tar impacted, based on visual and/or olfactory inspection, or field measurement instrumentation.

All personnel handling/managing coal tar impacted media shall be health and safety trained in accordance with OSHA 29 CFR 1910.120(e)1926.65, and be part of an annual medical monitoring program as required by OSHA. Additionally, the onsite contractor will provide a HASP that addresses all hazards and safety concerns associated with the specific Site activities being conducted, including the potential exposure and handling of coal tar impacted media, prior

to initiating work activities. Provisions shall be made to have the appropriate level of personal protective equipment (PPE) available to the Site personnel that will be handling this type of material. PPE shall be containerized and properly disposed after use.

### **2.3 Coal Tar Impacted Soil**

All excavated soil determined to exhibit characteristics of coal tar impact, based on visual and/or olfactory inspection, or field measurement instrumentation, shall be transported to a soil staging location within the Site boundary that will be out of the way of the on-going construction activities. The impacted soil shall be managed in a manner that minimizes any potential for the spread of impacted material across the Site, including onsite transport for temporary storage. All impacted soils, at a minimum, shall be stored on plastic sheeting having a minimum thickness of 10 mils. If necessary, plywood or clean fill will be placed onto the plastic sheeting to prevent tearing of the plastic sheeting from trucks or equipment operating in the soil staging area. A vapor suppression agent/deodorizer shall be available, and applied to the impacted soil, as needed, to mitigate organic vapors (if any) being released from the stockpiled material, and exposed impacted soils within any open excavation. The stockpile shall be covered with a minimum 6-mil thickness plastic sheeting and secured using appropriate methods, included but not limited to, tie down, tires, clean fill or concrete blocks. The staging area shall be situated and constructed in a fashion that will contain any free liquid or runoff from the stockpiled soil.

### **2.4 Coal Tar Impacted Water**

Any Site construction waters determined to exhibit signs of being coal tar impacted (sheen and/or coal tar presence), shall be removed from the open areas or excavations and stored in drums or a portable storage vessel for future offsite disposal, or permissible discharge to the onsite stormwater management structures and/or the New York City Sewer System, in accordance with the discharge permit guidelines provided as part of the New York City Department of Environmental Protection (NYCDEP) Sanitary Discharge Permit secured by the contractor. All impacted construction waters shall be treated to acceptable levels prior to discharge. All impacted construction waters shall be managed to avoid any leakage, spillage, or uncontrolled release to the Site. However, appropriate equipment shall be onsite during any excavation or other intrusive activities, and if any spill occurs, the spill shall be cleaned up immediately.

## **2.5 Air Monitoring**

During intrusive activities where there is the potential to encounter coal tar impacted media, in addition to the air monitoring performed by the contractor as a requirement of the HASP, air monitoring will be conducted. Air monitoring shall consist of the use of a photoionization detector (PID) or similar equipment to monitor the concentration of Volatile Organic Compounds (VOCs), downwind of the active work area. VOC concentrations shall be collected every 15 minutes and recorded. If the PID indicates VOC concentrations are greater than 5 parts per million (ppm) in two consecutive monitoring periods (i.e., a 15 minute average greater than 5 ppm), work shall immediately cease and a re-evaluation of Site activities shall be conducted. Necessary engineering controls shall be implemented, such as vapor suppression techniques, excavation method modifications, etc., to mitigate the VOC levels. If this threshold is exceeded, the New York State Department of Health (NYSDOH) and NYSDEC shall be notified, and the NYSDOH Generic Community Air Monitoring Plan, including VOC and particulate monitoring, shall be instituted (Appendix A).

## **2.6 Odor and Dust Control**

Excavation or other intrusive activities shall be conducted in a manner that minimizes the possibility of creating odors and/or dust. If the Site control practices are insufficient at managing odor emissions from work areas, an odor suppressant system shall be used to further control odors. During all excavation or other intrusive activities in which coal tar impacted soils could be encountered, odor suppressant material shall be onsite and readily available for use. Dust control measures shall be utilized to minimize dust during excavation and intrusive activities. Generally, the application of water, in such quantities and frequencies as required to prevent dust from becoming a nuisance to the surrounding area, shall be utilized as the primary means of dust control. Alternative methods may also be appropriate.

## **2.7 Equipment/Personnel Decontamination**

All equipment and personnel that come into contact with impacted media (soil and/or water) during the completion of construction related and future activities at the Site, shall be properly decontaminated at the completion of those activities, prior to leaving the exclusion zone. This equipment includes hand tools, excavator buckets, dump trucks, etc. The equipment will be inspected after decontamination to ensure that all residual contamination has been removed. A

temporary decontamination pad will be located adjacent to the exclusion zone in an area out of the way of the ongoing Site activity. The decontamination pad will be appropriately sized based upon the type of Site activity conducted and the equipment requiring decontamination. The pad shall be constructed of wood, soil, concrete, or other suitable material, provided that the top layer is of an impermeable material with bermed/raised edges to the necessary height to contain any liquids or soils that are removed/recovered during decontamination. All waters/waste generated during decontamination procedures shall be contained, collected, and managed for future offsite disposal, or onsite water treatment (if appropriate).

## **2.8 Impacted Soil Management**

All stockpiled soil shall be inspected and sampled to determine if it may be utilized as Site fill material, or if it will require proper offsite disposal. Samples shall be analyzed for VOCs, SVOCs, and metals, at the rate of one composite sample per 200 cubic yards. If the results indicate concentrations below the NYSDEC-approved reuse limits, the soil shall be utilized as onsite fill. Otherwise the soil shall be properly characterized and disposed offsite at a permitted waste treatment/disposal facility. If the waste characterization sampling indicates that the soil requires proper offsite disposal, air monitoring shall be performed, in accordance with Section 2.5, during all soil load-out activities. In addition, load-out activities shall be conducted in a manner that minimizes vapor emissions from transport vehicles or roll-off containers. All waste transport vehicles shall have the loads covered with secured plastic, or tight impermeable tarp, and be inspected and free of exterior contamination, prior to departure from the Site. Each waste load shall have the necessary transport documentation (waste manifest).

## **2.9 Backfilling**

Upon removal of coal tar impacted material encountered during intrusive Site activities, backfilling shall proceed with non-impacted material generated at the Site through grading and/or excavation, or with clean fill brought onsite. Any fill material from an offsite source shall be sampled and analyzed to insure compliance with all applicable regulatory/legal requirements. The results of this sampling will be provided, upon request, to NYSDEC for review.



## **2.10 Notification/Reporting**

NYSDEC shall be notified at least five days prior to commencement of any Site activities requiring management under the SMP guidelines. Upon completion of such activities, the owner or owner's representative shall notify NYSDEC, and provide written documentation (in addition to the immediate verbal notification by the owner's representative) of any coal tar impacted media encountered, and the methods of management onsite and/or offsite. Report topics shall include, but not be limited to, a discussion of any coal tar impacted media encountered during excavation and/or other intrusive activities, volume of soil/water removed, volume of soil/water disposed, disposal methods and locations, waste characterization and disposal documentation, and a figure depicting the locations where the impacted media was encountered.

Respectfully submitted,

ROUX ASSOCIATES, INC.



William A. Fisher, CHMM  
Senior Engineer/  
Project Manager



Charles J. McGuckin, P.E.  
Principal Engineer

**ATTACHMENT**

Plan of Ground Intrusive Construction Activity  
for Lowe's Home Center Development

**PLAN OF GROUND INTRUSIVE  
CONSTRUCTION ACTIVITY FOR  
LOWE'S HOME CENTER DEVELOPMENT  
BY E.W. HOWELL, INC.**

**124-136 Second Avenue  
Brooklyn, New York  
Site No. V00405-2**

May 30, 2003

*Compiled for:*

**FC GOWANUS ASSOCIATES, LLC**  
One MetroTech Center North  
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*Compiled by:*

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1377 Motor Parkway  
Islandia, New York 11749



**TABLE OF CONTENTS**

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**TABLE**

Ground Intrusive Construction Activity Schedule

**PLATE**

SP-2A Construction Activity Location Reference Plan

5/19/03

Items that are partially or fully underground that will be disturbed by the construction of the new building - or - items that will be installed that require digging.

Item #	Item	Depth	Description	Estimated Start Date	Estimated Duration - in working days	Areas of Work
1	Grade Beams	3	Dig, form and pour at perimeter of bldg. Largest is 44" w x 30" deep.	5/27/03	10	K1 to K10, S1 to S8, K10 to S10, K1 to S1.
2	Pile Caps	3	Dig, form and pour at columns. Deepest is 36" @ a PC-5a.	5/27/03	n/a	1 thru 10, K thru S, inclusive.
3	Tank #3	9	Leave remaining tank structure. Drive steel pile thru it.	Completed	3	O1, O2, O3, P1, P2, P3
4	Small tank north of #3 (rebar)	10	Concrete tank bottom w/ steel reinforcement. Will drill thru then drive pile.	5/21/03	5	P4, Q4
5	Underground slab north of tank #3	10	Partially removed. Will attempt to drive piles thru it.	Completed	n/a	O4, P4
6	Retaining Wall at 12th Street	4	Dig, breakup, remove to facilitate pile driving.	Completed	3	K1 thru S1
7	Underslab venting system piping	1	Dig trenches for vent piping under bldg slab. 24" w x 12" deep.	7/28/03	5	1 thru 10, K thru S, inclusive.
8	Underground storm water retention (2)	5	Piping requires installation to 4' below grade.	6/2/03	3	J3 thru J7, R6 thru R9.
9	Existing 10th Street pavings	1	Remove existing roadway.	7/28/03	5	H10 thru S10
10	New drainage basins in 10th St. (3)	10	Install (3) drywells per NYS code. Connect to new drainage basins.	8/4/03	7	J10, N10, R10
11	Existing 9th Street pavings	1	Remove existing cobblestone and asphalt roadway.	In progress	3	D13, D14, D15, E13, E14, E15

Items that are partially or fully underground that will be disturbed by the construction of the new building - or - items that will be installed that require digging.

Item #	Item	Depth	Description	Estimated Start Date	Duration - in working days	Estimated Areas of Work
12	Existing railroad tracks @ 9th St.	1	Remove existing abandoned tracks on surface.	Completed	2	D13, D14, D15
13	12th St. Sidewalks and curbs	2	Existing sidewalks and curbs to be removed and replaced	7/21/03	5	H1 thru S1
14	2nd Ave Sidewalks and curbs	2	Existing sidewalks and curbs to be removed and replaced	7/14/03	5	S1 thru S10
15	Parking lot light poles	4	Precast concrete bases to be installed to a depth of 4'.	8/1/03	4	B thru I, 1 thru 12, inclusive.
16	Esplanade light poles	4	Precast concrete bases to be installed to a depth of 4'.	8/15/03	2	A thru H, 1 thru 12, inclusive.
17	Bulkhead	9	Replace down to mean low water - approx 9' below grade.	6/16/03	20	A6 thru A13 and A6 thru D6.
18	Surface asphalt not under building	2	Remove existing asphalt and regrade.	Completed	5	A thru J, 1 thru 12, inclusive.
19	Surface concrete not under building	2	Remove existing asphalt and regrade.	Completed	5	A thru J, 1 thru 12, inclusive.
20	Concrete footings not under building	5	Remove existing concrete footings.	Completed	3	A thru J, 1 thru 12, inclusive.
21	New utilities on 2nd Ave	6	Connect to storm, sewer and electrical.	8/4/03	5	S1 thru S8
22	New utilities on 12th Street	6	Connect to water, fire, phone and gas.	8/11/03	5	K1 thru S1
23	Timber Piles	45	In zones B and C	In progress	2	K thru S, 1 thru 7, inclusive.
24	Auger Piles	50	In zone A	In progress	15	K thru S, 8 thru 10, inclusive.
25	Pipe Piles	110	In tank #2 and #3 areas.	In progress	2	L3, L4, M3, M4 and P3, P4, Q3, Q4

**APPENDIX 1A**

New York State Department of Health  
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 ( $\text{mcg}/\text{m}^3$ ) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150  $\text{mcg}/\text{m}^3$  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  $\text{mcg}/\text{m}^3$  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  $\text{mcg}/\text{m}^3$  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.