

A. INTRODUCTION

OVERVIEW

This chapter assesses the potential for the presence of hazardous materials in soil and/or groundwater at both the projected and potential development sites identified in the Reasonable Worst-Case Development Scenario (RWCDS) under the Jamaica Plan.

An assessment of potential hazardous materials impacts was performed for the projected and potential development sites for a number of reasons. For example, rezoning of manufacturing lots to a residential use can lead to exposure of future residents to hazardous materials. Therefore, as part of the process of rezoning a manufacturing zone to allow commercial or residential uses or development adjacent to a manufacturing zone, a hazardous materials assessment is appropriate. An additional consideration for the development sites included determining whether an (E) designation is necessary at privately-held sites that are projected or potential development sites under the proposed actions. An (E)-designated site is designated on the City zoning map (by block and lot) within which no change of use or development requiring a New York City Department of Buildings permit may be issued without approval of the New York City Department of Environmental Protection (DEP). These sites require the DEP's review to ensure protection of human health and the environment from any known or suspected hazardous materials associated with the site. (E) designations for hazardous materials are listed in Appendix C. An additional mechanism that is used for City-owned sites is a Memorandum of Understanding. There are four City-owned sites where this would apply. These sites are also listed in Appendix C.

METHODOLOGY¹

As described in the *New York City Environmental Quality Review (CEQR) Technical Manual*, the goal of a hazardous materials assessment is to determine whether a proposed action could lead to potential increased human exposure to hazardous materials and whether the increased exposure could lead to significant public health impacts or environmental impacts. The objective of this analysis is to determine which, if any, of the projected and potential development sites identified as part of the reasonable worst case development scenario (RWCDS) may have been adversely affected by current or historical uses on-site, adjacent to, or within 400 feet of the sites, such that the property may be adversely impacted by hazardous materials and thus require an (E) designation.

¹ The information presented in this chapter is a summary of "Toxics Targeting Computerized Environmental Report, Downtown Jamaica Redevelopment Plan, CEQR No. 05DCP081 Q, Sections 1-6, August 9, 2005."

Hazardous materials, as defined in the *CEQR Technical Manual*, are substances that pose a threat to human health and the environment including, but not limited to, heavy metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), methane, polychlorinated biphenyls (PCBs), pesticides, polychlorinated dibenzodioxins, dibenzofurans, and other hazardous wastes. Hazardous wastes are defined under the regulations promulgated by the Resource Conservation and Recovery ACT (RCRA) as solid waste that meets at least one of the four characteristics: ignitability, corrosivity, reactivity, and/or toxicity, or as identified in NYCRR Part 371.4.

For the study area, 611 sites were identified as either potential or projected development sites. Each of these sites were evaluated for the potential impacts due to hazardous materials by reviewing: (1) historical topographic maps and Sanborn fire insurance maps; (2) an environmental regulatory database summary for the project area including a 1,000 foot buffer area; and (3) observations to identify environmental conditions that may be associated with a particular property.

Historic United States Geological Survey (USGS) topographic maps dating from 1929 were obtained and reviewed to assess historical conditions within the project area.

Information such as the current occupants or site operations/activity, Tax Block and Lot numbers, addresses, land use, lot size, historic site information, building information, notes on general environmental related observations, neighboring property uses, and listings on environmental regulatory agency databases were also used in this assessment.

HISTORIC SANBORN FIRE INSURANCE MAP REVIEW

Historic and current Sanborn maps were reviewed to assess site activities and operations from specific years for the period of 1887 through 1996. For the majority of the sites, the Sanborn map coverage included 1886, 1891, 1897, 1911, 1926, 1951, 1968, 1982, and 1990. The historic Sanborn maps were reviewed for each projected and potential development site. The review consisted of identifying the name(s) of the occupant(s), the type of business conducted, and the years of occupancy for each of the specific lots. Additional information, such as whether a lot had gas tanks, chemical tanks, vats, vaults, kilns, elevators, boilers, etc., was noted. Adjacent and nearby lots were also reviewed to identify any recognized environmental conditions. Facilities listed in the *CEQR Technical Manual* with respect to hazardous materials were identified, including lots with a prior land use such as gas stations, iron works, plating, foundries, paint manufacturers, junk yards, etc. that make use of, potentially generate, or dispose chemicals that may have a deleterious effect on the environment. For adjacent or nearby lots, the historic land use was investigated to determine if activities at these sites may have the potential to release chemicals to the environment.

DATABASE REVIEW

In preparing this analysis, a number of databases of potential sources of hazardous materials were reviewed, including:

- The New York State SPILLS database which provided an inventory of sites where petroleum or chemical releases have been reported to the New York State Department of Environmental Conservation (DEC) since April 1, 1986.
- The chemical bulk storage (CBS) database which provides an inventory of facilities registered with DEC since July 15, 1998 that store hazardous substances listed as defined by

6 NYCRR Part 597 in aboveground tanks (ASTs) with capacity equal to or greater than 185 gallons and/or in underground tanks (USTs) of any size.

- The Petroleum Bulk Storage (PBS) database (or BULK PETRO) which is an inventory of properties that store greater than 1,100 gallons in aggregate of petroleum products. This database is also maintained by DEC.
- Leaking Storage Tank Incident Reports (LTANKS) are inventories of leaking storage tank incidents reported after April 1, 1986. Releases may be from underground or aboveground storage tanks, and the causes of releases may be tank test failures, tank failures, or tank overfills.
- The Hazardous Waste Generators (HAZ) database originates from the DEC manifest system for hazardous waste handlers as well as Environmental Protection Agency (EPA) records pursuant to the Resource Conservation and Recovery Act (RCRA). Also referred to as the Resource Conservation and Recovery Information System (RCRIS) database, this includes information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA.
- An air discharge database (AIR) which is a listing of air pollutant sources that are permitted with the EPA, DEC or DEP.
- New York State Brownfield Cleanup Sites (BROWNFIELD) which are sites on record with the DEC as abandoned, idle, or under used industrial and commercial sites where redevelopment is being contemplated under the DEC's Brownfields Cleanup Program.

NEW YORK CITY BUILDING DEPARTMENT FILE REVIEW

New York City Department of Buildings (DOB) files were also reviewed by accessing the DOB web site. Information noted in this review included identifying the number of DOB violations, complaints, Environmental Control Board (ECB) violations, and oil burner applications, including the date of the application. Because of the volume of violations and complaints for some sites, no further detail is provided. However, it is noted that most violations were for non-environmental-related issues including, but not limited to, certificate of occupancy issues such as illegal residences or non-operational or un-inspected elevators.

FIELD SURVEY

Each site was observed in the field in order to verify literature and data records, and to identify existing environmental conditions and note any potential evidence of historic conditions.

Because most sites were not accessible for this effort, the site reconnaissance was performed from public access ways, such as streets and sidewalks. Therefore, observations were often made from the exteriors of buildings and lots. When opportunities existed (i.e., bay doors or overhead roll up doors were open), observers noted additional information such as site activities, conditions, contents and equipment present during the survey.

Each site was observed with special attention toward environmental conditions of concern. These environmental conditions include, but are not limited to: the nature of the operations at a property; evidence of petroleum bulk storage tanks from either an oil fill port and/or vent; roof or sidewall vents where potential air discharges occur; electrical transformers or large capacitors; sheens, discoloration or staining of surfaces on or adjacent to a property; topographical disturbances including excavation and filling; stressed vegetation; and solid waste disposal practices. Activities or occupants of adjacent properties were also noted to assess the

possibility of a neighboring property contributing an impact on each of the projected or potential sites.

TOPOGRAPHY AND HYDROGEOLOGY

Based on reports compiled by the USGS, the Jamaica Queens neighborhood lies at an elevation of approximately 60 feet above sea level. Thus, groundwater is expected at a depth of approximately 30 to 40 feet below grade. Groundwater is also expected to flow in a southerly direction towards Jamaica Bay. However, actual groundwater flow direction in the vicinity of Jamaica Queens may be affected by current or past pumping from the wells of the former Jamaica Water Supply Company and other factors, including underground utilities and other subsurface openings or obstructions such as basements and subway lines.

B. EXISTING CONDITIONS

According to historical maps the study area was sparsely developed prior to 1990, with limited residential uses while commercial and manufacturing facilities were adjacent to the Long Island Rail Road (LIRR). More intensive development occurred after 1900, with a boom in residential growth occurring on blocks farther way from train tracks while commercial and manufacturing facilities continued along the rail lines.

Prior to 1900, Jamaica Avenue was lined with offices and commercial properties that catered to the surrounding neighborhood. After 1900, Jamaica Avenue was heavily developed with stores and department stores lining both sides of the avenue. Blocks to the north of Jamaica Avenue were occupied by single- and multi-level buildings, with ground-level commercial stores and upper level residences or offices.

C. THE FUTURE WITHOUT THE PROPOSED ACTIONS

In the future without the proposed actions, a number of projected and potential development sites are assumed to be developed with residential, commercial or industrial uses. These sites are described in Chapter 1, "Project Description."

D. PROBABLE IMPACTS OF THE PROPOSED ACTIONS

In the future with the proposed actions there are 186 projected development sites and 420 potential development sites that are assumed to be developed. While some of these sites may be developed in the future without the proposed actions (as stated above, see Chapter 1, "Project Description,") that "No Action" development would occur as-of-right. The analysis below examines projected and potential sites where it could be expected that development in the future with the proposed actions would have the potential for environmental impacts due to potential presence of hazardous materials. These impacts could include the potential for impacts to the health and safety of workers during construction, the potential for the transport of contaminated soil, or the potential for impact on future residents or employees of individual buildings on these sites. These adverse impacts are principally associated with the following uses and concerns:

- Current manufacturing uses on the development site or an adjacent site (e.g., machine shop, lumber yard, recycling or solid waste handling, concrete batch plant);

- Auto-related or “transportation” uses on the development site or an adjacent site (e.g., garage, filling station, auto repair, service or painting, auto wrecking or junk yard, car wash);
- Records of underground storage tanks or leaking underground storage tanks on the development site or an adjacent site;
- Records of spills of petroleum or chemicals on the development site or an adjacent site;
- Records of above ground storage tanks on the development site or an adjacent site; and
- Sites adjacent to major power substations or utilities.

For those privately owned sites listed in Appendix C, (E) designations are recommended as part of the proposed zoning. Recommendations for (E) designations are based on whether the projected and potential development sites may have been adversely affected by current or historical uses at, adjacent to, or within 400 feet of these sites. In determining whether a site is (E) designated, current site conditions were given priority consideration, followed by the adjacent site use or history, and finally the conditions within the 400-foot radius.

By placing (E) designations on sites where there is a known or suspect environmental concern, the potential for an adverse impact to human health and the environment resulting from the proposed action is avoided. The (E) designation provides City with the mechanism for addressing environmental conditions so that significant adverse impacts do not occur as a result of site development.

(E) designations require that pre-development activities at each site include a Phase 1 investigation, and, if necessary, a sampling protocol and remediation to the satisfaction of DEP before the issuance of a building permit (see Appendix C for a list of sites for which (E) designations are proposed).

CITY-OWNED SITES

In addition to the sites receiving (E) designations, there are several City owned properties that have been identified as having the potential for hazardous materials contamination. Because these sites are under City ownership, they are not subject to the regulations governing (E) designations. The agencies that own and control these sites will enter into Memoranda of Understanding or other agreements with DEP to ensure that any testing and remediation activities, as deemed necessary by DEP in accordance with DEP requirements, are performed prior to and/or during development of or a change in use on these sites. (See Table C-3 in Appendix C, “City Owned Projected and Potential Development Sites with Hazardous Materials.”) *