# CHAPTER 10: HAZARDOUS MATERIALS

## A. INTRODUCTION

This chapter assesses the potential for human and/or environmental exposure to hazardous materials in soil and/or groundwater at the Projected and Potential development sites identified in the Reasonable Worst-Case Development Scenario (RWCDS) of the proposed Bay Street Rezoning and Related Actions Proposal. The Project Area is an approximately 20-block area on Staten Island's North Shore that includes portions of the Tompkinsville, Stapleton, and St. George neighborhoods in Community District 1. The RWCDS identified 30 Projected Development Sites (sites considered more likely to be developed by the 2030 analysis year) and 23 Potential Development Sites (sites considered less likely to be developed over the same period. Both Projected Development Sites (1 – 30) and Potential Development Sites (labeled A – W) are included in this Hazardous Materials assessment (Figures 10-1 through 10-3).

As described in the *CEQR Technical Manual*, the goal of a hazardous materials assessment is to determine whether the proposed project may increase the exposure of people or the environment to hazardous materials, and, if so, whether this increased exposure would result in potential significant public health or environmental impacts from (i) elevated levels of hazardous materials on a site where pathways to human exposure would be increased, (ii) introduction of new activities or processes using hazardous materials, or (iii) introducing a population to potential human or environmental exposure from off-site sources. If significant adverse impacts are identified, CEQR requires that the impacts be disclosed and mitigated or avoided to the greatest extent practicable.[1]

Potential routes of exposure to hazardous materials can include: direct contact, e.g., contact between contaminated soil and skin (dermal contact); breathing of VOCs or chemicals associated with suspended soil particles (inhalation), swallowing of soil or water (ingestion). Public health may also be threatened when soil vapors migrate through the subsurface and/or along preferential pathways (e.g., building foundations, utility conduits, or duct work) and accumulate beneath a concrete slab or inside a basement, resulting in an explosive, oxygen-deficient, or hazardous atmosphere.[2]

A preliminary screening by tax lot of potential hazardous materials impacts was performed for all 30 Projected Development Sites and 23 Potential Development Sites. Each Projected and Potential Development Site may be comprised of more than one tax lot. This screening was performed to determine whether an (E) designation or other comparable mechanism should be placed on the Projected and Potential Development Sites identified in the RWCDS for the Proposed Actions. If an (E) designation is indicated, additional investigation and remediation would be required, thereby avoiding the potential for impacts pertaining to hazardous materials.

[1] *CEQR Technical Manual, 2014.*
[2] Ibid.




**FIGURE 10-1: CITY-OWNED AND CITY-LEASED SITES IN THE PROJECT AREA**

**BAY STREET CORRIDOR REZONING AND RELATED ACTIONS**

**STATEN ISLAND, NY**

*Map Reference: Basemap: ESRI; Shapefile: NYC Dept of City Planning, MapPLUTO Data. Prepared by Langan*




**FIGURE 10-2 BAY STREET CORRIDOR PROJECTED AND POTENTIAL DEVELOPMENT SITES**
**BAY STREET CORRIDOR**
**REZONING AND RELATED ACTIONS**

**STATEN ISLAND, NY**

*Map Reference: Basemap: ESRI; Shapefile: NYC Dept of City Planning, MapPLUTO Data*
*Prepared by Langan*

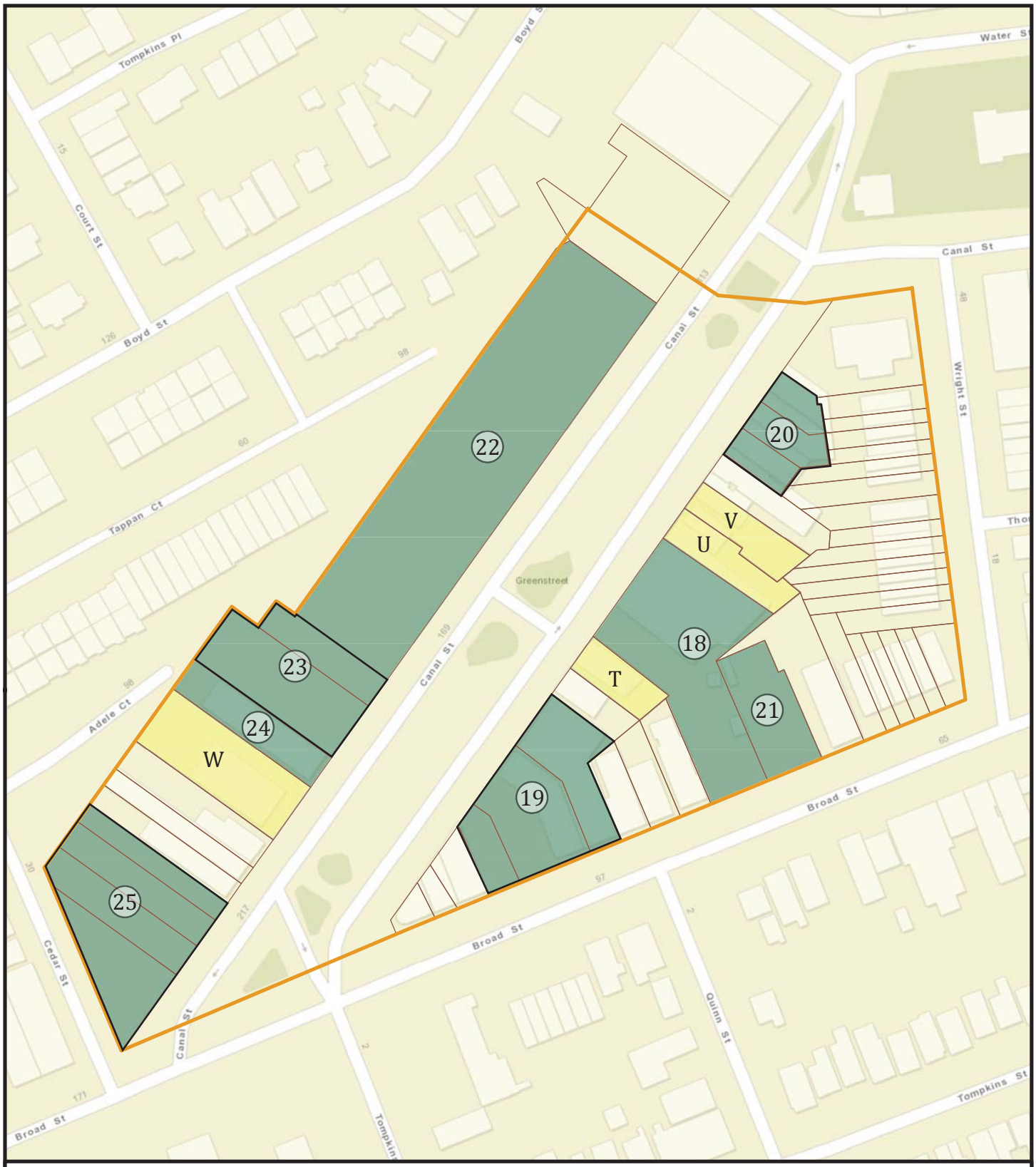


**FIGURE 10-3: CANAL STREET CORRIDOR**
**PROJECTED AND POTENTIAL DEVELOPMENT SITES**
**BAY STREET CORRIDOR**
**REZONING AND RELATED ACTIONS**

**STATEN ISLAND, NY**

*Map Reference: Basemap: ESRI; Shapefile: NYC Dept of City Planning, MapPLUTO Data*
*Prepared by Langan*

0 75 150 300 Feet

N

- Canal Street Corridor Project Area
- Projected Development Sites
- Potential Development Sites
- Affected Lots

## B. PRINCIPAL CONCLUSIONS

A preliminary screening of potential hazardous material impacts was performed for each block and tax lot comprising the 30 Projected Development Sites and 23 Potential Development Sites. Based on the screening, 27 of the 30 Projected Development Sites and all 23 Potential Development Sites possess, in some capacity, a concern regarding their environmental conditions. As a result, under the Proposed Actions, all privately held Projected and Potential Development Sites (25 Projected Development Sites and 23 Potential Development Sites) would include (E) designations requiring that a hazardous materials assessment be performed including, but not limited to, a Phase I Environmental Site Assessment and any subsequent appropriate assessment or action. In addition, for two of the three City-owned sites identified for disposition (City Disposition Sites 1 and 2), the environmental requirements with respect to hazardous materials would be incorporated into the land disposition agreement (LDA) between the City of New York and the future developer.[3] For the two (2) Stapleton Waterfront Phase III Projected Development Sites, human exposure to known on-site hazardous materials on both of the sites would be reduced or eliminated during and after remediation/construction by following the health and safety protocols and implementing the remedial measures outlined in the Phase II Environmental Site Investigation (ESI) Report and Remedial Action Work Plan (RAWP). Implementation of the RAWP would be required pursuant to a Memorandum of Understanding (MOU) between EDC and NYCDEP. Through the implementation of the preventative and remedial measures outlined in the (E) designations applied to the 25 eligible Projected Development Sites and the 23 eligible Potential Developments Sites, and comparable measures applied to City Disposition Sites 1 and 2, and the Stapleton Waterfront Phase III Sites, the Proposed Actions would not result in significant adverse impacts from hazardous materials.

## C. METHODOLOGY

Consistent with the *CEQR Technical Manual*, reviews of regulatory databases and/or Sanborn® maps were used to determine historical uses and incidents that occurred on properties or within a 400-foot Study Area of the properties to determine whether the tax lot would be eligible to receive an (E) designation.

Chapter 24 of Title 15 of the Rules of the City of New York (15 RCNY Chapter 24) specifies the process for determining whether an (E) designation should be placed on a specific site. Section 24-04 describes the preliminary screening process, which includes reviewing historical documentation for past or current uses that may have affected or be affecting a Projected or Potential Development Site or an adjacent site. Appendix A of 15 RCNY Chapter 24 provides a list of facilities, activities, or conditions that would require a site assessment.

An (E) designated site is one on which no change of use or development that requires a New York City Department of Buildings (DOB) permit and such permit may not be issued without approval of the New York City Mayor's Office of Environmental Remediation (OER). Redevelopment of these sites requires OER review under the (E) designation program to protect human health and the environment from any known or suspected hazardous materials associated with the site. For

[3] The remaining City-owned site proposed for disposition (City Disposition Site 3 [Block 6, Lot 20]) is not anticipated to require environmental restrictions.

properties where existing buildings will be converted with no intrusive soil work, the owner would need to contact the OER and provide them with the development plans. OER would then issue a Notice of No Objection if the plans demonstrate that no exposure to hazardous materials would result as part of development, which would enable the DOB to issue the conversion permit. The (E) designation for the site would remain and must be satisfied if any future redevelopment involves excavation and/or soil disturbance.

The specific methodology for evaluating the potential for environmental impacts on the Projected and Potential development sites is described below. The methodology consists of a review of relevant environmental sources including historic Sanborn maps and regulatory agency databases. Starting with the review of Sanborn maps, if an indication of potential hazardous materials on a site was discovered, no further review for that site was undertaken. If the Sanborn map did not indicate any hazardous materials involvement, the regulatory database information was reviewed for each site. In addition, a visual inspection of the exterior of each Projected and Potential Development Site was performed to identify observable evidence regarding the current use of the site and potential, visible evidence that could indicate environmental impacts.

In summary, if a potential environmental concern was identified during the review of a single data source on development site, an (E) designation was placed on the site and no further environmental review was performed. If a concern was not immediately identified, additional data sources were consulted for the site, adjacent sites and sites with the 400-foot Study Area around each site until environmental concerns were confirmed for each development site.

Historic Sanborn Fire Insurance Maps

Historic Sanborn maps were obtained from Environmental Data Resources, Inc. (EDR). The Sanborn map review for the Projected and Potential Development Sites included an examination of maps from 1885, 1898, 1917, 1937 and each available decade from 1950 through 2007.

Regulatory Databases

For each of the Projected and Potential Development Sites, published environmental databases were reviewed to identify use, generation, storage, treatment, disposal, and/or release of hazardous substances and/or petroleum products that may have impacted the development sites. The regulatory databases were reviewed separately for each site, adjoining sites and for sites within the Study Area around each of the Potential or Projected Development Sites. Where sites were adjacent to each other on the same block, the buffer zone was measured from the center of the clustered sites.

Environmental Data Resources, Inc. (EDR) was commissioned to prepare a database report for the study area that mapped and described properties listed on environmental databases within the study area. Table 10-1 below outlines the databases that were reviewed for each Projected and Potential Development Sites, consistent with ASTM International (ASTM) Standard E1527-13 *Standard Practice for Phase I Environmental Site Assessments: Phase I Environmental Site Assessment Process.*

**Table 10-1: Regulatory Agency Databases Reviewed**

| |
|---|
| Federal National Priorities List (NPL) |
| Federal Delisted NPL Site List |
| NPL LIENS Federal Superfund Liens |
| Federal Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) List |
| Federal CERCLIS No Further Remedial Action Planned (NFRAP) List |
| Federal Resource Conservation and Recovery Act (RCRA) Corrective Action Report |
| Federal RCRA non-CORRACTS Treatment, Storage or Disposal (TSD) Facilities List |
| Federal RCRA Generators Lists (Large, Small, NonGen and Conditionally Exempt) |
| Federal Institutional Control/Engineering Control Registries |
| Federal Emergency Response Notification System (ERNS) |
| VAPOR REOPENED Vapor Intrusion Legacy Site List |
| New York State Spills (NY Spills) |
| Inactive Hazardous Waste Disposal Sites in New York State (SHWS) |
| Hazardous Substance Waste Disposal Site Inventory (HSWDS) |
| Solid Waste Facility/Landfill (SWF/LF) |
| Leaking Storage Tanks Incidents Report (LTANKS) |
| Registered Aboveground/Underground Storage Tanks (ASTs/USTs) |
| CBS UST Chemical Bulk Storage Database |
| MOSF UST Major Oil Storage Facilities Database |
| CBS AST Chemical Bulk Storage Database |
| Institutional and Engineering Controls (INST CNTRL/ENG CNTRL) |
| Manufactured Gas Plant Sites (Coal Gas) |
| Drycleaners Database |
| Voluntary Cleanup Program (VCP) |
| Brownfields Cleanup Program |

SITE INSPECTIONS

Exterior site inspections were performed on October 20th 2016 for each Projected and Potential Development Site to identify any visible monitoring wells, vent pipes, fill ports and/or manufacturing, commercial and industrial uses, which could indicate environmental concerns.

LIMITATIONS

The assessment performed to prepare the hazardous materials chapter included a review of Sanborn maps, EDR database reports, site reconnaissance from public rights-of-way, and a review of available relevant environmental reports for specific properties. The review did not include the performance of any subsurface testing programs. Protocols used in conducting reviews were consistent with those outlined in the ASTM E1527-13 standard and the *CEQR Technical Manual*. Other elements of a Phase I Environmental Site Assessment (ESA) and the protocols outlined in the *CEQR Technical Manual* (*e.g.,* reviews of building department and fire department records, a title deed search, and interviews with current and former employees and owners) were not included as part of the assessment. Full Phase 1 ESAs were not undertaken because sufficient information pursuant to 15 RCNY Chapter 24 was gathered to indicate that (E) designations should be placed on sites.

## D. EXISTING CONDITIONS

The Project Area has been occupied by residential, industrial, and commercial uses for at least the last 100 years. In the early 20th century, the Project Area was home to a variety of uses, but by the 1950s, manufacturing uses were generally phased out and property vacancies started to increase in the 1970s. Currently, the area is comprised primarily of commercial uses with some scattered residential uses along the Bay Street and Canal Street corridors. A more detailed description of existing conditions on the Projected and Potential Development Sites is provided below.

PROJECTED DEVELOPMENT SITES

*SITE 1 (BLOCK 488, LOT 71)*

This site is located on the eastern side of Bay Street, on approximately the northeast corner of the intersection of Bay Street and Grant Street. Currently, the site is partially developed with a partially constructed building and very little paved surface. An exterior site inspection performed on October 20th 2016 revealed the building on the site remains unfinished and has no tenant. Historically, the site possessed a lumber yard and coal piles through the 1970's, and has been vacant since the 1980's.

*SITE 2 (BLOCK 487, LOTS 60, 64 & 80)*

This site is located on the eastern side of Bay Street, on approximately the northeast corner of the intersection of Bay Street and Hannah Street, and extends adjacent to the Staten Island Railroad (SIR) to the intersection of Victory Boulevard and Minthorne Street. Currently, the site is primarily developed with multiple buildings and large paved parking area for use as a gas station and car wash. Historically, lot 60 possessed multiple automobile related uses including automobile sales and repair. Lot 64 possessed a commercial facility in the 1930's but has remained vacant along with lot 80 since the 1950's. A database search revealed that four (4) 10,000 gallon USTs are in service on lot 60 and eighteen (18) 550 gallon USTs have been closed and removed from lot 60. On January 19th 2005 an unknown amount of unknown petroleum was released to the sewer on lot 60 by an unknown cause. The release was assigned spill number 0411341 and was subsequently closed by the New York State Department of Environmental Conservation (DEC) on January 22nd 2008. On February 17th 2010 an unknown amount of unknown petroleum was released on lot 60 by an unknown cause. The release was assigned spill number 0912063 and was subsequently closed by DEC on July 7th 2010.

*SITE 3 (BLOCK 488, LOT 9)*

This site is located on the eastern side of Bay Street, on approximately the northeast corner of the intersection of Congress Street and Bay Street. Currently the site is primarily paved with gravel with portions being paved with asphalt for use in its entirety as a parking facility. Historically the site possessed a lumber yard, coal yard, parking area and automobile sales facility.

*SITE 4 (BLOCK 488, LOTS 18, 26, 175, 201 & 206)*

This site is located on the eastern side of Bay Street, on approximately the southeast corner of the intersection of William Street and Bay Street. Currently the site is developed with multiple buildings and contains a large paved parking area used for storage. Lots 26 and 175 are occupied by a marine

craft repair and sales facility and lot 18 is occupied by a dry cleaning facility. Historically the site possessed a lumber yard, steam laundry facility, mason material sales facility and an automobile garage. A database search revealed that one (1) 10,000 gallon UST was closed in place on lot 18. An exterior site inspection performed on October 20th 2016 revealed two (2) ASTs located on lot 206.

*SITE 5 (BLOCK 488, LOTS 53 & 65)*

This site is located on the eastern side of Bay Street between the intersections of Grant Street and Bay Street and Clinton Street and Bay Street. Currently, the site is developed in its entirety with two buildings and two large paved parking areas. Lot 53 is occupied by a grocery store and lot 65 is occupied by multiple commercial facilities including a dry cleaning facility and pharmacy. Historically, the site possessed a lumber yard until the 1920's then remained vacant until the 1980's. A database search revealed that a pharmacy located on lot 65 is a known Resource Conservation and Recovery Act (RCRA) waste generator.

*SITE 6 (BLOCK 489, LOT 5)*

This site is located on the eastern side of Bay Street, on approximately the southeast corner of the intersection of Wave Street and Bay Street. Currently, the site is developed in its entirety with a building and paved parking area for use as an automotive sales and repair facility. Historically the site possessed a filling station from the 1930's to the 2000's. A database search revealed that thirteen (13) 550 gallon USTs we're closed and removed from the site and one (1) 550 gallon UST has been converted to a non-regulated use on site. On April 13th 1989, an unknown amount of unknown petroleum was released to the sewer on site by an unknown cause. The release was assigned spill number 8900426 and was subsequently closed by DEC on April 13th 1989. On September 12th 1989, an unknown amount of gasoline was released on site by an unknown cause. The release was assigned spill number 8905762 and was subsequently closed by DEC on November 18th 2014. On March 12th 1998, an unknown amount of gasoline was released on site caused by tank failure. The release was assigned spill number 9713791 and was subsequently closed by DEC on March 15th 2006. On November 20th 2007, an unknown amount of waste oil was released on site caused by tank test failure. The release was assigned spill number 0709111 and has not been reported closed.

*SITE 7 (BLOCK 497, LOT 1, 7 & 9)*

This site is located on the eastern side of Bay Street, bound by Minthorne Street to the south and west and Victory Boulevard to the north. Currently, the site is developed in its entirety with multiple buildings for use as City-leased office facilities and a private brewery. Historically, the site possessed commercial facilities providing automobile based services including sales and repairs and a bowling alley from the 1930's to the 1990's.

*SITE 8 (BLOCK 498, LOT 1)*

This site is located on the western side of Bay Street, on approximately the northwest corner of the intersection of Hannah Street and Bay Street. Currently, the site is developed in its entirety with a single building and paved area for use as a gas station. Historically, the site possessed an automotive sales facility and has been a filling station since the 1960's. A database search revealed that twelve (12) 550 gallons USTs were closed and removed from the site and a total of three (3) USTs remain

on the site (one (1) 8,000 gallon UST and two (2) 4,000 gallon USTs). On October 8th 2001, an unknown amount of #2 fuel oil was released on site by an unknown cause. The release was assigned spill number 0107084 and was subsequently closed by DEC on October 31st 2003. On September 4th 2010, an unknown amount of gasoline was released on site caused by a traffic accident. The release was assigned spill number 1006162 and was subsequently closed by DEC on September 7th 2010.

*SITE 9 (BLOCK 500, LOTS 16, 18, 20, 22 & 24)*

This site is located on the eastern side of Van Duzer Street between the intersections of Hannah Street and Van Duzer Street and Swan Street and Van Duzer Street. Currently, the site is developed in its entirety with a paved parking area and multiple buildings for use as an automobile storage facility and residential area. Historically, the site has been primarily vacant and possessed a small number of dwelling units on lot 22 since the 1950's.

*SITE 10 (BLOCK 502, LOT 1)*

This site is located on the western side of Bay Street, bound by St. Julian Place to the south and Van Duzer Street Extension the west, intersecting diagonally with Bay Street to form a triangle shaped lot. Currently, the site is paved in its entirety and an exterior site inspection performed on October 20th 2016 revealed the site is vacant. Historically, the site possessed a stone work facility from the early 1900's to the 1950's then possessed an automobile sales facility.

*SITE 11(BLOCK 505, LOTS 4 & 51)*

This site is located on the western side of Bay Street, on approximately the northwest corner of the intersection of Grant Street and Bay Street. Currently, the site is developed in its entirety with multiple buildings and a paved parking area for use as an automobile sales and repair facility. Historically, the site possessed a small number of dwelling units until the 1950's when it became an automobile repair facility. A database search revealed that one (1) 200 gallon AST is in service on lot 4.

*SITE 12 (BLOCK 505, LOTS 11, 12 & 14)*

This site is located on the western side of Bay Street, on approximately the middle of the block between the intersections of Grant Street and Bay Street and Clinton Street and Bay Street. Currently, the site is developed in its entirety with multiple buildings and a paved parking area for use as an automobile sales facility and residential area. Historically, the site has possessed residential dwelling units since the early 1900's. A database search revealed that one (1) 250 gallon UST has been converted to a non-regulated use on lot 12.

*SITE 13 (BLOCK 505, LOTS 22, 24 & 25)*

This site is located on the northern side of Clinton Street, on approximately the middle of the block between the intersections of Van Duzer Street and Clinton Street and Bay Street and Clinton Street. Currently, the site is partially developed with a single building and is largely unpaved and an exterior site inspection performed on October 20th 2016 revealed the site is vacant. Historically, the site possessed a lumber yard until the 1930's and a storage facility until the 1990's.

*SITE 14 (BLOCK 505, LOT 18)*

This site is located on the northern side of Clinton Street, on the approximately northwest corner of the intersection of Bay Street and Clinton Street. Currently, the site is developed in its entirety with a single building and paved parking area for use as an automobile repair facility. Historically, the site possessed an automobile repair facility, filling station, and automobile sales facility since the 1930's. A database search revealed that one (1) 250 gallon AST is in service on the site.

*SITE 15 (BLOCK 507, LOTS 12 & 17)*

This site is located on the western side of Bay Street, on approximately the northwest corner of the intersection of Baltic Street and Bay Street. Currently, the site is developed in its entirety with multiple buildings for use as a motorcycle sales and repair facility. Historically, the site possessed a small number of dwelling units until the 1930's when it became a motorcycle sales facility.

*SITE 16 (BLOCK 508, LOTS 22, 23 & 24)*

This site is located on the eastern side of Van Duzer Street, on approximately the southeast corner of the intersection of Clinton Street and Van Duzer Street. Currently, the majority of the site is entirely vacant and undeveloped; however, there is a small storage structure on the western portion of lot 24. Historically, the site possessed a small number of residential dwelling units but became largely vacant after the 1950's.

*SITE 17 (BLOCK 509, LOTS 1, 4 & 8)*

This site is located on the western side of Bay Street and is bound from the intersection of William Street and Bay Street to the north to the intersection of Congress Street and Bay Street to the south and extends to the end of Congress Street. Currently, the site is developed in its entirety with multiple buildings and a paved parking area for use as a storage facility and grocery store. Historically, lots 4 and 8 possessed automobile sales and repair facilities until 1992 and lot 1 possessed a filling station until the 1990's.

*SITE 18 (BLOCK 526, LOT 11)*

This site is located on a through lot between Canal Street and Broad Street, on approximately the middle of the block between the intersections of Broad Street and Wright Street and Broad Street and Canal Street. Currently, the site is developed with multiple buildings for commercial uses. An exterior site inspection performed on October 20th 2016 revealed the southern portion of the lot is being used to store numerous deteriorating automobiles. Historically, the site possessed a bowling alley until the 1950's and an automobile repair facility until the 1990's.

*SITE 19 (BLOCK 526, LOTS 19, 21 & 25)*

This site is located on through lots between Canal Street and Broad Street, on approximately the south western portion of the block between the intersections of Broad Street and Wright Street and Broad Street and Canal Street. Currently, the site is developed in its entirety with multiple buildings and a paved parking area for use as a house of worship and residential area. Historically, the site

possessed a manufacturing facility in 1917, and a small number of residential dwelling units as well as a funeral facility from the 1950's to the 2000's.

*SITE 20 (BLOCK 526, LOTS 57, 59 & 61)*

This site is located on the eastern side of Canal Street, on approximately the northern side of the block between the intersections of Canal Street and Water Street and Canal Street and Broad Street. Currently, the site is developed in its entirety with multiple buildings for use as an automobile product sales facility. Historically, the site has possessed an automobile product sales facility since at least 1917. A database search revealed that on April 15th 1994 one (1) gallon #2 fuel oil was released on lot 59 caused by tank overfill. The release was assigned spill number 9400710 and was subsequently closed by DEC on April 15th 1994. On March 14th 1996 one (1) gallon of #2 fuel oil was released on lot 59 caused by human error. The release was assigned spill number 9516055 and was subsequently closed by DEC on March 14th 1996.

*SITE 21 (BLOCK 526, LOT 8)*

This site is located on the northern side of Broad Street, on approximately the middle of the block between the intersections of Broad Street and Wright Street and Broad Street and Canal Street. Currently, the site is paved with gravel for use as a parking area. An exterior site inspection performed on October 20th 2016 revealed indication of potentially historic fill stockpiled on the northwest corner of the lot. Historically, the site possessed storage facilities in the late 1800's and has remained largely vacant since the 1930's.

*SITE 22 (BLOCK 527, LOT 49)*

This site is located on the western side of Canal Street, on approximately the middle of the block between the intersections of Canal Street and Water Street and Canal Street and Broad Street. Currently, the site is undeveloped in its entirety and contains no structures or paved surfaces. Historically, the site possessed multiple facilities for a large brewery formerly located west of the site, including a garage for delivery trucks, a barrel washing station and a hotel, but has remained vacant since their demolition in the 1970's.

*SITE 23 (BLOCK 527, LOTS 50 &52)*

This site is located on the western side of Canal Street, on approximately the middle of the block between the intersections of Canal Street and Water Street and Canal Street and Broad Street. Currently, the site is undeveloped in its entirety and contains no structures. Historically, the site possessed a beer garden in the early 1900's, a bowling alley until the 1950's, and a metal storage facility in the early 1980's.

*SITE 24 (BLOCK 527, LOT 55)*

This site is located on the western side of Canal Street, on approximately the southern portion of the bock between the intersections of Canal Street and Water Street and Canal Street and Broad Street. Currently, the site is developed in its entirety with a building however; an exterior site inspection performed on October 20th 2016 revealed the building appears to be vacant. Historically, the site

possessed a bakery in the early 1900's and various commercial facilities until the 1980's when it became vacant.

*SITE 25 (BLOCK 527, LOTS 65, 66, 68 & 70)*

This site is located on the western side of Canal Street, on approximately the northeast corner of the intersection of Broad Street and Cedar Street. Currently, lots 65, 66 and 68 are developed in their entirety with buildings for commercial facilities, lot 70 remains undeveloped in its entirety. Historically, the site possessed various commercial uses and a storage facility on the northwest portion of lot 70.

*SITE 26- CITY DISPOSITION SITE 1 (BLOCK 9, LOT 9)*

This site is located on the eastern side of Stuyvesant Place, on approximately the middle of the block between the intersections of Hamilton Avenue and Stuyvesant Place and Wall Street and Stuyvesant Place. Currently, the site is developed in its entirety by a New York State Department of Health (DOH) office building. Historically, the site possessed a small number of residential dwelling units in the late 1800's and has been a DOH property since 1937. A database search revealed that one (1) 3,088 gallon UST was closed-in place on the site.

*SITE 27- CITY DISPOSITION SITE 2 (BLOCK 34, LOT 1)*

This site is located on the northern side of Jersey Street constituting the majority of the block bound by Jersey Street to the south between the intersections of Jersey Street and Victory Boulevard, Castleton Avenue to the west between the intersections of Castleton Avenue and Jersey Street and Castleton Avenue and Brook Street, Brook Street to the north between the intersections of Brook Street and Castleton Avenue and Brook Street and Pike Street, and Pike Street to the east between the intersections of Pike Street and Brook Street and Pike Street and Victory Boulevard. Currently, the site is developed in its entirety with a large building and paved surfaces for use as a New York City Department of Sanitation (DSNY) garage. Historically, the site possessed a storage facility for carriages in the late 1800's, automobiles in the early 1910's and busses in the 1930's. A database search revealed that 12 storage tanks, five (5) 275 gallon ASTs and seven (7) total USTs (five (5) 550 gallon USTs, one (1) 13,900 gallon UST and one (1) 14,000 gallon UST) have been closed and removed from the site. Additionally, four (4) storage tanks, one (1) 550 gallon AST and three (3) total USTs (two (2) 4,000 gallon USTs and one (1) 1,100 gallon UST) have been closed-in place on the site. Currently, six (6) USTs (one (1) 8,000 gallon UST, two (2) 4,000 gallon USTs, two (2) 3,000 gallon USTs and one (1) 1,000 gallon UST) are in use on the site. On November 11th 1991, twenty-five (25) gallons of #2 fuel oil was released on site was caused by tank failure. The release was assigned spill number 9109146 and was subsequently closed by DEC on January 1st 2005. On May 18th 2000, an unknown amount of hoist oil was released on site caused by tank test failure. The release was assigned spill number 0002084 and was subsequently closed by DEC on March 10th 2006. On May 10th 2001, an unknown amount of unknown petroleum was released on site by an unknown cause. The release was assigned spill number 0101578 and was subsequently closed by DEC on November 14th 2005. On June 20th 2001, an unknown amount of #2 fuel oil was released on site caused by tank test failure. The release was assigned spill number 0103084 and has not been reported closed. On January 8th 2002 an unknown amount of unknown petroleum was released on site caused by

equipment failure. The release was assigned spill number 0109768 and was subsequently closed by DEC on March 10th 2003. On January 24th 2005, an unknown amount of diesel was released on site by an unknown cause. The release was assigned spill number 0485470 and was subsequently closed by DEC on November 14th 2005. On November 16th 2010, the United States Environmental Protection Agency (EPA) assigned the site EPA ID: NYN000206437 and listed the site as a Superfund Site receiving non-National Priority List (NPL) status. An exterior site inspection performed on October 20th 2016 revealed multiple monitoring wells on the site boundary along Brook Street between the intersections of Brook Street and Castleton Avenue and Brook Street and Pike Street.

*SITE 28- CITY DISPOSITION SITE 3 (BLOCK 6, LOT 20)*

This site is located on the western side of Central Avenue and directly west of the intersection of Central Avenue and Slosson Terrace. Currently, the site is developed in its entirety with a paved surface for use as a municipal parking lot. Historically, this site possessed a small number of dwelling units between the late 1800's and 1930's and was converted to an automobile parking facility in the 1950's.

*SITE 29 – STAPLETON WATERFRONT PHASE III SITE A (BLOCK 487, LOT 100) &*
*SITE 30- STAPLETON WATERFRONT PHASE III SITE B1 (BLOCK 487, LOT 100)*

These sites are located on the eastern side of Front Street, on approximately the northeast corner of the intersection of Front Street and Wave Street and are concurrently vertical to one another. Currently these sites are partially developed with multiple buildings and paved surfaces but are vacant due to significant damage sustained from Hurricane Sandy in 2012. Historically, Site A possessed a repair shop for the United Stated Navy in the 1990's and was vacant prior to United States Government ownership in the 1980's. Historically Site B1 possessed a lumber yard in the late 1800's and 1910's but was largely vacant until 1988 when the United Stated Government acquired the site and constructed a power plant in 1990. A database search revealed six (6) storage tanks, one (1) 2,000 gallon AST and five (5) total USTs (four (4) 1,000 gallon USTs and one (1) 2,000 gallon UST) have been closed and removed from the sites. Additionally, three (3) storage tanks, one (1) 250,000 gallon AST and two (2) total USTs (one (1) 4,000 gallon UST and one (1) 1,000 gallon UST) have been closed-in place on the sites. On December 4th 1991, an unknown amount of diesel was released to surface water on site by an unknown cause. The release was assigned spill number 9109417 and was subsequently closed by DEC on December 4th 1991. On December 19th 1991, twenty (20) gallons of diesel was released on site caused by human error. The release was assigned spill number 9109976 and was subsequently closed by DEC on December 19th 1991. On September 28th 1992, five (5) gallons of diesel was released to surface water on site by an unknown cause. The release was assigned spill number 9207473 and was subsequently closed by DEC on September 28th 1992. On May 17th 1993, five (5) gallons of diesel was released to surface water on site caused by tank overfill. The release was assigned spill number 9302210 and was subsequently closed by DEC on May 18th 1993. On August 1st 1993, twenty (20) gallons of diesel was released on site caused by human error. The release was assigned spill number 9305403 and was subsequently closed by DEC on August 1st 1993. On April 5th 2000, an unknown amount of unknown petroleum was released to surface water on site caused by equipment failure. The release was assigned spill number 0000197 and was subsequently closed by DEC on May 1st 2000. On April 26th 2001, and unknown amount of diesel was released on site by an unknown cause. The release was assigned spill number 0101067 and was subsequently

closed by DEC on December 11th 2003. On March 3rd 2002, an unknown amount of waste oil was released on site caused by tank failure. The release was assigned spill number 0230022 and was subsequently closed by DEC on December 11th 2003. On September 21st 2011, fifty (50) gallons of hydraulic oil was released on site caused by equipment failure. The release was assigned spill number 1107850 and was subsequently closed by DEC on November 3rd 2011. Additionally, a Phase II ESI Report for the Stapleton Homeport Redevelopment (Appendix F, "Hazardous Materials"), which encompasses both Stapleton Waterfront Phase III Sites, was prepared on behalf of the New York City Economic Development Corporation in August 2008.

POTENTIAL DEVELOPMENT SITES

*SITE A (BLOCK 487, LOT 42)*

This site is located on the eastern side of Bay Street, on approximately the southeast corner of the intersection of Bay Street and Hannah Street. Currently the site is developed in its entirety for use as an automobile rental facility. Historically the site possessed a filling station from the 1930's to 1988. A database search revealed that eight (8) 550 gallon USTs have been closed and removed from the site. On September 3rd 2003 an unknown amount of diesel was released on site caused by equipment failure. The release was assigned spill number 0305878 and was subsequently closed by DEC on May 21st 2004.

*SITE B (BLOCK 488, LOT 1)*

This site is located on the eastern side of Bay Street, on approximately the northeast corner of the intersection of Bay Street and Wave Street. Currently the site is developed in its entirety with a building and paved parking area for use as a restaurant. Historically the site possessed a small number of dwelling units followed by a lumber yard from the 1930's to 1988.

*SITE C (BLOCK 488, LOTS 157, 162 & 164)*

This site is located on the northern side of Wave Street, on approximately the middle of the block between the intersections of Bay Street and Wave Street and Front Street and Wave Street. Currently the site is developed in its entirety with multiple buildings and paved parking areas for use as an automobile repair facility. Historically lots 162 and 157 possessed a small number of dwelling units from 1898 to 1962 and lot 164 possessed an auto repair facility as early as 1937.

*SITE D (BLOCK 489, LOT 1)*

This site is located on the eastern side of Bay Street, on approximately the northeast corner of the intersection of Bay Street and Sands Street. Currently the site is developed in its entirety with a building for use as a laundromat. Historically the site possessed a hotel, bowling alley, dance hall and union hall throughout the 20th century.

*SITE E (BLOCK 489, LOT 16)*

This site is located on the southern side of Wave Street, on approximately the middle of the block between the intersections of Wave Street and Bay Street and Wave Street and Front Street. Currently

the site is developed in its entirety with a building for commercial use. Historically the site possessed a small number of dwelling units and a delivery service from the early 1900's to 1962.

*SITE F (BLOCK 489, LOT 19)*

This site is located on the southern side of Wave Street, on approximately the middle of the block between the intersections of Wave Street and Bay Street and Wave Street and Front Street. Currently the site is developed in its entirety with a building but an exterior site inspection performed on October 20th 2016 revealed the building appears to be vacant. Historically the site possessed a bus garage in 1937 and a manufacturing facility until 1986.

*SITE G (BLOCK 498, LOT 5)*

This site is located on the northern side of Hannah Street, on approximately the northeast corner of the intersection of Hannah Street and Van Duzer Street. Currently the site is developed in its entirety with a building and paved parking area for use as an automotive repair shop. Historically the site possessed a small number of residential dwelling units and a saloon until 1937 when it became an automobile sales facility.

*SITE H (BLOCK 498, LOT 74)*

This site is located on the western side of Bay Street and directly west of the intersection of Bay Street and Minthorne Street. Currently the site is developed in its entirety with a building for use as a commercial facility. Historically the site possessed a sign painting facility from 1937 to 1950 and was converted to office space in 1962.

*SITE I (BLOCK 500, LOTS 1, 10, 11 & 12)*

This site is located on the western side of Bay Street, on approximately the southwest corner of the intersection of Bay Street and Hannah Street. Currently the site is developed in its entirety with a building and paved parking area for use as a commercial facility. Historically the site possessed a filling station on lot 1 from the 1930's to 1996 and remained largely vacant on lots 10, 11 and 12 with the exception of a small number of commercial facilities prior to the 1950's. A database search revealed that sixteen (16) total USTs (two (2) 4,000 gallon USTs and fourteen (14) 550 gallon USTs) have been closed and removed from lot 1. On April 11th 1997 an unknown amount of gasoline was released on lot 1 by an unknown cause. The release was assigned spill number 9700560 and was subsequently closed by DEC on April 17th 1997. On April 14th 1997 an unknown amount of gasoline was released on lot 1 by an unknown cause. The release was assigned spill number 9700621 and was subsequently closed by DEC on December 22nd 2010. An exterior site inspection performed on October 20th 2016 revealed multiple monitoring wells on the site boundary along Hannah Street between the intersections of Hannah Street and Van Duzer Street and Hannah Street and Bay Street, and along Bay Street between the intersections of Bay Street and Hannah Street and Bay Street and Swan Street.

*SITE J (BLOCK 502, LOT 34)*

This site is located on the eastern side of Van Duzer Street, bound by Swan Street to the north and Van Duzer Street Extension to the east, intersecting diagonally with Bay Street to form a triangle shaped lot. Currently the site is developed in its entirety as a paved parking area. Historically the site has possessed a number of commercial uses and automobile repair facilities until the 1950's where it remained vacant until 2003. An exterior site inspection performed on October 20th 2016 revealed the entirety of the lot is being used to store numerous deteriorating automobiles and contains minor surface spills of unknown material.

*SITE K (BLOCK 503, LOT 1)*

This site is located on the eastern side of Van Duzer Street, on approximately the northeast corner of the intersection of Van Duzer Street and Grant Street. Currently the site is developed in its entirety with a building and paved parking area for use as a commercial facility. Historically the site possessed a lumber yard and parking facility from the 1930's to at least 2007.

*SITE L (BLOCK 503, LOT 32)*

This site is located on the western side of Bay Street, on approximately the southwest corner of the intersection of Bay Street and St. Julian Place. Currently the site is developed in its entirety with a building for use as a City-leased office. Historically the site possessed a parking facility and automobile repair facility starting in the 1960's.

*SITE M (BLOCK 505, LOT 1)*

This site is located on the western side of Bay Street, on approximately the southwest corner of the intersection of Bay Street and Grant Street. Currently the site is developed in its entirety with a building for use as residential area. Historically the site has possessed a small number of residential dwelling units since the 1880's.

*SITE N (BLOCK 507, LOTS 1, 5 & 6)*

This site is located on the western side of Bay Street, on approximately the southwest corner of the intersection of Bay Street and Clinton Street. Currently the site is developed in its entirety with multiple buildings for use as commercial facilities. Historically the site possessed a lumber yard from 1917 to the 1930's and an automobile sales facility from the 1950's to the late 1980's on lot 1 and a small number of residential dwelling units and various commercial uses on lots 5 and 6.

*SITE O (BLOCK 508, LOTS 9 & 21)*

This site is located on the northern side of William Street, on approximately the middle of the block between the intersections of William Street and Van Duzer Street and William Street and Bay Street. Currently the site is primarily developed with multiple buildings and a paved parking area for commercial uses and residences. Historically the site possessed a small number of residential dwelling units and an automobile repair facility from the 1950's to the 1960's.

*SITE P (BLOCK 508, LOT 1)*

This site is located on the western side of Bay Street, on approximately the southwest corner of the intersection of Bay Street and Baltic Street. Currently the site is developed in its entirety with a building and paved parking area for use as a restaurant. Historically the site possessed a commercial facility prior to conversion into a parking lot in the 1970s.

*SITE Q (BLOCK 509, LOT 34)*

This site is located on the southern side of William Street, on approximately the middle of the block between the intersections of William Street and Van Duzer Street and William Street and Bay Street. Currently the site is developed in its entirety with a building for use as an industrial facility. Historically the site possessed a plumbing supply storage facility from the 1930's to 1987. A database search revealed on June 9th 2014 fifteen (15) gallons of #2 fuel oil was released on site caused by equipment failure. The release was assigned spill number 1402561 and was subsequently closed by DEC on December 15th 2015.

*SITE R (BLOCK 510, LOT 43)*

This site is located on the southern side of Congress Street, on approximately the middle of the block between the intersection of Congress Street and Bay Street and the end of Congress Street. Currently the site is developed in its entirety with a building for use as an automobile repair facility. Historically the site has possessed an automobile repair facility since the 1930's. An exterior site inspection performed on October 20th 2016 revealed a direct natural gas line extending to the site.

*SITE S (BLOCK 511, LOT 1)*

This site is located on the western side of Bay Street, on approximately the southwest corner of the intersection of Bay Street and Wave Street. Currently the site is developed in its entirety with a building for use as a commercial facility. Historically the site has possessed a commercial facility and plumbing supply storage facility since the 1930's. An exterior site inspection performed on October 20th 2016 revealed a fuel oil port on the site boundary along Wave Street between the intersections of Wave Street and Sands Street and Wave Street and Bay Street.

*SITE T (BLOCK 526, LOT 43)*

This site is located on the eastern side of Canal Street, on approximately the southern portion of the block between the intersections of Canal Street and Broad Street and Canal Street and Water Street. Currently the site is developed in its entirety for use as a residential area. Historically the site possessed a school from the 1930's to the 1990's and was vacant prior to the 1930's.

*SITE U (BLOCK 526, LOT 52)*

This site is located on the eastern side of Canal Street, on approximately the northern portion of the block between the intersections of Canal Street and Broad Street and Canal Street and Water Street. Currently the site is partially developed for use as a residential area. An exterior site inspection performed on October 20th 2016 revealed the building appears to be vacant. Historically the site has possessed a small number of residential dwelling units since the 1880's.

*SITE V (BLOCK 526, LOT 53)*

This site is located on the eastern side of Canal Street, on approximately the northern portion of the block between the intersections of Canal Street and Broad Street and Canal Street and Water Street. Currently the site is partially developed with a building for use as a commercial or office facility. Historically the site has possessed commercial facilities since the 1930's.

*SITE W (BLOCK 527, LOT 59)*

This site is located on the western side of Canal Street, on approximately the southern portion of the block between the intersections of Canal Street and Broad Street and Canal Street and Water Street. Currently the site is developed in its entirety with a building and paved area for use as a day care facility. Historically the site possessed commercial facilities from the early 1900's to the 1980's where it remained vacant until 2005.

## E. THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO-ACTION CONDITION)

In the No-Action Condition, the identified Projected and Potential Development Sites would either remain unchanged from existing conditions or become occupied by uses that are as-of-right under existing zoning and reflect market conditions in the Project Area. As discussed in Chapter 2, "Land Use, Zoning, and Public Policy," in the No-Action Condition, six (6) Projected Development Sites would undergo residential development, and it is anticipated that there would be a decrease in commercial use over existing conditions. The development under the No-Action Condition is expected to result in an incremental increase over existing conditions of approximately six (6) residential units (two (2) in the Bay Street Corridor Project Area and four (4) in the Canal Street Corridor Project Area) and 24,789 sf of additional community facility space; and result in a net decrease of 32,825 sf of commercial space. In its entirety, the development in the No-Action Condition is anticipated to constitute twelve (12) dwelling units, 343,235 sf of commercial space, and 37,879 sf of community facility space.

However, any construction involving soil disturbance could potentially create or increase pathways for human exposure to any subsurface hazardous materials present. And, without the controls required under (E) designations in place on sites projected for development under the No-Action Condition, the exposure to humans and the environment to hazardous materials could occur.

There is one Restrictive Declaration (R-205) that currently exists on Stapleton Waterfront Phase III Sites A and B1 (Block 487, Lot 100). Under the No-Action Condition, Site A (Projected Development Site 29) is anticipated to remain unchanged from existing conditions and such soil disturbance would not necessarily be conducted in accordance with the procedures (*e.g.,* for conducting testing before commencing excavation and implementation of health and safety plans during construction) described in the following section. A building on Site B1 (Projected Development Site 30) however, is anticipated to be demolished under the No-Action Condition. As such, without the Proposed Actions, the amount of soil disturbance would be less, but the controls on its performance on Site A (Projected Development Site 29) would not be as stringent as under the Proposed Actions, as described below.

## F. THE FUTURE WITH THE PROPOSED ACTIONS (WITH-ACTION CONDITION)

In the With-Action Condition, there are 30 Projected Development Sites (sites considered more likely to be developed by the 2030 analysis year) and 23 Potential Development Sites (sites considered less likely to be developed over the same period, but nonetheless included in this Hazardous Materials assessment). The analysis below examines Projected and Potential Development Sites where it could be expected that development in the future with the Proposed Actions would have the potential to increase the exposure of people or the environment to hazardous materials. The potential for exposure to humans exists during construction or after construction at an occupied site. The potential for exposure to the environmental exists through the transport of hazardous materials during or after construction.

ASSESSMENT

The hazardous materials screening identified that 27 of the 30 Projected Development Sites and all 23 Potential Development Sites have some associated concern regarding environmental conditions. As a result, the proposed zoning map actions include (E) designations for all 25 privately-owned Projected Development Sites and all 23 privately-owned Potential Development Sites. In addition, on City Disposition Sites 1 and 2, the environmental requirements with respect to hazardous materials would be incorporated into the land disposition agreement (LDA) between the City of New York and the future developer with measures comparable to the (E) designation. City Disposition Site 3 located at 51 Central Street (Block 6, Lot 20) would be excluded from receiving an (E) designation or other comparable measure.[4] Restrictions related to the two (2) Stapleton Waterfront Phase III sites located at 355 Front Street (Block 487, Lot 100) are described below.[5]

Appendix A of the Hazardous Materials Chapter (Chapter 24 of Title 15 of the Rules of the City of New York) provides a list of facilities, activities or conditions requiring assessment. If the Projected or Potential development sites or adjacent properties have indications of activities or conditions listed in Appendix A, placement of an (E) designation is recommended. In addition, if properties within the Study Area surrounding each of the Projected or Potential Development Sites possessed facilities, activities or conditions listed in Appendix A, assignment of an (E) designation is also recommended. The (E) designation recommendations are listed in Table 10-4 and a matrix summarizing the details of the findings of the assessment for the Projected and Potential development sites is provided in Tables 10-2 and Table 10-3, respectively, below. In the matrix, the results for the Projected and Potential development sites are reported separately from findings for the sites included within the 400-foot Study Area.

The screening for all sites was conducted by reviewing historical documentation for past or current facilities, activities or conditions that may have affected or be affecting a Projected or Potential development site or an adjacent site. The past uses were compared to the list of types of facilities, activities or conditions that could lead to a site receiving an (E) designation listed in Appendix A of

[4] City Disposition Site 3 is to be excluded due to the historical use of the property (primarily a paved parking surface) and because there are no environmental concerns on-site or within 400 feet of the site.
[5] The Stapleton Waterfront Phase III sites are to be excluded based on recommendations and findings from a Phase II ESI performed in 2008 located in Appendix F, "Hazardous Materials."

the Hazardous Materials chapter. Based on this screening, 25 Projected and 23 Potential development sites within the Project Area meet the criteria for placement of an (E) designation.

By placing (E) designations on sites where there is a known or potential environmental concern, the potential for an adverse impact to human health and the environment resulting from the Proposed Actions would be reduced or avoided. The (E) designation provides the impetus to identify and address facilities, activities or conditions environmental conditions so that significant adverse impacts during site development would be reduced. The OER would provide regulatory oversight of the environmental investigation and remediation during this process. Building permits are not issued by the DOB without prior OER approval of the investigation and/or remediation pursuant to the provisions of Section 11-15 of the New York City Zoning Resolution (Environmental Requirements).

The (E) designation would require that the fee owner of such a site conduct a testing and sampling protocol and have an approved remediation plan where appropriate, prior to redevelopment or changes in use on the site. The DOB typically issues the foundation permits when OER approves a remedial action work plan — actual remediation is usually done concurrently with construction. The remediation plan provided to OER to satisfy the (E) designation must also include a mandatory construction-related health and safety plan.

The (E) designation requirements related to hazardous materials would apply to the following development sites within the Study Area:

**Table 10-2: E Designation Sites – Projected Development Sites**

| Bay Street Corridor Project Area Projected Development Sites | | |
|---|---|---|
| **Site** | **Block** | **Lot** |
| 1 | 488 | 71 |
| 2 | 487 | 60, 64, 80 |
| 3 | 488 | 9 |
| 4 | 488 | 18, 26, 175, 201, 206 |
| 5 | 488 | 53, 65 |
| 6 | 489 | 5 |
| 7 | 497 | 1, 7, 9 |
| 8 | 498 | 1 |
| 9 | 500 | 16, 18, 20, 22, 24 |
| 10 | 502 | 1 |
| 11 | 505 | 4, 51 |
| 12 | 505 | 11, 12, 14 |
| 13 | 505 | 22, 24, 25 |
| 14 | 505 | 18 |
| 15 | 507 | 12,17 |
| 16 | 508 | 22, 23, 24 |
| 17 | 509 | 1, 4, 8 |
| **Canal Street Corridor Project Area Projected Development Sites** | | |
| 18 | 526 | 11 |
| 19 | 526 | 19,21,25 |
| 20 | 526 | 57, 59 61 |
| 21 | 526 | 8 |
| 22 | 527 | 49 |
| 23 | 527 | 50,52 |
| 24 | 527 | 55 |
| 25 | 527 | 65, 66, 68, 70 |

**Table 10-3: Designation Sites – Potential Development Sites**

| Bay Street Corridor Project Area Potential Development Sites | | |
|---|---|---|
| **Site** | **Block** | **Lot** |
| A | 487 | 42 |
| B | 488 | 1 |
| C | 488 | 157, 162, 164 |
| D | 489 | 1 |
| E | 489 | 16 |
| F | 489 | 19 |
| G | 498 | 5 |
| H | 498 | 74 |
| I | 500 | 1, 10, 11, 12 |
| J | 502 | 34 |
| K | 503 | 1 |
| L | 503 | 32 |
| M | 505 | 1 |
| N | 507 | 1, 5, 6 |
| O | 508 | 9, 21 |
| P | 508 | 1 |
| Q | 509 | 34 |
| R | 510 | 43 |
| S | 511 | 1 |
| **Canal Street Corridor Project Area Potential Development Sites** | | |
| T | 526 | 43 |
| U | 526 | 52 |
| V | 526 | 53 |
| W | 527 | 59 |

The (E) designation text related to hazardous materials is as follows:

**Task 1**

**The applicant must submit to the New York City Office of Environmental Remediation (OER), for review and approval, a Phase 1 Environmental Site Assessment (ESA) of the site along with a soil and groundwater testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented.**

**If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER. The number and location of sample sites should be selected to adequately characterize the site, the specific source of suspected contamination (*i.e.,* petroleum based contamination and non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.**

**Task 2**

**A written report with findings and a summary of the data must be submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER.**

**If remediation is indicated from the test results, a proposed remediation plan must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER. The applicant should then provide proper documentation that the work has been satisfactorily completed.**

**An OER-approved construction-related health and safety plan would be implemented during evacuation and construction activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil and/or groundwater. This plan would be submitted to OER for review and approval prior to implementation.**

**All demolition or rehabilitation would be conducted in accordance with applicable requirements for disturbance, handling and disposal of suspect lead-paint and asbestos-containing materials. For all Projected and Potential development sites where no E-designation is recommended, in addition to the requirements for lead-based paint and asbestos, requirements (including those of NYSDEC) should petroleum tanks and/or spills be identified and for off-site disposal of soil/fill would need to be followed.**

As noted above, the Proposed Actions would include (E) designations for all privately held Projected and Potential Development Sites (25 Projected Development Sites and 23 Potential Development Sites). For two of the three City-owned parcels within the Project Area, the implementation of the environmental restrictions would be required through LDAs between the City of New York and the

**Table 10-4: Environmental Assessment and E Designation Details –Projected and Potential Development Sites**

| RWCDS Site Number | Block | Lot | Address | Existing Zoning | Existing Ownership | Sanborn Maps | Regulatory Agency Databases | Site Inspection | Onsite Environmental Concern | Environmental Concern within 400-ft Buffer | Recommendations |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Bay Street Corridor Project Area Projected Development Sites** | | | | | | | | | | | |
| 1 | 488 | 71 | 365 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| 2 | 487 | 60 | 231 -253 Bay Street | M1-1 | Private | N | Y | N | St, Gs, Sp | Y | E |
| | | 64 | N/A Minthorne Street | M1-1 | Private | N | N | N | | Y | E |
| | | 80 | N/A Minthorne Street | M1-1 | Private | N | N | N | | Y | E |
| 3 | 488 | 9 | 475 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| 4 | 488 | 18 | 465 Bay Street | M1-1 | Private | N | Y | N | Dc, St | Y | E |
| | | 26 | 453 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| | | 175 | 3 Baltic Street | M1-1 | Private | N | N | N | | Y | E |
| | | 201 | N/A Wave Street | M1-1 | Private | N | N | N | | Y | E |
| | | 206 | 467 Bay Street | M1-1 | Private | N | N | N | St | Y | E |
| 5 | 488 | 53 | 425 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| | | 65 | 385 Bay Street | M1-1 | Private | N | Y | N | Dc, RCRA | Y | E |
| 6 | 489 | 5 | 511 Bay Street | M1-1 | Private | N | Y | N | A, St, Sp | Y | E |
| 7 | 497 | 1 | 215 Bay Street | M1-1 | City | N | N | N | | Y | E |
| | | 7 | 209 Bay Street | M1-1 | City | N | N | N | | Y | E |
| | | 9 | 181 Bay Street | M1-1 | City-leased | N | N | N | | Y | E |
| 8 | 498 | 1 | 248 Bay Street | M1-1 | Private | N | Y | N | Gs, UST, Sp | Y | E |
| 9 | 500 | 16 | 15 Swan Street | M1-1 | Private | N | N | N | | Y | E |
| | | 18 | N/A Swan Street | M1-1 | Private | N | N | N | | Y | E |
| | | 20 | N/A Swan Street | M1-1 | Private | N | N | N | | Y | E |
| | | 22 | 121 Van Duzer Street | M1-1 | Private | N | N | N | | Y | E |
| | | 24 | N/A Van Duzer Street | M1-1 | Private | N | N | N | | Y | E |
| 10 | 502 | 1 | N/A Bay Street | M1-1 | Private | N | N | N | | Y | E |
| 11 | 505 | 4 | 380 Bay Street | M1-1 | Private | N | Y | N | A, St | Y | E |
| | | 51 | N/A Grant Street | M1-1 | Private | N | N | N | | Y | E |
| | | | | | | | | | | | |

**Legend:**

N= No
Y= Yes
UST= Underground Storage Tank
I= Industrial
Mw= Monitoring well
Gs= Gas Station
Sp= Spill
Fp= Fill port
A= Auto repair/service
St= Storage Tank
Vp= Vent Pipe
Dc= Dry Cleaner
E= E Designation
RCRA= RCRA waste generator
LDA = Land Disposition Agreement

**Table 10-4 (cont.): Environmental Assessment and E Designation Details –Projected and Potential Development Sites**

| RWCDS Site Number | Block | Lot | Address | Existing Zoning | Existing Ownership | Sanborn Maps | Regulatory Agency Databases | Site Inspection | Onsite Environmental Concern | Environmental Concern within 400-ft Buffer | Recommendations |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 505 | 11 | 392 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| | | 12 | 394 Bay Street | M1-1 | Private | N | Y | N | A, UST | Y | E |
| | | 14 | 398 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| 13 | 505 | 22 | 13 Clinton Street | M1-1 | Private | N | N | N | A | Y | E |
| | | 24 | N/A Clinton Street | M1-1 | Private | N | N | N | | Y | E |
| | | 25 | N/A Clinton Street | M1-1 | Private | N | N | N | | Y | E |
| 14 | 505 | 18 | 406 Bay Street | M1-1 | Private | N | Y | N | A, St | Y | E |
| 15 | 507 | 12 | 442 Bay Street | M1-1 | Private | N | N | N | A | Y | E |
| | | 17 | N/A Baltic Street | M1-1 | Private | N | N | N | | Y | E |
| 16 | 508 | 22 | N/A Van Duzer Street | R3X | Private | N | N | N | | Y | E |
| | | 23 | N/A Van Duzer Street | R3X | Private | N | N | N | | Y | E |
| | | 24 | N/A Van Duzer Street | R3X | Private | N | N | N | | Y | E |
| 17 | 509 | 1 | 466 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| | | 4 | N/A Bay Street | M1-1 | Private | N | N | N | | Y | E |
| | | 8 | 478 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| **Canal Street Corridor Project Area Projected Development Sites** | | | | | | | | | | | |
| 18 | 526 | 11 | 164 Canal Street | C2-2/R4 | Private | N | N | N | | Y | E |
| 19 | 526 | 19 | 184 Canal Street | C2-2/R4 | Private | N | N | N | | Y | E |
| | | 21 | 188 Canal Street | C2-2/R4 | Private | N | N | N | | Y | E |
| | | 25 | N/A Broad Street | C2-2/R4 | Private | N | N | N | | Y | E |
| 20 | 526 | 57 | 152 Canal Street | C2-2/R4 | Private | N | N | N | | Y | E |
| | | 59 | 150 Canal Street | C2-2/R4 | Private | N | Y | N | Sp, A | Y | E |
| | | 61 | 146 Canal Street | C2-2/R4 | Private | N | N | N | A | Y | E |
| 21 | 526 | 8 | N/A Broad Street | C2-2/R4 | Private | N | N | Y | | Y | E |
| 22 | 527 | 49 | N/A Canal Street | C2-2/R3-2 | Private | N | N | N | | Y | E |
| 23 | 527 | 50 | N/A Canal Street | C2-2/R3-2 | Private | N | N | N | | Y | E |
| | | 52 | N/A Canal Street | C2-2/R3-2 | Private | N | N | N | | Y | E |
| 24 | 527 | 55 | 205 Canal Street | C2-2/R3-2 | Private | N | N | N | | Y | E |

**Legend:**

| | | | | |
|---|---|---|---|---|
| N= No | UST= Underground Storage Tank | Gs= Gas Station | A= Auto repair/service | Dc= Dry Cleaner |
| Y= Yes | Mw= Monitoring well | Sp= Spill | St= Storage Tank | E= E Designation |
| I= Industrial | RCRA= RCRA waste generator | Fp= Fill port | Vp= Vent Pipe | LDA = Land Disposition Agreement |

**Table 10-4 (cont.): Environmental Assessment and E Designation Details –Projected and Potential Development Sites**

| RWCDS Site Number | Block | Lot | Address | Existing Zoning | Existing Ownership | Sanborn Maps | Regulatory Agency Databases | Site Inspection | Onsite Environmental Concern | Environmental Concern within 400-ft Buffer | Recommendations |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 527 | 65 | N/A Canal Street | C2-2/R3-2 | Private | N | N | N | | Y | E |
| | | 66 | 223 Canal Street | C2-2/R3-2 | Private | N | N | N | | Y | E |
| | | 68 | N/A Canal Street | C2-2/R3-2 | Private | N | N | N | | Y | E |
| | | 70 | N/A Canal Street | C2-2/R3-2 | Private | N | N | N | | Y | E |
| **City Disposition Sites Projected Development Sites** | | | | | | | | | | | |
| 1 | 9 | 9 | 55 Stuyvesant Place | C4-2/SG | City | N | Y | N | St | Y | LDA restrictions |
| 2 | 34 | 1 | 100 Brook Street | C2-2/ R5/HS | City | N | Y | Y | Sp, UST, Mw, Vp, St | Y | LDA restrictions |
| 3 | 6 | 20 | 51 Central Avenue | C4-2/SG | City | N | N | N | | N | |
| **Stapleton Waterfront Phase III Projected Development Sites** | | | | | | | | | | | |
| A | 487 | 100 | 355 Front Street | C4-2A/SW | City | N | Y | N | St, Sp | N | |
| B1 | 487 | 100 | 355 Front Street | C4-2A/SW | City | N | Y | N | St, Sp | N | |
| **Bay Street Corridor Project Area Potential Development Sites** | | | | | | | | | | | |
| A | 487 | 42 | 263 Bay Street | M1-1 | Private | N | N | N | UST, Sp | Y | E |
| B | 488 | 1 | 491 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| C | 488 | 157 | 27 Wave Street | M1-1 | Private | N | N | N | A | Y | E |
| | | 162 | 29 Wave Street | M1-1 | Private | N | N | N | A | Y | E |
| | | 164 | 31 Wave Street | M1-1 | Private | N | N | N | A | Y | E |
| D | 489 | 1 | 521 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| E | 489 | 16 | 26 Wave Street | M1-1 | Private | N | N | N | | Y | E |
| F | 489 | 19 | 22 Wave Street | M1-1 | Private | N | N | N | | Y | E |
| G | 498 | 5 | 89 Van Duzer Street | M1-1 | Private | N | N | N | A | Y | E |
| H | 498 | 74 | 230 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| I | 500 | 1 | 260-270 Bay Street | M1-1 | Private | N | Y | Y | UST, Sp, Mw, | Y | E |
| | | 10 | N/A Bay Street | M1-1 | Private | N | N | N | | Y | E |
| | | 11 | 280 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| | | 12 | 284 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| J | 502 | 34 | 137 Van Duzer Street | M1-1 | Private | N | N | N | | Y | E |

**Legend:**

| | | | | |
|---|---|---|---|---|
| N= No | UST= Underground Storage Tank | Gs= Gas Station | A= Auto repair/service | Dc= Dry Cleaner |
| Y= Yes | Mw= Monitoring well | Sp= Spill | St= Storage Tank | E= E Designation |
| I= Industrial | RCRA= RCRA waste generator | Fp= Fill port | Vp= Vent Pipe | LDA = Land Disposition Agreement |

**Table 10-4 (cont.): Environmental Assessment and E Designation Details –Projected and Potential Development Sites**

| RWCDS Site Number | Block | Lot | Address | Existing Zoning | Existing Ownership | Sanborn Maps | Regulatory Agency Databases | Site Inspection | Onsite Environmental Concern | Environmental Concern within 400-ft Buffer | Recommendations |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K | 503 | 1 | 364 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| L | 503 | 32 | 340 Bay Street | M1-1 | City-leased | N | N | N | | Y | E |
| M | 505 | 1 | 372 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| N | 507 | 1 | 420 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| | | 5 | 426 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| | | 6 | 436 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| O | 508 | 9 | 15 William Street | M1-1 | Private | N | N | N | | Y | E |
| | | 21 | 277 Van Duzer Street | M1-1 | Private | N | N | N | | Y | E |
| P | 508 | 1 | 450 Bay Street | M1-1 | Private | N | N | N | | Y | E |
| Q | 509 | 34 | 24 William Street | M1-1 | Private | N | N | N | I, Sp | Y | E |
| R | 510 | 43 | 10 Congress Street | M1-1/R3X | Private | N | N | Y | A | Y | E |
| S | 511 | 1 | 510 Bay Street | M1-1 | Private | N | Y | Y | Fp | Y | E |
| **Canal Street Corridor Project Area Potential Development Sites** | | | | | | | | | | | |
| T | 526 | 43 | 176 Canal Street | C2-2/R4 | Private | N | N | N | | Y | E |
| U | 526 | 52 | 160 Canal Street | C2-2/R4 | Private | N | N | N | | Y | E |
| V | 526 | 53 | 156 Canal Street | C2-2/R4 | Private | N | N | N | | Y | E |
| W | 527 | 59 | 211 Canal Street | C2-2/R3-2 | Private | N | N | N | | Y | E |

**Legend:**

| | | | | |
|---|---|---|---|---|
| N= No | UST= Underground Storage Tank | Gs= Gas Station | A= Auto repair/service | Dc= Dry Cleaner |
| Y= Yes | Mw= Monitoring well | Sp= Spill | St= Storage Tank | E= E Designation |
| I= Industrial | RCRA= RCRA waste generator | Fp= Fill port | Vp= Vent Pipe | LDA = Land Disposition Agreement |

future developer at the appropriate time.[6] The following City-owned sites would require implementation of environmental restrictions through LDAs:

- Projected City Disposition Site 1 (Block 9, Lot 9); and
- Projected City Disposition Site 2 (Block 34, Lot 1)

With the requirements of the (E) designation on 25 Projected and 23 Potential development sites and an equivalent institutional control, such as an LDA, on Projected City Disposition Sites 1 and 2, there would be no significant adverse impact from the potential presence of hazardous materials. The implementation of the preventative and remedial measures outlined in the (E) designation requirements or other comparable measures would reduce or avoid the potential of significant adverse hazardous materials impacts from potential construction in the Project Area as a result of the Proposed Actions.

*STAPLETON WATERFRONT PHASE III DEVELOPMENT SITES*

A Phase II ESI Report for the Stapleton Homeport Redevelopment (Appendix F, "Hazardous Materials"), which encompasses two (2) Projected Development Sites on Block 487, Lot 100 (the Stapleton Waterfront Phase III Sites) was prepared on behalf of the New York City Economic Development Corporation (EDC) in August 2008. The investigation activities performed were as follows:

- Site reconnaissance;
- Utility clearance and site-wide geophysical survey;
- Soil, groundwater and soil vapor investigation; and
- Asbestos, lead and mold surveys.

The 2006 Phase I Environmental Site Assessment (ESA), cited in the Phase II ESI Report, identified the following Recognized Environmental Concerns (RECs):

*REC 1- The Expansion of the Shoreline*
Based on review of aerial photographs and site history, the shoreline was expanded through the placement of imported fill. This material may have been contaminated with compounds including volatile organics, semivolatile organics and metals.

*REC 2- The Historical Uses of the Property*
The historical use of the property and surrounding areas may have negatively impacted the site. Potential uses of the surrounding areas include coal yards, auto repair facilities and petroleum storage areas.

[6] City Disposition Site 3 (Block 6, Lot 20) is not anticipated to require environmental restrictions due to the historical use of the property (primarily a paved parking surface) and because there are no environmental concerns on-site or within 400 feet of the site.

*REC 3- Hazardous Materials Handling and Generation and Storage of Hazardous Waste*
According to a Base Realignment and Closure Cleanup Plan report reviewed by Louis Berger, hazardous materials were handled, generated and stored at the facility. The area to the south of the SIMA building was identified as being a Large Quantity Generator of hazardous waste.

*REC 4- Petroleum Storage*
A total of seven Under Ground Storage Tanks (USTs) and two Above Ground Storage Tanks (ASTs) (misidentified in the Phase I ESA text) were identified at the site. However, only six of these tanks are located at the property. The review of records identified five (5) 1,000-gallon waste oil USTs and one (1) 2,000-gallon waste oil UST located on the property.

*REC 5- Coal Yard*
A coal yard was identified as being previously adjacent to the Front Street property.

*REC 6- Upgradient Petroleum Releases & Petroleum Storage Facilities*
Review of the Regulatory databases identified eighteen (18) active petroleum release sites and six petroleum storage facilities upgradient of the subject property.

The Phase II Site Investigation Report provides the following conclusions and recommendations:

1. *"Based on the results of the Phase II Site Investigation Report, metals and base neutral compounds have been identified in soil and groundwater in exceedance of the applicable standards. These contaminants are likely the result of historic fill material used to extend the shoreline to its current location. The groundwater contamination does not pose a risk to human health since groundwater is not used as a potable water source. Contaminants in soil do pose a direct contact exposure risk and it is recommended that vapor barriers be implemented.*

2. *Volatile organic compounds were identified above reporting limits in several of the soil vapor samples. Only trichloroethene was detected at a concentration above NYSDOH Air Guidance Value. However, this contaminant was not detected in either the soil or groundwater samples from the location. Based on these results it is recommended that additional investigation be conducted and if necessary that a vapor barrier be considered for future development.*

3. *In addition, since the facility is inactive and their associate underground heating oil tanks are not being used, we recommend that they formally be closed, assuming they are not needed as part of the future site development. In general, this will include removal of the USTs along with the submission of closure reports documenting that tank closure activities were performed in accordance with NYSDEC requirements."*[7]

Based on results of the Site Investigation, a remedial action work plan (RAWP) was prepared describing the proposed remedial action approach to be followed once the final site development has been finalized. The stated objective of the proposed remedial action is to minimize or eliminate the risk posed by the documented contamination present on site relative to the planned future use of the site.

[7] Stapleton Phase II Site Investigation Report, 2009.

EDC has entered into a Memorandum of Understanding (MOU) with NYCDEP to bind its successors and assigns to performing the necessary remediation. Accordingly, the necessary remediation will be identified through a RAP after the reuse/development program is established and prior to renovation and construction activities. The MOU is an effective means for ensuring that any potential hazardous materials issues found on the disposition parcels will be adequately addressed in order to avoid the potential for significant adverse impacts related to Hazardous Materials. In addition to the above, any transfer of the Stapleton Phase III Sites, or portions thereof, to another City agency will bind that entity to the identified remediation measures discussed above.[8]

*CONCLUSION*

Institutional controls (specifically, (E) designations) would be used to require pre- and post-development procedures to mitigate or eliminate the potential for significant adverse impacts related to hazardous materials as a result of construction or operation of the RWCDS projected and potential development sites. Through the implementation of the preventative and remedial measures outlined in the (E) designations applied to the 25 eligible Projected Development Sites and the 23 eligible Potential Developments Sites, and comparable measures applied to City Disposition Sites 1 and 2, and the Stapleton Phase III Sites, the Proposed Actions would not result in significant adverse impacts from hazardous materials.

Therefore, no significant adverse impacts due to hazardous materials are anticipated.

[8] Chapter 12, "Hazardous Materials", New Stapleton Waterfront Development Plan FEIS (06DME001R).