VOLUNTARY CLEANUP PROGRAM
DECISION DOCUMENT

Former Carroll Gardens Manufactured Gas Plant Site
Operable Unit No. 1 - Former MGP
Brooklyn, King County, New York
Site No. V00360-2

Statement of Purpose and Basis

This Voluntary Cleanup Program (VCP) Decision Document presents the remedy approved by the New York State Department of Environmental Conservation (the Department) for Operable Unit No.1 of the Former Carroll Gardens Manufactured Gas Plant (MGP) Site (the site). The approved remedial program was chosen in accordance with guidance relative to the remedy selection in the VCP.

Description of the Site

The former Carroll Gardens MGP site (also known as Public Place) is approximately 11.5 acres in size and is located in the Carroll Gardens section of Brooklyn, Kings Co., New York. The surrounding area is a densely populated urban area of mixed commercial, industrial and residential land use. Operable Unit 1 of the site is the location of the former MGP, and is bounded on the north by Fourth and Hoyt Streets, on the east by Bond Street, on the south by Huntington Street and on the west by Smith Street. The site abuts the Gowanus Canal to the east and southeast. Four parcels of land are included in Operable Unit 1. Two of the parcels (I and II) are owned by the City of New York. The other two parcels are privately owned.

The attached figure depicts the parcels comprising OU1. Contamination which has spread beyond the limits of OU1 has been designated as OU2. Contamination on OU2 is the subject of an ongoing remedial investigation and will be addressed separately once this investigation is complete.

Assessment of the Site

Contamination identified during the Remedial Investigation of this site represents a threat to public health and the environment, requiring a remedial program as identified below.

Nature of contamination: The Remedial Investigation identified the presence of coal tar in subsurface soils in two areas of the former MGP: one area in and around gas holders 2 and 3 on Parcel II, and another near the tar handling structures on Parcel I and III. Contaminants of concern in the tar include polycyclic aromatic hydrocarbons (PAHs) and the volatile compounds benzene, toluene, ethylbenzene and xylene (BTEX).

Extent of contamination: Soil at the site is grossly impacted by coal tar from a depth of approximately 7 feet to 150 feet below ground surface. Site groundwater is impacted by PAHs and BTEX derived from the tar. Tar and groundwater contamination has spread off site, and has been found both in subsurface soils and in sediments in the Gowanus Canal. The full extent of off site contamination is still under investigation and will be addressed under a separate operable unit at a later time.

Description of Selected Remedy

The alternative analysis prepared by KeySpan examined different ways to clean up the former MGP property and presented in detail the method of cleanup approved by the NYSDEC. The approved remedy includes the following combination of remedial actions to deal with the coal tar in soils beneath the site.

1. Several tar-contaminated MGP structures which remain in the subsurface will be removed, along with their contents and the associated heavily contaminated soils immediately surrounding them.

2. Elsewhere on the site, the contaminated soils will be removed to a depth of approximately 8 feet below grade.

3. Contaminated soil and tar removed from the excavation will be shipped off site for treatment and disposal at an appropriately permitted facility. Uncontaminated soil, and uncontaminated masonry debris from the subsurface structures, may be returned to the excavation as backfill. The excavated areas will then be restored to original grade with soil from off site sources meeting the Department's backfill requirements.

4. A subsurface barrier wall will be installed along the Gowanus Canal to control the migration of tar that has already migrated to depths beyond the reach of the excavation. The wall will extend inland at the northern and southern ends, and downward to a depth sufficient to prevent further movement of the remaining material off site and into the Gowanus Canal. The final wall configuration, including the need for groundwater treatment, will be determined during the design phase of this project.

5. Inside this barrier wall, mobile tar will be removed through a series of tar recovery wells and sent off site for disposal/treatment an appropriately permitted facility.

6. Since the remedy results in contamination above unrestricted levels remaining at the site, a site management plan (SMP) will be developed and implemented . The SMP will include the institutional controls and engineering controls to: (a) address residual contaminated soils that may be excavated from the site during future redevelopment. The plan would require soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations; (b) evaluate the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (c) provide for the operation and maintenance of the components of the remedy; (d) monitor the groundwater, etc. and (e) identify any use restrictions on site development or groundwater use.

7. The SMP will require the property owner to provide a periodic Institutional Control/ Engineering Control (IC/EC) certification, prepared and submitted by a professional engineer or environmental professional acceptable to the Department, which would certify that the institutional controls and engineering controls put in place, are unchanged from the previous certification and nothing has occurred that would impair the ability of the control to protect public health or the environment or constitute a violation or failure to comply with any operation an maintenance or soil management plan.

8. Imposition of an institutional control in form of an environmental easement or deed restriction that would: (a) require compliance with the approved site management plan, (b) limit the use and development of the property to restricted residential use; (c) restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the City Department of Health; and, (d) require the property owner to complete and submit to the NYSDEC an IC/ EC certification.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action and will allow for the identified use of the site. This remedy utilizes permanent solutions and alternative treatment to the maximum extent practicable, and satisfies the preference for remedies that reduce remove or otherwise treat or contain sources of contamination and protection of groundwater.

4/23/07
Date

Robert W. Schick, P.E.
Director
Remedial Bureau C
Division of Environmental Remediation