BROWNFIELD CLEANUP PROGRAM
DECISION DOCUMENT

Washington Street Former MGP Site No. C704046
Former Wehle Electric Site No. C704047
Binghamton, Broome County
January 2010

Statement of Purpose and Basis

This Brownfield Cleanup Program (BCP) Decision Document presents the remedy proposed by the New York State Department of Environmental Conservation (the Department) for the Washington Street Former MGP Site and the Former Wehle Electric Site. The two adjacent sites are being treated as one site (the site) in this Decision Document. The proposed remedial plan was developed in accordance with 6 NYCRR Part 375 – 3.8 (c) and guidance relative to remedy selection in the BCP.

Description of the Site

The site is located in the City of Binghamton, Broome County, New York (Figure 1). The approximately 1.4 acre site is located near the confluence of the Susquehanna and Chenango Rivers, and is bounded by commercial properties and Washington Street to the east, Water Street to the west, Susquehanna Street to the north and Riverside Drive to the south.

A manufactured gas plant (MGP) operated on the site between 1853 and 1888, producing gas first by coal carbonization and in the final years of operation, by the carbureted water gas process. All MGP-related structures were razed in 1891, except for Holder #1 which remained on-site and was used as a warehouse until sometime around 1950. The site was subsequently sold and passed through a series of owners who operated various businesses on the site throughout the years. Washington Development Associates, LLC (WDA) and New York State Electric and Gas (NYSEG) are the BCP applicants for the site.

Nature and Extent of Contamination

On-site soil and groundwater contamination was identified by the Remedial Investigation (RI) conducted between May 2006 and May 2008. No off-site MGP contamination was found in sediment or surface water in the Susquehanna River. In addition, no off-site subsurface migration of MGP contamination has been identified. In October 2008, the Department determined that the site did not represent a significant threat to public health and/or the environment. However, MGP-related impacts to soil and groundwater on the site required the development of a remedial program.

Nature of Contamination: Contaminants at the site that exceed the restricted residential soil cleanup objectives (SCOs) found in 6 NYCRR Part 375-6.8 include benzene, xylene, lead and several polycyclic aromatic hydrocarbons (PAHs). An isolated area of MGP related dense non-aqueous phase liquid (DNAPL) was identified in the area surrounding well MW-3 just south of the former gas holders. Groundwater in two on-site wells contained several chlorinated solvents, benzene, toluene, xylene, PCBs, barium, arsenic, and several PAHs above groundwater criteria.

Extent of contamination: The area of DNAPL is present as free product near monitoring well MW-3. The DNAPL is in an alluvial silt and overlying fill at depths ranging from 10 – 16 feet below grade. The extent

of DNAPL is limited to this immediate area just south of the former gas holders and does not appear to be migrating.

Subsurface soils containing benzene, xylene, PAHs, and lead were encountered at depths of approximately 12 to 20 feet and are limited to the areas within and below the two former gas holders. Very low levels of PCBs were noted in subsurface soil but they were below the restricted residential SCO. On-site shallow soils exceeded the SCOs for lead and several PAHs near borings SB-6, SB-4 and SB-21.

Groundwater contamination was found above the state groundwater standards in on-site monitoring well couplet MW-5/5D located on the central-western site boundary adjacent to Water Street. Groundwater contaminants include cyanide, benzene, toluene and xylene and several PAHs. Data suggests that the area of groundwater contamination is not migrating off-site. PCBs and chlorinated solvents were detected in on-site groundwater slightly above the groundwater standard. The detections were sporadic and not reproducible between sampling rounds. No obvious source of the PCB or chlorinated solvent contamination was found in on-site subsurface soils. Additional information on the nature and extent of contamination can be found in the Remedial Investigation Report.

Description of the Selected Remedy

The remedy is fully described in the Alternatives Analysis Report/Remedial Work Plan. Figure 2 shows the on-site areas to be remediated. The elements of the Track 4 restricted residential use remedy are as follows:

1. Excavation of MGP waste, NAPL, and contaminated soils in three excavation areas as shown in Figure 2. Soil excavation would proceed deeper than estimated depths if soils exceed one or both of the following criteria: visible tar or oil, or the presence of significant sheens or odors. It is estimated that this will result in excavation of contaminated soils to a depth of approximately 16-21 feet bgs with approximately 11,500 cubic yards (cyds) of MGP-impacted and non-MGP-impacted soils removed. The excavation areas include removal of the two former holder structures and the holder contents. Documentation sampling will occur at bottom of excavations.

2. The top 2 feet of soil from areas outside the above-described excavation areas where chemical constituents have been identified at concentrations that exceed the restricted-residential use SCOs found in 6 NYCRR Part 375-6.8 will be removed or regraded, as shown in Figure 2. A minimum two foot thick soil cover system at the bottom of which will be a demarcation layer, will be placed over any exposed surface soil that exceeds the restricted residential SCOs. Soil cover may be substituted with paved areas, sidewalks or buildings which are part of redevelopment.

3. Soil above the former holders and other deeper excavation areas will be evaluated for reuse. Soil may be reused as subsurface fill at the site if, (1) it exhibits no DNAPL, (2) it meets geotechnical requirements, (3) it meets the protection of groundwater SCOs for constituents detected in site groundwater above the groundwater standards; these include the non-MGP related compounds tetrachloroethene, vinyl chloride, and PCBs, as well as the MGP-related BTEX compounds. If only MGP-related BTEX compounds are above the protection of groundwater SCOs in soil proposed for reuse, the soil will be either sent off-site for disposal or, with Department approval, the soil may be treated by mixing with ORC (or equivalent) prior to reuse as on-site subsurface fill. Based on the RI, the estimated volume of soil with the potential for re-use as subsurface fill is 5,800 cyds.

4. Sheetpiling will be installed to brace the deep excavation areas. Dewatering of the excavation will be conducted to allow for removal soil/debris in a relatively dry condition, to allow for verification soil sampling and backfilling. Extracted water will be treated and managed in accordance with applicable guidance and regulations. Odor-control methods will be implemented as necessary to suppress odors and a site-specific community air monitoring plan (CAMP) will be developed and implemented.

5. Excavated DNAPL contaminated soil/debris and soil that does not meet the reuse criteria discussed in paragraph 2 above must be sent off-site for disposal at facility permitted to manage the material.

6. Imported backfill must be sampled and meet the requirements of DER-10 Section 5-4 (e) and must meet the lower of the restricted-residential use SCOs or the Protection of Groundwater SCOs as described in 6 NYCRR Part 375-6.8.

7. A demarcation layer will be placed over all areas where reused soil is placed prior to backfilling of clean imported fill or the site cover.

8. Institutional controls in the form of an environmental easement (EE) will be implemented which will:

   (a) require the remedial party and/or site owner to complete and submit to the Department a periodic certification of institutional controls in accordance with Part 375-1.8 (h)(3);
   (b) restrict future land use and development, which is subject to local zoning laws, 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 Department, NYSDOH or County DOH;
   (d) prohibit agriculture or vegetable gardens on the controlled property; and,
   (e) require compliance with a Department approved Site Management Plan.

9. Since the remedy results in contamination remaining at the site that does not allow for unrestricted use, a site management plan (SMP) is required, which includes an institutional and engineering control plan that identifies all use restrictions and engineering controls for the site and details the steps necessary to assure that they remain in place and effective. This plan includes but may not be limited to:

   (a) excavation plan which details the provisions for management of the soil cover system and future excavations in areas of remaining contamination;
   (b) descriptions of the provisions of the EE including any land use and groundwater use restrictions;
   (c) provisions for the inspection and maintenance of the identified engineering controls;
   (d) the steps necessary for the periodic certification of the institutional and engineering controls;
   (e) a monitoring plan to assess the performance and effectiveness of the remedy which includes, but is not limited to:

      (i) monitoring of groundwater to assess the performance and effectiveness of the remedy;
      (ii) a schedule of monitoring and frequency of periodic reviews and certification submittals to the Department; and

(iii) provisions to evaluate the potential for soil vapor intrusion for all future buildings; and,

(f) any proposed development will evaluate the potential for soil vapor intrusion or, as part of the development, installation of a soil vapor mitigation system acceptable to the New York State Department of Health (NYSDOH).

Declaration

The proposed remedy is protective of human health and the environment for the project identified by the Brownfield Cleanup Agreement for the site. It 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.

_____January 26, 2010_____
Date

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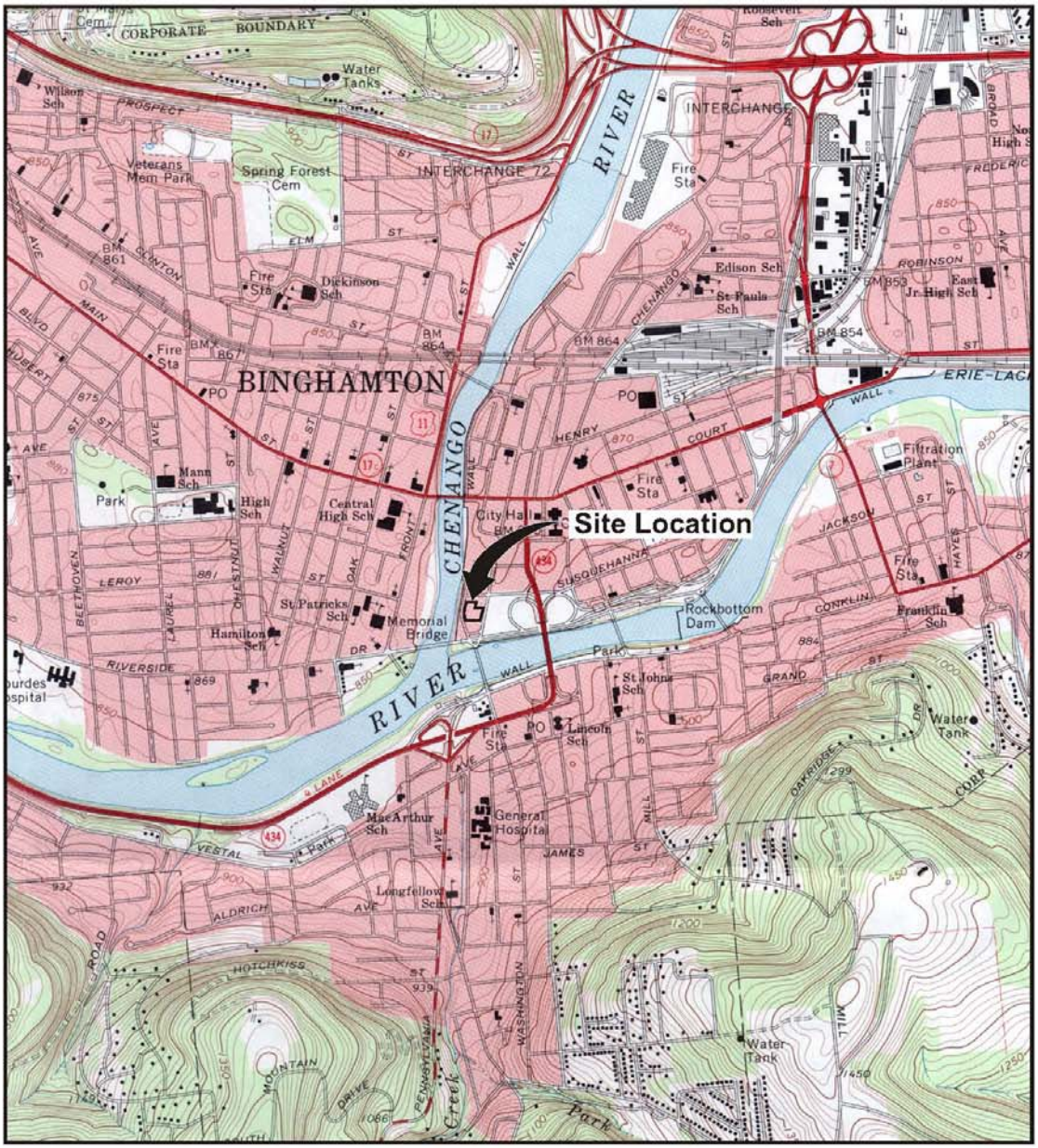
Robert W. Schick, P.E.
Director, Remedial Bureau C
Division of Environmental Remediation



REFERENCE: BASE MAP USGS 7.5 MIN. QUAD., BINGHAMTON WEST, NY, 1968, PHOTOINSPECTED 1976.

2000' 0 2000'

Approximate Scale: 1" = 2000'

NEW YORK STATE ELECTRIC & GAS CORPORATION
WASHINGTON STREET FORMER MGP SITE
BINGHAMTON, NEW YORK

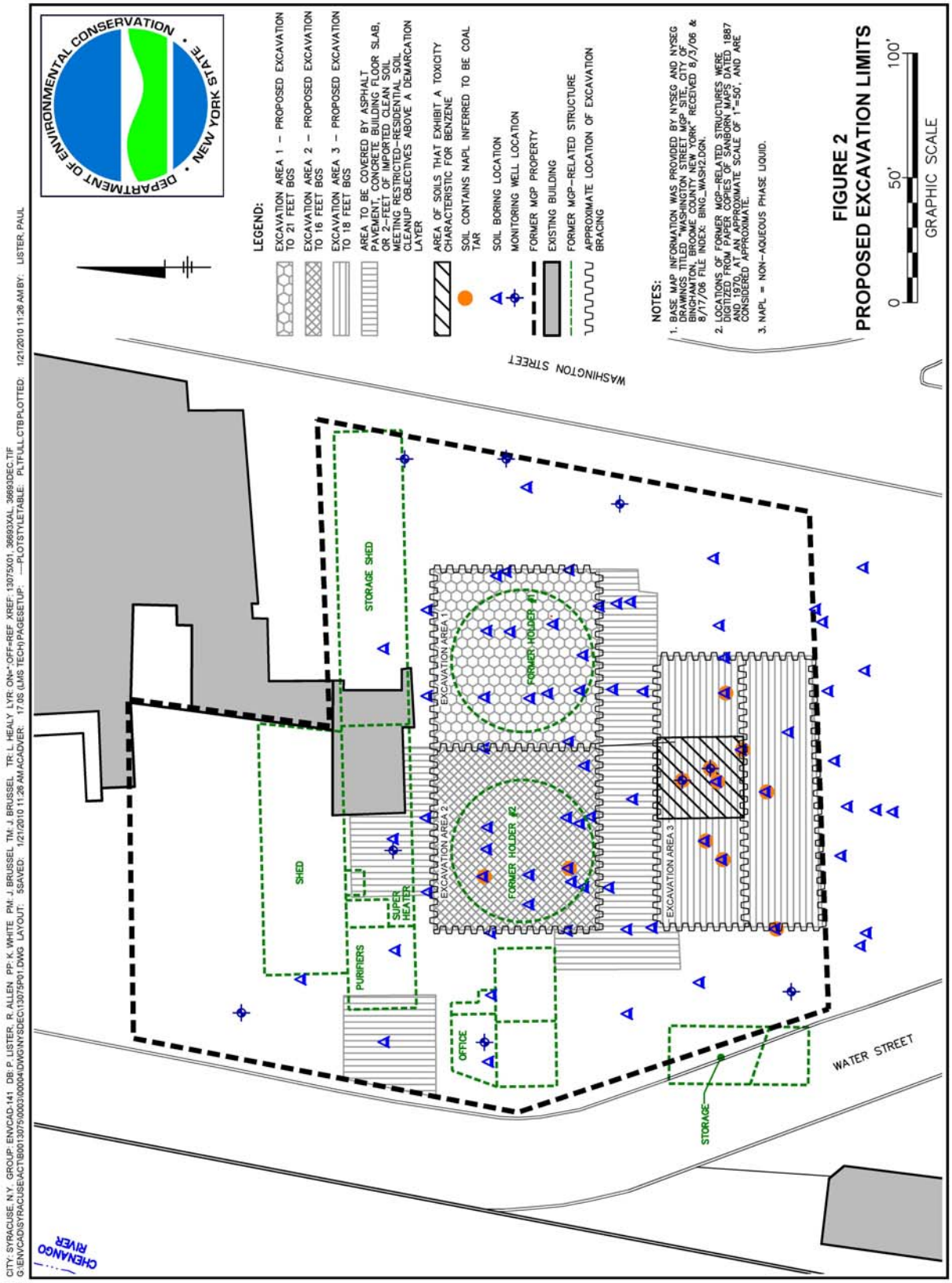
REMEDIAL INVESTIGATION

SITE LOCATION MAP

ARCADIS BBL
infrastructure, environment, facilities

FIGURE
1

08/10/07 SYR-D85-DJH, KLS
130750/02/13075n01.cdr


DEPARTMENT OF ENVIRONMENTAL CONSERVATION
NEW YORK STATE
LEGEND:
EXCAVATION AREA 1 – PROPOSED EXCAVATION TO 21 FEET BGS
EXCAVATION AREA 2 – PROPOSED EXCAVATION TO 16 FEET BGS
EXCAVATION AREA 3 – PROPOSED EXCAVATION TO 18 FEET BGS
AREA TO BE COVERED BY ASPHALT PAVEMENT, CONCRETE BUILDING FLOOR SLAB, OR 2-FEET OF IMPORTED CLEAN SOIL MEETING RESTRICTED-RESIDENTIAL SOIL CLEANUP OBJECTIVES ABOVE A DEMARCATION LAYER
AREA OF SOILS THAT EXHIBIT A TOXICITY CHARACTERISTIC FOR BENZENE
SOIL CONTAINS NAPL INFERRED TO BE COAL TAR
SOIL BORING LOCATION
MONITORING WELL LOCATION
FORMER MGP PROPERTY
EXISTING BUILDING
FORMER MGP-RELATED STRUCTURE
APPROXIMATE LOCATION OF EXCAVATION BRACING
NOTES:
1. BASE MAP INFORMATION WAS PROVIDED BY NYSEG AND NYSEG DRAWINGS TITLED "WASHINGTON STREET MGP SITE, CITY OF BINGHAMTON, BROOME COUNTY, NEW YORK" RECEIVED 8/3/06 & 8/17/06 FILE INDEX: BING_WA-SH2.DGN.
2. LOCATIONS OF FORMER MGP-RELATED STRUCTURES WERE DIGITIZED FROM PAPER COPIES OF SANBORN MAPS DATED 1887 AND 1920 AT AN APPROXIMATE SCALE OF 1"=50', AND ARE CONSIDERED APPROXIMATE.
3. NAPL = NON-AQUEOUS PHASE LIQUID.
FIGURE 2
PROPOSED EXCAVATION LIMITS
0
50'
100'
GRAPHIC SCALE
WASHINGTON STREET
WATER STREET
STORAGE SHED
SHED
PURIFIERS
SUPER HEATER
OFFICE
STORAGE
EXCAVATION AREA 1
EXCAVATION AREA 2
EXCAVATION AREA 3
FORMER HOLDER #1
FORMER HOLDER #2
CHENANGO RIVER
CITY: SYRACUSE, N.Y. GROUP: ENVCAD-141 DB: P. LISTER R. ALLEN PP: K. WHITE PM: J. BRUSSEL TM: J. BRUSSEL TR: L. HEALY LYR: ON=*;OFF=REF XREF: 13075X01 36693XAL 36693DEC.TIF
G:\ENVCAD\SYRACUSE\ACT\B0013075\00031\00004\DWG\NYSDEC\13075P01.DWG LAYOUT: SSAVED: 1/21/2010 11:26 AM ACADVER: 17.0S (LMS TECH) PAGESETUP: ---PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 1/21/2010 11:26 AM BY: LISTER, PAUL