



Department of
Environmental
Conservation

Alternative Analysis Report

East 11th St MGP – OU-1

April 11, 2023

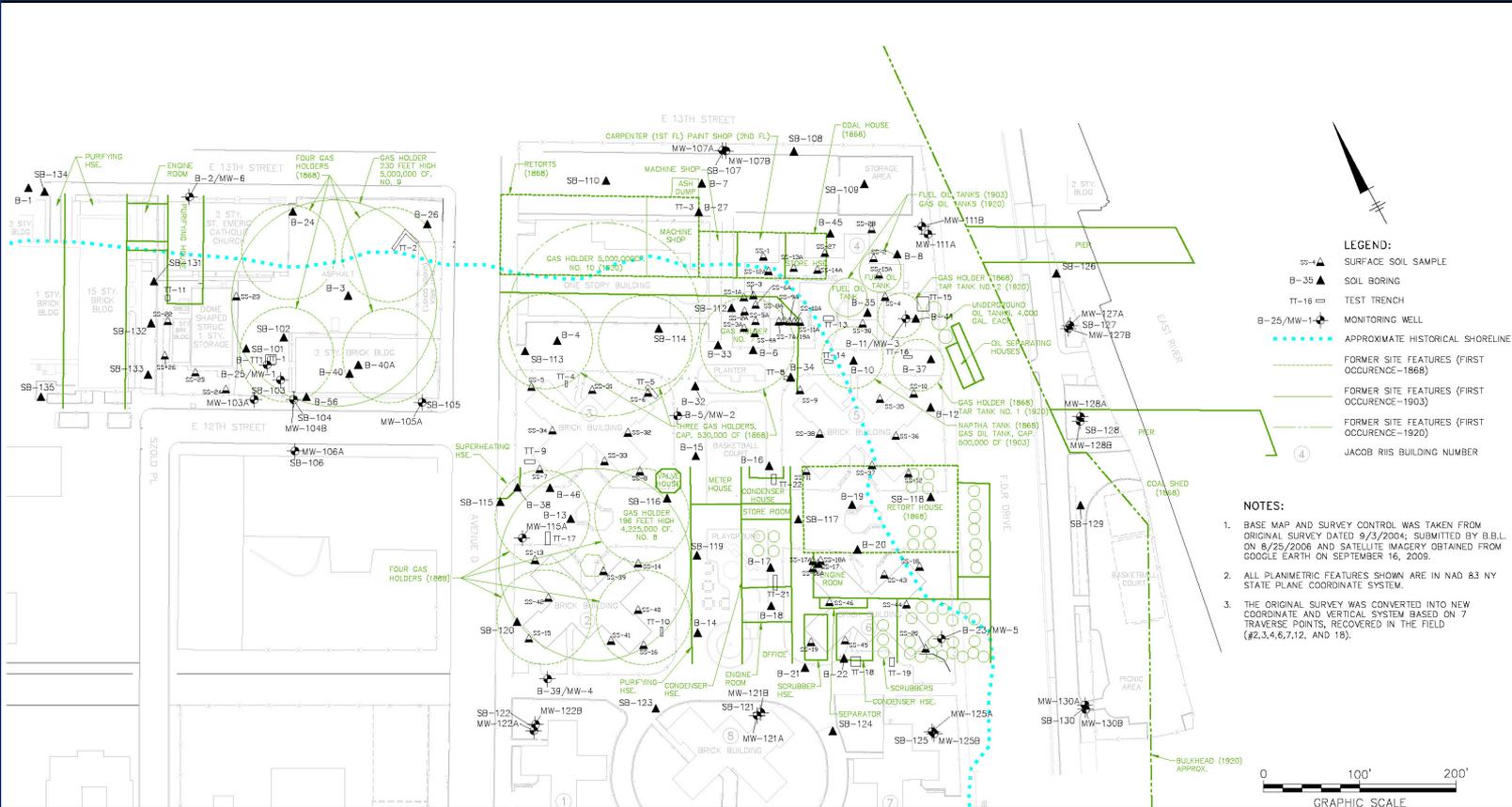


Three Operable Units

Investigations

- Site characterization - 2004
- Remedial investigation - 2006 and 2007
 - Over 50 surface soil samples collected
 - Over 150 subsurface soil samples collected.
 - Over 30 Groundwater Samples
- Indoor air investigations
 - Samples collected from several buildings over multiple events from 2010 to 2019.





- LEGEND:**
- ▲ SURFACE SOIL SAMPLE
 - ▲ B-39 SOIL BORING
 - ▬ TT-16 TEST TRENCH
 - ▲ B-25/MW-1 MONITORING WELL
 - APPROXIMATE HISTORICAL SHORELINE
 - FORMER SITE FEATURES (FIRST OCCURRENCE-1868)
 - FORMER SITE FEATURES (FIRST OCCURRENCE-1903)
 - FORMER SITE FEATURES (FIRST OCCURRENCE-1920)
 - ④ JACOB RIIS BUILDING NUMBER
- NOTES:**
1. BASE MAP AND SURVEY CONTROL WAS TAKEN FROM ORIGINAL SURVEY DATED 9/13/2004, SUBMITTED BY B.B.L. ON 8/25/2006 AND SATELLITE IMAGERY OBTAINED FROM GOOGLE EARTH ON SEPTEMBER 16, 2009.
 2. ALL PLANIMETRIC FEATURES SHOWN ARE IN NAD 83 NY STATE PLANE COORDINATE SYSTEM.
 3. THE ORIGINAL SURVEY WAS CONVERTED INTO NEW COORDINATE AND VERTICAL SYSTEM BASED ON 7 TRANSVERSE POINTS, RECOVERED IN THE FIELD (#2,3,4,6,7,12, AND 18).

Investigation Results

- Mobile coal tar has been found underground that is moving to the East River. This will be addressed separately.
- No MGP impacts detected in indoor air
- Contaminants in the surface soil were similar to levels found across Manhattan
- MGP tar in subsurface soil mostly at depths from 10 to 30 feet below the surface.
- MGP impacts to groundwater
- Groundwater is not used for drinking, bathing or washing
- Potable water is provided by municipal water system



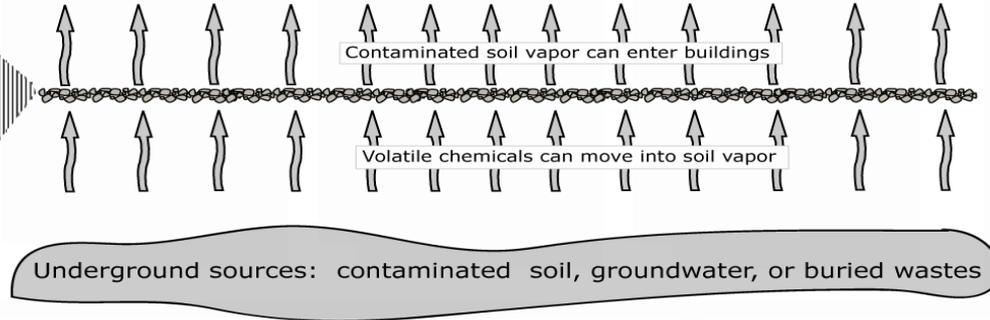
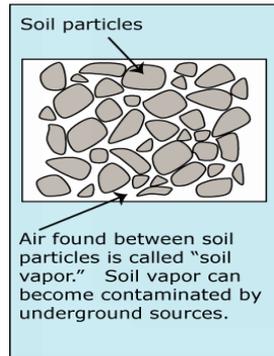
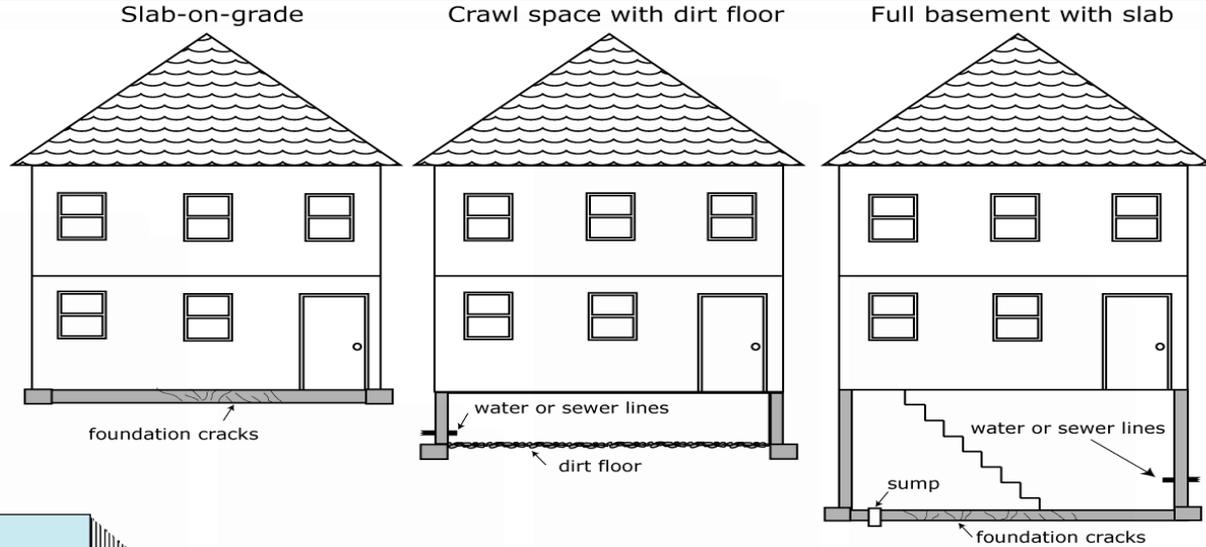
Role of the NYS Department of Health

- Work with NYSDEC to identify nature and extent of contamination to evaluate potential exposures
- Evaluate data and make recommendations to address any potential exposure and evaluate the need for additional information
- Ensure that remedy selected is protective of public health

What is exposure?

- Physical contact with a chemical or substance
 - Inhalation (breathing)
 - Direct contact (touching)
 - Ingestion (eating/drinking)
- One or more of these physical contacts must occur before a chemical has the *potential* to cause a health problem
- Exposure does not necessarily mean that health effects will occur

Soil vapor intrusion is the process by which volatile chemicals move from a subsurface source into the indoor air of overlying buildings



Potential Exposure Pathways

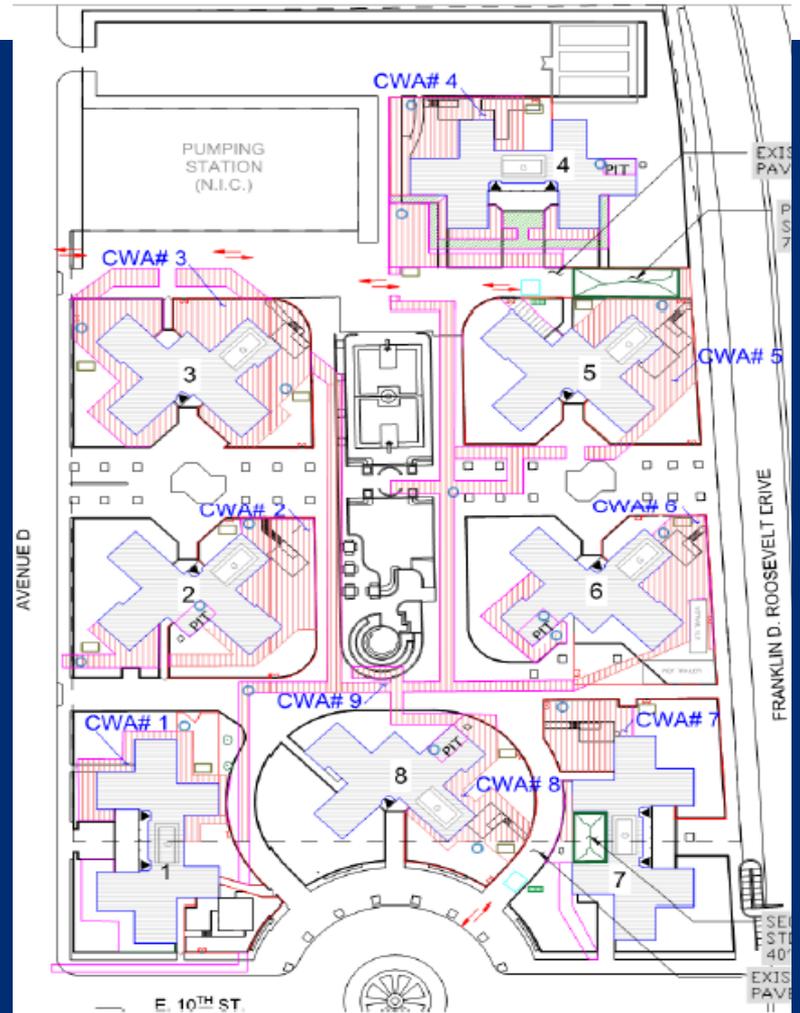
Inhalation

Direct Contact

Ingestion

Storm Hardening Work

- Hurricane Sandy Capital Improvement Program
- Work completed according to Site Management Plan, including community and air monitoring
- Soil excavated to depths of about 4-5 ft
- Excavated contaminated soil taken offsite
- Backfilled with soil that meets restricted residential use standards



Construction Controls: Community Air Monitoring



Proposed Remedy

- Coal Tar Extraction Wells
 - Wells located along eastern edge of property
 - Final placement made with consultation of NYCHA staff to ensure they are in low traffic areas.
- Removing and replacing the top two feet of soil cover around buildings 2, 3, 4, 5, and 6.
- Installation of cement flooring in Building 4 storage areas.
- Monitoring Plan -assess effectiveness of the remedy
- Operation & Maintenance Plan -ensure continued operation of the remedy
- Administrative Controls
 - Site Management Plan (SMP) to guide future excavation and ensure maintenance of the site cover.
 - Environmental Easement to alert future owners



What happens now?

- Comments accepted through May 22nd
- Final decision issued
- Design of the remedy and implementation
- Update Site Management Plan
- Place Environmental Easement
- Additional work will be done on the other operable units. e.g Coastal Resiliency Project that will be monitored and coordinated with the Department and Con Edison



Thank You

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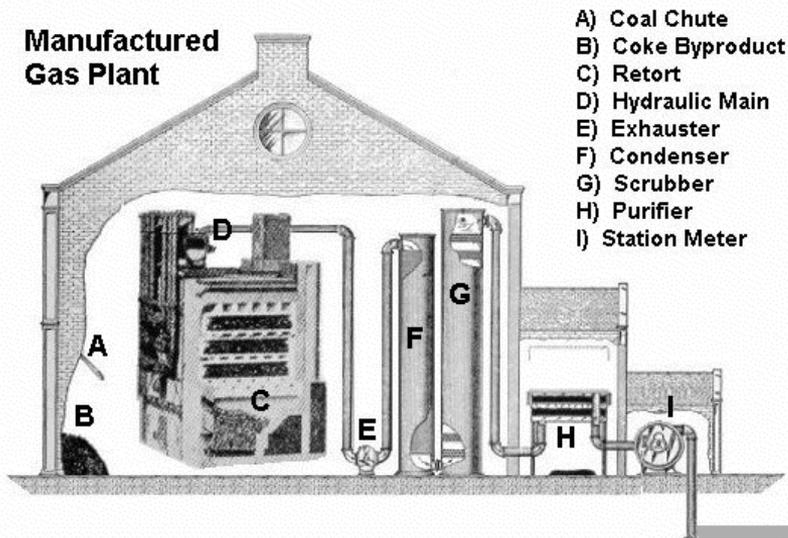
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What is an MGP?

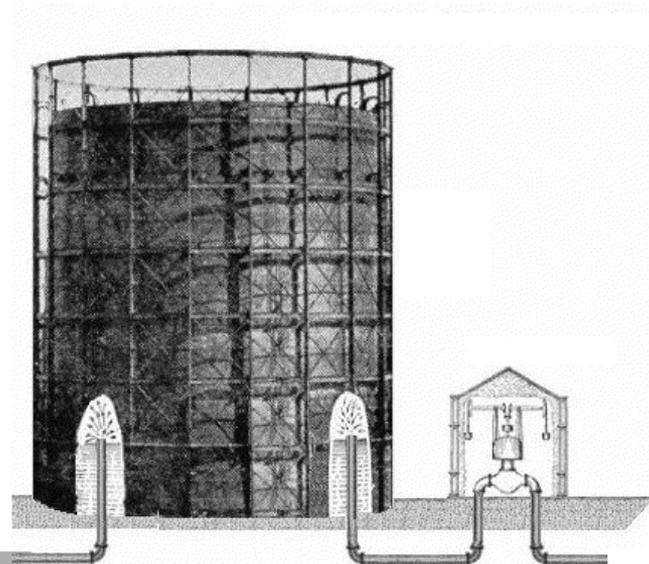
- Manufactured Gas Plant (MGP)
- Gas was produced by “baking” coal
- First started operations in the mid- 1800s; closed in the 1960’s
- Replaced by natural gas
- The MGP at E. 11th operated from the 1860s to the 1930s.
- Con Edison is a corporate successor to the MGP operator

Distribution Holder

Manufactured
Gas Plant



- A) Coal Chute
- B) Coke Byproduct
- C) Retort
- D) Hydraulic Main
- E) Exhauster
- F) Condenser
- G) Scrubber
- H) Purifier
- I) Station Meter



Nature of Contamination

MGP Plants typically have two types of contaminants of concern onsite:

1. Coal Tar
2. Purifier Waste



- Coal tar is a direct by-product of manufactured gas.
- Properties vary from site to site
- At these sites it is primarily a viscous flow-able tar
- Coal tar is a mixture of several organic compounds. These compounds fall into two groups:
 1. BTEX compounds
 2. PAH compounds

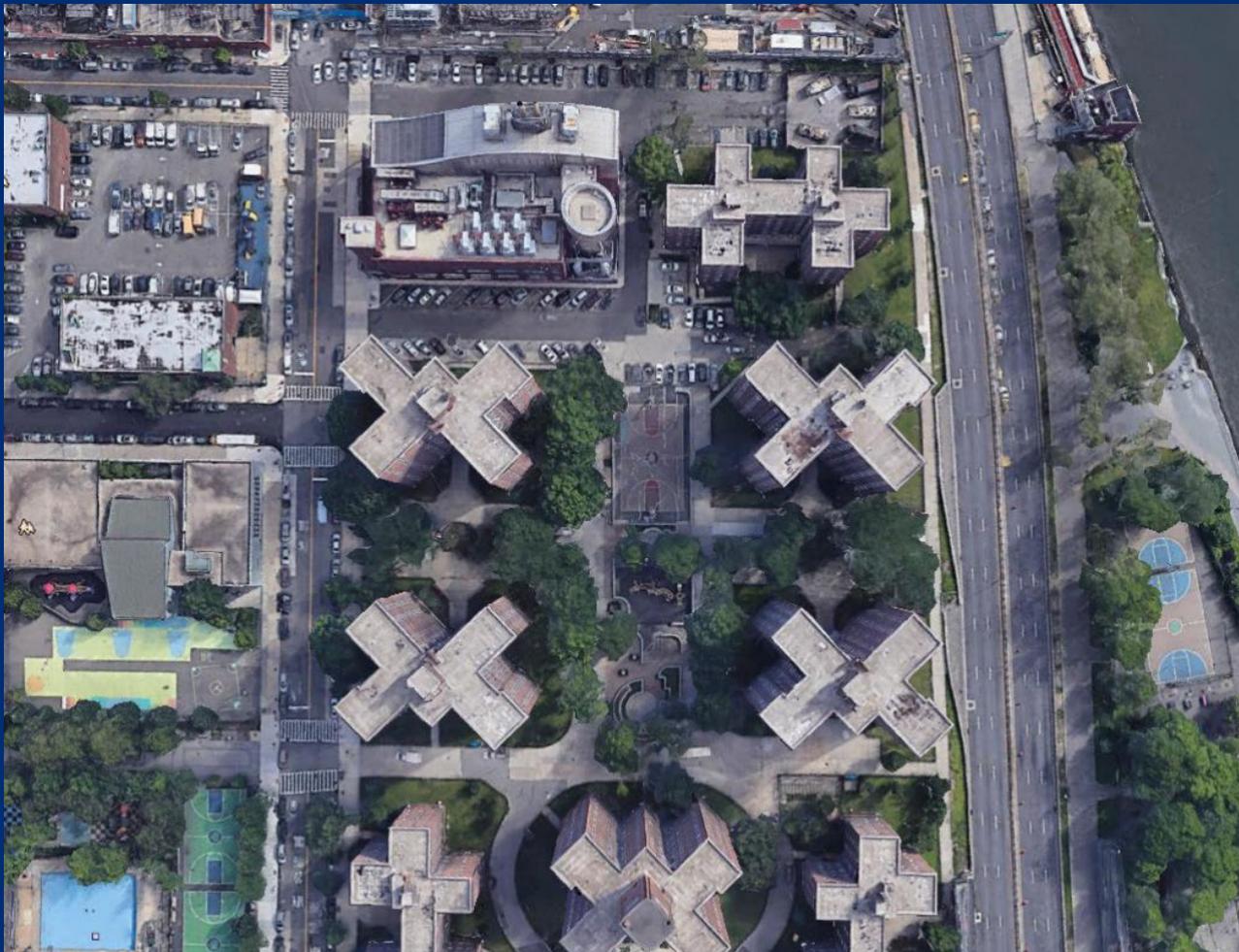
BTEX

- These are four volatile hydrocarbons: Benzene, Toluene, Ethylbenzene, and Xylene.
- Found in most liquid petroleum by-products such as gasoline.
- Lighter than water, will create sheens on water surface.
- More easily dissolved in water than PAHs, but still more likely to create sheens and float than dissolve.
- Will tend to biodegrade.

Polycyclic Aromatic Hydrocarbons (PAHs)

- By-product of burning and heating processes
- Semi-volatile compounds
- Denser than water
- Not easily dissolved and transported by water
- Not readily broken down in the environment
- Found in: asphalt, grilled meats, rubber





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