Staten Island University Hospital
Environmental Screening for
South Campus Resiliency Project
375 Seguine Avenue
Staten Island, New York 10309

Environmental Assessment
Determination and Compliance
Findings for HUD-assisted Project
24 CFR Part 58

Prepared for:
Northwell Health
600 Community Drive – Suite 202
Manhasset, New York 11030

Prepared by:
Stantec Consulting Services Inc.
61 Commercial Street - Suite 100
Rochester, NY 14614

April 5, 2016
Revised August 25, 2016

Environmental Assessment Determinations and Compliance Findings for HUD-assisted Projects 24 CFR Part 58

Project Name:

Staten Island University Hospital - South Campus Upgrades
Grant Number: **B-13-MS-36-0001**
HUD Program: **CDBG-DR**
Funding Amount: **$6,000,000.00**

Project Location:

Staten Island University Hospital - South Campus
375 Seguine Avenue
Staten Island, NY 10309

April 5, 2016
Revised August 25, 2016

Stantec

Table of Contents

1.0 STATEMENT OF PURPOSE AND NEED FOR THE PROPOSED ACTION 1.1
1.1 SETTING AND CURRENT CONDITIONS 1.1
1.2 PURPOSE AND NEED 1.1

2.0 DESCRIPTION OF THE PROPOSED ACTION 2.2

3.0 EXISTING CONDITIONS AND TRENDS 3.3

4.0 ALTERNATIVES TO THE PROPOSED ACTION 4.1
4.1 NO ACTION ALTERNATIVE 4.1
4.2 OTHER ALTERNATIVES CONSIDERED 4.1
4.3 PROPOSED ACTION ALTERNATIVE 4.1

5.0 PUBLIC OUTREACH 5.2

6.0 CUMULATIVE IMPACT ANALYSIS 6.2

7.0 SUMMARY OF FINDINGS AND CONCLUSIONS 7.2

8.0 SUMMARY OF RECOMMENDED MITIGATION MEASURES 8.1

9.0 ADDITIONAL STUDIES PERFORMED 9.2

10.0 DETERMINATION 10.3

11.0 CONTACTS 11.4

12.0 FUNDING INFORMATION 12.1
12.1 ESTIMATED TOTAL HUD FUNDED AMOUNT 12.1
12.2 ESTIMATED TOTAL PROJECT COST (HUD AND NON-HUD FUNDS) 12.1

13.0 INFORMATION SUPPORTING THE DETERMINATION 13.2
13.1 STATUTORY CHECKLIST 13.2
13.2 ENVIRONMENTAL STANDARDS 13.9
13.3 REGULATORY CHECKLIST 13.11
13.4 ENVIRONMENTAL ASSESSMENT FACTORS 13.13
13.5 LIST OF SOURCES, AGENCIES AND PERSONS CONSULTED 13.16
13.5.1 Field Inspection 13.16
13.5.2 Agencies and Sources 13.16
13.5.3 List of Permits Required 13.16

List of Appendices

APPENDIX A **LOCATION MAP**

APPENDIX B **HISTORIC PRESERVATION**

APPENDIX C **FLOODPLAIN MANAGEMENT**

APPENDIX D **WETLANDS PROTECTION**

APPENDIX E **COASTAL ZONE MANAGEMENT**

APPENDIX F **SOLE SOURCE AQUIFERS**

APPENDIX G **ENDANGERED SPECIES**

APPENDIX H **WILD AND SCENIC RIVERS**

APPENDIX I **CLEAN AIR AND NOISE**

APPENDIX J **FARMLANDS PROTECTION**

APPENDIX K **ENVIRONMENTAL JUSTICE**

APPENDIX L **CONTAMINATION AND TOXIC SUBSTANCES**

APPENDIX M **COASTAL BARRIER RESOURCES**

APPENDIX N **AIRPORT HAZARDS**

APPENDIX O **SITE PHOTOGRAPHS**

1.0 STATEMENT OF PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 SETTING AND CURRENT CONDITIONS

Staten Island University Hospital (SIUH) – South Campus (South Campus) is located at 375 Seguine Avenue, Staten Island, NY between Keating and Melville Streets. A location map is included in Appendix A. Originally known as the Richmond Memorial Hospital, the South Campus hospital was renamed when it became part of the SIUH System in 1989. This facility is now a community hospital within the North Shore Long Island Jewish (NSLIJ) Health System.

The purpose of this project is to increase the South Campus' resiliency against storm events and flooding. The mitigation work includes isolating the Central Utility Plant by raising the adjoining driveway and replacing critical site infrastructure located at the plant. The Central Utility Plant is located off Melville Street and is accessible via an existing ambulance entrance/exit driveway that presents a pathway for flood waters to travel onto the site. The plant houses the campus's main boilers, chillers, generators, and electrical gear. This equipment is located at grade level with portions approximately four (4) feet below grade at street level. As discussed in Section 9, while the ground floor of the Central Utility Plant is located above FEMA and New York City Department of Environmental Protection (DEP) recommended design flood elevations, the depressed driveway creates vulnerability with respect to critical hospital services during future flood events.

1.2 PURPOSE AND NEED

Hurricane Sandy demonstrated the vulnerability of the current hospital infrastructure. The storm knocked out power in the area, forcing the nearby Hospital Clinic to close and the South Campus to run on generator power for four days while causing widespread damage at the facility.

Storm water surge came within 500 feet of the campus, with receding waters leaving behind piles of debris and downed trees. Wind gusts in excess of 70 miles per hour damaged several areas of the roof, rooftop equipment, and the automatic break away doors at the front entrance, leading to interior damage.

At the time of the storm, the hospital was at capacity and the emergency room had lines out of the door. Additionally, seventy key clinical and support services staff were required to stay at the hospital around the clock for four days to maintain operations.

Ultimately, power was restored to the hospital via a separate feed from Con Edison four days after Hurricane Sandy.

The net results of SIUH's emergency actions included: maintaining care for the most urgently ill in-patients; providing critical care for over a thousand methadone patients; housing hospital staff

onsite around the clock; and keeping the facility structure safe in the face of the immediate storm surge and subsequent high winds. The availability of power at the Central Utility Plant was central to performing the aforementioned critical care functions.

Therefore, in response to the Hurricane Sandy experience, SIUH has proposed a hazard mitigation strategy to harden the South Campus Central Utility Plant and related mechanical equipment. Hardening techniques include use of a hardscape berm, concrete pads, contouring of pavement and installation of permanent pumps.

2.0 DESCRIPTION OF THE PROPOSED ACTION

The South Campus proposes to use the U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant-Disaster Recovery (CDBG-DR) funds to improve resiliency of the facility against future flood events. The proposed hazard mitigation work includes replacement of critical site infrastructure located at the Central Utility Plant, including the campus' main boilers, chillers, generators, and electrical gear.

In order to mitigate the flood hazard presented by the driveway to the Emergency Room and boiler plant, the driveway which is currently at grade with Melville Street will be raised by approximately three feet. This work will isolate the Central Utility Plant from the street by virtue of the change in grade in the driveway area. The change in grade will be effected by importing new soil and quarry process stone. It is anticipated that approximately 200 yards of material will be imported to create the berm along the driveway area. The existing Emergency Room parking lot contiguous to the boiler plant will also be paved. All areas of the proposed work outside of the building are presently paved and will remain paved upon completion. There is no additional stormwater runoff expected as a result of this work.

As part of this project, select existing mechanical items inside the Central Utility Plant will be replaced, including: the emergency generator and chiller together with associated connections in the plant. Additionally, two new electric pumps will be installed in the event of water infiltration. The suction side of the pumps will be placed in the existing sump pit and the discharge lines will be positioned through the wall with quick connect fittings to accept hoses which can be run as needed during a water event. Furthermore, a third boiler will be installed to supplement the two pre-existing boilers and provide redundancy, particularly during the annual maintenance of the original two boilers. The plant will remain in operation during the construction, startup and commissioning of the replacement equipment.

Mechanical scope outside of the building includes installation of a chiller and generator in special weatherproof and sound-attenuated enclosures. These will replace temporary rental units in the north portion of the parking lot adjacent to the Central Utility Plant. The area at the footprint of the new generator and chiller is presently paved with asphalt and will be replaced with two concrete pads.

3.0 EXISTING CONDITIONS AND TRENDS

As discussed above in the *Purpose and Need,* critical site infrastructure in the South Campus' Central Utility Plant, including the campus' main boilers, chillers, generators, and electrical gear, are located at grade level, with portions located four feet below grade at street level. Access to this equipment is located at the design flood elevation. In the absence of the hardening techniques proposed by this project, the critical infrastructure will remain vulnerable to flooding and could fail during future storm events, effectively shutting down the South Campus during a maximum demand for emergency services.

4.0 ALTERNATIVES TO THE PROPOSED ACTION

This section describes the alternatives that were considered in addressing the purpose and need stated described above.

An assessment of the facility approximately five years ago determined that while the ongoing preventative maintenance activities are among the best in the region, age would necessitate the replacement of the generator, boiler, and chiller. Post Hurricane Sandy in 2012 as water extended to within a block of the hospital, the threat of flooding and the vulnerability of the site has become apparent. The alternatives below were evaluated to address this hazard.

4.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, the critical site infrastructure would not be replaced and hardening of the site infrastructure would not occur. Consequently the site would remain vulnerable to future storm events and flooding.

4.2 OTHER ALTERNATIVES CONSIDERED

A 2013 study by AKF entitled *Hazard Vulnerability Analysis and Disaster Preparedness Study* (discussed further in Section 9.0, below) confirmed the vulnerability of the site to flooding. The report suggested that equipment be relocated from sub-grade areas and that the Central Utility Plant be relocated entirely. However, the report did not identify a suitable alternative location for the plant. The existing site is already tightly constrained for space, as most of the parcel is already developed as building and/or parking. Therefore, subsequent evaluations were unable to identify a practicable alternative location for the plant. Demolishing the existing plant building and constructing a new one in the same footprint, but above the design flood elevation, would not be a cost reasonable approach as the proposed alternative (see next section) and would take the entire facility out of operation for demolition and reconstruction, a process estimated to require several months longer than the proposed alternative.

4.3 PROPOSED ACTION ALTERNATIVE

The proposed action alternative consists of the replacement of critical site infrastructure located in the Central Utility Plant, including emergency generator, chiller, an absorber, cooling towers, and all associated connections and the use of a hardscape berm, concrete pads, contouring of pavement and installation of pumps. The hardscape berm and re-contouring will eliminate the depressed avenue for floodwaters to reach the plant entrance and will provide the needed front line defense against inundation of the plant. Additional protection against flooding will be provided by the new sump pumps and hose connections. Replacement of equipment that has reached the end of its service life, including the generator and chiller, will increase the reliability of critical emergency infrastructure for the hospital. Installation of the third boiler will increase resiliency of the campus not only during emergency situations, but also during required routine maintenance of the other two boilers. The plant will remain in operation during the construction,

startup and commissioning of the replacement equipment. Careful phasing of these project elements will allow operations to continue at this campus without major service disruptions, so that the facility can continue to serve the community on a continuous basis.

5.0 PUBLIC OUTREACH

Public Hearings have been held throughout New York City and the 5 boroughs over the past 18 months. The HUD Community Development Block Grant for Disaster Recovery (CDBG-DR) and the formally published Action Plan were distributed and discussed. A hearing was held in Staten Island in the auditorium of the North Campus hospital in January 2015. Additional meetings have been convened at various locations in New York City with the latest being held on September 24, 2015.

6.0 CUMULATIVE IMPACT ANALYSIS

Cumulative impacts result from the combined impacts of Project actions added to other past, present, and reasonably foreseeable actions. The proposed project is independent of any other past, present or reasonably foreseeable actions in the project area. Furthermore, the proposed project is a single and specific project that is in direct response to Hurricane Sandy.

The proposed project involves the elevation of the existing mechanical items including: emergency generators, electrical switch gear, the boiler plant, chillers, medical gas systems, and all associated equipment located in the Central Utility Plant, which will remain in operation during construction.

The construction and operation of the proposed project is not expected to result in significant adverse cumulative impacts to the project area or surrounding community.

7.0 SUMMARY OF FINDINGS AND CONCLUSIONS

The review of environmental issues and factors, including consultation with other agencies, has identified no factors that may be negatively affected by the proposed action, as described in more detail throughout the report and noted in the final determination. Increasing the resilience of the hospital is expected to be beneficial to the community, as it will allow the hospital to continue operations during a storm event or flooding. Consequently, no significant adverse impacts are expected on the human and natural environment as a result of the proposed project.

8.0 SUMMARY OF RECOMMENDED MITIGATION MEASURES

Law, Authority, or Factor	Mitigation Measure
Construction noise may disrupt the surrounding community	Working only during daylight, regular business operation time. Use a noise dosimeter to measure sound levels. Contractor to implement a Construction Noise Implementation Plan per local noise code requirements.
Construction traffic may disrupt the surrounding community	Designate an area to park worker vehicles and construction vehicles. Post traffic signs. Do not block public roadways or driveways.
Construction may generate dust	The contractor will implement construction BMPs to minimize emissions, such as covering haul trucks/soil piles, watering exposed soil during dry weather and limiting idling on-site to five minutes or less.
Contaminated soil or groundwater may be encountered during construction	Given that known spills at the project site have been closed and that excavation for the proposed project will be limited to removal of asphalt, there is a low probability of encountering contamination during construction of the proposed project. However, given the urban nature of the project area and the potential for fill materials to be placed onthe site, the contractor will monitor for contaminated media during work activities. If contaminated soil or groundwater are encountered during construction, proper notifications and removal/disposal will be completed.

9.0 ADDITIONAL STUDIES PERFORMED

Hazard Vulnerability Analysis and Disaster Preparedness Study, AKF Group LLC, March 29, 2013.

This study reviewed flood elevations based on design recommendations in order to assess the hazard vulnerability of the South Campus. FEMA recommends that the 500-year flood levels (0.2 percent level storm) be used for design, while the New York City DEP recommends using the 100-year flood level (one percent level storm) plus 30 inches for design. The additional 30 inches of flooding is added to take into account sea level rise within the next 50 years. The study also examined the Super Storm Sandy flood levels plus an additional 30 inches of flooding.

The AKF study used FEMA's Advisory Base Flood Elevation (ABFE) maps to determine flood elevations. ABFE maps are typically developed following large storms, such as Hurricane Sandy, in order to incorporate new information obtained as a result of the storm. The results of the assessment of flood hazards based on the ABFE maps indicated that the SIUH South Campus floor elevations are above the flood and storm surge elevations estimated per FEMA recommended models, except for the Central Utility Plant floor elevation. Based on this assessment, it was recommended that hazard mitigation be undertaken to improve the flood resiliency of the facility.

At the time the AKF study was completed, the ABFE maps presented the most accurate information available. This information has since been updated as the result of a coastal flood zone study in New York and New Jersey. As a result, new Flood Insurance Rate Maps were released by FEMA in December of 2013, superseding the ABFE maps. The updated preliminary FIRM indicates that for the South Campus, the 100-year flood elevation ranges from 12.3 to 12.7 feet and the 500-year flood elevation ranges from 15.8 to 16.6 feet (all elevations in this section reference the NAVD88 datum). The floor level of the Central Utility Plant is located at 17.01 feet, and the outside door from the plant to the driveway is located at 21.01 feet. The difference in the plant floor and flood elevation for the worst case is therefore 0.5 feet (six inches) above FEMA's threshold for hospitals.

However, predictions of potential storm surge dynamics, and micro-topographical effects on those surges, cannot be made with certainty. The preliminary FIRM included in Appendix C shows that the 500-year flood elevation extends to Melville Street, adjacent to the site. The driveway leading to the site is level with Melville Street and presents a pathway for flood waters to encroach on the Central Utility Plant near the boiler floor elevation. Given the critical nature of the SIUH hospital services, the experience of the campus during Superstorm Sandy, and the prospect of continuing sea level rise (and therefore flood elevation), AKF's recommendation that prudent hazard mitigation measures (such as berming the driveway and providing back-up equipment) be undertaken to improve the flood resiliency of the facility remains valid.

10.0 DETERMINATION

☒ **Finding of No Significant Impact** [24 CFR 58.40(g)(1); 40 CFR 1508.27]
The project will not result in a significant impact on the quality of the human environment.

☐ **Finding of Significant Impact** [24 CFR 58.40(g)(2); 40 CFR 1508.27]
The project may significantly affect the quality of the human environment.

Preparer Signature: Mike Flanigan Date: 4/5/2016

Name/Title/Organization: Michael J. Flanigan, Project Manager

Stantec Consulting Services Inc.

Certifying Officer Signature: [signature] Date: 11/01/16

Name/Title: Calvin Johnson, Assistant Director, NYC OMB

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

11.0 CONTACTS

Preparer:	Stantec Consulting Services Inc. 61 Commercial Street, Suite 100 Rochester, NY 14614 ATTN: Mike Flanigan, Project Manager mike.flanigan@stantec.com
Responsible Entity:	Dean Fuleihan Budget Director, Community Development Block Grant Disaster Recovery NYC Office of Management & Budget 255 Greenwich Street, 8th Floor New York, NY 10007
Grant Recipient:	Staten Island University Hospital 475 Seaview Avenue Staten Island, NY 10305 ATT: Paul Rhodes, Assoc. Exec. Director, Plant Operations Prhodes@Northwell.edu
State/Local Identifier:	Community District 3 Borough of Staten Island Richmond County, New York
Certifying Officer Name and Title:	Calvin Johnson Assistant Director, Community Development Block Grant Disaster Recovery NYC Office of Management & Budget 255 Greenwich Street, 8th Floor New York, NY 10007 212-788-6024 Fax: (212) 788-6222
Consultant:	Stantec Consulting Services Inc. 61 Commercial Street, Suite 100 Rochester, NY 14614 ATTN: Mike Flanigan, Project Manager mike.flanigan@stantec.com
Direct Comments to:	Staten Island University Hospital 475 Seaview Avenue Staten Island, NY 10305 ATT: Paul Rhodes, Assoc. Exec. Director, Plant Operations Prhodes@Northwell.edu

12.0 FUNDING INFORMATION

Grant Number	HUD Program	Funding Amount
B-13-MS-36-0001	CDBG-DR	$6,000,000.00

12.1 ESTIMATED TOTAL HUD FUNDED AMOUNT

SIUH anticipates that the South Campus will receive $6,000,000.00 to complete the proposed project scope of work.

12.2 ESTIMATED TOTAL PROJECT COST (HUD AND NON-HUD FUNDS)

[24 CFR 58.32(d)]

No non-HUD funds are proposed to be used to complete the work at the South Campus.

13.0 INFORMATION SUPPORTING THE DETERMINATION

13.1 STATUTORY CHECKLIST

[ref.: 24 C.F.R. Part 58.5 – Related Federal laws and authorities]

Statutory Checklist (ref.: 24 C.F.R. Part 58.5 – Related Federal laws and authorities)		
Compliance Factors	**Are formal compliance steps or mitigation required?**	**Compliance determinations**
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800	Yes ☐ No ☒	The proposed project is not on the National Register of Historic Places or the NYC Landmark Preservation Commission's (LPC) list of landmarks. The nearest historic site is the Seguine House, located approximately 0.1 miles to the southwest of the South Campus. The site is located within an archeologically sensitive area as illustrated by the State Historic Preservation Office's (SHPO's) Cultural Resources Information System. The proposed work will take place within a pre-existing building or near existing grade in a paved area of the site; no work is proposed outside of the current footprint of the South Campus facility and therefore no visual or other impacts are anticipated to nearby sites of historic importance. See Appendix B: Historic Preservation for supporting documentation, including consultation documentation that was submitted to SHPO requesting concurrence with the recommendation of a finding of "No Historic Properties Affected" and the letter subsequently provided by SHPO indicating their agreement with this finding. No significant impacts to historic resources are anticipated as a result of the proposed project.

Statutory Checklist (ref.: 24 C.F.R. Part 58.5 – Related Federal laws and authorities)		
Compliance Factors	**Are formal compliance steps or mitigation required?**	**Compliance determinations**
Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55	Yes ☐ No ☒	Executive Order 11988 applies to areas within a 100-year floodplain. Although the motivation for this project is the need to improve flood resiliency, this project does not occur in either a 100-year or 500-year flood zone. The effective Flood Insurance Rate Map (FIRM) dated 9/5/2007, the official FIRM that has been finalized by FEMA and adopted by community officials, and the preliminary FIRM dated 12/5/2013, which has not yet become effective but can be relied on for planning purposes, were reviewed to determine the locations of flood zones in the vicinity of the project site. While the project site is located near a (preliminary) 500-year flood zone, with critical equipment currently staged in a basement below flood elevations, current flood zones mapped by the Federal Emergency Management Agency (FEMA) do not extend on to the project site. See attached Appendix C: Floodplain Management for supporting documentation. No significant impacts as defined under Executive Order 11988 are anticipated as a result of this project. However, the proposed project is designed to increase resiliency and to have a net benefit with respect to potential future flooding events.
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	Yes ☐ No ☒	The proposed work will take place within a pre-existing building or in a paved area of the site; no work is proposed for outside of the current footprint of the South Campus facility. No federal or state wetlands are located on the project site. Stormwater will be managed in accordance with applicable regulations during construction and operation. The project is in compliance with Executive Order 11990. See attached Appendix D: Wetlands Protection. No significant impacts are anticipated to federal- or state-regulated wetlands as a result of the proposed project.

Statutory Checklist (ref.: 24 C.F.R. Part 58.5 – Related Federal laws and authorities)		
Compliance Factors	**Are formal compliance steps or mitigation required?**	**Compliance determinations**
Coastal Zone Management Coastal Zone Management Act, sections 307(c) & (d)	Yes ☐ No ☒	The project site is located within a coastal zone. Requests for a determination of consistency with NYCDCP Waterfront and Open Space Division policies and concurrence with New York Department of State (NYSDOS) general consistency concurrence criteria were submitted to the respective agencies. Both agencies have responded with statements that the project is consistent with their respective policies/criteria. See Appendix E: Coastal Zone Management for supporting documentation. The proposed work will take place within a pre-existing building or near existing grade in a paved area of the site; no work is proposed outside of the current footprint of the South Campus facility. Project activities outside of the building are expected to be minor. No significant impacts to coastal zones are anticipated as a result of the proposed project.
Sole Source Aquifers Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149	Yes ☐ No ☒	The project is not located over or immediately adjoining a sole source aquifer area. The nearest sole source aquifer mapped area is the New Jersey Coastal Plain Aquifer System located approximately 2.7 miles from the site and to the north and west of the site across Arthur Kill. See Appendix F: Sole Source Aquifers for supporting documentation. No significant impacts to sole source aquifers are anticipated as a result of the proposed project.

Statutory Checklist (ref.: 24 C.F.R. Part 58.5 – Related Federal laws and authorities)		
Compliance Factors	**Are formal compliance steps or mitigation required?**	**Compliance determinations**
Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	Yes ☐ No ☒	The proposed project is in compliance and no further action is required. See Appendix G: Endangered Species for supporting documentation. A species list identifying threatened, endangered, proposed and candidate species and proposed and final designated critical habitat potentially in the vicinity of the project was requested from the United States Fish and Wildlife Services. The list identified two threatened or endangered species: the Piping Plover (Charadrius melodus), a threatened bird species, and the Roseate tern (Sterna dougallii dougallii), an endangered bird species. Based on the urban character of the site and the lack of suitable habitat for these species on the project site, no impacts to federally listed species are anticipated. A copy of the USFWS letter is provided in Appendix G. A species list identifying species of conservation concern (endangered/threatened/rare) potentially in the vicinity of the project was requested from the New York Natural Heritage Program (NYNHP). The list identified two endangered plant species: Downy Carrion-flower (*Smilax pulverulenta)* and Globose Flatsedge (*Cyperus echinatus*), found in oak-tulip tree forest and large open grassland, respectively. Identified as threatened was Green Milkweed *(Asclepias viridiflora)*, also found in large open grassland. In addition, one animal species, while not threatened or endangered, was listed as rare/vulnerable: Needham's Skimmer *(Libellula needhami)*, a dragonfly found in Creekside habitat. Based on the urban character of the site and the lack of suitable habitat for these species on the project site, no impacts to state listed species are anticipated. A copy of the USFWS letter is provided in Appendix G. No significant impacts to endangered species are anticipated as a result of the proposed project.

Statutory Checklist (ref.: 24 C.F.R. Part 58.5 – Related Federal laws and authorities)		
Compliance Factors	**Are formal compliance steps or mitigation required?**	**Compliance determinations**
Wild and Scenic Rivers Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)	Yes ☐ No ☒	There are no wild and scenic rivers in the vicinity of the project site and no further action is required. See Appendix H: Wild and Scenic Rivers for supporting documentation. No significant impacts are anticipated to wild and scenic rivers as a result of the proposed project.
Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93	Yes ☐ No ☒	The project will be conducted in accordance with federal and state requirements, especially Title II, Part A of the Clean Air Act (CAA) which addresses Emission Standards for Moving Sources - Motor Vehicle Emission and Fuel Standards and local requirements for control of potential impacts to air due to construction. Impacts to air quality anticipated during the construction phase of this project will be avoided or addressed as discussed in Appendix I: Clean Air and Noise for supporting documentation. The facility is an operating air discharge facility (Facility ID 2-6405-00031/02001). The facility is permitted to operate two boilers firing natural gas or #2 fuel oil and two natural gas fired generators. The facility is also required to limit its nitrogen oxides emissions to 24.9 tons a year. As part of the proposed project, a third boiler will be installed at the site. A written application to modify this permit to reflect this change will be resubmitted to the NYSDEC for review and approval. Records demonstrating compliance with the cap on nitrogen oxides emissions will continue to be kept in accordance with the permit special conditions. See Appendix I for a copy of the Air State Facility Permit. No significant impacts to air quality are anticipated as a result of the operation of the facility after the completion of the proposed project.

Statutory Checklist (ref.: 24 C.F.R. Part 58.5 – Related Federal laws and authorities)		
Compliance Factors	**Are formal compliance steps or mitigation required?**	**Compliance determinations**
Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658	Yes ☐ No ☒	The project site does not contain soils classified as Prime per the US Department of Agriculture (USDA) soil classifications and the proposed project would not involve the conversion of farmland to non-agricultural use. See Appendix J: Farmlands Protection for supporting documentation. No significant impacts to farmland resources are anticipated as a result of this proposed project.

Statutory Checklist (ref.: 24 C.F.R. Part 58.5 – Related Federal laws and authorities)		
Compliance Factors	**Are formal compliance steps or mitigation required?**	**Compliance determinations**
Environmental Justice Executive Order 12898	Yes ☐ No ☒	Based on a review of data provided by the Environmental Protection Agency's Environmental Screening Tool that incorporates data from the 2008 to 2012 Census Bureau's American Community Survey, the project site is located in an area that is in less than the 50th percentile for individuals whose ratio of household income to poverty level in the past 12 months was less than 2 (as a fraction of individuals for whom ratio was determined) and in the 50th to 60th percentile for minority population, where minority is defined as all but Non-Hispanic White Alone. Data obtained from NYSDEC identifying Potential Environmental Justice Areas (PEJAs), which were generated using 2000 U.S. Census information, indicate that the project site is not located in an area where 51.1% or more of the population are members of minority groups in an urban area, 33.8% or more of the population are members of minority groups in a rural area, or 23.59% or more of the population in an urban or rural area have incomes below the federal poverty level. Because the (more recent) EPA data indicate that the local population may be more than 50% minority, the project was analyzed with HUD's EJ screening worksheet. Based on that worksheet, because no significant adverse environmental impacts are anticipated as a result of this project, no further EJ compliance or mitigation measures are required in accordance with the provisions of E.O. 12898. In fact, the project will result in increased resiliency and services during emergencies for the surrounding community. See Appendix K for supporting documentation. No significant environmental justice impacts are anticipated as a result of the proposed project.

13.2 ENVIRONMENTAL STANDARDS

[ref. 24 C.F.R. Part 58.5(i)]

Environmental Standards (ref. 24 C.F.R. Part 58.5(i))		
Compliance Factors	**Are formal compliance steps or mitigation required?**	**Compliance determinations**
Noise Abatement and Control Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	Yes ☐ No ☒	This project will be conducted in accordance with federal and local requirements for control of potential noise impacts due to construction. Noise during operation is anticipated to be unchanged, or less than existing conditions. See Appendix I: Clean Air and Noise for supporting documentation. Noise impacts anticipated during the construction phase of this project will be avoided or addressed as discussed in Appendix I. No significant noise impacts are anticipated as a result of the operation of the facility after the completion of this project.
Explosive and Flammable Hazards 24 CFR Part 51 Subpart C	Yes ☐ No ☒	The proposed project qualifies as an exception per 24 CFR 51 Subpart C because it does not involve repairs and renovation of a building that will result in an increased number of people being exposed to hazardous operations by increasing residential densities, converting the type of use of a building to habitation, or making a vacant building habitable. No significant impacts due to explosive and flammable hazards are anticipated as a result of the proposed project.

Environmental Standards (ref. 24 C.F.R. Part 58.5(i))		
Compliance Factors	**Are formal compliance steps or mitigation required?**	**Compliance determinations**
Contamination and Toxic Substances 24 CFR Part 50.3(i) & 58.5(i)(2)	Yes ☐ No ☒	The project site is not located on a site that is part of a federal or state remediation program. The site is a RCRA Small-Quantity Generator (Facility ID NYR000214528), an operating air discharge facility (Facility ID 3608500350), and a Chemical Bulk Storage and Petroleum Bulk Storage facility (Facility IDs 2-000075 and 2-092053). No current violations of applicable regulations have been noted. Five spills have occurred at the site and three spills have occurred on adjacent properties. All of these spills have been closed by the NYSDEC. Given that known spills have been closed and that excavation for the proposed project will be limited to removal of asphalt, there is a low probability of encountering contamination during construction of the proposed project. However, if contaminated soil or groundwater are encountered, proper notifications and removal/disposal will be completed. One Inactive Hazardous Waste Disposal Registry Site is located within a half mile of the project site, but it is not considered to impact the site as remedial work has been completed at this site and it has been removed from the Registry. See attached Appendix L: Contamination and Toxic Substances for supporting documentation. No significant impacts due to contamination or toxic substances are anticipated as a result of the proposed project.

13.3 REGULATORY CHECKLIST

[ref.: 24 C.F.R. Part 58.6 – Other requirements]

Regulatory Checklist (ref.: 24 C.F.R. Part 58.6 – Other requirements)		
Compliance Factors	**Are formal compliance steps or mitigation required?**	**Compliance determinations**
Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]	Yes ☐ No ☒	Although the motivation for this project is the need to improve flood resiliency, this project does not occur in either a 100-year or 500-year flood zone. The effective Flood Insurance Rate Map (FIRM) dated 9/5/2007, the official FIRM that has been finalized by FEMA and adopted by community officials, and the preliminary FIRM dated 12/5/2013, which has not yet become effective but can be relied on for planning purposes, were reviewed to determine the locations of flood zones in the vicinity of the project site. While the project site is located near a (preliminary) 500-year flood zone, with critical equipment currently staged in a basement below flood elevations, current flood zones mapped by the Federal Emergency Management Agency (FEMA) do not extend on to the project site. See attached Appendix C: Floodplain Management for supporting documentation. No flood insurance requirements are anticipated to apply as a result of the proposed project.
Coastal Barrier Resources Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]	Yes ☐ No ☒	The project site is not within a coastal barrier resource mapped area. The nearest coastal barrier resource mapped area is located approximately 3.9 miles from the site and on the opposite side of Raritan Bay. See Appendix M: Coastal Barrier Resources for supporting documentation. No significant impacts to coastal barrier resources are anticipated as a result of the proposed project.

Regulatory Checklist (ref.: 24 C.F.R. Part 58.6 – Other requirements)		
Compliance Factors	**Are formal compliance steps or mitigation required?**	**Compliance determinations**
Airport Hazards 24 CFR Part 51 Subpart D	Yes ☐ No ☒	The project site is not within 15,000 feet of a military airport or 2,500 feet of a civilian airport. The airport located closest to the site is Linden Airport, which is approximately 7.2 miles from the site. The proposed project is in compliance with Airport Hazards requirements. See attached Appendix N: Airport Hazards for supporting documentation. No significant impacts to airports are anticipated as a result of the proposed project.

13.4 ENVIRONMENTAL ASSESSMENT FACTORS

Recorded below is the qualitative and quantitative significance of the effects of the proposal on the character, features and resources of the project area. Each factor has been evaluated and documented, as appropriate and in proportion to its relevance to the proposed action. Verifiable source documentation has been provided and described in support of each determination, as appropriate. Credible, traceable and supportive source documentation for each authority has been provided. Where applicable, the necessary reviews or consultations have been completed and applicable permits of approvals have been obtained or noted. Citations, dates/names/titles of contacts, and page references are clear. Additional documentation is attached, as appropriate. All conditions, attenuation or mitigation measures have been clearly identified.

Impact Codes: Use an impact code from the following list to make the determination of impact for each factor.

(1) Minor beneficial impact

(2) No impact anticipated

(3) Minor Adverse Impact – May require mitigation

(4) Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement

Environmental Assessment Factor	Impact Code	Impact Evaluation
LAND DEVELOPMENT		
Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design	2	The use of the site will not change as a result of the proposed project.
Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	2	Impervious cover and drainage/stormwater runoff will be essentially unchanged.

Environmental Assessment Factor	Impact Code	Impact Evaluation
Hazards and Nuisances including Site Safety and Noise	3	Construction noise and traffic may disrupt the surrounding community. Construction may also generate dust. The following techniques are proposed to mitigate these issues: • To limit the impacts of noise, work will only be conducted between 7 AM and 6 PM. A noise dosimeter will be used to measure sound levels. • A designated area to park worker vehicles and construction vehicles will be established. Traffic signs will be posted and efforts will be taken to not block public roadways or driveways. • The contractor will implement construction BMPs to minimize emissions, such as covering haul trucks/soil piles, watering exposed soil during dry weather and limiting idling on-site to five minutes or less.
Energy Consumption	1	No adverse change is anticipated. Central Utility Building equipment will be replaced with equipment generally matched in capacity to existing equipment. Given increased stringency of energy efficiency equipment standards compared to those in effect when the original equipment was purchased, air quality impacts of the proposed project will be no greater than existing conditions and may, in fact, be improved.

Environmental Assessment Factor	Impact Code	Impact Evaluation
SOCIOECONOMIC		
Employment and Income Patterns	2	Following the completion of this work, the project is not expected to have an impact on employment or income patterns in the surrounding area.
Demographic Character Changes, Displacement	2	The proposed work will take place within a pre-existing building or in a paved area of the site; no work is proposed to be completed outside of the current footprint of the South Campus facility.

Environmental Assessment Factor	Impact Code	Impact Evaluation
COMMUNITY FACILITIES AND SERVICES		
Educational and Cultural Facilities	2	The scope of the proposed project does not include the construction of educational or cultural facilities nor is it expected to impact educational or cultural facilities in the surrounding area.
Commercial Facilities	2	The scope of the proposed project does not include the construction of commercial facilities nor is it expected to impact commercial facilities in the surrounding area.

Environmental Assessment Factor	Impact Code	Impact Evaluation
Health Care and Social Services	1	The purpose of this project is to increase facility's resiliency against storm events and flooding through a hazard mitigation strategy intended to harden the South Campus. The proposed project will help to eliminate the threat to operations at the South Campus if the plant is inundated by water, allowing it to continue operating during storm events and flooding.
Solid Waste Disposal / Recycling	2	Expected to be similar in demand generated by the previous uses on the site.
Waste Water / Sanitary Sewers	2	Expected to be similar in demand generated by the previous uses on the site.
Water Supply	2	Expected to be similar in demand generated by the previous uses on the site.
Public Safety - Police, Fire and Emergency Medical	1	This project will improve the resiliency of the hospital, which will in turn improve the facility's ability to provide emergency medical care during a storm event.
Parks, Open Space and Recreation	2	The proposed work will take place within a pre-existing building or in a paved area of the site; no work is proposed for outside of the current footprint of the South Campus facility. The project being undertaken is therefore not expected to have an impact on parks, open space, or recreation.
Transportation and Accessibility	2	No changes to transportation or accessibility will result from the project.

Environmental Assessment Factor	Impact Code	Impact Evaluation
NATURAL FEATURES		
Unique Natural Features, Water Resources	2	The proposed work will take place primarily in an existing building and existing paved areas and will therefore not impact unique natural features or water resources.
Vegetation, Wildlife	2	The proposed work will take place primarily in an existing building and existing paved areas and will therefore not impact vegetation or wildlife.
Other Factors	2	No changes to traffic patterns or volume are expected following the completion of this project.

13.5 LIST OF SOURCES, AGENCIES AND PERSONS CONSULTED

[40 CFR 1508.9(b)]

13.5.1 Field Inspection

Stantec relied on the field inspection and associated photographs from June 5, 2015 by Regina Nash (P.W. Grosser Consulting) (see Appendix O)

13.5.2 Agencies and Sources

- New York State Department of Environmental Conservation
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- Federal Emergency Management Agency
- U.S. Department of Agriculture Natural Resources Conservation Service
- New York State Office of Parks, Recreation, and Historic Preservation
- New York State Historic Preservation Office Cultural Resources Information System
- New York State Department of State, Office of Planning and Development
- New York City Department of City Planning
- New York State Natural Heritage Program
- Interagency Wild & Scenic Rivers Council
- Toxics Targeting Environmental Database Report, dated October 19, 2015

13.5.3 List of Permits Required

The project will require the following permits:

- NYSDEC - Air Facility Registration as applied to the steam boilers and standby emergency generators. The facility is presently registered but the certificate will need to be modified to reflect the planned improvements. P.W. Grosser, Consulting is retained on an on-going basis for this purpose.
- NYC Department of Buildings (DOB) permits for Final Engineering and Construction. New York City DOB Permits will be filed as appropriate for this project.

APPENDIX A LOCATION MAP

Stantec

North Shore LIJ

Staten Island University Hospital - South Campus

0 100 200 300 Feet

1:2,000 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Project Location:
375 Seguine Avenue
Staten Island, Richmond County, NY

Prepared by AG on 2015-10-20
Technical Review by BSW on 2015-11-05
Independent Review by DH on 2015-11-05

190500871

Client/Project
NSLIJ
Staten Island University Hospital
South Campus

Figure No.
1

Title
Location Map

APPENDIX B HISTORIC PRESERVATION

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

December 16, 2015

Mr. Mike Flanigan
Project Manager
Stantec Consulting
61 Commercial Street, Suite 100
Rochester, NY 14614

Re: CDBG-DR
Staten Island University Hospital South Campus HUD CDBG-DR Application
Central Utility Plant
375 Seguine Avenue, Staten Island, NY 10309
15PR03722

Dear Mr. Flanigan:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based upon this review, the New York SHPO has determined that no historic properties will be affected by this undertaking.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont

Deputy Commissioner for Historic Preservation

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island Resource Center, PO Box 189, Waterford, NY 12188-0189 (Mail)
Delaware Avenue, Cohoes 12047 (Delivery) (518) 237-8643

PROJECT REVIEW COVER FORM

Rev. 5-05

*Please complete this form and attach it to the top of **any and all information submitted to this office** for review.*
Accurate and complete forms will assist this office in the timely processing and response to your request.

This information relates to a previously submitted project.

PROJECT NUMBER __PR__

COUNTY _____

☐ If you have checked this box and noted the previous Project Review (PR) number assigned by this office you do not need to continue unless any of the required information below has changed.

2. This is a new project. ☒ If you have checked this box you will need to complete ALL of the following information.

Project Name Staten Island University Hospital South Campus

Location 375 Seguine Avenue
You MUST include street number, street name and/or County, State or Interstate route number if applicable

City/Town/Village Staten Island
List the correct municipality in which your project is being undertaken. If in a hamlet you must also provide the name of the town.

County Richmond County
If your undertaking* covers multiple communities/counties please attach a list defining all municipalities/counties included.

TYPE OF REVIEW REQUIRED/REQUESTED (Please answer both questions)

A. Does this action involve a permit approval or funding, now or ultimately from any other governmental agency?

☐ No ☒ Yes

If Yes, list agency name(s) and permit(s)/approval(s)

Agency involved	Type of permit/approval	State	Federal
U.S. Dept. of Housing and Urban Development	Community Development Block Grant-Disaster Recovery Funds	☐	☒
		☐	☐
		☐	☐

B. Have you consulted the NYSHPO web site at **http://nysparks.state.ny.us to determine the preliminary presence or absence of previously identified cultural resources within or adjacent to the project area? If yes:

☒ Yes ☐ No

Was the project site wholly or partially included within an identified archeologically sensitive area?

☒ Yes ☐ No

Does the project site involve or is it substantially contiguous to a property listed or recommended for listing in the NY State or National Registers of Historic Places?

☐ Yes ☒ No

CONTACT PERSON FOR PROJECT

Name Mike Flanigan **Title** Project Manager

Firm/Agency Stantec Consulting Services Inc. as agent of Staten Island University Hospital

Address 61 Commercial Street Suite 100 **City** Rochester **STATE** NY **Zip** 14614

Phone (585) 413-5270 **Fax** (_____)_____ **E-Mail** mike.flanigan@stantec.com

http://nysparks.state.ny.us then select **HISTORIC PRESERVATION then select **On Line Resources**

The Historic Preservation Review Process in New York State

In order to insure that historic preservation is carefully considered in publicly-funded or permitted undertakings*, there are laws at each level of government that require projects to be reviewed for their potential impact/effect on historic properties. At the federal level, Section 106 of the National Historic Preservation Act of 1966 (NHPA) directs the review of federally funded, licensed or permitted projects. At the state level, Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law of 1980 performs a comparable function. Local environmental review for municipalities is carried out under the State Environmental Quality Review Act (SEQRA) of 1978.
regulations on line at:
http://nysparks.state.ny.us then select **HISTORIC PRESERVATION** then select **Environmental Review**

Project review is conducted in two stages. First, the Field Services Bureau assesses affected properties to determine whether or not they are listed or eligible for listing in the New York State or National Registers of Historic Places. If so, it is deemed "historic" and worthy of protection and the second stage of review is undertaken. The project is reviewed to evaluate its impact on the properties significant materials and character. Where adverse effects are identified, alternatives are explored to avoid, or reduce project impacts; where this is unsuccessful, mitigation measures are developed and formal agreement documents are prepared stipulating these measures.

ALL PROJECTS SUBMITTED FOR REVIEW SHOULD INCLUDE THE FOLLOWING MATERIAL(S).

[X] Project Description

Attach a full description of the nature and extent of the work to be undertaken as part of this project. Relevant portions of the project applications or environmental statements may be submitted.

[X] Maps Locating Project

Include a map locating the project in the community. The map must clearly show street and road names surrounding the project area as well as the location of all portions of the project. Appropriate maps include tax maps, Sanborn Insurance maps, and/or USGS quadrangle maps.

[X] Photographs

Photographs may be black and white prints, color prints, or color laser/photo copies; standard (black and white) photocopies are NOT acceptable.

-*If the project involves rehabilitation*, include photographs of the building(s) involved. Label each exterior view to a site map and label all interior views.

-*If the project involves new construction*, include photographs of the surrounding area looking out from the project site. Include photographs of any buildings (more than 50 years old) that are located on the project property or on adjoining property.

NOTE: Projects submissions will not be accepted via facsimile or e-mail.

*__Undertaking__ is defined as an agency's purchase, lease or sale of a property, assistance through grants, loans or guarantees, issuing of licenses, permits or approvals, and work performed pursuant to delegation or mandate.

Stantec Consulting Services Inc.
61 Commercial Street Suite 100, Rochester NY 14614-1009

November 16, 2015

Attention: New York State Division for Historic Preservation (SHPO)
New York State Office of Parks, Recreation & Historic Preservation
Peebles Island State Park
P.O. Box 189
Waterford, NY 12188-0189

To whom it may concern:

Reference: Consultation Letter
Staten Island University Hospital South Campus
375 Seguine Avenue
Staten Island, NY 10309

In accordance with 24 CFR Part 58 Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities, we are providing information for your review and concurrence regarding the above-referenced project.

Staten Island University Hospital (SIUH) – South Campus (South Campus) is located at 375 Seguine Avenue, Staten Island, NY between Keating and Melville Streets. A location map is included in Appendix A and site photographs are included as Appendix B. The site slopes gradually from the northwest to the southeast. Originally known as the Richmond Memorial Hospital, the South Campus hospital was renamed when it became part of the SIUH System in 1989. This facility is now a community hospital within the North Shore Long Island Jewish (NSLIJ) Health System.

In response to Hurricane Sandy, SIUH formulated a hazard mitigation strategy to harden the South Campus Central Utility Plant and related mechanical equipment. The South Campus proposes to use the U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant-Disaster Recovery (CDBG-DR) funds to improve the resiliency of the facility against flood events. The proposed hazard mitigation work includes replacement of critical site infrastructure located at the Central Utility Plant, including the campus' main boilers, chillers, generators, and electrical gear. The plant is located on the southwest side of the site off Melville Street and is accessible via an existing ambulance entrance/exit driveway. The ambulance entrance/exit driveway extends north from Melville Street on to the site and runs along the west side of the Central Utility Plant. The adjacent parking lot is elevated three feet above Melville Street, and the campus generally slopes upward from that point. However, the driveway is level and at grade with Melville Street, and its sub-grade position presents a pathway for flood waters to travel on to the site. The equipment in the Central Utility Plant is located approximately four (4) feet below grade at street level and the potential for water to flow along the recessed driveway presents a direct threat to the Plant.

In order to mitigate the flood hazard presented by the driveway to the Emergency Room and boiler plant, the driveway will be raised. This work will isolate the Central Utility Plant from the street by virtue of the change in grade of approximately three feet in the driveway area. The change in

Reference: Consultation Letter
Staten Island University Hospital South Campus
375 Seguine Avenue
Staten Island, NY 10309

grade will be effected by importing new soil and quarry process stone. It is anticipated that approximately 200 yards of material will be imported to create the berm along the driveway area. The existing Emergency Room parking lot contiguous to the boiler plant will also be paved. All areas of the proposed work outside of the building are presently paved and upon completion of this work they will remain paved. There is no additional stormwater runoff expected to be created as a result of this work.

As part of this project, it is proposed to replace select existing mechanical items inside the Central Utility Plant including: the emergency generator and chiller together with associated connections in the plant. Two new electric pumps will be installed to be used in the event of water infiltration. The suction side of the pumps will be placed in the existing sump pit and the discharge lines will be positioned thru the wall with quick connect fittings to accept hoses which can be run as needed during a water event. Additionally, a third boiler will be installed to supplement the two pre-existing boilers and provide redundancy, particularly during the annual maintenance of the original two boilers. The plant will remain in operation during the construction, startup and commissioning of the replacement equipment.

Mechanical scope outside of the building includes installation of a chiller and generator in special weatherproof and sound-attenuated enclosures. These will replace temporary rental units in the north portion of the parking lot adjacent to the Central Utility Plant. The area at the footprint of the new generator and chiller is presently paved with asphalt and will be replaced with two concrete pads. There are no impacts to parking, since the footprint area of the existing rental units will be replaced in kind by the permanent units. It is not anticipated that additional staff will be required to operate the facility after the completion of this project.

Based on research of the property, we are recommending a finding of "No Historic Properties Affected" pursuant to 36 CFR 800.4{d)(l) based on the following:

1. Research using the New York State Cultural Resource Information System confirms that building(s) on the property are not located within a district listed on or determined eligible for the National Register of Historic Places. The nearest property on the National Registry of Historic Places is the Seguine House located at 440 Seguine Ave, which is 0.1 miles southwest of the project site.

To support our recommendation, a map showing the location of the project site and its proximity to properties on the National Registry of Historic Places and the NYC Landmark Preservation Commission's list of landmarks and photographs of existing conditions are attached for your review. In accordance with §800.4{d)(l)(i), your office has thirty days to object to this recommendation. Please respond within this timeframe, otherwise we will assume that you concur

Reference: Consultation Letter
Staten Island University Hospital South Campus
375 Seguine Avenue
Staten Island, NY 10309

with our recommendation. If you concur, please sign on the line below and return a copy of this letter by fax or otherwise to this office.

Please contact the undersigned if you have any questions or require further information. Thank you for your attention to this matter.

Regards,

STANTEC CONSULTING SERVICES INC.

AnneMarie Glose
Environmental Scientist
Phone: (585) 475-1440
Fax: (585) 272-1814
AnneMarie.Glose@stantec.com

Attachment: Location Map
Historic Sites Map
Project Site Photo Log

cc. New York City Landmarks Preservation Commission
1 Centre Street, 9th Floor North
New York, NY 10007

Concurrence by: _____

Printed name Signature Date

State Historic Preservation Office

Appendix A
LOCATION MAP

Stantec | North Shore LIJ

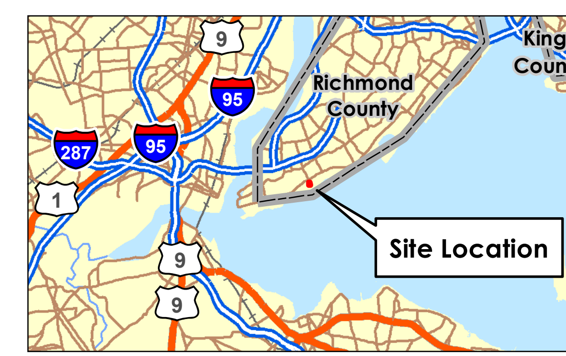
Staten Island University Hospital - South Campus

0 100 200 300 Feet

1:2,000 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet



Project Location:

375 Seguine Avenue
Staten Island, Richmond County, NY

Prepared by AG on 2015-10-20
Technical Review by BSW on 2015-11-05
Independent Review by DH on 2015-11-05

190500871

Client/Project

NSLIJ
Staten Island University Hospital
South Campus

Figure No.

1

Title

Location Map

U:\190500871\05_report_deliv\dwgs_design\GIS_figures\mxd\South Campus\A_location_map_south_campus.mxd Revised: 2015-11-05 By: aglose

Appendix B
HISTORIC SITES MAP

Stantec North Shore LIJ

Legend

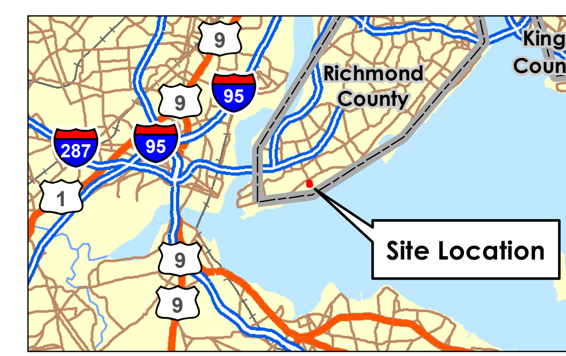
- Staten Island University Hospital - South Campus
- National Register Building Site
- LPC Landmark

0 750 1,500 Feet

1:10,000 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
2. Map created by georeferencing data obtained from the NYS Historic Preservation Office (SHPO) Cultural Resources Information System (CRIS): https://cris.parks.ny.gov/



Project Location:
375 Seguine Avenue
Staten Island, Richmond County, NY

Prepared by AG on 2015-10-20
Technical Review by BSW on 2015-10-30
Independent Review by DH on 2015-11-06

190500871

Client/Project
NSLIJ
Staten Island University Hospital
South Campus Upgrades

Figure No.
2

Title
Historic Sites Map

Appendix C
SITE PHOTOGRAPHS

Staten Island University Hospital South Campus
375 Seguine Avenue, Staten Island, NY
Photos Taken: 6/5/2015 by Regina Nash (P.W. Grosser)

Photo #1 View of ambulance driveway entrance looking southwest towards Melville Street

Photo #2 View of ambulance driveway entrance looking west towards hospital

Photo #3 View of ambulance driveway and Central Utility Plant access road looking northwest towards hospital

Photo #4 View of parking lot located south of the Central Utility Plant

Photo #5 View of parking lot located south of the Central Utility Plant

Photo #6 View of west side of Central Utility Plant

Staten Island University Hospital South Campus
375 Seguine Avenue, Staten Island, NY
Photos Taken: 6/5/2015 by Regina Nash (P.W. Grosser)

Photo #7 View of Central Utility Plant access road looking south towards Melville St.

Photo #8 View of existing boilers in Central Utility Plant

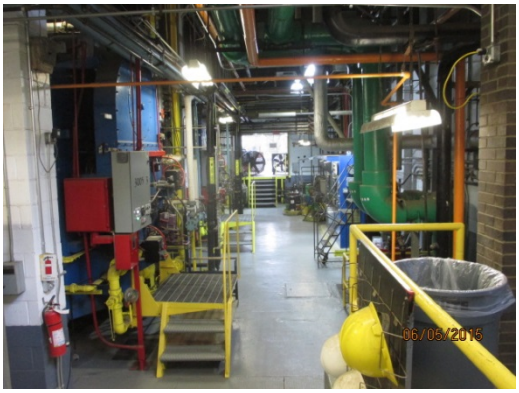


Photo #9 Alternative view of existing boilers in Central Utility Plant

Photo #10 View of generator to be removed

Photo #11 View of existing boiler (2)

Photo #12 View of generator to be removed

Staten Island University Hospital South Campus
375 Seguine Avenue, Staten Island, NY
Photos Taken: 6/5/2015 by Regina Nash (P.W. Grosser)

Photo #13 View of proposed location of third boiler

Photo #14 Existing electrical switchgear and panels

Photo #15 View of chiller to be refurbished

Photo #16 View of generator to be replaced

Photo #17 View of existing sump/proposed pump intake location

APPENDIX C FLOODPLAIN MANAGEMENT

Stantec | North Shore LIJ

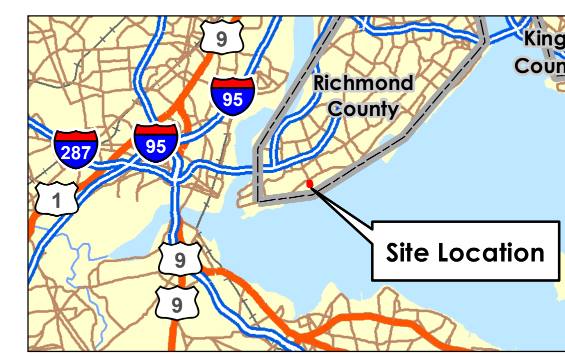
- Staten Island University Hospital - South Campus
- 100-year flood zone
- 500-year flood zone

0 200 400 Feet

1:2,500 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
2. Data published by the Federal Emergency Management Agency (FEMA) on 9/5/2007 and obtained from msc.fema.gov
3. FIRM panel = 3604970314F, dated 9/5/2007



Project Location:

375 Seguine Avenue
Staten Island, Richmond County, NY

Prepared by JC/AG on 2015-10-20
Technical Review by BSW on 2015-10-27
Independent Review by mmm on 2015-11-05

190500871

Client/Project

NSLIJ
Staten Island University Hospital
South Campus Upgrades

Figure No.

C1

Title

Floodplain Map - Effective Flood Insurance Rate Map

Staten Island University Hospital - South Campus

100-year flood zone

500-year flood zone

0 200 400 Feet

1:2,500 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
2. Data published by the Federal Emergency Management Agency (FEMA) on 12/5/2013 and obtained from msc.fema.gov
3. FIRM panel = 3604970329G, dated 12/5/2013

Project Location:
375 Seguine Avenue
Staten Island, Richmond County, NY

Prepared by JC/AG on 2015-10-20
Technical Review by BSW on 2015-10-27
Independent Review by DH on 2015-11-05

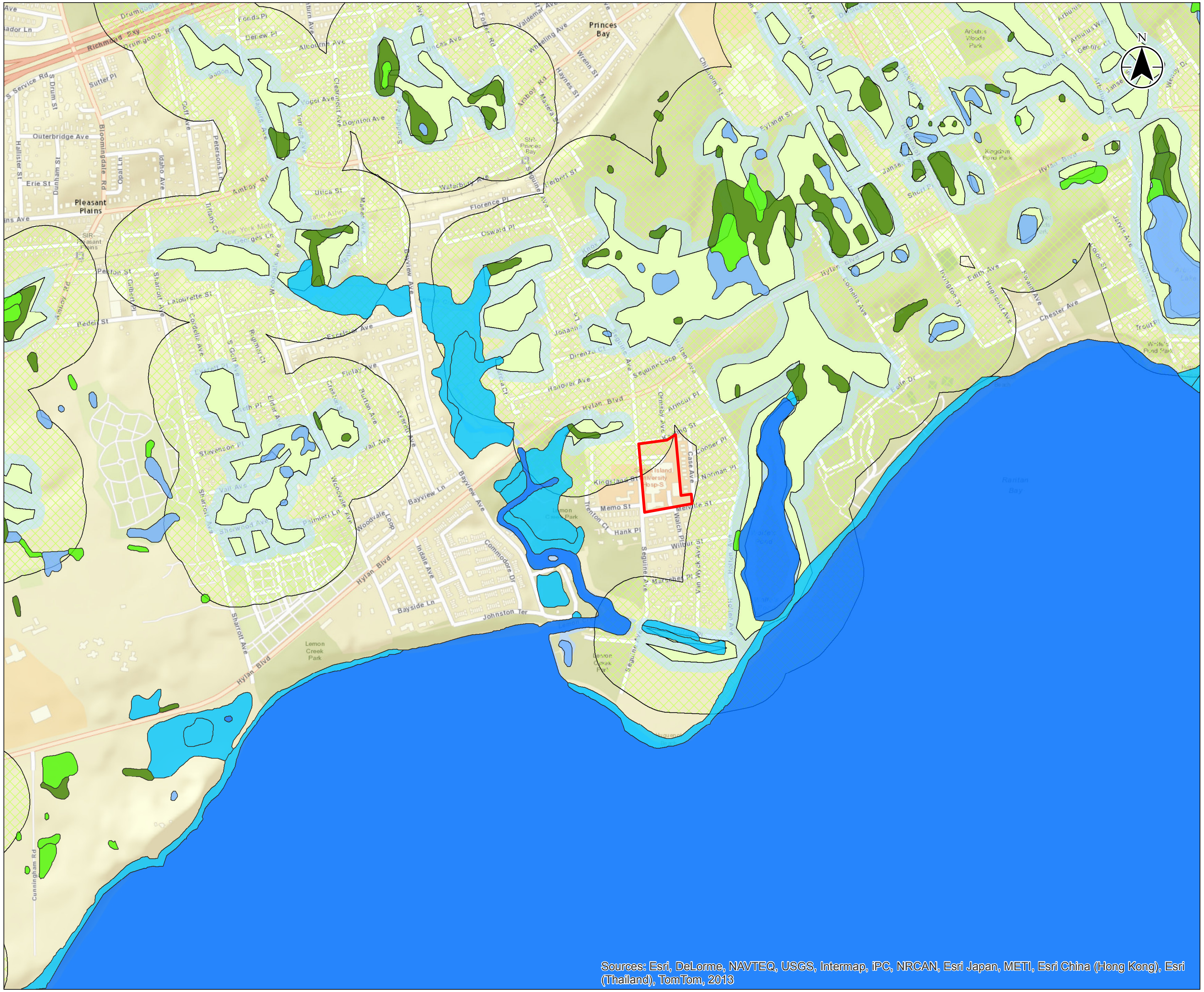
190500871

Client/Project
NSLIJ
Staten Island University Hospital
South Campus Upgrades

Figure No.
C2

Title
Floodplain Map - Preliminary Flood Insurance Rate Map (FIRM)

APPENDIX D WETLANDS PROTECTION



Stantec

North Shore LIJ

N

Staten Island University Hospital - South Campus

NWI Wetlands

Type

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

State-Regulated Freshwater Wetland

100-Foot Buffer

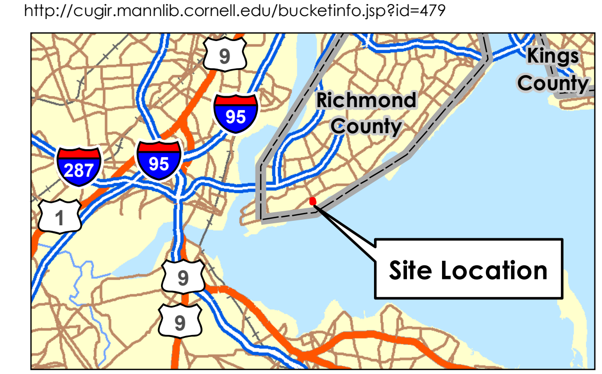
NYSDEC Wetland "Checkzones"

0 1,000 2,000 Feet

1:12,000 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
2. NWI wetland boundary data downloaded using the U.S. Fish and Wildlife Service's Seamless Wetlands Data by State download service on October 19, 2015: http://www.fws.gov/wetlands/Data/State-Downloads.html. State-regulated wetland data generated by the NYSDEC and released on September 22, 2008.
3. New York's freshwater wetlands maps only show the approximate location of the actual wetland boundary. They are not precise, regardless of how closely you zoom in on the map. The "check zone" is an area around the mapped wetland in which the actual wetland may occur. http://cugir.mannlib.cornell.edu/bucketinfo.jsp?id=479



Project Location:

375 Seguine Avenue
Staten Island, Richmond County, NY

Prepared by AG on 2015-10-20
Technical Review by BSW on 2015-11-05
Independent Review by DH on 2015-11-05

190500871

Client/Project

NSLIJ
Staten Island University Hospital
South Campus Upgrades

Figure No.

D

Title

Wetlands Map

U:\190500871\05_report_deliv\dwgs_design\GIS_figures\mxd\South Campus\L_wetlands_map.mxd Revised: 2015-11-06 By: aglose

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

APPENDIX E COASTAL ZONE MANAGEMENT

STATE OF NEW YORK
DEPARTMENT OF STATE
ONE COMMERCE PLAZA
99 WASHINGTON AVENUE
ALBANY, NY 12231-0001
WWW.DOS.NY.GOV

ANDREW M. CUOMO
GOVERNOR

CESAR A. PERALES
SECRETARY OF STATE

December 15, 2015

Michael Flanigan
Stantec Consulting Services, Inc.
61 Commercial Street, Suite 100
Rochester, New York 14614

Re: **F-2015-0950 (FA)**
Federal application no. B13-MS-360001
Staten Island University Hospital – South Campus
375 Seguine Avenue, Staten Island,
County of Richmond, NY

Critical site infrastructure improvements and building upgrades to improve resilience to storm events and flooding.

General Concurrence - No Objection to Funding

Dear Mr. Flanigan:

The Department of State received information submitted regarding the above proposed financial assistance and has completed its review. Based on the information submitted, the Department of State has no objection to U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant – Disaster Recovery (CDBG-DR) funding in support of the above proposed activities.

This concurrence pertains to the federal financial assistance of the above activity or activities. As certain activities may require a federal permit or other form of federal agency authorization, the Department of State will conduct separate consistency review(s) of those permit activities at the time application(s) may be made to a federal agency.

Sincerely,

Jeffrey Zappieri,
Manager of Consistency Review
NYS Office of Planning & Development

JZ/ts

NEW YORK STATE OF OPPORTUNITY. Department of State

NEW YORK STATE DEPARTMENT OF STATE
COASTAL MANAGEMENT PROGRAM

Federal Consistency Assessment Form

An applicant, seeking a permit, license, waiver, certification or similar type of approval from a federal agency which is subject to the New York State Coastal Management Program (CMP), shall complete this assessment form for any proposed activity that will occur within and/or directly affect the State's Coastal Area. This form is intended to assist an applicant in certifying that the proposed activity is consistent with New York State's CMP as required by U.S. Department of Commerce regulations (15 CFR 930.57). It should be completed at the time when the federal application is prepared. The Department of State will use the completed form and accompanying information in its review of the applicant's certification of consistency.

A. **APPLICANT** (please print)

1. Name: Staten Island University Hospital, attn. Paul Rhodes
2. Address: 475 Seaview Avenue Staten Island, NY 10305
3. Telephone: Area Code ( ) (718) 226-9078

B. **PROPOSED ACTIVITY:**

1. Brief description of activity:

Hazard mitigation strategies to improve flood resiliency at the Staten Island University Hospital - South Campus, including replacing critical site infrastructure and implementing hardening techniques.

2. Purpose of activity:

The purpose of this project is to increase the South Campus' resiliency against storm events and flooding.

3. Location of activity:

Richmond	Staten Island	375 Seguine Avenue
County	City, Town, or Village	Street or Site Description

4. Type of federal permit/license required: HUD CDBG-DR funds

5. Federal application number, if known: B13-MS-360001

6. If a state permit/license was issued or is required for the proposed activity, identify the state agency and provide the application or permit number, if known:

C. **COASTAL ASSESSMENT** Check either "YES" or "NO" for each of these questions. The numbers following each question refer to the policies described in the CMP document (see footnote on page 2) which may be affected by the proposed activity.

1. Will the proposed activity result in any of the following:	YES	NO
a. Large physical change to a site within the coastal area which will require the preparation of an environmental impact statement? (11, 22, 25, 32, 37, 38, 41, 43)		✓
b. Physical alteration of more than two acres of land along the shoreline, land under water or coastal waters? (2, 11, 12, 20, 28, 35, 44)		✓
c. Revitalization/redevelopment of a deteriorated or underutilized waterfront site? (1)		✓
d. Reduction of existing or potential public access to or along coastal waters? (19, 20)		✓
e. Adverse effect upon the commercial or recreational use of coastal fish resources? (9,10)		✓
f. Siting of a facility essential to the exploration, development and production of energy resources in coastal waters or on the Outer Continental Shelf? (29)		✓
g. Siting of a facility essential to the generation or transmission of energy? (27)		✓
h. Mining, excavation, or dredging activities, or the placement of dredged or fill material in coastal waters? (15, 35)		✓
i. Discharge of toxics, hazardous substances or other pollutants into coastal waters? (8, 15, 35)		✓
j. Draining of stormwater runoff or sewer overflows into coastal waters? (33)		✓
k. Transport, storage, treatment, or disposal of solid wastes or hazardous materials? (36, 39)	✓	
l. Adverse effect upon land or water uses within the State's small harbors? (4)		✓

2. Will the proposed activity affect or be located in, on, or adjacent to any of the following:	YES	NO
a. State designated freshwater or tidal wetland? (44)		✓
b. Federally designated flood and/or state designated erosion hazard area? (11, 12, 17)		✓
c. State designated significant fish and/or wildlife habitat? (7)		✓
d. State designated significant scenic resource or area? (24)		✓
e. State designated important agricultural lands? (26)		✓
f. Beach, dune or Barrier Island? (12)		✓
g. Major ports of Albany, Buffalo, Ogdensburg, Oswego or New York? (3)		✓
h. State, county, or local park? (19, 20)		✓
i. Historic resource listed on the National or State Register of Historic Places? (23)		✓

3. Will the proposed activity require any of the following:	YES	NO
a. Waterfront site? (2, 21, 22)		✓
b. Provision of new public services or infrastructure in undeveloped or sparsely populated sections of the coastal area? (5)		✓
c. Construction or reconstruction of a flood or erosion control structure? (13, 14, 16)	✓	
d. State water quality permit or certification? (30, 38, 40)		✓
e. State air quality permit or certification? (41, 43)	✓	

4. Will the proposed activity occur within and/or affect an area covered by a State-approved local waterfront revitalization program, or State-approved regional coastal management program? (see policies in program document*)	YES	NO
	✓	

D. **ADDITIONAL STEPS**

1. If all of the questions in Section C are answered "NO", then the applicant or agency shall complete Section E and submit the documentation required by Section F.

2. If any of the questions in Section C are answered "YES", then the applicant or agent is advised to consult the CMP, or where appropriate, the local waterfront revitalization program document*. The proposed activity must be analyzed in more detail with respect to the applicable state or local coastal policies. On a separate page(s), the applicant or agent shall: (a) identify, by their policy numbers, which coastal policies are affected by the activity, (b) briefly assess the effects of the activity upon the policy; and, (c) state how the activity is consistent with each policy. Following the completion of this written assessment, the applicant or agency shall complete Section E and submit the documentation required by Section F.

E. **CERTIFICATION**

The applicant or agent must certify that the proposed activity is consistent with the State's CMP or the approved local waterfront revitalization program, as appropriate. If this certification cannot be made, the proposed activity shall not be undertaken. If this certification can be made, complete this Section.

"The proposed activity complies with New York State's approved Coastal Management Program, or with the applicable approved local waterfront revitalization program, and will be conducted in a manner consistent with such program."

Applicant/Agent's Name: Stantec Consulting Services Inc. (as Agent)

Address: 61 Commercial Street Suite 100 Rochester, NY 14614

Telephone: Area Code ( ) 5854135270

Applicant/Agent's Signature: Michael Flanagan Date: 11/18/15

F. **SUBMISSION REQUIREMENTS**

1. The applicant or agent shall submit the following documents to the **New York State Department of State, Office of Planning and Development, Attn: Consistency Review Unit, One Commerce Plaza-Suite 1010, 99 Washington Avenue, Albany, New York 12231.**

a. Copy of original signed form.
b. Copy of the completed federal agency application.
c. Other available information which would support the certification of consistency.

2. The applicant or agent shall also submit a copy of this completed form along with his/her application to the federal agency.

3. If there are any questions regarding the submission of this form, contact the Department of State at (518) 474-6000.

*These state and local documents are available for inspection at the offices of many federal agencies, Department of environmental Conservation and Department of State regional offices, and the appropriate regional and county planning agencies. Local program documents are also available for inspection at the offices of the appropriate local government.

New York Coastal Management Program Federal Consistency Assessment Attachment

This section provides an assessment of the effects of the proposed project on policies addressed by questions on the New York State Coastal Management Program (CMP) Federal Consistency Assessment Form with a "yes" response. The questions are presented below, along with the policy(ies) addressed by each, followed by an explanation of how the action will be consistent with the goals of those policies and standards.

Policy Question #1K. Will the proposed activity result in any of the following: Transport, storage, treatment, or disposal of solid wastes or hazardous materials?

Policies 36, 39:

36. Activities related to the shipment and storage of petroleum and other hazardous materials will be conducted in a manner that will prevent or at least minimize spills into coastal waters; all practicable efforts will be undertaken to expedite the cleanup of such discharges; and restitution for damages will be required when these spills occur.

39. The transport, storage, treatment and disposal of solid wastes, particularly hazardous wastes, within coastal areas will be conducted in such a manner so as to protect groundwater and surface water supplies, significant fish and wildlife habitats, recreation areas, important agricultural lands and scenic resources.

Response: Solid waste generated during construction would be hauled by a licensed waste hauler in accordance with all applicable laws and regulations. This would include recycling metal, paper and plastic products as well as composting biodegradable materials. Any petroleum products that are transported and/or stored in relation to the construction activities (i.e. for fueling equipment) will be handled in accordance with all applicable laws and regulations and in such a way as to minimize the potential for releases to the environment. No hazardous substances are expected to be generated. No change from existing conditions is anticipated to waste generation, shipping, handling, or storing solid wastes, hazardous materials, or other pollutants during project operation. Therefore, the proposed project is consistent with this policy.

Policy Question #3c. Will the proposed activity require any of the following: Construction or reconstruction of a flood or erosion control structure?

Policies 13, 14, 16:

13. The construction or reconstruction of erosion protection structures shall be undertaken only if they have reasonable probability of controlling erosion for at least thirty years as demonstrated in design and construction standards and/or assured maintenance or replacement programs.

14. Activities and development Including the construction or reconstruction of erosion protection structures, shall be undertaken so that there will be no measurable increase in erosion or flooding at the site of such activities or development, or at other locations.

16. Public funds shall only be used for erosion protective structures where necessary to protect human life, and new development which requires a location within or adjacent to an erosion hazard area to be able to function, or existing development; and only where

the public benefits outweigh the long term monetary and other costs including the potential for increasing erosion and adverse effects on natural protective features.

Response: The intent of the proposed project is to increase the Staten Island University Hospital's South Campus' resiliency against storm events and flooding. The Central Utility Plant, which houses the campus's main boilers, chillers, generators, and electrical gear, is located at grade level with portions approximately four (4) feet below grade at street level. If water inundates the plant, the equipment may fail, causing a catastrophic impact on the South Campus. As such, a portion of the proposed work involves modifying the driveway to the Emergency Room and boiler plant and includes re-paving of the existing Emergency Room parking lot contiguous to the boiler plant. This work will isolate the power plant from the street by virtue of the change in grade of approximately three feet in the driveway area. The change in grade will be effected by importing new soil and quarry process stone. It is anticipated that 200 yards of material will be imported to create the berm along the driveway area. The intent of this grading and construction of a berm is not to prevent erosion and therefore Policies 13 and 16 are not applicable. These activities are not anticipated to increase erosion or flooding at the site; in fact, these activities being proposed in order to prevent flooding.

Policy Question #3e. Will the proposed activity require any of the following: State air quality permit or certification?

Policies 41, 43:

41. Land use or development in the coastal area will not cause national or State air quality standards to be violated.

43. Land use or development in the coastal area must not cause the generation of significant amounts of the acid rain precursors: nitrates and sulfates.

Response: The project will be conducted in accordance with federal and state requirements. Potential air quality impacts will be minimized by the incorporation of construction best management practices (BMPs) and compliance with Title II, Part A of the Clean Air Act which regulates motor vehicle emission and fuel standards, 6 NYCRR Chapter III, Subpart A which regulates prevention and control of air contamination and air pollution, State Air Facility Permit ID 2-6405-00031/02001, and the New York City Air Pollution Control Code which regulates fugitive dust. The contractor will implement construction BMPs to minimize emissions, such as covering haul trucks/soil piles, watering exposed soil during dry weather and limiting idling on-site to five minutes or less in accordance with state law. Equipment over 50 horsepower will be required to comply with New York City's requirements for emissions control equipment and to use ultra-low sulfur diesel.

The facility is an operating air discharge facility (Facility ID 2640500031). The facility is permitted to operate two boilers firing natural gas or #2 fuel oil and two natural gas fired generators. The facility is also required to limit its nitrogen oxides emissions to 24.9 tons a year. As part of the proposed project, a third boiler will be installed at the site. A written application to modify this permit to reflect this change needs to be resubmitted to the NYSDEC for review and approval. Records demonstrating compliance with the cap on nitrogen oxides emissions will continue to be kept in accordance with the permit special conditions. See Appendix D for a copy of the Air State Facility Permit.

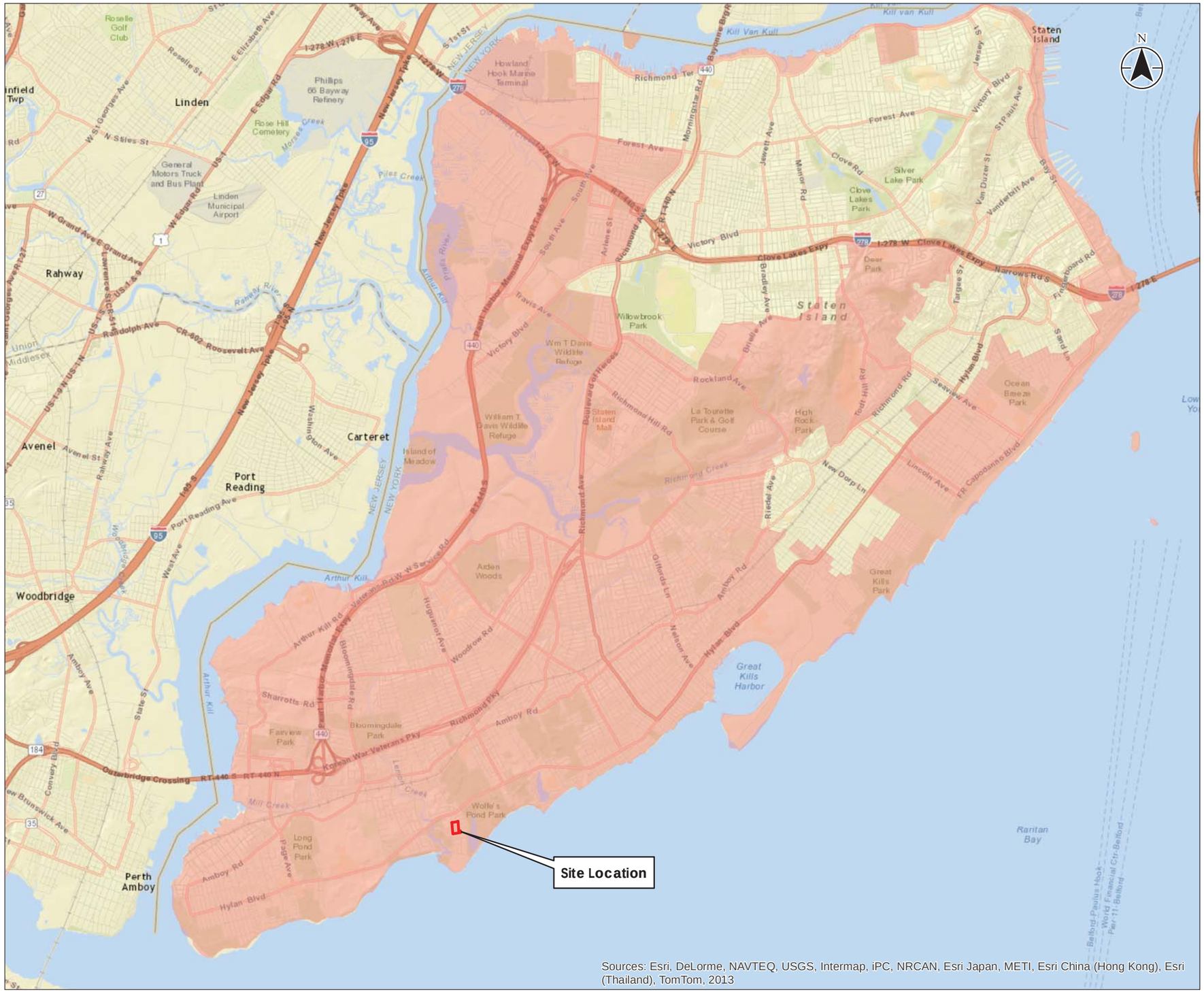
Central Utility Building equipment will be replaced with equipment generally matched in capacity to existing equipment. Given increased stringency of energy efficiency equipment standards compared to those in effect when the original equipment was purchased, air quality impacts of the proposed project will be no greater than existing

conditions and may, in fact, be improved. No significant impacts to air quality are anticipated as a result of the operation of the facility after the completion of this project.

Policy Question #4. Will the proposed activity occur within and/or affect an area covered by a State-approved local waterfront revitalization program, or State-approved regional coastal management program?

Policy - New York City Waterfront Revitalization Program (WRP).

Response: The project site is located in the Coastal Zone, which is the geographic extent of the WRP, as originally mapped and adopted in 1982. A request for a determination of consistency with NYCDCP Waterfront and Open Space Division policies will be submitted; a draft is included as an attachment.



Stantec

North Shore LIJ

Staten Island University Hospital - South Campus

Coastal Area Boundary

0 0.5 1 1.5 2 Miles

1:72,000 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
2. Statutory boundary describing applicability of the federally approved state coastal program under the federal Coastal Zone Management Act downloaded from NYS GIS Clearninghouse on November 3, 2015: http://gis.ny.gov/gisdata/inventories/details.cfm?DSID=317.
3. Published by the NYS Department of State on 9/9/2003 and revised June 2013.

Project Location:

375 Seguine Avenue
Staten Island, Richmond County, NY

Prepared by AG on 2015-11-04
Technical Review by BSW on 2015-11-05
Independent Review by DH on 2015-11-05

190500871

Client/Project

NSLIJ
Staten Island University Hospital
South Campus Upgrades

Figure No.

1

Title

Coastal Area Boundary Map

From:	Allan Zaretsky (DCP)
To:	Glose, AnneMarie
Cc:	Flanigan, Mike; Wagner, Barbara; Michael Marrella (DCP)
Subject:	WRP Consistency Review: SIUH South Campus Upgrade (WRP # 15-147)
Date:	Wednesday, January 13, 2016 2:05:36 PM

Hello Ms. Glose,

We have completed the review of the project as described below for consistency with the policies and intent of the New York City Waterfront Revitalization Program (WRP).

SIUH South Campus Upgrade: Utilization of HUD CDBG-DR funds to replace select mechanical items including emergency generator, chiller, an absorber, cooling towers and all associated connections in the Central Utility Plant

Based on the information submitted, the Waterfront Open Space Division, on behalf of the New York City Coastal Commission, having reviewed the waterfront aspect of this action, finds that the actions will not substantially hinder the achievement of any Waterfront Revitalization Program (WRP) policy and hereby provides its finding to the New York State Department of State (DOS) that this action is consistent with the WRP policies and the local program. Please note that the proposed action(s) are subject to consistency review and approval by the New York State Department of State (DOS) in accordance with the New York State Coastal Management Program.
This finding is only applicable to the information received and the current proposal. Any additional information or project modifications would require an independent consistency review.

For your records, this project has been assigned WRP # 15-147. If there are any questions regarding this review, please contact me.

Regards,
Allan Zaretsky

Allan Zaretsky
Planner | WATERFRONT & OPEN SPACE DIVISION
Waterfront Revitalization Program Consistency Review

NYC DEPT. OF CITY PLANNING
120 Broadway, 31st Floor • NEW YORK, NY 10271
t 212.720.3448 • azaretsky@planning.nyc.gov
http://www.nyc.gov/wrp.shtml

We've moved! Please note that our new address at 120 Broadway, 31st Floor

For Internal Use Only:
Date Received: _____

WRP no._____
DOS no._____

NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM
Consistency Assessment Form

Proposed actions that are subject to CEQR, ULURP or other local, state or federal discretionary review procedures, and that are within New York City's designated coastal zone, must be reviewed and assessed for their consistency with the *New York City Waterfront Revitalization Program (WRP)*. The WRP was adopted as a 197-a Plan by the Council of the City of New York on October 13, 1999, and subsequently approved by the New York State Department of State with the concurrence of the United States Department of Commerce pursuant to applicable state and federal law, including the Waterfront Revitalization of Coastal Areas and Inland Waterways Act. As a result of these approvals, state and federal discretionary actions within the city's coastal zone must be consistent to the maximum extent practicable with the WRP policies and the city must be given the opportunity to comment on all state and federal projects within its coastal zone.

This form is intended to assist an applicant in certifying that the proposed activity is consistent with the WRP. It should be completed when the local, state, or federal application is prepared. The completed form and accompanying information will be used by the New York State Department of State, other state agencies or the New York City Department of City Planning in their review of the applicant's certification of consistency.

A. APPLICANT

1. Name: Staten Island University Hospital, attn. Paul Rhodes
2. Address: 475 Seaview Avenue Staten Island, NY 10305
3. Telephone: (718) 226-9078 Fax:_____ E-mail:_____
4. Project site owner: Staten Island University Hospital

B. PROPOSED ACTIVITY

1. Brief description of activity:

The South Campus proposes to use the U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant-Disaster Recovery (CDBG-DR) funds to replace select existing mechanical items including: emergency generator, chiller, an absorber, cooling towers, and all associated connections in the Central Utility Plant The plant will remain in operation during the construction and startup of the replacement equipment. Minor site work will occur outside of the existing building. This work is primarily to modify the driveway to the Emergency Room and boiler plant and includes re-paving of the existing Emergency Room parking lot which is contiguous to the boiler plant. Mechanical scope includes installation of a chiller and generator in special weather proof and sound attenuated enclosures. These will replace temporary rental units in the North portion of the parking lot adjacent to the south of the Central Utility Plant The area at the footprint of the new generator and chiller is presently paved with asphalt and will be replaced with two concrete pads.

The New York City Office of Management and Budget (OMB) is designated as the lead agency for the proposed project

2. Purpose of activity:

The purpose of the proposed Staten Island University Hospital South Campus Upgrades is to increase the hospital's resiliency against storm events and flooding.

3. Location of activity: (street address/borough or site description):

The project activity is located at the existing Central Utility Plant at SIUH South Campus, 375 Seguine Ave., Staten Island, NY 10309. The utility plant is located on the southeast corner of the property.

Proposed Activity Cont'd

4. If a federal or state permit or license was issued or is required for the proposed activity, identify the permit type(s), the authorizing agency and provide the application or permit number(s), if known:

   No federal or state permit of license was issued or required.

5. Is federal or state funding being used to finance the project? If so, please identify the funding source(s).

   The project will be funded by the U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant-Disaster Recovery (CDBG-DR) in the amount of $12,000,000.

6. Will the proposed project require the preparation of an environmental impact statement?
   Yes _____ No ____✓____ If yes, identify Lead Agency:

7. Identify **city** discretionary actions, such as a zoning amendment or adoption of an urban renewal plan, required for the proposed project.

   No city discretionary actions are required for the proposed project.

C. COASTAL ASSESSMENT

Location Questions:	**Yes**	**No**
1. Is the project site on the waterfront or at the water's edge?		✓
2. Does the proposed project require a waterfront site?		✓
3. Would the action result in a physical alteration to a waterfront site, including land along the shoreline, land underwater, or coastal waters?		✓

Policy Questions	**Yes**	**No**

The following questions represent, in a broad sense, the policies of the WRP. Numbers in parentheses after each question indicate the policy or policies addressed by the question. The new Waterfront Revitalization Program offers detailed explanations of the policies, including criteria for consistency determinations.

Check either "Yes" or "No" for each of the following questions. For all "yes" responses, provide an attachment assessing the effects of the proposed activity on the relevant policies or standards. Explain how the action would be consistent with the goals of those policies and standards.

4. Will the proposed project result in revitalization or redevelopment of a deteriorated or under-used waterfront site? (1)		✓
5. Is the project site appropriate for residential or commercial redevelopment? (1.1)		✓
6. Will the action result in a change in scale or character of a neighborhood? (1.2)		✓

Policy Questions cont'd	Yes	No
7. Will the proposed activity require provision of new public services or infrastructure in undeveloped or sparsely populated sections of the coastal area? (1.3)		✓
8. Is the action located in one of the designated Significant Maritime and Industrial Areas (SMIA): South Bronx, Newtown Creek, Brooklyn Navy Yard, Red Hook, Sunset Park, or Staten Island? (2)		✓
9. Are there any waterfront structures, such as piers, docks, bulkheads or wharves, located on the project sites? (2)		✓
10. Would the action involve the siting or construction of a facility essential to the generation or transmission of energy, or a natural gas facility, or would it develop new energy resources? (2.1)		✓
11. Does the action involve the siting of a working waterfront use outside of a SMIA? (2.2)		✓
12. Does the proposed project involve infrastructure improvement, such as construction or repair of piers, docks, or bulkheads? (2.3, 3.2)		✓
13. Would the action involve mining, dredging, or dredge disposal, or placement of dredged or fill materials in coastal waters? (2.3, 3.1, 4, 5.3, 6.3)		✓
14. Would the action be located in a commercial or recreational boating center, such as City Island, Sheepshead Bay or Great Kills or an area devoted to water-dependent transportation? (3)		✓
15. Would the proposed project have an adverse effect upon the land or water uses within a commercial or recreation boating center or water-dependent transportation center? (3.1)		✓
16. Would the proposed project create any conflicts between commercial and recreational boating? (3.2)		✓
17. Does the proposed project involve any boating activity that would have an impact on the aquatic environment or surrounding land and water uses? (3.3)		✓
18. Is the action located in one of the designated Special Natural Waterfront Areas (SNWA): Long Island Sound- East River, Jamaica Bay, or Northwest Staten Island? (4 and 9.2)		✓
19. Is the project site in or adjacent to a Significant Coastal Fish and Wildlife Habitat? (4.1)		✓
20. Is the site located within or adjacent to a Recognized Ecological Complex: South Shore of Staten Island or Riverdale Natural Area District? (4.1and 9.2)		✓
21. Would the action involve any activity in or near a tidal or freshwater wetland? (4.2)		✓
22. Does the project site contain a rare ecological community or would the proposed project affect a vulnerable plant, fish, or wildlife species? (4.3)		✓
23. Would the action have any effects on commercial or recreational use of fish resources? (4.4)		✓
24. Would the proposed project in any way affect the water quality classification of nearby waters or be unable to be consistent with that classification? (5)		✓
25. Would the action result in any direct or indirect discharges, including toxins, hazardous substances, or other pollutants, effluent, or waste, into any waterbody? (5.1)		✓
26. Would the action result in the draining of stormwater runoff or sewer overflows into coastal waters? (5.1)		✓
27. Will any activity associated with the project generate nonpoint source pollution? (5.2)		✓
28. Would the action cause violations of the National or State air quality standards? (5.2)		✓

Policy Questions cont'd	Yes	No
29. Would the action result in significant amounts of acid rain precursors (nitrates and sulfates)? (5.2C)		✓
30. Will the project involve the excavation or placing of fill in or near navigable waters, marshes, estuaries, tidal marshes or other wetlands? (5.3)		✓
31. Would the proposed action have any effects on surface or ground water supplies? (5.4)		✓
32. Would the action result in any activities within a federally designated flood hazard area or state-designated erosion hazards area? (6)		✓
33. Would the action result in any construction activities that would lead to erosion? (6)		✓
34. Would the action involve construction or reconstruction of a flood or erosion control structure? (6.1)	✓	
35. Would the action involve any new or increased activity on or near any beach, dune, barrier island, or bluff? (6.1)		✓
36. Does the proposed project involve use of public funds for flood prevention or erosion control? (6.2)	✓	
37. Would the proposed project affect a non-renewable source of sand ? (6.3)		✓
38. Would the action result in shipping, handling, or storing of solid wastes, hazardous materials, or other pollutants? (7)	✓	
39. Would the action affect any sites that have been used as landfills? (7.1)		✓
40. Would the action result in development of a site that may contain contamination or that has a history of underground fuel tanks, oil spills, or other form or petroleum product use or storage? (7.2)	✓	
41. Will the proposed activity result in any transport, storage, treatment, or disposal of solid wastes or hazardous materials, or the siting of a solid or hazardous waste facility? (7.3)	✓	
42. Would the action result in a reduction of existing or required access to or along coastal waters, public access areas, or public parks or open spaces? (8)		✓
43. Will the proposed project affect or be located in, on, or adjacent to any federal, state, or city park or other land in public ownership protected for open space preservation? (8)		✓
44. Would the action result in the provision of open space without provision for its maintenance? (8.1)		✓
45. Would the action result in any development along the shoreline but NOT include new water-enhanced or water-dependent recreational space? (8.2)		✓
46. Will the proposed project impede visual access to coastal lands, waters and open space? (8.3)		✓
47. Does the proposed project involve publicly owned or acquired land that could accommodate waterfront open space or recreation? (8.4)		✓
48. Does the project site involve lands or waters held in public trust by the state or city? (8.5)		✓
49. Would the action affect natural or built resources that contribute to the scenic quality of a coastal area? (9)		✓
50. Does the site currently include elements that degrade the area's scenic quality or block views to the water? (9.1)		✓

Policy Questions cont'd	Yes	No
51. Would the proposed action have a significant adverse impact on historic, archeological, or cultural resources? (10)		✓
52. Will the proposed activity affect or be located in, on, or adjacent to an historic resource listed on the National or State Register of Historic Places, or designated as a landmark by the City of New York? (10)		✓

D. CERTIFICATION

The applicant or agent must certify that the proposed activity is consistent with New York City's Waterfront Revitalization Program, pursuant to the New York State Coastal Management Program. If this certification cannot be made, the proposed activity shall not be undertaken. If the certification can be made, complete this section.

"The proposed activity complies with New York State's Coastal Management Program as expressed in New York City's approved Local Waterfront Revitalization Program, pursuant to New York State's Coastal Management Program, and will be conducted in a manner consistent with such program."

Applicant/Agent Name: Stantec Consulting Services Inc. (as Agent)

Address: 61 Commercial Street Suite 100 Rochester, NY 14614

Telephone (585) 413-5270

Applicant/Agent Signature: Michael J Flanigan Date: 11/16/2015

Staten Island University Hospital South Campus Upgrades

New York City Waterfront Revitalization Program Consistency Assessment Attachment

This section provides an assessment of the effects of the proposed project on policies addressed by questions on the WRP Consistency Assessment Form with a "yes" response. The responses below explain The questions are presented below, along with the policy(ies) addressed by each, followed by an explanation of how the action will be consistent with the goals of those policies and standards.

Policy Question #34. Would the action involve construction or reconstruction of a flood or erosion control structure?

Policy 6.1: Minimize losses from flooding and erosion by employing non-structural and structural management measures appropriate to the condition and use of the property to be protected and the surrounding area.

Response: The intent of the proposed project is to increase the Staten Island University Hospital's South Campus' resiliency against storm events and flooding. The Central Utility Plant, which houses the campus's main boilers, chillers, generators, and electrical gear, is located at grade level with portions approximately four (4) feet below grade at street level. If water inundates the plant, the equipment may fail, causing a catastrophic impact on the South Campus. As such, a portion of the proposed work involves modifying the driveway to the Emergency Room and boiler plant and includes re-paving of the existing Emergency Room parking lot contiguous to the boiler plant. This work will isolate the power plant from the street by virtue of the change in grade of approximately three feet in the driveway area. The change in grade will be effected by importing new soil and quarry process stone. It is anticipated that 200 yards of material will be imported to create the berm along the driveway area.

Policy Question #36. Does the proposed project involve use of public funds for flood prevention or erosion control?

Policy 6.2: Direct public funding for flood prevention or erosion control measures to those locations where the investment will yield significant public benefit.

Response: The South Campus proposes to use the U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant-Disaster Recovery (CDBG-DR) funds to increase the South Campus' resiliency against storm events and flooding. In response to Hurricane Sandy, SIUH formulated a hazard mitigation strategy to harden the South Campus Central Utility Plant and related mechanical equipment. The mitigation work includes replacement of critical site infrastructure located at the Central Utility Plant.

The proposed project will help to eliminate the threat to operations at the South Campus if the plant is inundated by water, allowing it to continue operating during storm events and flooding. This project will improve the resiliency of the hospital, which will in turn improve the facility's ability to provide emergency medical care during a storm event.

Policy Question #38. Would the action result in shipping, handling, or storing of solid wastes, hazardous materials, or other pollutants?

Policy 7: Minimize environmental degradation from solid waste and hazardous substances.

Response: Solid waste generated during construction would be hauled by a licensed waste hauler in accordance with all applicable laws and regulations. This would include recycling metal, paper and plastic products as well as composting biodegradable materials. No hazardous substances are expected to be generated. No change from existing conditions is anticipated to waste generation, shipping, handling, or storing solid wastes, hazardous materials, or other pollutants during project operation. Therefore, the proposed project is consistent with this policy.

Policy Question #40. Would the action result in development of a site that may contain contamination or that has a history of underground fuel tanks, oil spills, or other form or petroleum product use or storage?

Policy 7.2: Prevent and remediate discharge of petroleum products.

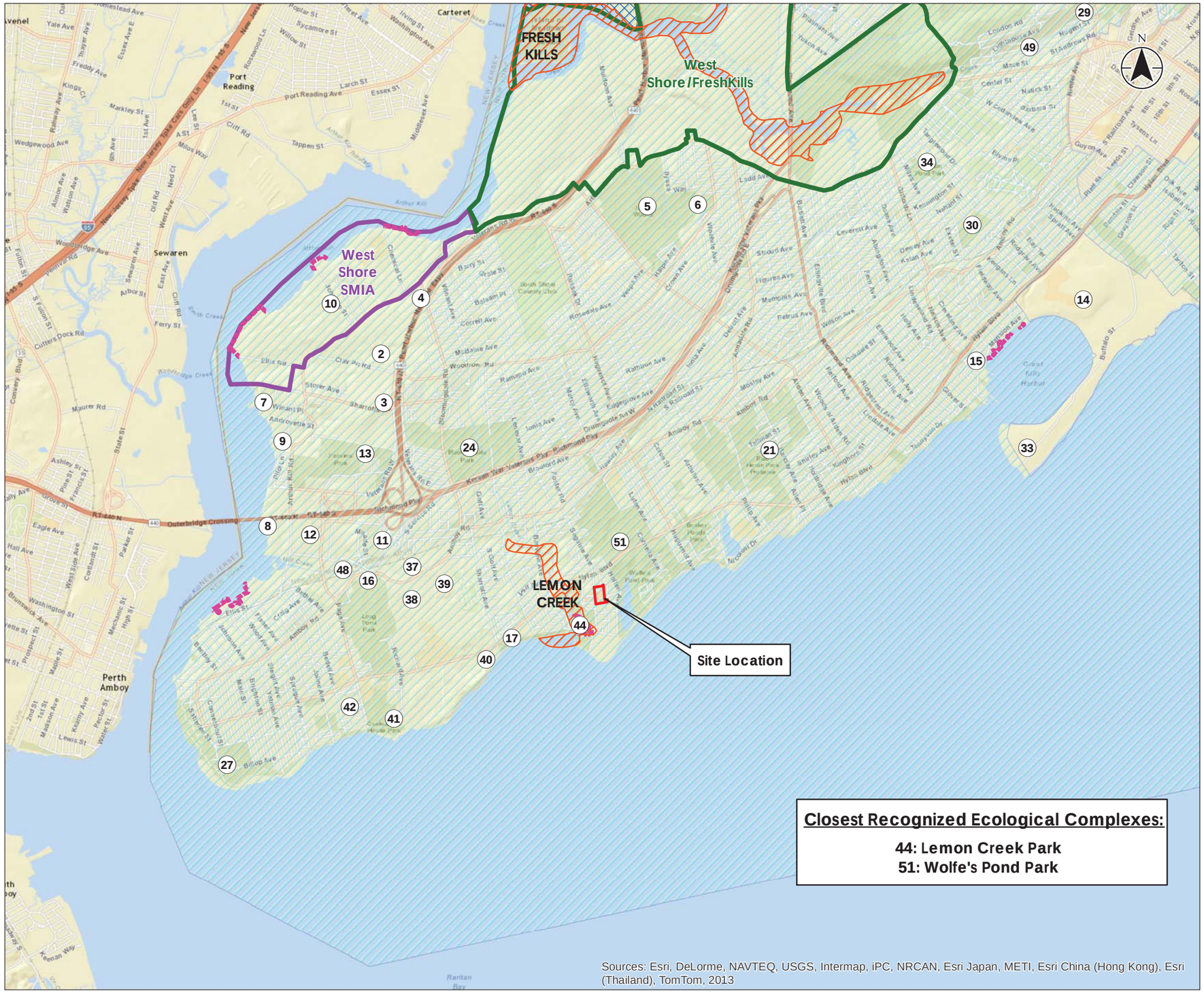
Response: The project site is not located on a site that is part of a federal or state remediation program. The site is a RCRA Small-Quantity Generator (Facility ID NYR000214528), an operating air discharge facility (Facility ID 3608500350), and a Chemical Bulk Storage and Petroleum Bulk Storage facility (Facility IDs 2-000075 and 2-092053). No violations of applicable regulations have been noted. Five spills have occurred at the site and three spills have occurred on adjacent properties. All of these spills have been closed by the NYSDEC.

Given that known spills have been closed and that excavation for the proposed project will be limited to removal of asphalt, there is a low probability of encountering contamination during construction of the proposed project. However, if contaminated soil or groundwater are encountered, proper notifications and removal/disposal will be completed.

Policy Question #41. Will the proposed activity result in any transport, storage, treatment, or disposal of solid wastes or hazardous materials, or the siting of a solid or hazardous waste facility?

Policy 7.3: Transport solid waste and hazardous substances and site solid and hazardous waste facilities in a manner that minimizes potential degradation of coastal resources.

As stated above, solid waste generated during construction would be hauled by a licensed waste hauler in accordance with all applicable laws and regulations. This would include recycling all metal, paper, and plastic products as well as composting biodegradable materials. No hazardous substances are expected to be generated and no siting of waste facilities will occur as a result of this project. No change from existing conditions is anticipated to waste generation, shipping, handling, or storing solid wastes, hazardous materials, or other pollutants during project operation. Therefore the proposed project is consistent with this policy.



Staten Island University Hospital - South Campus

Significant Coastal Fish and Wildlife Habitat

Recognized Ecological Complexes

Priority Marine Activity Zones

Special Natural Waterfront Areas

Ecologically Sensitive Maritime and Industrial Area

Significant Maritime and Industrial Areas

NYC Coastal Zone Boundary

0 0.25 0.5 0.75 1 Miles

1:48,000 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
2. NYC Waterfront Revitalization data (2013) downloaded from the NYC Planning Department Website on November 5, 2015: http://www.nyc.gov/html/dcp/html/wrp/wrp_revisions.shtml
3. Signficant Coastal Fish and Wildlife Habitat data (2013) downloaded from the NYS GIS Clearinghouse on November 5, 2015: https://gis.ny.gov/gisdata/inventories/details.cfm?DSID=318

Project Location:
375 Seguine Avenue
Staten Island, Richmond County, NY

Prepared by AG on 2015-11-04
Technical Review by BSW on 2015-11-05
Independent Review by DH on 2015-11-05

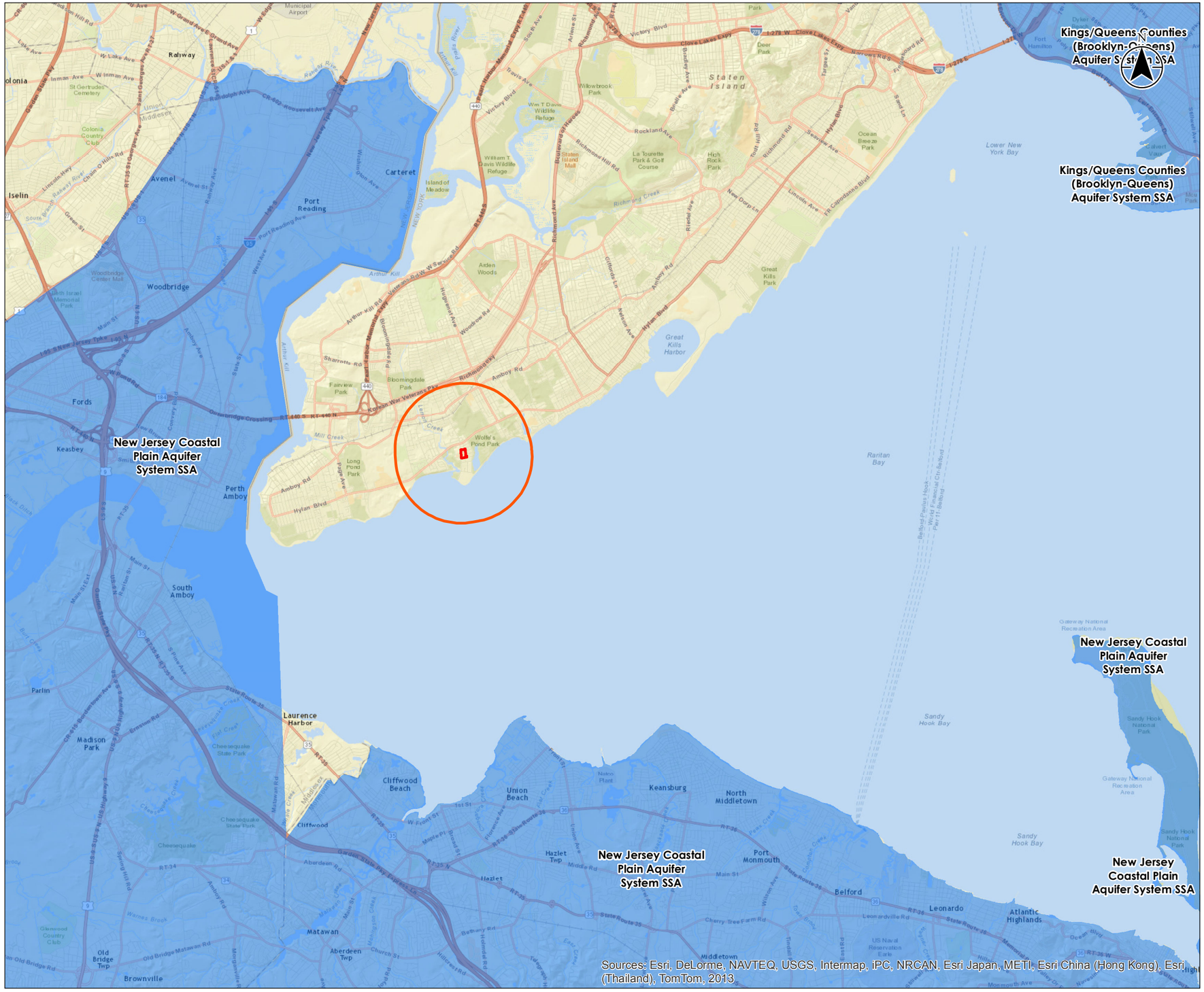
190500871

Client/Project
NSLIJ
Staten Island University Hospital
South Campus Upgrades

Figure No.
1

Title
Special Natural Waterfront Areas, Recognized Ecological Complexes, and Significant Coastal Fish and Wildlife Habitats Map

APPENDIX F SOLE SOURCE AQUIFERS



Stantec

North Shore LIJ

- Staten Island University Hospital - South Campus
- Sole Source Aquifers
- One Mile Buffer

0 1 2 Miles

1:100,000 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
2. EPA's National Sole Source Aquifer GIS Layer downloaded from https://catalog.data.gov/dataset/national-sole-source-aquifer-gis-layer on October 19, 2015.

Project Location:
375 Seguine Avenue
Staten Island, Richmond County, NY

Prepared by AG on 2015-10-20
Technical Review by BSW on 2015-11-05
Independent Review by DH on 2015-11-05

190500871

Client/Project
NSLIJ
Staten Island University Hospital
South Campus Upgrades

Figure No.
F

Title
Sole Source Aquifer Map

APPENDIX G ENDANGERED SPECIES

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Long Island Ecological Services Field Office
340 SMITH ROAD
SHIRLEY, NY 11967
PHONE: (631)286-0485 FAX: (631)286-4003

Consultation Code: 05E1LI00-2016-SLI-0022 October 30, 2015
Event Code: 05E1LI00-2016-E-00025
Project Name: Staten island University Hospital - South Campus Upgrades

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having

similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

Official Species List

Provided by:

Long Island Ecological Services Field Office
340 SMITH ROAD
SHIRLEY, NY 11967
(631) 286-0485

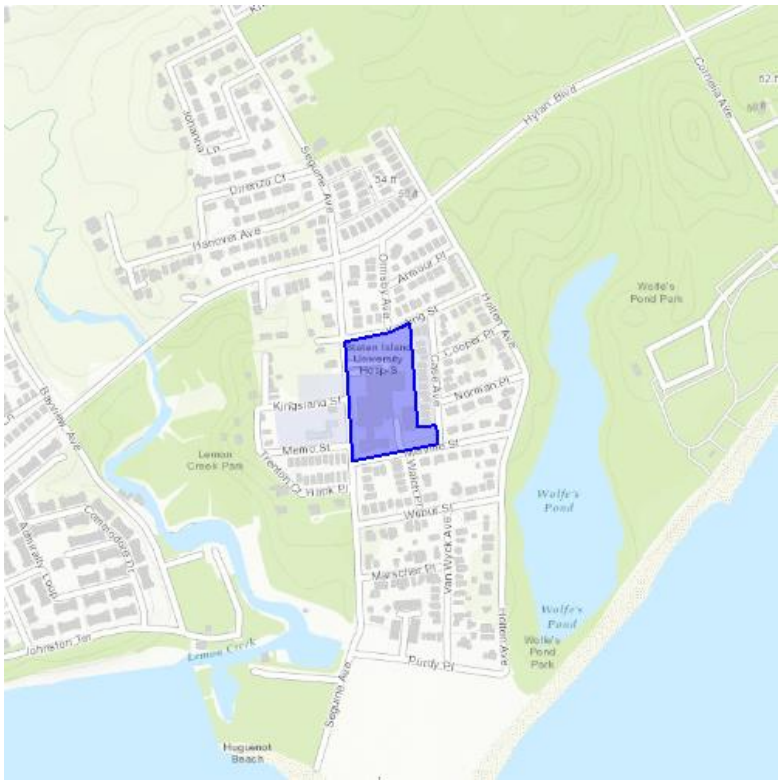
Consultation Code: 05E1LI00-2016-SLI-0022
Event Code: 05E1LI00-2016-E-00025

Project Type: Federal Grant / Loan Related

Project Name: Staten island University Hospital - South Campus Upgrades
Project Description: Staten Island University Hospital will use U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant - Disaster Recovery (CDBG-DR) funds at the South Campus (375 Seguine Avenue, Staten Island, NY) to replace select existing mechanical items including: emergency generator, chiller, an absorber, cooling towers, and all associated connections in the Central Utility Plant in order to increase the South Campusâ resiliency against storm events and flooding.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-74.19603824615479 40.51797520038851, -74.19565200805664 40.518105697614324, -74.19546961784363 40.516511167226334, -74.19509410858153 40.51653155787987, -74.19507801532745 40.51622977557411, -74.19679999351501 40.51596877356561, -74.19697165489197 40.51783246875689, -74.19603824615479 40.51797520038851)))

Project Counties: Richmond, NY

Endangered Species Act Species List

There are a total of 2 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	Status	Has Critical Habitat	Condition(s)
Piping Plover *(Charadrius melodus)* Population: except Great Lakes watershed	Threatened		
Roseate tern *(Sterna dougallii dougallii)* Population: northeast U.S. nesting pop.	Endangered		

Critical habitats that lie within your project area

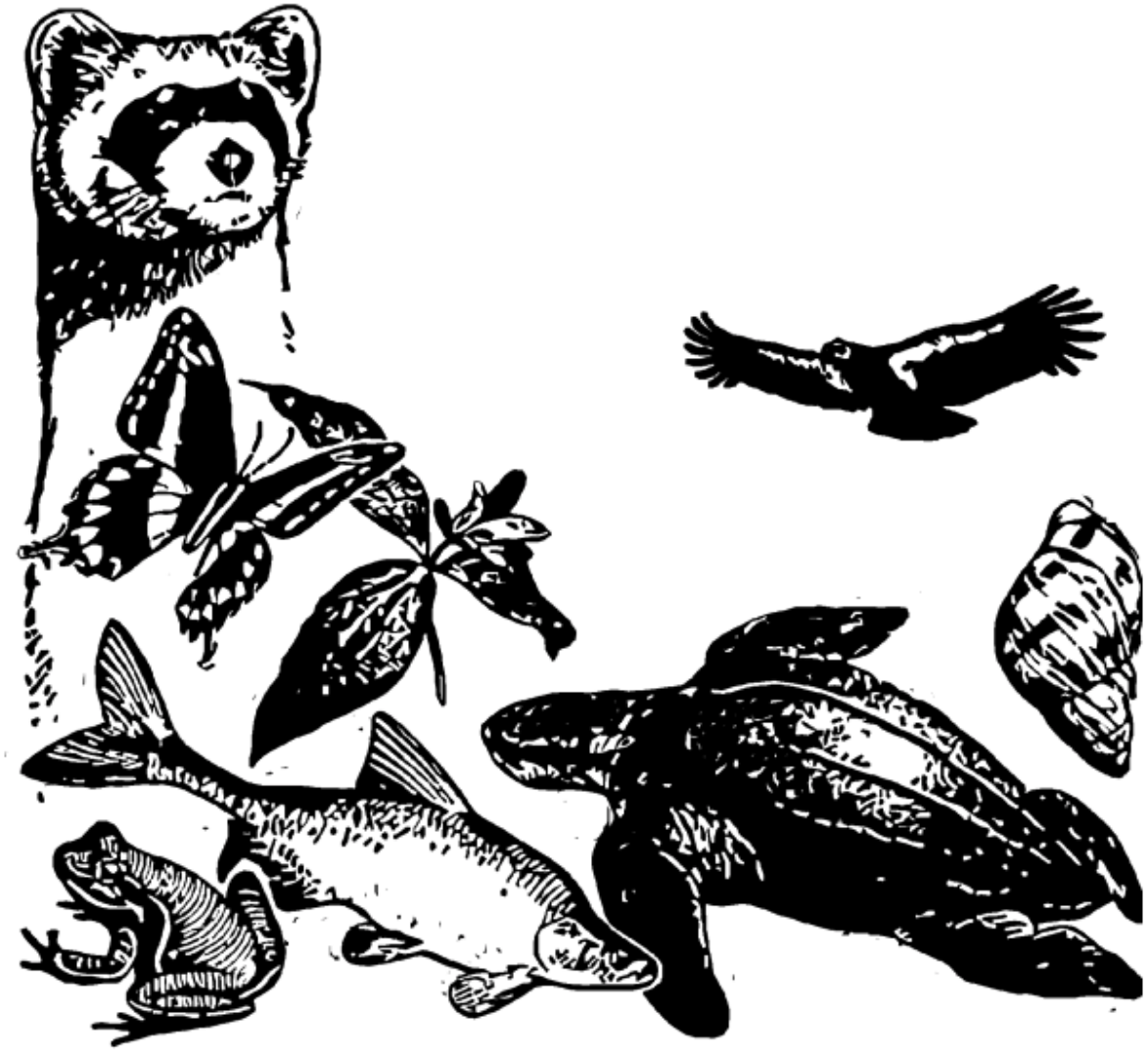
There are no critical habitats within your project area.

Staten Island University Hospital - South Campus Upgrades

IPaC Trust Resource Report

Generated October 19, 2015 12:32 PM MDT

This report is for informational purposes only and should not be used for planning or analyzing project-level impacts. For projects that require FWS review, please return to this project on the IPaC website and request an official species list from the Regulatory Documents page.



US Fish & Wildlife Service

IPaC Trust Resource Report

Project Description

NAME

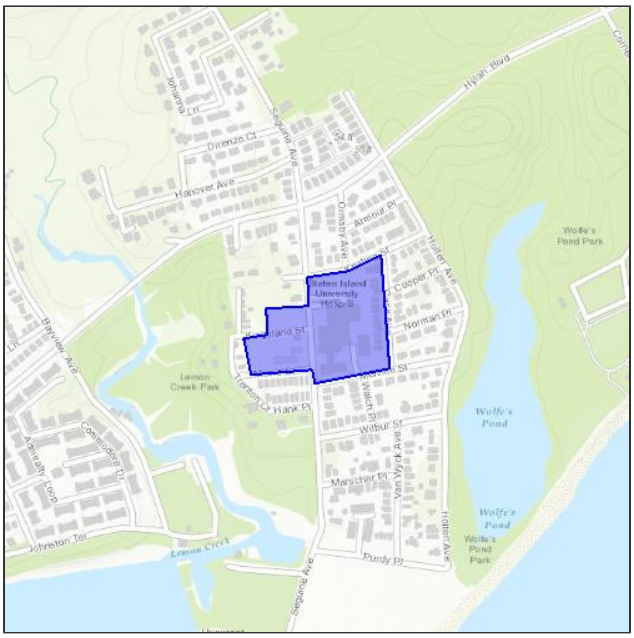
Staten Island University Hospital - South Campus Upgrades

PROJECT CODE

KG464-KELEZ-DNVDL-MQEYQ-Y7ZJEA

LOCATION

Richmond County, New York



DESCRIPTION

Staten Island University Hospital will use U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant - Disaster Recovery (CDBG-DR) funds at the South Campus to replace select existing mechanical items including: emergency generator, chiller, an absorber, cooling towers, and all associated connections in the Central Utility Plant in order to increase the Staten Island University Hospital South Campus' resiliency against storm events and flooding.

U.S. Fish & Wildlife Contact Information

Species in this report are managed by:

Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967
(631) 286-0485

Endangered Species

Proposed, candidate, threatened, and endangered species that are managed by the Endangered Species Program and should be considered as part of an effect analysis for this project.

This unofficial species list is for informational purposes only and does not fulfill the requirements under Section 7 of the Endangered Species Act, which states that Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action." This requirement applies to projects which are conducted, permitted or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can be obtained by returning to this project on the IPaC website and requesting an official species list on the Regulatory Documents page.

Birds

Piping Plover Charadrius melodus — **Threatened**

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B079

Roseate Tern Sterna dougallii dougallii — **Endangered**

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B07O

Critical Habitats

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

There is no critical habitat within this project area

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

You are responsible for complying with the appropriate regulations for the protection of birds as part of this project. This involves analyzing potential impacts and implementing appropriate conservation measures for all project activities.

American Bittern Botaurus lentiginosus — **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0F3

Bald Eagle Haliaeetus leucocephalus — **Bird of conservation concern**
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B008

Black Rail Laterallus jamaicensis — **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B09A

Black-billed Cuckoo Coccyzus erythropthalmus — **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HI

Canada Warbler Wilsonia canadensis — **Bird of conservation concern**
Season: Breeding

Fox Sparrow Passerella iliaca — **Bird of conservation concern**
Season: Wintering

Gull-billed Tern Gelochelidon nilotica — **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0JV

Horned Grebe Podiceps auritus — **Bird of conservation concern**
Season: Wintering

Hudsonian Godwit Limosa haemastica — **Bird of conservation concern**
Season: Migrating

Kentucky Warbler Oporornis formosus — **Bird of conservation concern**
Season: Breeding

Least Bittern Ixobrychus exilis — **Bird of conservation concern**
Season: Breeding

Least Tern Sterna antillarum — **Bird of conservation concern**
Season: Breeding

Peregrine Falcon Falco peregrinus — **Bird of conservation concern**
Season: Wintering
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FU

Pied-billed Grebe Podilymbus podiceps **Bird of conservation concern**
Year-round

Prairie Warbler Dendroica discolor **Bird of conservation concern**
Season: Breeding

Purple Sandpiper Calidris maritima **Bird of conservation concern**
Season: Wintering

Red Knot Calidris canutus rufa **Bird of conservation concern**
Season: Wintering
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DM

Rusty Blackbird Euphagus carolinus **Bird of conservation concern**
Season: Wintering

Saltmarsh Sparrow Ammodramus caudacutus **Bird of conservation concern**
Season: Breeding

Seaside Sparrow Ammodramus maritimus **Bird of conservation concern**
Year-round

Short-eared Owl Asio flammeus **Bird of conservation concern**
Season: Wintering
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HD

Snowy Egret Egretta thula **Bird of conservation concern**
Season: Breeding

Upland Sandpiper Bartramia longicauda **Bird of conservation concern**
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HC

Wood Thrush Hylocichla mustelina **Bird of conservation concern**
Season: Breeding

Refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. If your project overlaps or otherwise impacts a Refuge, please contact that Refuge to discuss the authorization process.

There are no refuges within this project area

Wetlands

Impacts to NWI wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

Project proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

There are no wetlands identified in this project area

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife and Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • Fax: (518) 402-8925
Website: www.dec.ny.gov

November 17, 2015

Andy Smith
Stantec
61 Commercial Street, Suite 100
Rochester, NY 14614

Re: Proposed resiliency actions at the Staten Island University Hospital North Campus and South Campus, 475 Seaview Ave. and 375 Seguine Ave.
Town/City: New York. County: Richmond.

Dear Andy Smith:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur, or may occur, in the vicinity of your site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Our database is continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Andrea Chaloux

Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program

1233

The following rare plants, rare animals, and significant natural communities have been documented in the vicinity of your project site.

We recommend that potential onsite and offsite impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Field surveys of the project site may be necessary to determine the status of a species at the site, particularly for sites that are currently undeveloped and may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following animals, while not listed by New York State as Endangered or Threatened, are of conservation concern to the state, and are considered rare by the New York Natural Heritage Program.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*HERITAGE CONSERVATION STATUS*
Dragonflies and Damselflies			
Needham's Skimmer	*Libellula needhami*	Unlisted	Vulnerable in NYS

Seavers Creek Olympia Boulevard, 1997-07-11: The dragonflies were observed along a creek bordered by thick stands of *Phragmites*. The creek is possibly brackish water. 11184

The following plants are listed as Endangered or Threatened by New York State, and/or are considered rare by the New York Natural Heritage Program, and so are a vulnerable natural resource of conservation concern.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*HERITAGE CONSERVATION STATUS*
Vascular Plants			
Downy Carrion-flower	*Smilax pulverulenta*	Endangered	Critically Imperiled in NYS

Wolfes Pond, 1997-08-07: Oak-tulip tree forest variant. The plants are at the base of a slope along the west side of a stream. The plants are in rich, decidous woods with *Acer rubrum*, *Liriodendron tulipifera*, *Liquidambar styraciflua*, *Carya cordifolius*, *Fagus grandifolia*, *Acer nigrum*, and *Carya glabra*. The stream is rocky. 9112

Grant City, 1919-05-17. 8699

Green Milkweed	*Asclepias viridiflora*	Threatened	Imperiled in NYS

South Beach, 1998-07-22: Open grassland habitat on artifically deposited sand, now resembling a maritime grassland. Grassland about 175+ acres surrounded by heavy development. Grassland varies in quality, but the highest quality is located along the northeast side. 7904

Globose Flatsedge	*Cyperus echinatus*	Endangered	Critically Imperiled in NYS

South Beach, 1998-07-22: Large open grassland outlined by major roads. Soil is very sandy. 7425

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site,

further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to www.dec.ny.gov/animals/97703.html for Ecological Communities of New York State.

The following rare plants and rare animals have historical records in the vicinity of your project site.

The following rare plants and animals were documented in the vicinity of the project site at one time, but have not been documented there since 1979 or earlier, and/or there is uncertainty regarding their continued presence. There is no recent information on these plants and animals in the vicinity of the project site and their current status there is unknown. In most cases the precise location of the plant or animal in this vicinity at the time it was last documented is also unknown.

If suitable habitat for these plants or animals is present in the vicinity of the project site, it is possible that they may still occur there. We recommend that any field surveys to the site include a search for these species, particularly at sites that are currently undeveloped and may still contain suitable habitat.

COMMON NAME	*SCIENTIFIC NAME*	*NYS LISTING*	*HERITAGE CONSERVATION STATUS*
Amphibians			
Northern Cricket Frog	*Acris crepitans*	Endangered	Critically Imperiled in NYS
1887-09-10, 1940-06-04, and 1970s-mid.			7509, 8332, 2364
Vascular Plants			
Little-leaf Tick-trefoil	*Desmodium ciliare*	Threatened	Imperiled in NYS
1894-10-06: Princes Bay.			3248
Straw Sedge	*Carex straminea*	Endangered	Critically Imperiled in NYS
1896-06-15: Grant City. 1915-06-13: South Beach.			5017, 1889
Primrose-leaf Violet	*Viola primulifolia*	Threatened	Imperiled in NYS
1907-05-30: Grant City. Open moist soil.			6294
Spring Ladies'-tresses	*Spiranthes vernalis*	Endangered	Critically Imperiled in NYS
1892-08-07:			7984
Tiny Blue-curls	*Trichostema setaceum*	Endangered	Critically Imperiled in NYS
1894-10-06: Princes Bay.			10429
Soapwort Gentian	*Gentiana sponaria*	Endangered	Critically Imperiled in NYS
1889-09-22: Pleasant Plains.			8849

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

Glose, AnneMarie

From: Smith, Andy
Sent: Tuesday, October 27, 2015 9:32 AM
To: Natural Heritage
Cc: Flanigan, Mike
Subject: Request for records check of Natural Heritage Program for proposed resiliency actions at the Staten Island Univeristy Hopsital (2 locations)
Attachments: location_map_north_campus.pdf; location_map_south_campus.pdf

Natural Heritage Program;

On behalf of the Staten Island University Hospital (SIUH) we request information from the NYS Natural Heritage Program in regards to the recorded presence of threatened or endangered species in the vicinity of proposed resiliency/hazard prevention actions at two SIUH locations, 475 Seaview Avenue and 375 Seguine Ave. Staten Island NY (location maps attached).
The proposed projects are primarily indoor actions involving the relocation of heating/cooling and electrical equipment to interior locations above the floodplain. The 475 Seaview Avenue location also involves additional building construction on an already paved location of the hospital campus.

Please call me with any questions concerning this request.

Andy Smith
Senior Scientist
Stantec
61 Commercial Street, Suite 100 Rochester NY 14614-1009
Phone: 585 413-5279
Cell: 585 298-2383
Fax: 585 272-1814
andy.smith@stantec.com

Stantec

North Shore LIJ

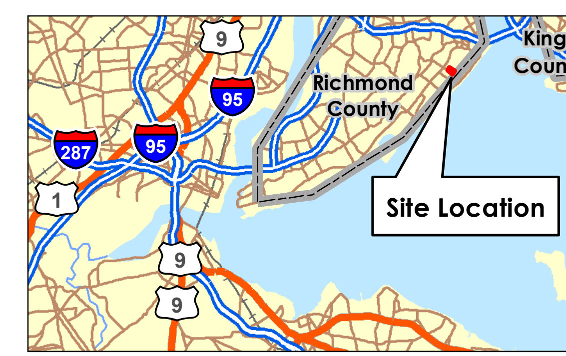
Staten Island University Hospital - North Campus

0 1,000 2,000 3,000 Feet

1:24,000 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
2. USGS 7.5-Minute Series - The Narrows Quadrangle



Project Location:
475 Seaview Avenue
Staten Island, Richmond County, NY

Prepared by AG on 2015-10-20
Technical Review by mmm on 2015-10-xx
Independent Review by mmm on 2015-10-xx

190500871

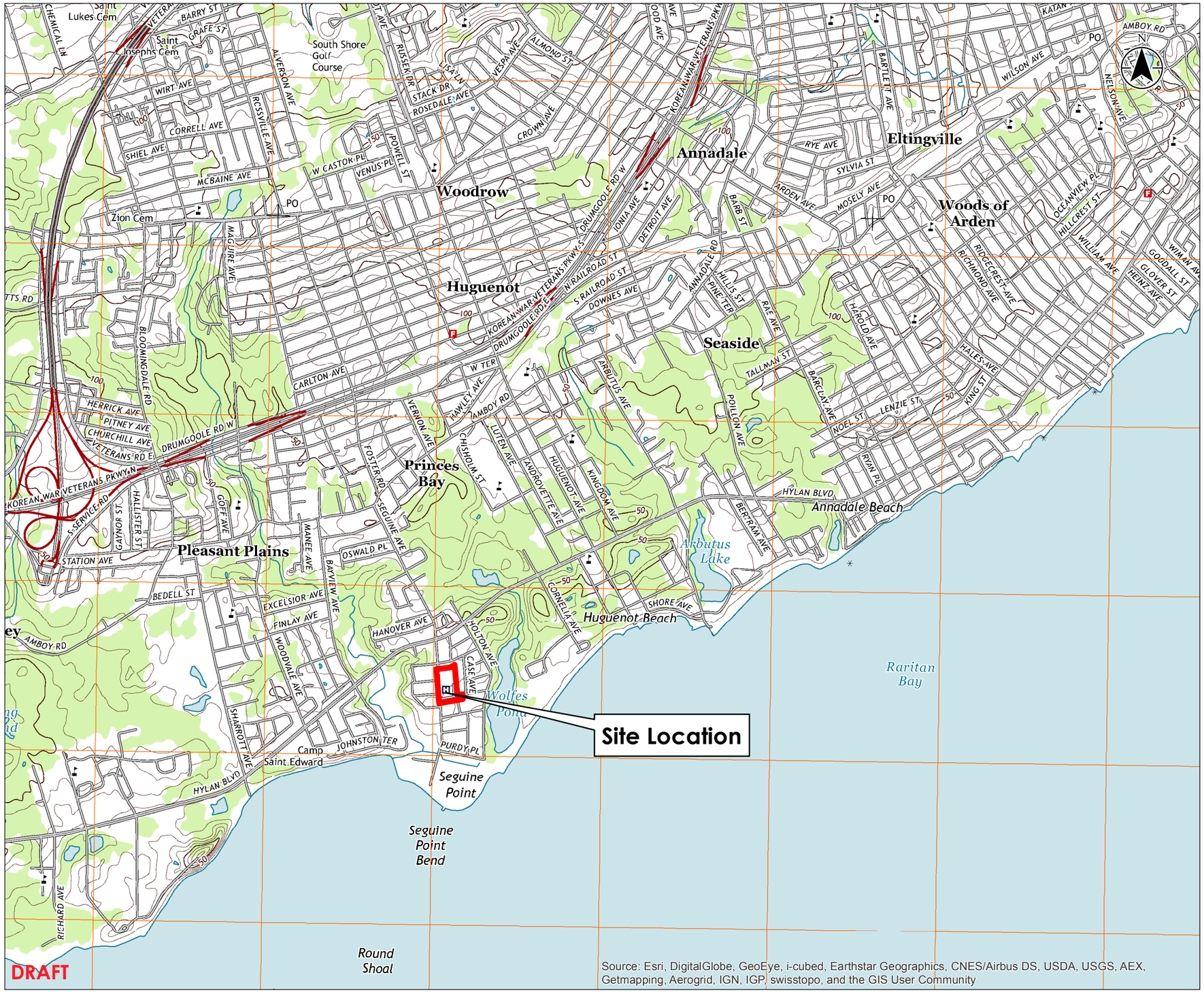
Client/Project
NSLIJ
Staten Island University Hospital
North Campus

Figure No.
1

DRAFT

Title

Location Map



Stantec

North Shore LIJ

Staten Island University Hospital - South Campus

0 1,000 2,000 3,000 Feet

1:24,000 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
2. USGS 7.5-Minute Series - Arthur Kill Quadrangle

Project Location:
375 Seguine Avenue
Staten Island, Richmond County, NY

Prepared by AG on 2015-10-20
Technical Review by mmm on 2015-10-xx
Independent Review by mmm on 2015-10-xx

190500871

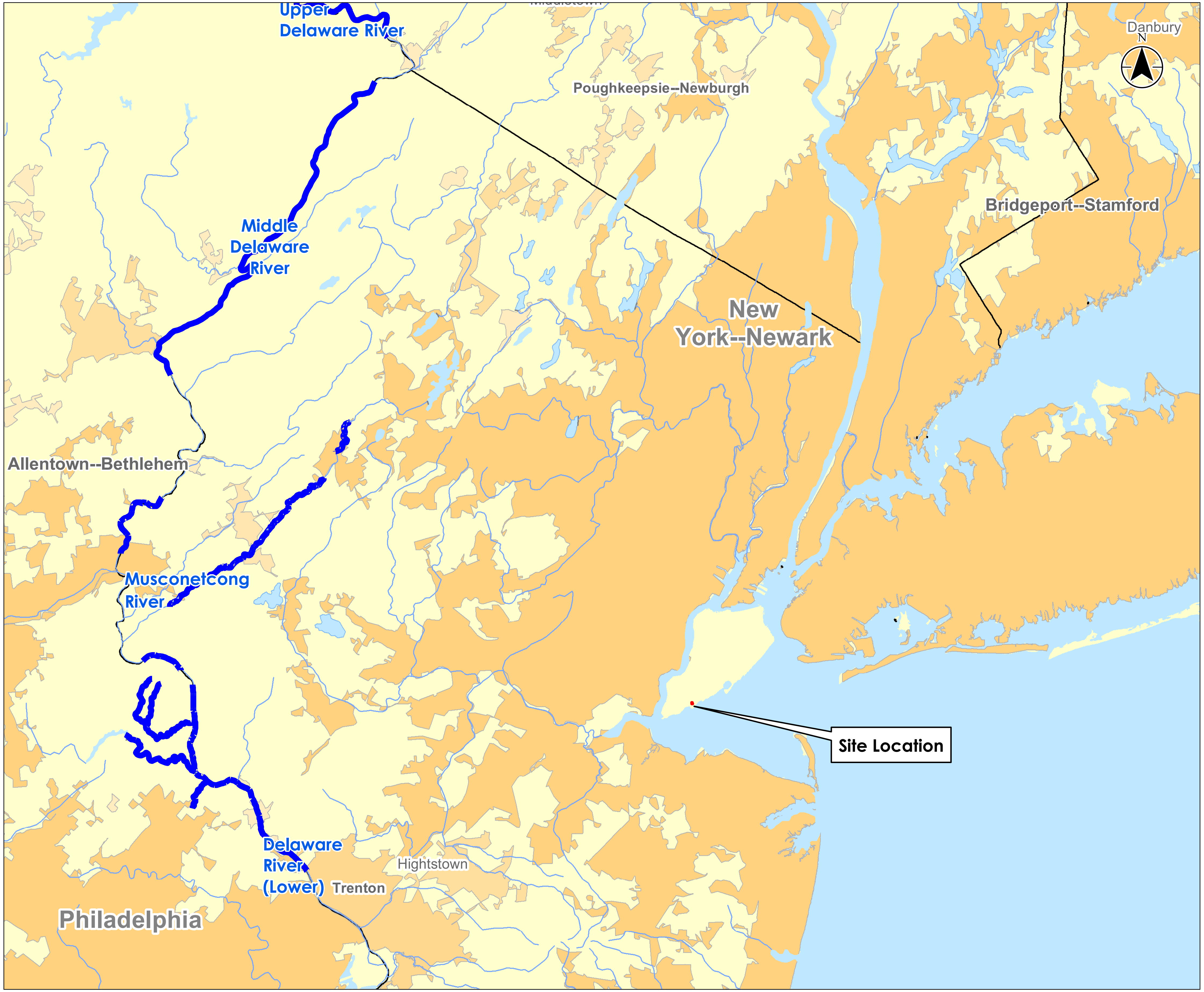
Client/Project
NSLIJ
Staten Island University Hospital
South Campus

Figure No.
1

DRAFT

Title
Location Map

APPENDIX H WILD AND SCENIC RIVERS



Staten Island University Hospital - South Campus

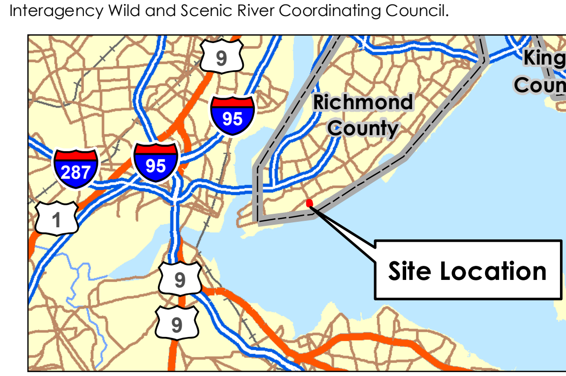
Wild and Scenic Rivers

0 5 10 15 20 Miles

1:600,000 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
2. National Wild and Scenic River Data downloaded from river.gov on October 23, 2015; data were compiled by a consortium of the USGS National Atlas and the Interagency Wild and Scenic River Coordinating Council.



Project Location:

375 Seguine Avenue
Staten Island, Richmond County, NY

Prepared by AG on 2015-10-20
Technical Review by BSW on 2015-10-30
Independent Review by DH on 2015-11-05

190500871

Client/Project
NSLIJ
Staten Island University Hospital
South Campus Upgrades

Figure No.
H

Title

Wild and Scenic Rivers Map

APPENDIX I CLEAN AIR AND NOISE

Staten Island University Hospital South Campus Upgrades

Noise and Air Quality

The proposed project will result in temporary air emissions and noise generation as a result of construction vehicles and delivery vehicles traveling to and from the site and by equipment used for on-site construction activities. Construction activities that typically generate higher noise levels, such as piling driving, blasting and demolition, will not be used.

Construction of the proposed project will comply with USEPA noise emission standards for construction equipment and with Local Law 113 of 2005 (the New York City Noise Control Code). These federal and local regulations include specific noise emissions standard requirements for certain classifications of construction equipment and vehicles.

To comply with local and federal noise regulations, the contractor selected to construct the proposed project will implement measures to minimize noise. As required by the local noise code, the contractor will develop a Construction Noise Mitigation Plan that will include source controls, path controls and receptor controls. These federal and local regulations also mandate that construction material be handled and transported so as not to create unnecessary noise, and limit construction activities to weekdays between the hours of 7 AM and 6 PM, except for special circumstances. After hour and weekend work requires a permit from the Department of Buildings (DOB) and in certain instances, also requires that an Alternative Noise Mitigation Plan be filed with the Department of Environmental Protection (DEP), in addition to the noise mitigation plan for normal weekday hours.

Potential air quality impacts will be minimized by the incorporation of construction best management practices (BMPs) and compliance with Title II, Part A of the Clean Air Act which regulates motor vehicle emission and fuel standards, 6 NYCRR Chapter III, Subpart A which regulates prevention and control of air contamination and air pollution, State Air Facility Permit ID 2-6405-00031/02001, and the New York City Air Pollution Control Code which regulates fugitive dust. The contractor will implement construction BMPs to minimize emissions, such as covering haul trucks/soil piles, watering exposed soil during dry weather and limiting idling on-site to five minutes or less in accordance with state law. Equipment over 50 horsepower will be required to comply with New York City's requirements for emissions control equipment and to use ultra-low sulfur diesel.

Equipment in the Central Utility Building, including the emergency generator and chiller, will be replaced with equipment generally matched in capacity to existing equipment. Given increased stringency of energy efficiency equipment standards compared to those in effect when the original equipment was purchased, air quality impacts of the equipment that is replaced will be no greater than existing conditions and may, in fact, be improved. In addition to replacing equipment, a third boiler will be added. While no more than two boilers are anticipated to be operating at any given time, this new boiler will increase the capacity of the equipment operating at the facility. Therefore, a written application to modify the facility's air permit to reflect this change needs to be submitted to the NYSDEC for review and approval.

The facility is also required to limit its nitrogen oxides emissions to 24.9 tons a year. Records demonstrating compliance with the cap on nitrogen oxides emissions will continue to be kept in accordance with the permit special conditions.

PERMIT
Under the Environmental Conservation Law (ECL)

IDENTIFICATION INFORMATION

Permit Type: Air State Facility
Permit ID: 2-6405-00031/02001
Effective Date: 07/20/2015 Expiration Date: 07/19/2025

Permit Issued To:STATEN ISLAND UNIVERSITY HOSPITAL SOUTH
375 SEQUINE AVE
STATEN ISLAND, NY 10309-3932

Contact: PAUL RHODES
STATEN ISLAND UNIV HOSPITAL
475 SEAVIEW AVE
STATEN ISLAND, NY 10305
(718) 226-9078

Facility: STATEN ISLAND UNIVERSITY HOSPITAL-SOUTH
375 SEGUINE AVE
STATEN ISLAND, NY 10309

Contact: CHRISTOPHER STEWART
STATEN ISLAND UNIV HOSPITAL
375 SEQUINE AVE
STATEN ISLAND, NY 10309
(718) 226-9079

Description:
STATEN ISLAND UNIVERSITY HOSPITAL-SOUTH is located at 375 Seguine Ave, Staten Island, New York.

The facility operates combustion installation consisting of two boilers firing natural gas or #2 fuel oil and two natural gas fired generators.

The facility nitrogen oxides (NOx) emissions are limited to 24.9 tons per year.

Records demonstrating compliance with this cap will be kept in accordance with the permit special conditions.

The facility is subject to the provisions of State Facility requirements specified under 6NYCRR 201-7.

The Air State Facility permit contains a listing of the applicable federal, state, and compliance monitoring requirements for the facility.

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, the General Conditions specified and any Special Conditions included as part of this permit.

Permit Administrator: STEPHEN A WATTS
47-40 21ST ST
LONG ISLAND CITY, NY 11101-5401

Authorized Signature: _____ Date: ___ / ___ / _____

Notification of Other State Permittee Obligations

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification

The permittee expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the compliance permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in any compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit

The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits

The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights

This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

LIST OF CONDITIONS

DEC GENERAL CONDITIONS
General Provisions
Facility Inspection by the Department
Relationship of this Permit to Other Department Orders and Determinations
Applications for permit renewals, modifications and transfers
Permit modifications, suspensions or revocations by the Department
Facility Level
Submission of application for permit modification or renewal - REGION 2 HEADQUARTERS

DEC GENERAL CONDITIONS
****** General Provisions ******
GENERAL CONDITIONS - Apply to ALL Authorized Permits.

Condition 1: Facility Inspection by the Department
Applicable State Requirement: ECL 19-0305

Item 1.1:
The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71-0301 and SAPA 401(3).

Item 1.2:
The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

Item 1.3:
A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

Condition 2: Relationship of this Permit to Other Department Orders and Determinations
Applicable State Requirement: ECL 3-0301 (2) (m)

Item 2.1:
Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

Condition 3: Applications for permit renewals, modifications and transfers
Applicable State Requirement: 6 NYCRR 621.11

Item 3.1:
The permittee must submit a separate written application to the Department for renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing.

Item 3.2:
The permittee must submit a renewal application at least 180 days before expiration of permits for Title V Facility Permits, or at least 30 days before expiration of permits for State Facility Permits.

Item 3.3:
Permits are transferrable with the approval of the department unless specifically prohibited by the statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

Condition 4: Permit modifications, suspensions or revocations by the Department
Applicable State Requirement: 6 NYCRR 621.13

Item 4.1:
The Department reserves the right to exercise all available authority to modify, suspend, or revoke this permit in accordance with 6NYCRR Part 621. The grounds for modification, suspension or revocation include:

a) materially false or inaccurate statements in the permit application or supporting papers;
b) failure by the permittee to comply with any terms or conditions of the permit;
c) exceeding the scope of the project as described in the permit application;
d) newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
e) noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

****** Facility Level ******

Condition 5: Submission of application for permit modification or renewal - REGION 2 HEADQUARTERS
Applicable State Requirement: 6 NYCRR 621.6 (a)

Item 5.1:
Submission of applications for permit modification or renewal are to be submitted to:
NYSDEC Regional Permit Administrator
Region 2 Headquarters
Division of Environmental Permits
1 Hunters Point Plaza, 4740 21st Street
Long Island City, NY 11101-5407
(718) 482-4997

Permit Under the Environmental Conservation Law (ECL)

ARTICLE 19: AIR POLLUTION CONTROL - AIR STATE FACILITY PERMIT

IDENTIFICATION INFORMATION

Permit Issued To:STATEN ISLAND UNIVERSITY HOSPITAL SOUTH
375 SEQUINE AVE
STATEN ISLAND, NY 10309-3932

Facility: STATEN ISLAND UNIVERSITY HOSPITAL-SOUTH
375 SEGUINE AVE
STATEN ISLAND, NY 10309

Authorized Activity By Standard Industrial Classification Code:
8069 - SPECIALTY HOSPITALS, EXCEPT PSYCHIATRIC

Permit Effective Date: 07/20/2015 Permit Expiration Date: 07/19/2025

LIST OF CONDITIONS

FEDERALLY ENFORCEABLE CONDITIONS
Facility Level

1 6 NYCRR Subpart 201-7: Facility Permissible Emissions
*2 6 NYCRR Subpart 201-7: Capping Monitoring Condition
3 6 NYCRR 211.1: Air pollution prohibited
4 6 NYCRR 225-1.2 (f): Compliance Demonstration
5 6 NYCRR 225-1.2 (g): Compliance Demonstration
6 6 NYCRR 225-1.2 (h): Compliance Demonstration
7 6 NYCRR 225-1.6 (f): Compliance Demonstration
8 6 NYCRR 227-1.3 (a): Compliance Demonstration
9 40CFR 60, NSPS Subpart JJJJ: Compliance and Enforcement
10 40CFR 63, Subpart JJJJJJ: Compliance and Enforcement
11 40CFR 63, Subpart ZZZZ: Compliance and Enforcement

STATE ONLY ENFORCEABLE CONDITIONS
Facility Level

12 ECL 19-0301: Contaminant List
13 6 NYCRR 201-1.4: Malfunctions and start-up/shutdown activities
14 6 NYCRR Subpart 201-5: Emission Unit Definition
15 6 NYCRR 201-5.2 (c): Renewal deadlines for state facility permits
16 6 NYCRR 201-5.3 (c): Compliance Demonstration
17 6 NYCRR 211.2: Visible Emissions Limited
Emission Unit Level
18 6 NYCRR Subpart 201-5: Emission Point Definition By Emission Unit
19 6 NYCRR Subpart 201-5: Process Definition By Emission Unit

NOTE: * preceding the condition number indicates capping.

FEDERALLY ENFORCEABLE CONDITIONS
****** Facility Level ******

NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS
This section contains terms and conditions which are federally enforceable. Permittees may also have other obligations under regulations of general applicability

Item A: Sealing - 6 NYCRR 200.5

The Commissioner may seal an air contamination source to prevent its operation if compliance with 6 NYCRR Chapter III is not met within the time provided by an order of the Commissioner issued in the case of the violation. Sealing means labeling or tagging a source to notify any person that operation of the source is prohibited, and also includes physical means of preventing the operation of an air contamination source without resulting in destruction of any equipment associated with such source, and includes, but is not limited to, bolting, chaining or wiring shut control panels, apertures or conduits associated with such source.

No person shall operate any air contamination source sealed by the Commissioner in accordance with this section unless a modification has been made which enables such source to comply with all requirements applicable to such modification.

Unless authorized by the Commissioner, no person shall remove or alter any seal affixed to any contamination source in accordance with this section.

Item B: Acceptable Ambient Air Quality - 6 NYCRR 200.6

Notwithstanding the provisions of 6 NYCRR Chapter III, Subchapter A, no person shall allow or permit any air contamination source to emit air contaminants in quantities which alone or in combination with emissions from other air contamination sources would contravene any applicable ambient air quality standard and/or cause air pollution. In such cases where contravention occurs or may occur, the Commissioner shall specify the degree and/or method of emission control required.

Item C: Maintenance of Equipment - 6 NYCRR 200.7

Any person who owns or operates an air contamination source which is equipped with an emission control device shall operate such device and keep it in a satisfactory state of maintenance and repair in accordance with ordinary and necessary practices, standards and procedures, inclusive of manufacturer's specifications,

required to operate such device effectively.

Item D: Unpermitted Emission Sources - 6 NYCRR 201-1.2

If an existing emission source was subject to the permitting requirements of 6 NYCRR Part 201 at the time of construction or modification, and the owner and/or operator failed to apply for a permit for such emission source then the following provisions apply:

(a) The owner and/or operator must apply for a permit for such emission source or register the facility in accordance with the provisions of Part 201.

(b) The emission source or facility is subject to all regulations that were applicable to it at the time of construction or modification and any subsequent requirements applicable to existing sources or facilities.

Item E: Emergency Defense - 6 NYCRR 201-1.5

An emergency constitutes an affirmative defense to an action brought for noncompliance with emissions limitations or permit conditions for all facilities in New York State.

(a) The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An emergency occurred and that the facility owner and/or operator can identify the cause(s) of the emergency;

(2) The equipment at the permitted facility causing the emergency was at the time being properly operated;

(3) During the period of the emergency the facility owner and/or operator took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

(4) The facility owner and/or operator notified the Department within two working days after the event occurred. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

(b) In any enforcement proceeding, the facility owner and/or operator seeking to establish the occurrence of an emergency has the burden of proof.

(c) This provision is in addition to any emergency or upset provision contained in any applicable requirement.

Item F: Recycling and Salvage - 6 NYCRR 201-1.7

Where practical, any person who owns or operates an air contamination source shall recycle or salvage air contaminants collected in an air cleaning device according to the requirements of 6 NYCRR.

Item G: Prohibition of Reintroduction of Collected Contaminants to the Air - 6 NYCRR 201-1.8

No person shall unnecessarily remove, handle, or cause to be handled, collected air contaminants from an air cleaning device for recycling, salvage or disposal in a manner that would reintroduce them to the outdoor atmosphere.

Item H: Proof of Eligibility for Sources Defined as Exempt Activities - 6 NYCRR 201-3.2 (a)

The owner and/or operator of an emission source or unit that is eligible to be exempt, may be required to certify that it operates within the specific criteria described in 6 NYCRR Subpart 201-3. The owner or operator of any such emission source must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility which contains emission sources or units subject to 6 NYCRR Subpart 201-3, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

Item I: Proof of Eligibility for Sources Defined as Trivial Activities - 6 NYCRR 201-3.3 (a)

The owner and/or operator of an emission source or unit that is listed as being trivial in 6 NYCRR Part 201 may be required to certify that it operates within the specific criteria described in 6 NYCRR Subpart 201-3. The owner or operator of any such emission source must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility which contains emission sources or units subject to 6 NYCRR Subpart 201-3, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

Item J: Required Emission Tests - 6 NYCRR 202-1.1

An acceptable report of measured emissions shall be submitted, as may be required by the Commissioner, to ascertain compliance or noncompliance with any air pollution code, rule, or regulation. Failure to submit a report acceptable to the Commissioner within the time stated shall be sufficient reason for the Commissioner to suspend or deny an operating permit. Notification and acceptable procedures are specified in 6 NYCRR Subpart 202-1.

Item K: **Open Fires Prohibitions - 6 NYCRR 215.2**
Except as allowed by section 215.3 of 6 NYCRR Part 215, no person shall burn, cause, suffer, allow or permit the burning of any materials in an open fire.

Item L: **Permit Exclusion - ECL 19-0305**
The issuance of this permit by the Department and the receipt thereof by the Applicant does not and shall not be construed as barring, diminishing, adjudicating or in any way affecting any legal, administrative or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the Department may have against the Applicant for violations based on facts and circumstances alleged to have occurred or existed prior to the effective date of this permit, including, but not limited to, any enforcement action authorized pursuant to the provisions of applicable federal law, the Environmental Conservation Law of the State of New York (ECL) and Chapter III of the Official Compilation of the Codes, Rules and Regulations of the State of New York (NYCRR). The issuance of this permit also shall not in any way affect pending or future enforcement actions under the Clean Air Act brought by the United States or any person.

Item M: **Federally Enforceable Requirements - 40 CFR 70.6 (b)**
All terms and conditions in this permit required by the Act or any applicable requirement, including any provisions designed to limit a facility's potential to emit, are enforceable by the Administrator and citizens under the Act. The Department has, in this permit, specifically designated any terms and conditions that are not required under the Act or under any of its applicable requirements as being enforceable under only state regulations.

FEDERAL APPLICABLE REQUIREMENTS
The following conditions are federally enforceable.

Condition 1: **Facility Permissible Emissions**

Effective between the dates of 07/20/2015 and 07/19/2025

Applicable Federal Requirement:6 NYCRR Subpart 201-7

Item 1.1:
The sum of emissions from the emission units specified in this permit shall not equal or exceed the following
Potential To Emit (PTE) rate for each regulated contaminant:

CAS No: 0NY210-00-0 PTE: 49,800 pounds per year
Name: OXIDES OF NITROGEN

Condition 2: Capping Monitoring Condition
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable Federal Requirement:6 NYCRR Subpart 201-7

Item 2.1:
Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

6 NYCRR Subpart 201-6
6 NYCRR Subpart 231-2

Item 2.2:
Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.

Item 2.3:
The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

Item 2.4:
On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.

Item 2.5:
The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of the Act.

Item 2.6:

The Compliance Demonstration activity will be performed for the Facility.

Regulated Contaminant(s):
CAS No: 0NY210-00-0 OXIDES OF NITROGEN

Item 2.7:
Compliance Demonstration shall include the following monitoring:

Capping: Yes
Monitoring Type: MONITORING OF PROCESS OR CONTROL DEVICE PARAMETERS AS SURROGATE
Monitoring Description:
The NOx (oxides of nitrogen) emissions are capped at 24.9 tons per year.

The owner or operator shall maintain a record of the quantity of each fuel fired at the facility. Also, the owner or operator shall calculate (based on the fuel quantity) using the following formula:

D(0.02) + G(100) + N(3400) < 49,800 lbs/yr of Oxides of Nitrogen emissions.

Where:

D = 12-month rolling total of distillate oil fired (from boilers) in gals/yr (AP-42)
G = 12-month rolling total of natural gas fired (from boilers) in MMSCF/yr (AP-42)
N = 12-month rolling total of natural gas fired (from engines) in MMSCF/yr (AP-42)

Process Material: FUEL
Parameter Monitored: OXIDES OF NITROGEN
Upper Permit Limit: 24.9 tons per year
Monitoring Frequency: MONTHLY
Averaging Method: ANNUAL MAXIMUM ROLLED MONTHLY
Reporting Requirements: ANNUALLY (CALENDAR)
Reports due 30 days after the reporting period.
The initial report is due 1/30/2016.
Subsequent reports are due every 12 calendar month(s).

Condition 3: Air pollution prohibited
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable Federal Requirement:6 NYCRR 211.1

Item 3.1:
No person shall cause or allow emissions of air contaminants to the outdoor atmosphere of such quantity, characteristic or duration which are injurious to human, plant or animal life or to property, or which unreasonably interfere with the comfortable enjoyment of life or property. Notwithstanding the existence of specific air quality standards or emission limits, this

prohibition applies, but is not limited to, any particulate, fume, gas, mist, odor, smoke, vapor, pollen, toxic or deleterious emission, either alone or in combination with others.

Condition 4: Compliance Demonstration
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable Federal Requirement:6 NYCRR 225-1.2 (f)

Item 4.1:
The Compliance Demonstration activity will be performed for the Facility.

Item 4.2:
Compliance Demonstration shall include the following monitoring:

Monitoring Type: WORK PRACTICE INVOLVING SPECIFIC OPERATIONS
Monitoring Description:

Owners and/or operators of commercial, industrial, or residential emission sources that fire number two heating oil on or after July 1, 2012 are limited to the purchase of number two heating oil with 0.0015 percent sulfur by weight or less. Compliance with this limit will be based on vendor certifications.

Data collected pursuant to this Subpart must be tabulated and summarized in a form acceptable to the Department, and must be retained for at least five years. The owner of a Title V facility must furnish to the Department such records and summaries, on a semiannual calendar basis, within 30 days after the end of the semiannual period. All other facility owners or distributors must submit these records and summaries upon request of the Department.

Work Practice Type: PARAMETER OF PROCESS MATERIAL
Process Material: NUMBER 2 HEATING OIL
Parameter Monitored: SULFUR CONTENT
Upper Permit Limit: 0.0015 percent by weight
Monitoring Frequency: PER DELIVERY
Averaging Method: MAXIMUM - NOT TO BE EXCEEDED AT ANY TIME (INSTANTANEOUS/DISCRETE OR GRAB)
Reporting Requirements: AS REQUIRED - SEE MONITORING DESCRIPTION

Condition 5: Compliance Demonstration
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable Federal Requirement:6 NYCRR 225-1.2 (g)

Item 5.1:
The Compliance Demonstration activity will be performed for the Facility.

Item 5.2:
Compliance Demonstration shall include the following monitoring:

Monitoring Type: WORK PRACTICE INVOLVING SPECIFIC OPERATIONS
Monitoring Description:
Owners and/or operators of a stationary combustion installation that fires distillate oil other than number two heating oil are limited to the purchase of distillate oil with 0.0015 percent sulfur by weight or less on or after July 1, 2014. Compliance with this limit will be based on vendor certifications.

Data collected pursuant to this Subpart must be tabulated and summarized in a form acceptable to the Department, and must be retained for at least five years. The owner of a Title V facility must furnish to the Department such records and summaries, on a semiannual calendar basis, within 30 days after the end of the semiannual period. All other facility owners or distributors must submit these records and summaries upon request of the Department.

Work Practice Type: PARAMETER OF PROCESS MATERIAL
Process Material: DISTILLATES - NUMBER 1 AND NUMBER 2 OIL
Parameter Monitored: SULFUR CONTENT
Upper Permit Limit: 0.0015 percent by weight
Monitoring Frequency: PER DELIVERY
Averaging Method: MAXIMUM - NOT TO BE EXCEEDED AT ANY TIME (INSTANTANEOUS/DISCRETE OR GRAB)
Reporting Requirements: AS REQUIRED - SEE MONITORING DESCRIPTION

Condition 6: Compliance Demonstration
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable Federal Requirement:6 NYCRR 225-1.2 (h)

Item 6.1:
The Compliance Demonstration activity will be performed for the Facility.

Item 6.2:
Compliance Demonstration shall include the following monitoring:

Monitoring Type: WORK PRACTICE INVOLVING SPECIFIC OPERATIONS
Monitoring Description:
Owners and/or operators of a stationary combustion installations that fire distillate oil are limited to the firing of distillate oil with 0.0015 percent sulfur by weight or less on or after July 1, 2016. Compliance with this limit will be based on vendor certifications.

Data collected pursuant to this Subpart must be tabulated and summarized in a form acceptable to the Department, and must be retained for at least five years. The owner of a Title V facility must furnish to the Department such records and summaries, on a semiannual calendar basis, within 30 days after the end of the semiannual period. All other facility owners or distributors must submit these records and summaries upon request of the Department.

Work Practice Type: PARAMETER OF PROCESS MATERIAL
Process Material: DISTILLATES - NUMBER 1 AND NUMBER 2 OIL
Parameter Monitored: SULFUR CONTENT
Upper Permit Limit: 0.0015 percent by weight
Monitoring Frequency: PER DELIVERY
Averaging Method: MAXIMUM - NOT TO BE EXCEEDED AT ANY TIME (INSTANTANEOUS/DISCRETE OR GRAB)
Reporting Requirements: AS REQUIRED - SEE MONITORING DESCRIPTION

Condition 7: Compliance Demonstration
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable Federal Requirement:6 NYCRR 225-1.6 (f)

Item 7.1:
The Compliance Demonstration activity will be performed for the Facility.

Item 7.2:
Compliance Demonstration shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES
Monitoring Description:

Facility owners subject to this Subpart must submit a written report of the fuel sulfur content exceeding the applicable sulfur-in-fuel limitation, measured emissions exceeding the applicable sulfur-in-fuel limitation, measured emissions exceeding the applicable equivalent emission rate, and the nature and cause of such exceedances if known, for each calendar quarter, within 30 days after the end of any quarterly period in which an exceedances takes place.

Data collected pursuant to this Subpart must be tabulated and summarized in a form acceptable to the Department, and must be retained for at least five years. The owner of a Title V facility must furnish to the Department such records and summaries, on a semiannual calendar basis, within 30 days after the end of the semiannual period. All other facility owners or distributors must submit these records and summaries upon request of the Department.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION
Averaging Method: AVERAGING METHOD - SEE MONITORING DESCRIPTION
Reporting Requirements: AS REQUIRED - SEE MONITORING DESCRIPTION

Condition 8: Compliance Demonstration
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable Federal Requirement:6 NYCRR 227-1.3 (a)

Item 8.1:
The Compliance Demonstration activity will be performed for the Facility.

Item 8.2:
Compliance Demonstration shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL DEVICE PARAMETERS AS SURROGATE
Monitoring Description:

No person shall operate a stationary combustion installation which exhibits greater than 20 percent opacity (six minute average), except for one 6 minute period per hour of not more than 27 percent opacity. The Department reserves the right to perform or require the performance of a Method 9 opacity evaluation at any time during facility operation.

The permittee will conduct observations of visible emissions from the emission unit, process, etc. to which this condition applies at the monitoring frequency stated below while the process is in operation. The permittee will investigate, in a timely manner, any instance where there is cause to believe that visible emissions have the potential to exceed the opacity standard.

The permittee shall investigate the cause, make any necessary corrections, and verify that the excess visible emissions problem has been corrected. If visible emissions with the potential to exceed the standard continue, the permittee will conduct a Method 9 assessment within the next operating day of the sources associated with the potential noncompliance to determine the degree of opacity and will notify the NYSDEC if the Method 9 test indicates that the opacity standard is not met.

Records of visible emissions observations (or any follow-up Method 9 tests), investigations and corrective actions will be kept on-site. Should the Department determine that permittee's record keeping format is inadequate to demonstrate compliance with this condition,

it shall provide written notice to the permittee stating the inadequacies, and permittee shall have 90 days to revise its prospective record keeping format in a manner acceptable to the Department.

Parameter Monitored: OPACITY
Upper Permit Limit: 20 percent
Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION
Averaging Method: 6-MINUTE AVERAGE (METHOD 9)
Reporting Requirements: UPON REQUEST BY REGULATORY AGENCY

Condition 9: Compliance and Enforcement
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable Federal Requirement:40CFR 60, NSPS Subpart JJJJ

Item 9.1:
The Department has not accepted delegation of 40 CFR Part 60 Subpart JJJJ. Any questions concerning compliance and/or enforcement of this regulation should be referred to USEPA Region 2, 290 Broadway, 21st Floor, New York, NY 10007-1866; (212) 637-4080. Should the Department decide to accept delegation of 40 CFR Part 60 Subpart JJJJ during the term of this permit, enforcement of this regulation will revert to the Department as of the effective date of delegation.

Condition 10: Compliance and Enforcement
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable Federal Requirement:40CFR 63, Subpart JJJJJJ

Item 10.1:
The Department has not accepted delegation of 40 CFR Part 63 Subpart JJJJJJ. Any questions concerning compliance and/or enforcement of this regulation should be referred to USEPA Region 2, 290 Broadway, 21st Floor, New York, NY 10007-1866; (212) 637-4080. Should the Department decide to accept delegation of 40 CFR Part 63 Subpart JJJJJJ during the term of this permit, enforcement of this regulation will revert to the Department as of the effective date of delegation.

Condition 11: Compliance and Enforcement
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable Federal Requirement:40CFR 63, Subpart ZZZZ

Item 11.1:
The Department has not accepted delegation of 40 CFR Part 63 Subpart ZZZZ. Any questions concerning compliance and/or enforcement of this regulation should be referred to USEPA

Region 2, 290 Broadway, 21st Floor, New York, NY 10007-1866; (212) 637-4080. Should the Department decide to accept delegation of 40 CFR Part 63 Subpart ZZZZ during the term of this permit, enforcement of this regulation will revert to the Department as of the effective date of delegation.

STATE ONLY ENFORCEABLE CONDITIONS
****** Facility Level ******

NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS
This section contains terms and conditions which are not federally enforceable. Permittees may also have other obligations under regulations of general applicability

Item A: **Public Access to Recordkeeping for Facilities With State Facility Permits - 6 NYCRR 201-1.10 (a)**
Where facility owners and/or operators keep records pursuant to compliance with the requirements of 6 NYCRR Subpart 201-5.4, and/or the emission capping requirements of 6 NYCRR Subpart 201-7, the Department will make such records available to the public upon request in accordance with 6 NYCRR Part 616 - Public Access to Records. Facility owners and/or operators must submit the records required to comply with the request within sixty working days of written notification by the Department.

Item B: **General Provisions for State Enforceable Permit Terms and Condition - 6 NYCRR Part 201-5**
Any person who owns and/or operates stationary sources shall operate and maintain all emission units and any required emission control devices in compliance with all applicable Parts of this Chapter and existing laws, and shall operate the facility in accordance with all criteria, emission limits, terms, conditions, and standards in this permit. Failure of such person to properly operate and maintain the effectiveness of such emission units and emission control devices may be sufficient reason for the Department to revoke or deny a permit.

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

STATE ONLY APPLICABLE REQUIREMENTS
The following conditions are state only enforceable.

Condition 12: **Contaminant List**
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable State Requirement:ECL 19-0301

Item 12.1:
Emissions of the following contaminants are subject to contaminant specific requirements in this permit(emission limits, control requirements or compliance monitoring conditions).

CAS No: 0NY210-00-0
Name: OXIDES OF NITROGEN

Condition 13: Malfunctions and start-up/shutdown activities
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable State Requirement:6 NYCRR 201-1.4

Item 13.1:
(a) The facility owner or operator shall take all necessary and appropriate actions to prevent the emission of air pollutants that result in contravention of any applicable emission standard during periods of start-up, shutdown, or malfunction.

(b) The facility owner or operator shall compile and maintain records of all equipment malfunctions, maintenance, or start-up/shutdown activities when they can be expected to result in an exceedance of any applicable emission standard, and shall submit a report of such activities to the department when requested to do so, or when so required by a condition of a permit issued for the corresponding air contamination source. Such reports shall state whether any violations occurred and, if so, whether they were unavoidable, include the time, frequency and duration of the maintenance and/or start-up/shutdown activities, and an estimate of the emission rates of any air contaminants released. Such records shall be maintained for a period of at least five years and made available for review to department representatives upon request. Facility owners or operators subject to continuous stack monitoring and quarterly reporting requirements need not submit additional reports for equipment maintenance or start-up/shutdown activities for the facility to the department.

(c) In the event that emissions of air contaminants in excess of any emission standard in this Subchapter occur due to a malfunction, the facility owner or operator shall compile and maintain records of the malfunction and notify the department as soon as possible during normal working hours, but not later than two working days after becoming aware that the malfunction occurred. When requested by the department, the facility owner or operator shall submit a written report to the department describing the malfunction, the corrective action taken, identification of air contaminants, and an estimate of the emission rates.

(d) The department may also require the owner or operator to include, in reports described under Subdivisions (b) and (c) of this Section, an estimate of the maximum ground level concentration of each air contaminant emitted and the effect of such emissions.

(e) A violation of any applicable emission standard resulting from start-up, shutdown, or malfunction conditions at a permitted or registered facility may not be subject to an enforcement action by the department and/or penalty if the department determines, in its sole discretion, that such a violation was unavoidable. The actions and recordkeeping and reporting requirements listed above must be adhered to in such circumstances.

Condition 14: Emission Unit Definition
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable State Requirement:6 NYCRR Subpart 201-5

Item 14.1:
The facility is authorized to perform regulated processes under this permit for:
Emission Unit: U-00001
Emission Unit Description:
This emission unit consists of two identical Cleaver Brooks 29.1 mmBtu/hr boilers exhausting through separate stacks.

Building(s): 1

Item 14.2:
The facility is authorized to perform regulated processes under this permit for:
Emission Unit: U-00002
Emission Unit Description:
This emission unit consists of a Caterpillar D399 engine/generator with Miratech 3 way catalyst.

Building(s): 1

Item 14.3:
The facility is authorized to perform regulated processes under this permit for:
Emission Unit: U-00003
Emission Unit Description:
This emission unit consists of a Caterpillar G3412 engine/generator with Miratech 3 way catalyst.

Building(s): 1

Condition 15: Renewal deadlines for state facility permits
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable State Requirement:6 NYCRR 201-5.2 (c)

Item 15.1:
The owner or operator of a facility having an issued state facility permit shall submit a complete application at least 180 days, but not more than eighteen months, prior to the date of permit expiration for permit renewal purposes.

Condition 16: Compliance Demonstration
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable State Requirement:6 NYCRR 201-5.3 (c)

Item 16.1:
The Compliance Demonstration activity will be performed for the Facility.

Item 16.2:
Compliance Demonstration shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES
Monitoring Description:
Any reports or submissions required by this permit shall be submitted to the Regional Air Pollution Control Engineer (RAPCE) at the following address:

Division of Air Resources
NYS Dept. of Environmental Conservation
Region 2
47-40 21st St.
Long Island City, NY 11101

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION
Averaging Method: AVERAGING METHOD - SEE MONITORING DESCRIPTION
Reporting Requirements: UPON REQUEST BY REGULATORY AGENCY

Condition 17: Visible Emissions Limited
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable State Requirement:6 NYCRR 211.2

Item 17.1:
Except as permitted by a specific part of this Subchapter and for open fires for which a restricted burning permit has been issued, no person shall cause or allow any air contamination source to emit any material having an opacity equal to or greater than 20 percent (six minute average) except for one continuous six-minute period per hour of not more than 57 percent opacity.

****** Emission Unit Level ******

Condition 18: Emission Point Definition By Emission Unit
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable State Requirement:6 NYCRR Subpart 201-5

Item 18.1:
The following emission points are included in this permit for the cited Emission Unit:

Emission Unit: U-00001

Emission Point: 00001
Height (ft.): 52 Diameter (in.): 40
NYTMN (km.): 4485.4 NYTME (km.): 568.1 Building: 1

Emission Point: 00002

Height (ft.): 52 Diameter (in.): 40
NYTMN (km.): 4485.4 NYTME (km.): 568.1 Building: 1

Item 18.2:
The following emission points are included in this permit for the cited Emission Unit:

Emission Unit: U-00002

Emission Point: 00003
Height (ft.): 32 Diameter (in.): 10
NYTMN (km.): 4485.4 NYTME (km.): 568.1 Building: 1

Item 18.3:
The following emission points are included in this permit for the cited Emission Unit:

Emission Unit: U-00003

Emission Point: 00004
Height (ft.): 32 Diameter (in.): 8
NYTMN (km.): 4485.4 NYTME (km.): 568.1 Building: 1

Condition 19: Process Definition By Emission Unit
Effective between the dates of 07/20/2015 and 07/19/2025

Applicable State Requirement:6 NYCRR Subpart 201-5

Item 19.1:
This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: U-00001
Process: 001 Source Classification Code: 1-03-006-02
Process Description: Firing natural gas.

Emission Source/Control: 00001 - Combustion
Design Capacity: 29.1 million Btu per hour

Emission Source/Control: 00002 - Combustion
Design Capacity: 29.1 million Btu per hour

Item 19.2:
This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: U-00001
Process: 002 Source Classification Code: 1-03-005-02
Process Description: Firing #2 fuel oil.

Emission Source/Control: 00001 - Combustion
Design Capacity: 29.1 million Btu per hour

Emission Source/Control: 00002 - Combustion
Design Capacity: 29.1 million Btu per hour

Item 19.3:
This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: U-00002
Process: 003 Source Classification Code: 2-01-002-07
Process Description: Firing natural gas.

Emission Source/Control: 00003 - Combustion
Design Capacity: 544 kilowatts

Item 19.4:
This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: U-00003
Process: 004 Source Classification Code: 2-01-002-07
Process Description: Firing natural gas.

Emission Source/Control: 00004 - Combustion
Design Capacity: 500 kilowatts

ECHO
Enforcement and Compliance History Online

Detailed Facility Report

Facility Summary

STATEN ISLAND UNIVERSITY HOSPITAL-SOUTH
375 SEGUINE AVENUE, STATEN ISLAND, NY 10309

Facility Information (FRS)

FRS ID: 110001604014
EPA Region: 02
Latitude: 40.51641
Longitude: -74.196857
Locational Data Source: FRS
Industry: Hospitals
Indian Country: N

Regulatory Interests

Clean Air Act: Operating Synthetic Minor (NY0000NY2640500031)
Clean Water Act: No Information
Resource Conservation and Recovery Act: No Information
Safe Drinking Water Act: No Information

Also Reports

Air Emissions Inventory (EIS): No Information
Greenhouse Gas Emissions (eGGRT): No Information
Toxic Releases (TRI): No Information

Enforcement and Compliance Summary

Statute	Insp (5 Years)	Date of Last Inspection	Current Compliance Status	Qtrs in NC (of 12)	Qtrs in Significant Violation	Informal Enforcement Actions (5 years)	Formal Enforcement Actions (5 years)	Penalties from Formal Enforcement Actions (5 years)	EPA Cases (5 years)	Penalties from EPA Cases (5 years)
CAA			**No Violation**	0	0					

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110001604014					N	40.51641	-74.196857
AIR	CAA	NY0000NY2640500031	Synthetic Minor Emissions	Operating	CAASIP, CAATVP		N		

Facility Address

System	Statute	Identifier	Facility Name	Facility Address
FRS		110001604014	STATEN ISLAND UNIVERSITY HOSPITAL-SOUTH	375 SEGUINE AVENUE, STATEN ISLAND, NY 10309
AIR	CAA	NY0000NY2640500031	STATEN ISLAND UNIVERSITY HOSPITAL SOUTH	375 SEGUINE AVENUE, STATEN ISLAND (SUBDIVISION), NY 10309

Facility SIC Codes

System	Identifier	SIC Code	SIC Desc
AIR	NY0000NY2640500031	8062	General Medical & Surgical Hospitals

Facility NAICS Codes

System	Identifier	NAICS Code	NAICS Desc
AIR	NY0000NY2640500031	622110	General Medical and Surgical Hospitals

Facility Tribe Information

Tribal Name	EPA Tribal ID	Distance to Tribe (miles)
No data records returned		

Enforcement and Compliance

Compliance Monitoring History (5 years)

Statute	Source ID	System	Inspection Type	Lead Agency	Date	Finding
No data records returned						

Entries in italics are not considered inspections in official counts.

Compliance Summary Data

Statute	Source ID	Current SNC/HPV	Description	Current As Of	Qtrs in NC (of 12)
CAA	NY0000NY2640500031	No		10/31/2015	0

Three Year Compliance Status by Quarter

Statute	Program/Pollutant/Violation Type	QTR 1	QTR 2	QTR 3	QTR 4	QTR 5	QTR 6	QTR 7	QTR 8	QTR 9	QTR 10	QTR 11	QTR 12
CAA (Source ID: NY0000NY2640500031)		01/01-03/31 2013	04/01-06/30 2013	07/01-09/30 2013	10/01-12/31 2013	01/01-03/31 2014	04/01-06/30 2014	07/01-09/30 2014	10/01-12/31 2014	01/01-03/31 2015	04/01-06/30 2015	07/01-09/30 2015	10/01-12/31 2015
	Facility-Level Status	No Viol	No Viol	No Viol	No Viol	No Viol	No Viol	No Viol	No Viol	No Viol	No Viol	No Viol	No Viol
	HPV History												
	Violation Type	Programs	Pollutants										
Historic Violations													

Informal Enforcement Actions (5 Years)

Statute	Source ID	Type of Action	Lead Agency	Date
No data records returned				

Formal Enforcement Actions (5 Years)

Statute	Source ID	Type of Action	Lead Agency	Date	Penalty	Penalty Description
No data records returned						

ICIS Case History (5 years)

Primary Law/Section	Case No.	Case Type	Lead Agency	Case Name	Issued/Filed Date	Settlement Date	Federal Penalty	State/Local Penalty	SEP Cost	Comp Action Cost
No data records returned										

Environmental Conditions

Water Quality

Permit ID	Combined Sewer System?	Number of CSO Outfalls	Watershed (HUC 8)	Watershed Name (HUC 8)	Watershed (HUC 12)	Watershed Name (HUC 12)	Receiving Waters	Impaired Waters	Impaired Class	Causes of Impairment(s) by Group(s)	Watershed with ESA-listed Aquatic Species?
No data records returned											

Waterbody Designated Uses

REACH Code	Waterbody Name	Exceptional Use	Recreational Use	Aquatic Life Use	Shellfish Use	Beach Closure Within Last Year	Beach Closure Within Last Two Years
No data records returned							

Air Quality

Non-Attainment Area?	Pollutant(s)
Yes	Ozone
No	Lead
Yes	Particulate Matter

Pollutants

TRI History of Reported Chemicals Released in Pounds per Year at Site

TRI Facility ID	Year	Total Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs	Underground Injections	Releases to Land	Total On-site Releases	Total Off-site Releases
No data records returned								

TRI Total Releases and Transfers in Pounds by Chemical and Year

Chemical Name
No data records returned

Demographic Profile

Demographic Profile of Surrounding Area (3 Miles)

This section provides demographic information regarding the community surrounding the facility. ECHO compliance data alone are not sufficient to determine whether violations at a particular facility had negative impacts on public health or the environment. Statistics are based upon the 2010 US Census and American Community Survey data, and are accurate to the extent that the facility latitude and longitude listed below are correct. The latitude and longitude are obtained from the EPA Locational Reference Table (LRT) when available.

Radius of Area:	3	Land Area:	52%	Households in Area:	34,886
Center latitude:	40.516531	Water Area:	48%	Housing Units in Area:	37,122
Center Longitude:	-74.196114	Population Density:	6,794/sq.mi.	Households on Public Assistance:	245
Total Persons:	99,059	Percent Minority:	14%	Persons Below Poverty Level:	13,388

Race Breakdown	Persons (%)	Age Breakdown	Persons (%)
White:	91,247 (92.11%)	Child 5 years and younger:	5,530 (5.58%)
African-American:	1,120 (1.13%)	Minors 17 years and younger:	22,718 (22.93%)
Hispanic-Origin:	7,670 (7.74%)	Adults 18 years and older:	76,341 (77.07%)
Asian/Pacific Islander:	3,977 (4.01%)	Seniors 65 years and older:	11,916 (12.03%)
American Indian:	119 (.12%)		
Other/Multiracial:	2,597 (2.62%)		

Education Level (Persons 25 & older)	Persons (%)	Income Breakdown	Households (%)
Less than 9th Grade:	1,609 (2.42%)	Less than $15,000:	1,973 (5.85%)
9th through 12th Grade:	3,563 (5.37%)	$15,000 - $25,000:	1,778 (5.27%)
High School Diploma:	22,069 (33.24%)	$25,000 - $50,000:	4,638 (13.74%)
Some College/2-yr:	19,321 (29.1%)	$50,000 - $75,000:	5,610 (16.62%)
B.S./B.A. or More:	19,832 (29.87%)	Greater than $75,000:	19,754 (58.53%)

APPENDIX J FARMLANDS PROTECTION

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Richmond County, New York

Staten Island University Hospital - South Campus

October 19, 2015

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means

for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....7
Soil Map.....8
Legend.....9
Map Unit Legend.....10
Map Unit Descriptions.....10
Richmond County, New York.....12
UGB—Urban land-Greenbelt complex, 3 to 8 percent slopes.....12
UtA—Urban land, till substratum, 0 to 3 percent slopes.....14
References.....16
Glossary.....18

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Richmond County, New York
Survey Area Data: Version 4, Sep 16, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 23, 2014—Aug 15, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Richmond County, New York (NY085)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
UGB	Urban land-Greenbelt complex, 3 to 8 percent slopes	0.7	10.0%
UtA	Urban land, till substratum, 0 to 3 percent slopes	6.4	90.0%
Totals for Area of Interest		**7.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If

intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Richmond County, New York

UGB—Urban land-Greenbelt complex, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2pblq
Elevation: 0 to 380 feet
Mean annual precipitation: 40 to 52 inches
Mean annual air temperature: 47 to 62 degrees F
Frost-free period: 216 to 234 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land, till substratum: 78 percent
Greenbelt and similar soils: 12 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land, Till Substratum

Setting

Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Asphalt over human-transported material

Typical profile

M - 0 to 15 inches: cemented material
2^C - 15 to 79 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 0 inches to manufactured layer
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Calcium carbonate, maximum in profile: 10 percent
Available water storage in profile: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s

Description of Greenbelt

Setting

Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Crest, side slope, base slope, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Loamy human-transported material

Typical profile

^A - 0 to 5 inches: loam
^Bw1 - 5 to 16 inches: loam

^Bw2 - 16 to 30 inches: loam
^C - 30 to 79 inches: sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.43 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Available water storage in profile: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B

Minor Components

Laguardia

Percent of map unit: 7 percent
Landform position (two-dimensional): Summit, shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Base slope, side slope, crest, rise, dip, talf
Down-slope shape: Linear, convex, concave
Across-slope shape: Linear, convex, concave

Ebbets

Percent of map unit: 1 percent
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope, crest, base slope, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex

Centralpark

Percent of map unit: 1 percent
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Convex

North meadow

Percent of map unit: 1 percent
Landform position (two-dimensional): Backslope, footslope, toeslope
Landform position (three-dimensional): Base slope, side slope, talf
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave

UtA—Urban land, till substratum, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2pbc8
Elevation: 0 to 340 feet
Mean annual precipitation: 40 to 52 inches
Mean annual air temperature: 47 to 62 degrees F
Frost-free period: 216 to 234 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land, till substratum: 92 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land, Till Substratum

Setting

Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Asphalt over human-transported material

Typical profile

M - 0 to 15 inches: cemented material
2^C - 15 to 79 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 0 inches to manufactured layer
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Calcium carbonate, maximum in profile: 10 percent
Available water storage in profile: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s

Minor Components

Greenbelt

Percent of map unit: 3 percent
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Crest, side slope, base slope, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex

Laguardia

Percent of map unit: 2 percent
Landform position (two-dimensional): Summit, shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Base slope, side slope, crest, rise, dip, talf
Down-slope shape: Linear, convex, concave
Across-slope shape: Linear, convex, concave

Ebbets

Percent of map unit: 2 percent
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope, crest, base slope, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex

Centralpark

Percent of map unit: 1 percent
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Convex

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the "National Soil Survey Handbook."

ABC soil

A soil having an A, a B, and a C horizon.

Ablation till

Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

AC soil

A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil

The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil

Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alkali (sodic) soil

A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvial cone

A semiconical type of alluvial fan having very steep slopes. It is higher, narrower, and steeper than a fan and is composed of coarser and thicker layers of material deposited by a combination of alluvial episodes and (to a much lesser degree) landslides (debris flow). The coarsest materials tend to be concentrated at the apex of the cone.

Alluvial fan

A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium

Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl

A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM)

The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions

Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon

A subsoil horizon characterized by an accumulation of illuvial clay.

Arroyo

The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in unconsolidated material. It is usually dry but can be transformed into a temporary watercourse or short-lived torrent after heavy rain within the watershed.

Aspect

The direction toward which a slope faces. Also called slope aspect.

Association, soil

A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity)

The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low: 0 to 3
Low: 3 to 6
Moderate: 6 to 9
High: 9 to 12
Very high: More than 12

Backslope

The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp

A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Badland

A landscape that is intricately dissected and characterized by a very fine drainage network with high drainage densities and short, steep slopes and narrow interfluves. Badlands develop on surfaces that have little or no vegetative cover overlying unconsolidated or poorly cemented materials (clays, silts, or sandstones) with, in some cases, soluble minerals, such as gypsum or halite.

Bajada

A broad, gently inclined alluvial piedmont slope extending from the base of a mountain range out into a basin and formed by the lateral coalescence of a series of alluvial fans. Typically, it has a broadly undulating transverse profile, parallel to the mountain front, resulting from the convexities of component fans. The term is generally restricted to constructional slopes of intermontane basins.

Basal area

The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation

The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology)

A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding plane

A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change

in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system

A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock

The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography

A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace

A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum

Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout (map symbol)

A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed. The adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.

Borrow pit (map symbol)

An open excavation from which soil and underlying material have been removed, usually for construction purposes.

Bottom land

An informal term loosely applied to various portions of a flood plain.

Boulders

Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks

A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

Breast height

An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management

Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Butte

An isolated, generally flat-topped hill or mountain with relatively steep slopes and talus or precipitous cliffs and characterized by summit width that is less than the height of bounding escarpments; commonly topped by a caprock of resistant material and representing an erosion remnant carved from flat-lying rocks.

Cable yarding

A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Calcareous soil

A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Caliche

A general term for a prominent zone of secondary carbonate accumulation in surficial materials in warm, subhumid to arid areas. Caliche is formed by both geologic and pedologic processes. Finely crystalline calcium carbonate forms a nearly continuous surface-coating and void-filling medium in geologic (parent) materials. Cementation ranges from weak in nonindurated forms to very strong in indurated forms. Other minerals (e.g., carbonates, silicate, and sulfate) may occur as accessory cements. Most petrocalcic horizons and some calcic horizons are caliche.

California bearing ratio (CBR)

The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy

The leafy crown of trees or shrubs. (See Crown.)

Canyon

A long, deep, narrow valley with high, precipitous walls in an area of high local relief.

Capillary water

Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena

A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation

An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity

The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps

See Terracettes.

Cement rock

Shaly limestone used in the manufacture of cement.

Channery soil material

Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment

Control of unwanted vegetation through the use of chemicals.

Chiseling

Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Cirque

A steep-walled, semicircular or crescent-shaped, half-bowl-like recess or hollow, commonly situated at the head of a glaciated mountain valley or high on the side of a mountain. It was produced by the erosive activity of a mountain glacier. It commonly contains a small round lake (tarn).

Clay

As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions

See Redoximorphic features.

Clay film

A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Clay spot (map symbol)

A spot where the surface texture is silty clay or clay in areas where the surface layer of the soils in the surrounding map unit is sandy loam, loam, silt loam, or coarser.

Claypan

A dense, compact subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. The layer restricts the downward movement of water through the soil. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community

The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil

Sand or loamy sand.

Cobble (or cobblestone)

A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material

Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility)

See Linear extensibility.

Colluvium

Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope

Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil

A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions

See Redoximorphic features.

Conglomerate

A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system

Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage

A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil

Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping

Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section

The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat)

A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology)

A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations)

Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop

A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management

Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system

Growing crops according to a planned system of rotation and management practices.

Cross-slope farming

Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown

The upper part of a tree or shrub, including the living branches and their foliage.

Cryoturbate

A mass of soil or other unconsolidated earthy material moved or disturbed by frost action. It is typically coarser than the underlying material.

Cuesta

An asymmetric ridge capped by resistant rock layers of slight or moderate dip (commonly less than 15 percent slopes); a type of homocline produced by differential erosion of interbedded resistant and weak rocks. A cuesta has a long, gentle slope on one side (dip slope) that roughly parallels the inclined beds; on the other side, it has a relatively short and steep or clifflike slope (scarp) that cuts through the tilted rocks.

Culmination of the mean annual increment (CMAI)

The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age,

the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave

The walls of excavations tend to cave in or slough.

Decreasers

The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing

Postponing grazing or resting grazing land for a prescribed period.

Delta

A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer

A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depression, closed (map symbol)

A shallow, saucer-shaped area that is slightly lower on the landscape than the surrounding area and that does not have a natural outlet for surface drainage.

Depth, soil

Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Desert pavement

A natural, residual concentration or layer of wind-polished, closely packed gravel, boulders, and other rock fragments mantling a desert surface. It forms where wind action and sheetwash have removed all smaller particles or where rock fragments have migrated upward through sediments to the surface. It typically protects the finer grained underlying material from further erosion.

Diatomaceous earth

A geologic deposit of fine, grayish siliceous material composed chiefly or entirely of the remains of diatoms.

Dip slope

A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace)

A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming

A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural)

Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface

Runoff, or surface flow of water, from an area.

Drainageway

A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Draw

A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.

Drift

A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Drumlin

A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of

streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

Duff

A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune

A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

Earthy fill

See Mine spoil.

Ecological site

An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation

The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation

A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit

Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream

A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation

A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion

The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (accelerated)

Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion (geologic)

Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion pavement

A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface

A land surface shaped by the action of erosion, especially by running water.

Escarpment

A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Escarpment, bedrock (map symbol)

A relatively continuous and steep slope or cliff, produced by erosion or faulting, that breaks the general continuity of more gently sloping land surfaces. Exposed material is hard or soft bedrock.

Escarpment, nonbedrock (map symbol)

A relatively continuous and steep slope or cliff, generally produced by erosion but in some places produced by faulting, that breaks the continuity of more gently sloping land surfaces. Exposed earthy material is nonsoil or very shallow soil.

Esker

A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Extrusive rock

Igneous rock derived from deep-seated molten matter (magma) deposited and cooled on the earth’s surface.

Fallow

Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown.

The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan remnant

A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

Fertility, soil

The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat)

The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity

The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope

A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil

Sandy clay, silty clay, or clay.

Firebreak

An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom

An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material

Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone

A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain

The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms

A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay

A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step

An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial

Of or pertaining to rivers or streams; produced by stream or river action.

Foothills

A region of steeply sloping hills that fringes a mountain range or high-plateau escarpment. The hills have relief of as much as 1,000 feet (300 meters).

Footslope

The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb

Any herbaceous plant not a grass or a sedge.

Forest cover

All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type

A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan

A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil

The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gilgai

Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

Glaciofluvial deposits

Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits

Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

Gleyed soil

Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping

Growing crops in strips that grade toward a protected waterway.

Grassed waterway

A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel

Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravel pit (map symbol)

An open excavation from which soil and underlying material have been removed and used, without crushing, as a source of sand or gravel.

Gravelly soil material

Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Gravelly spot (map symbol)

A spot where the surface layer has more than 35 percent, by volume, rock fragments that are mostly less than 3 inches in diameter in an area that has less than 15 percent rock fragments.

Green manure crop (agronomy)

A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water

Water filling all the unblocked pores of the material below the water table.

Gully (map symbol)

A small, steep-sided channel caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage whereas a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock

Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim

Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan

A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology)

A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat)

Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops

Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill

A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope

A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil

A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon: An organic layer of fresh and decaying plant residue.

L horizon: A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon: The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon: The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon: The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon: The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon: Soft, consolidated bedrock beneath the soil.

R layer: Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

M layer: A root-limiting subsoil layer consisting of nearly continuous, horizontally oriented, human-manufactured materials.

W layer: A layer of water within or beneath the soil.

Humus

The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups

Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties include depth to a seasonal high water table, the infiltration rate, and depth to a layer that significantly restricts the downward movement of water. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock

Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation

The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil

A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers

Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration

The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity

The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate

The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate

The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Very low: Less than 0.2
Low: 0.2 to 0.4
Moderately low: 0.4 to 0.75
Moderate: 0.75 to 1.25
Moderately high: 1.25 to 1.75
High: 1.75 to 2.5
Very high: More than 2.5

Interfluve

A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology)

A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream

A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders

On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions

See Redoximorphic features.

Irrigation

Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin: Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border: Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding: Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation: Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle): Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow: Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler: Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation: Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding: Water, released at high points, is allowed to flow onto an area without controlled distribution.

Kame

A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Karst (topography)

A kind of topography that formed in limestone, gypsum, or other soluble rocks by dissolution and that is characterized by closed depressions, sinkholes, caves, and underground drainage.

Knoll

A small, low, rounded hill rising above adjacent landforms.

Ksat

See Saturated hydraulic conductivity.

Lacustrine deposit

Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain

A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace

A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Landfill (map symbol)

An area of accumulated waste products of human habitation, either above or below natural ground level.

Landslide

A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones

Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Lava flow (map symbol)

A solidified, commonly lobate body of rock formed through lateral, surface outpouring of molten lava from a vent or fissure.

Leaching

The removal of soluble material from soil or other material by percolating water.

Levee (map symbol)

An embankment that confines or controls water, especially one built along the banks of a river to prevent overflow onto lowlands.

Linear extensibility

Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^{1}/_{3}$- or $^{1}/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit

The moisture content at which the soil passes from a plastic to a liquid state.

Loam

Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess

Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength

The soil is not strong enough to support loads.

Low-residue crops

Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Marl

An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

Marsh or swamp (map symbol)

A water-saturated, very poorly drained area that is intermittently or permanently covered by water. Sedges, cattails, and rushes are the dominant vegetation in marshes, and trees or shrubs are the dominant vegetation in swamps. Not used in map units where the named soils are poorly drained or very poorly drained.

Mass movement

A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses

See Redoximorphic features.

Meander belt

The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar

A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll

One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment

Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil

Very fine sandy loam, loam, silt loam, or silt.

Mesa

A broad, nearly flat topped and commonly isolated landmass bounded by steep slopes or precipitous cliffs and capped by layers of resistant, nearly horizontal rocky material. The summit width is characteristically greater than the height of the bounding escarpments.

Metamorphic rock

Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth’s crust. Nearly all such rocks are crystalline.

Mine or quarry (map symbol)

An open excavation from which soil and underlying material have been removed and in which bedrock is exposed. Also denotes surface openings to underground mines.

Mine spoil

An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil

Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage

Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area

A kind of map unit that has little or no natural soil and supports little or no vegetation.

Miscellaneous water (map symbol)

Small, constructed bodies of water that are used for industrial, sanitary, or mining applications and that contain water most of the year.

Moderately coarse textured soil

Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil

Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon

A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine

In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil

The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil

Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain

A generic term for an elevated area of the land surface, rising more than 1,000 feet (300 meters) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range. Mountains are formed primarily by tectonic activity and/or volcanic action but can also be formed by differential erosion.

Muck

Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mucky peat

See Hemic soil material.

Mudstone

A blocky or massive, fine grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

Munsell notation

A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon

A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil

A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules

See Redoximorphic features.

Nose slope (geomorphology)

A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant

Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter

Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low: Less than 0.5 percent
Low: 0.5 to 1.0 percent
Moderately low: 1.0 to 2.0 percent
Moderate: 2.0 to 4.0 percent
High: 4.0 to 8.0 percent
Very high: More than 8.0 percent

Outwash

Stratified and sorted sediments (chiefly sand and gravel) removed or “washed out” from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain

An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleoterrace

An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan

A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material

The unconsolidated organic and mineral material in which soil forms.

Peat

Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped

An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment

A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon

The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation

The movement of water through the soil.

Perennial water (map symbol)

Small, natural or constructed lakes, ponds, or pits that contain water most of the year.

Permafrost

Ground, soil, or rock that remains at or below 0 degrees C for at least 2 years. It is defined on the basis of temperature and is not necessarily frozen.

pH value

A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil

A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping

Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting

Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit

The moisture content at which a soil changes from semisolid to plastic.

Plasticity index

The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology)

A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Playa

The generally dry and nearly level lake plain that occupies the lowest parts of closed depressions, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff. Playa deposits are fine grained and may or may not have a high water table and saline conditions.

Plinthite

The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan

A compacted layer formed in the soil directly below the plowed layer.

Ponding

Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded

Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings

See Redoximorphic features.

Potential native plant community

See Climax plant community.

Potential rooting depth (effective rooting depth)

Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning

Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil

The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil

A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use

Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland

Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil

A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid: Less than 3.5
Extremely acid: 3.5 to 4.4
Very strongly acid: 4.5 to 5.0
Strongly acid: 5.1 to 5.5
Moderately acid: 5.6 to 6.0
Slightly acid: 6.1 to 6.5
Neutral: 6.6 to 7.3
Slightly alkaline: 7.4 to 7.8
Moderately alkaline: 7.9 to 8.4
Strongly alkaline: 8.5 to 9.0
Very strongly alkaline: 9.1 and higher

Red beds

Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations

See Redoximorphic features.

Redoximorphic depletions

See Redoximorphic features.

Redoximorphic features

Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they

form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix

See Redoximorphic features.

Regolith

All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief

The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material)

Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill

A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser

The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut

A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments

Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rock outcrop (map symbol)

An exposure of bedrock at the surface of the earth. Not used where the named soils of the surrounding map unit are shallow over bedrock or where “Rock outcrop” is a named component of the map unit.

Root zone

The part of the soil that can be penetrated by plant roots.

Runoff

The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil

A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Saline spot (map symbol)

An area where the surface layer has an electrical conductivity of 8 mmhos/cm more than the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has an electrical conductivity of 2 mmhos/cm or less.

Sand

As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone

Sedimentary rock containing dominantly sand-sized particles.

Sandy spot (map symbol)

A spot where the surface layer is loamy fine sand or coarser in areas where the surface layer of the named soils in the surrounding map unit is very fine sandy loam or finer.

Sapric soil material (muck)

The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (Ksat)

The ease with which pores of a saturated soil transmit water. Formally, the proportionality coefficient that expresses the relationship of the rate of water movement to hydraulic gradient in Darcy's Law, a law that describes the rate of water movement through porous media. Commonly abbreviated as "Ksat." Terms describing saturated hydraulic conductivity are:

Very high: 100 or more micrometers per second (14.17 or more inches per hour)

High: 10 to 100 micrometers per second (1.417 to 14.17 inches per hour)

Moderately high: 1 to 10 micrometers per second (0.1417 inch to 1.417 inches per hour)

Moderately low: 0.1 to 1 micrometer per second (0.01417 to 0.1417 inch per hour)

Low: 0.01 to 0.1 micrometer per second (0.001417 to 0.01417 inch per hour)

Very low: Less than 0.01 micrometer per second (less than 0.001417 inch per hour).

To convert inches per hour to micrometers per second, multiply inches per hour by 7.0572. To convert micrometers per second to inches per hour, multiply micrometers per second by 0.1417.

Saturation

Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification

The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock

A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum

A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil

A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Severely eroded spot (map symbol)

An area where, on the average, 75 percent or more of the original surface layer has been lost because of accelerated erosion. Not used in map units in which "severely eroded," "very severely eroded," or "gullied" is part of the map unit name.

Shale

Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion

The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Short, steep slope (map symbol)

A narrow area of soil having slopes that are at least two slope classes steeper than the slope class of the surrounding map unit.

Shoulder

The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell

The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Shrub-coppice dune

A small, streamlined dune that forms around brush and clump vegetation.

Side slope (geomorphology)

A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica

A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio

The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt

As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone

An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils

Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole (map symbol)

A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index

A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic)

Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slide or slip (map symbol)

A prominent landform scar or ridge caused by fairly recent mass movement or descent of earthy material resulting from failure of earth or rock under shear stress along one or several surfaces.

Slope

The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope alluvium

Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds

and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill

The slow filling of ponds, resulting from restricted water transmission in the soil.

Slow water movement

Restricted downward movement of water through the soil. See Saturated hydraulic conductivity.

Sodic (alkali) soil

A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodic spot (map symbol)

An area where the surface layer has a sodium adsorption ratio that is at least 10 more than that of the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has a sodium adsorption ratio of 5 or less.

Sodicity

The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^{+} to Ca^{++} + Mg^{++}. The degrees of sodicity and their respective ratios are:

Slight: Less than 13:1

Moderate: 13-30:1

Strong: More than 30:1

Sodium adsorption ratio (SAR)

A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock

Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil

A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates

Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand: 2.0 to 1.0
Coarse sand: 1.0 to 0.5
Medium sand: 0.5 to 0.25
Fine sand: 0.25 to 0.10
Very fine sand: 0.10 to 0.05
Silt: 0.05 to 0.002
Clay: Less than 0.002

Solum

The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Spoil area (map symbol)

A pile of earthy materials, either smoothed or uneven, resulting from human activity.

Stone line

In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones

Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony

Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stony spot (map symbol)

A spot where 0.01 to 0.1 percent of the soil surface is covered by rock fragments that are more than 10 inches in diameter in areas where the surrounding soil has no surface stones.

Strath terrace

A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace

One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents

the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping

Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil

The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are:

Platy: Flat and laminated
Prismatic: Vertically elongated and having flat tops
Columnar: Vertically elongated and having rounded tops
Angular blocky: Having faces that intersect at sharp angles (planes)
Subangular blocky: Having subrounded and planar faces (no sharp angles)
Granular: Small structural units with curved or very irregular faces

Structureless soil horizons are defined as follows:

Single grained: Entirely noncoherent (each grain by itself), as in loose sand
Massive: Occurring as a coherent mass

Stubble mulch

Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil

Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling

Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum

The part of the soil below the solum.

Subsurface layer

Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow

The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit

The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer

The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil

The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus

Rock fragments of any size or shape (commonly coarse and angular) derived from and lying at the base of a cliff or very steep rock slope. The accumulated mass of such loose broken rock formed chiefly by falling, rolling, or sliding.

Taxadjuncts

Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terminal moraine

An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation)

An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology)

A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes

Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil

The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer

Otherwise suitable soil material that is too thin for the specified use.

Till

Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain

An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil

The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope

The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil

The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements

Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread

The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Tuff

A generic term for any consolidated or cemented deposit that is 50 percent or more volcanic ash.

Upland

An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill

The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Variegation

Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve

A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Very stony spot (map symbol)

A spot where 0.1 to 3.0 percent of the soil surface is covered by rock fragments that are more than 10 inches in diameter in areas where the surface of the surrounding soil is covered by less than 0.01 percent stones.

Water bars

Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering

All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth’s surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded

Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wet spot (map symbol)

A somewhat poorly drained to very poorly drained area that is at least two drainage classes wetter than the named soils in the surrounding map unit.

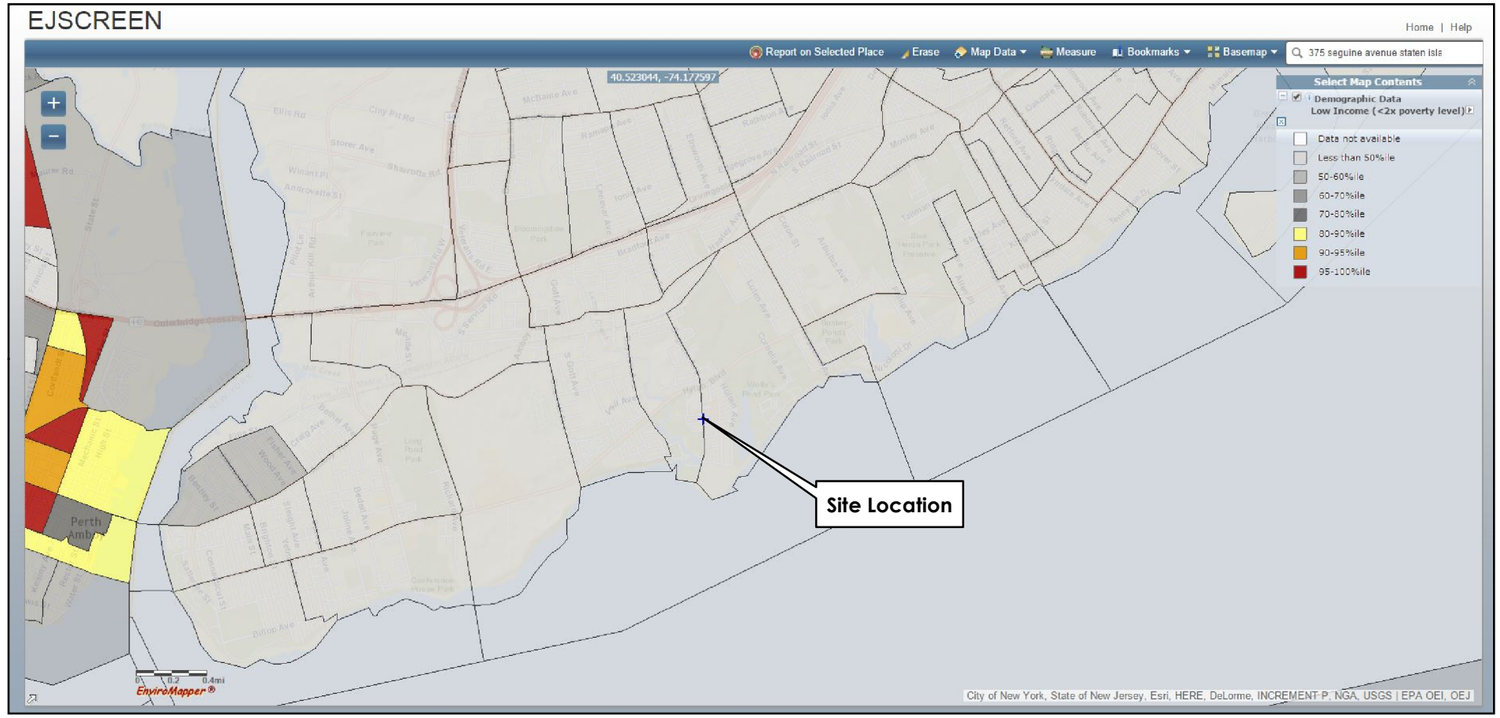
Wilting point (or permanent wilting point)

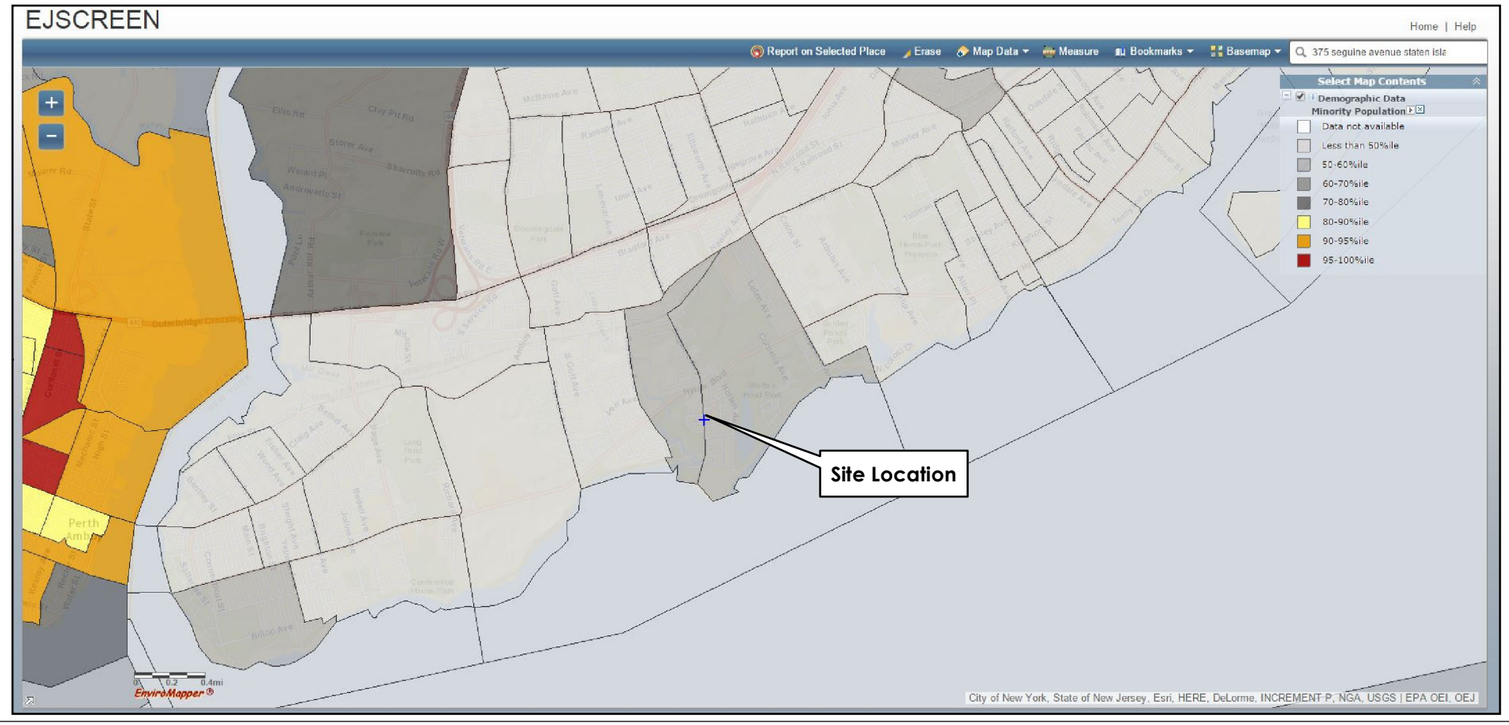
The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow

The uprooting and tipping over of trees by the wind.

APPENDIX K ENVIRONMENTAL JUSTICE





N

Stantec

NorthShore LIJ

EJSCREEN is an environmental justice mapping and screening tool that provides EPA with a nationally consistent dataset and approach for combining environmental and demographic indicators.

Percent minority:
Percent minority as a fraction of population, where minority is defined as all but Non-Hispanic White Alone. Calculated from the Census Bureau's American Community Survey 2008-2012.

Percent low-income:
Percent of individuals whose ratio of household income to poverty level in the past 12 months was less than 2 (as a fraction of individuals for whom ratio was determined). Calculated from the Census Bureau's American Community Survey 2008-2012.

Notes

1. Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
2. EJScreen Data obtained from http://www.epa.gov/ejscreen

Project Location:
375 Seguine Avenue
Staten Island, Richmond County, NY

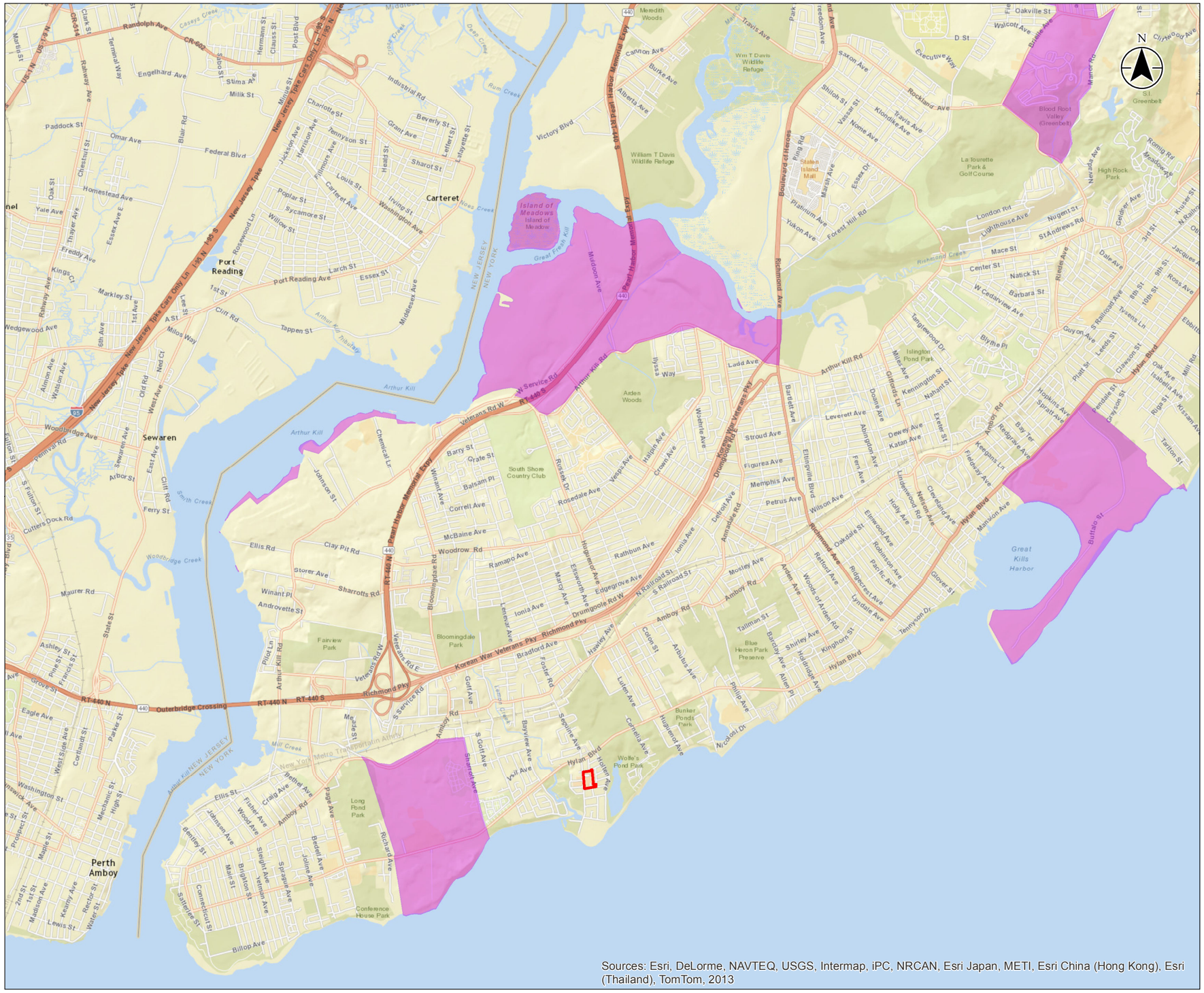
Prepared by AG on 2015-12-08
Technical Review by BSW on 2015-12-08
Independent Review by DH on 2015-12-08

190500871

Client/Project
NSLIJ
Staten Island University Hospital
South Campus Upgrades

Figure No.
K1

Title
Environmental Justice Areas - Demographic Indicators



Stantec

North Shore LIJ

Staten Island University Hospital - South Campus

Potential Environmental Justice Areas

Environmental justice efforts focus on improving the environment in communities, specifically minority and low-income communities, and addressing disproportionate adverse environmental impacts that may exist in those communities.

Depicted here are data from the 2000 U.S. Census and a general representation of a census block group that qualifies as a Potential Environmental Justice Area (PEJA).

To qualify as a PEJA, census block groups must have met one or more of the following NYS DEC criteria in the 2000 U.S. Census:

51.1% or more of the population are members of minority groups in an urban area;
33.8% or more of the population are members of minority groups in a rural area, or;
23.59% or more of the population in an urban or rural area have incomes below the federal poverty level.

0 0.5 1 Miles

1:48,000 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
2. NYSDEC's Potential Environmental Justice Area boundary data downloaded from the NYSGIS Clearinghouse on October 19, 2015: http://gis.ny.gov/gisdata/inventories/details.cfm?DSID=1273.

Project Location:
375 Seguine Avenue
Staten Island, Richmond County, NY

Prepared by AG on 2015-10-20
Technical Review by BSW on 2015-10-30
Independent Review by DH on 2015-11-05

190500871

Client/Project
NSLIJ
Staten Island University Hospital
South Campus Upgrades

Figure No.
K2

Title
Potential Environmental Justice Areas

Environmental Justice (CEST and EA)

General requirements	Legislation	Regulation
Determine if the project creates adverse environmental impacts upon a low-income or minority community. If it does, engage the community in meaningful participation about mitigating the impacts or move the project.	Executive Order 12898	
References		
https://www.hudexchange.info/environmental-review/environmental-justice		

HUD strongly encourages starting the Environmental Justice analysis only after all other laws and authorities, including Environmental Assessment factors if necessary, have been completed.

1. **Were any adverse environmental impacts identified in any other compliance review portion of this project's total environmental review?**

   ☐Yes → *Continue to Question 2.*

   ☒No → *Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below.*

2. **Were these adverse environmental impacts disproportionately high for low-income and/or minority communities?**

   ☐Yes

   Explain:

   → *Continue to Question 3. Provide any supporting documentation.*

   ☐No

   Explain:

→ *Continue to the Worksheet Summary and provide any supporting documentation.*

3. **All adverse impacts should be mitigated. Explain in detail the proposed measures that must be implemented to mitigate for the impact or effect, including the timeline for implementation.**

☐Mitigation as follows will be implemented:

→ *Continue to Question 4.*

☐No mitigation is necessary.

Explain why mitigation will not be made here:

→ *Continue to Question 4.*

4. **Describe how the affected low-income or minority community was engaged or meaningfully involved in the decision on what mitigation actions, if any, will be taken.**

→ *Continue to the Worksheet Summary and provide any supporting documentation.*

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

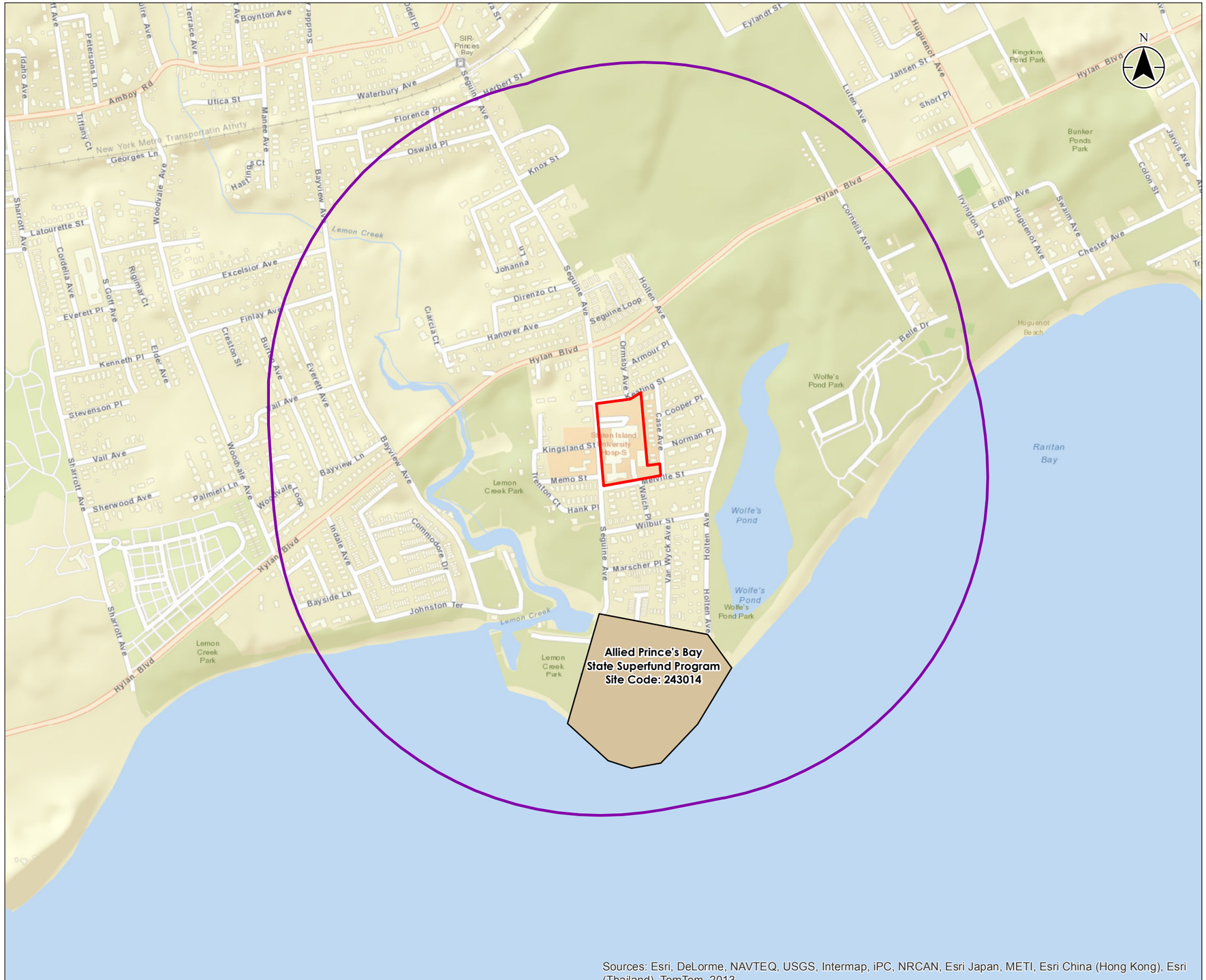
The proposed action will not have significant negative environmental impacts, as demonstrated in the *Environmental Assessment Determinations and Compliance Findings for HUD-assisted Projects 24 CFR Part 58* prepared for this project, along with accompanying maps, consultation letters, and reports.

Are formal compliance steps or mitigation required?

☐ Yes

☒ No

APPENDIX L CONTAMINATION AND TOXIC SUBSTANCES



Stantec

North Shore LIJ

- Staten Island University Hospital - South Campus
- 1/2 Mile Buffer
- NYSDEC Remedial Program Sites

0 500 1,000 1,500 Feet

1:10,000 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
2. Remedial Program Site Data (updated nightly and downloaded 6/19/2015) from the NYSDEC.

Project Location:

375 Seguine Avenue
Staten Island, Richmond County, NY

Prepared by AG on 2015-10-20
Technical Review by BSW on 2015-11-05
Independent Review by DH on 2015-11-05

190500871

Client/Project

NSLIJ
Staten Island University Hospital
South Campus Upgrades

Figure No.

L

Title

NYSDEC Remedial Program Sites Map

J:\190500871\05_report_dels\dwgs_design\GIS_figures\mxd\South Campus\G_remedial_sites_map.mxd Revised:2015-11-05 By: dgilpie

Staten Island University Hospital South Campus Upgrades

Environmental Database Report

A regulatory agency database search report was obtained from a third-party environmental database search firm (Toxics Targeting, Inc.). A complete copy of the database search report, including the date the report was prepared, the date the information was last updated, and the definition of databases searched, is provided herein.

Listings for Property

375 Seguine Avenue is identified in the report as the following:

1. Hazardous Waste Generator/Transporter:

   The site is a RCRA Small-Quantity Generator (Facility ID NYR000214528).

2. Chemical Bulk Storage Facility:

   The site is listed as a Chemical Bulk Storage Facility under the Facility ID 2-000075. A 350-gallon aboveground chemical storage tank was installed at the site in September 1985. The tank contained chlorine. In October of 2000, the tank was closed and removed.

3. Petroleum Bulk Storage Site:

   The site is listed as a Petroleum Bulk Storage Facility under the Facility ID 2-092053. A 30,000-gallon underground tank (Tank #001) containing #2 fuel oil was installed at the site in December 1973. This tank remains in-service. The database report notes that the tank was last tested on May 4, 2015. A 1,000-gallon aboveground storage tank (Tank #002) was installed at the site in December 1973. This tank is described as being 10% or more underground in the database report and it contained #2 fuel oil. This tank was closed in place in June of 2005.

4. Closed Status Spills: Five spills have been reported for the site.

   a. Spill Number 9104367: In 1991, a power failure resulted in raw sewage being discharged to surface water at a rate of 40,000 gallons a day. The NYSDEC spill listing indicates that the sewage discharged to Lemon Creek, which is located to the west of the site. The database listing notes that the discharge was being chlorinated to address the spill and the file was closed by the NYSDEC in 1991.

   b. Spill Number 9308175 (spill report lists address of spill as 355 Seguine Avenue): In 1993, a plugged pipe resulted in sewage overflowing from a manhole and seeping into Lemon Creek. The database report records states that 10,000 gallons of unknown petroleum material was discharged to surface water. The spill file was closed by the NYSDEC in 1995.

c. Spill Number 9811180: Raw sewage was reported to be seeping into Lemon Creek in 1997. No other details regarding this spill were provided. The spill file was closed by the NYSDEC in 1997.

d. Spill Number 9811180: Raw sewage reportedly leaked into a pond due to sewer system issues at the hospital in 1998. Repair personnel were dispatched to fix the problem and the spill was closed by the NYSDEC.

e. Spill Number 9012079: On February 19, 1991, a spill of 1,000 gallons of petroleum was reportedly spilled to soil. No other remarks are given regarding this spill. The spill was closed by the NYSDEC in 2003.

Listings for Nearby Sites with Potential to Impact Property

Stantec assessed data presented in the environmental agency database search report to evaluate the potential for conditions to pose an environmental concern for the property. Based on this evaluation, the following individual facilities were identified as the most likely potential sources of impact to the property.

Listed Facility Name/Address	Database Listing	Distance/Direction from Property
10 Case Avenue	Closed Status Spills	358± ft to the north-northeast (adjacent to the site)
In 2004, Spill Number 0402007 was opened in response to a five-ounce spill of transformer oil to grass, soil, and concrete. The transformer, which was owned by Con Edison, leaked due to being hit by lightning. The impacted soil and grass was removed and drummed, the concrete surface was double washed, and the transformer was replaced. The transformer oil was determined to not contain polychlorinated bipheyls (PCBs). The spill file was closed by the NYSDEC in 2004.		
In front of 425 Seguine Avenue	Closed Status Spills	429± ft to the south-southwest (adjacent to the site across Melville Street)
In 2007, Spill Number 0705105 was opened in response to a 0.75-pint spill of transformer oil to soil. The transformer was owned by Con Edison, who completed a cleanup. The spill file was closed by the NYSDEC in 2007.		
Case Avenue/29 Cooper Place	Closed Status Spills	461± ft to the northeast
In 1999, Spill Number 9910316 was opened in response to a 20-gallon spill of non-PCB transformer oil to grass, soil, concrete, and a fence. The transformer, which was owned by Con Edison, had a hole in its casing, resulting in the spill. The spill was contained with socks and absorbent until. The transformer was removed from service and replaced. Eight 55-gallon drums of impacted soil were removed and disposed of, and the sidewalk and fence were cleaned. The spill file was closed by the NYSDEC in 2004.		
Allied Prince's Bay, Seguine Avenue and Johnston Terrace	Inactive Hazardous Waste Disposal Registry Sites	2,120± ft to the south

Listed Facility Name/Address	Database Listing	Distance/Direction from Property
The Allied Prince's Bay site is a former State Superfund Program site (Site ID 243014). Historically, this site was used as the Palm Oil Processing Plant, a drainpipe manufacturing plant, and a dental supply manufacturer. Molded plastic products were also produced at this site. Waste and debris from manufacturing processes was dumped in a stream and marsh north of the site. Contaminants of concern identified at this site included PCBs, heavy metals, volatile organic compounds (VOCs), and Polynuclear aromatic hydrocarbons (PAHs). Remedial actions have been completed to address the contamination, including excavation and removal of contaminated soil and fill materials and the importation of more than four feet of clean fill to cover the site. This site has been delisted from the Registry of Inactive Hazardous Waste Disposal Sites.		

TOXICS TARGETING

Phase I
Environmental Database Report

Staten Island University Hosp - S Campus
Staten Island, NY 10309

October 19, 2015

LIMITED WARRANTY AND DISCLAIMER OF LIABILITY

Who is Covered

This limited warranty is extended by Toxics Targeting, Inc. only to the original purchaser of the accompanying Environmental Report ("Report"). It may not be assigned to any other person.

What is Warranted

Toxics Targeting, Inc. warrants that it uses reasonable care to accurately transcribe the information contained in this Report from the sources from which it is obtained. This limited warranty is in lieu of all other express warranties which might otherwise arise with respect to the Report. No one is authorized to change or add to this limited warranty.

What We Will Do

If during the warranty period there is shown to be a material error in the transcription of the information contained in this Report from the sources from which it was obtained, Toxics Targeting, Inc. shall refund to the original purchaser the full purchase price paid for the Report. The remedy stated above is the exclusive remedy extended to the Purchaser by Toxics Targeting, Inc. for any failure of the Report to conform with this Warranty, or otherwise for breach of this Warranty or any other warranty, whether expressed or implied.

What We Won't Cover

Toxics Targeting, Inc. has not and can not verify the accuracy, correctness or completion of the information contained in this Report. Information is obtained from government agencies, site owners, and other sources, and errors are common in such information. Because Toxics Targeting, Inc. can not control the accuracy of the information contained in this Report, or the uses which may be made of the information, TOXICS TARGETING, INC. DISCLAIMS LIABILITY TO ANYONE FOR ANY EVENTS ARISING OUT OF THE USE OF THE INFORMATION. TOXICS TARGETING, INC. SHALL NOT BE LIABLE FOR ANY DAMAGE CAUSED BY THIS REPORT, WHETHER DIRECT OR INDIRECT, AND WHETHER OR NOT TOXICS TARGETING, INC. HAS BEEN ADVISED OF OR HAS KNOWLEDGE OF THE POSSIBILITY OF SUCH DAMAGES. TOXICS TARGETING, INC. EXPRESSLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you.

Period of Warranty

The period of warranty coverage is ninety days from the date of purchase of this Report. There shall be no warranty after the period of coverage. ANY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR USE SHALL HAVE NO GREATER DURATION THAN THE PERIOD OF WARRANTY STATED HERE, AND SHALL TERMINATE AUTOMATICALLY UPON THE EXPIRATION OF SUCH PERIOD. Some jurisdictions do not allow limitations on how long an implied warranty lasts, so the above exclusion or limitation may not apply to you.

PLEASE REFER TO PAGES ONE AND FIVE FOR A DESCRIPTION OF SOME OF THE LIMITATIONS OF THIS ENVIRONMENTAL REPORT.

Table of Contents

Introduction..... **1**

- *The Three Sections of Your Report*
- *How to Use Your Report*
- *Toxic Site Databases Analyzed In Your Report*
- *Limitations Of the Information In Your Report*

Section One: Your Report Summary..... **7**

- *Table One: Number of Identified Toxic Sites By Distance Interval*
- *Table Two: Identified Toxic Sites By Direction*
- *Table Three: Identified Toxic Sites By Category*
- *Table Four: Identified Toxic Sites By Proximity*
- *Map One: One-Mile Radius Map*
- *Map Two: Half-Mile Radius Map*
- *Map Three: Eighth-Mile Radius Map*
- *Map Four: Eighth-Mile Radius Close-up Map*
- *Map Five: Tax Parcel Map*
- *Table Five: Tax Parcel Map Information Table*

Section Two: Toxic Site Profiles

Section Three: Appendices

- *USEPA ERNS Check*
- *Unmappable Sites*
- *Hazardous Waste Codes*
- *Information Source Guide*

Introduction

Toxics Targeting has combined environmental database searches, extensive regulatory analysis and sophisticated mapping techniques to produce your *Environmental Report.* It checks for the presence of 25 categories of government-reported toxic sites and provides detailed, up-to-date information on each identified site. The findings of your report are presented in an easy-to-understand format that:

1. ***Maps*** the approximate locations of selected government-reported toxic sites identified on or near a specified target address.

2. ***Estimates*** the distance and direction between the target address and each identified toxic site.

3. ***Reports*** air and water permit non-compliance and other regulatory violations.

4. ***Profiles*** some aspects of the usage, manufacture, storage, handling, transport or disposal of toxic chemicals at individual sites.

5. ***Summarizes*** some potential health effect information and drinking water standards for selected chemicals reported at individual sites.

The Three Sections Of Your Report

The first section highlights your report's findings by summarizing identified sites according to: **a)** distance intervals, **b)** direction, **c)** proximity to the target address and **d)** individual site categories. In addition, the locations of all identified toxic sites are illustrated on individual maps for each radius search distance used in your report. A close-up map illustrates the locations of all identified toxic sites, at the shortest radius search distance used in your report. Finally, a map of tax parcels and a table of selected information about those parcels are included.

The second section of your report contains *Toxic Site Profiles* that provide detailed information on each identified toxic site. The information in each *Toxic Site Profile* varies according to its source. Some toxic site categories have extensive information and some have limited information. All the information is updated on a regular basis.

The third section of the report contains appendices that identify: **1)** on-site spills reported to the national Emergency Response Notification System (ERNS), **2)** various toxic sites that cannot be mapped due to incomplete or erroneous addresses or other mapping problems, **3)** codes that characterize hazardous wastes reported at various facilities, **4)** methods used to map toxic sites identified in your report and **5)** information sources used in your report.

How to Use Your Report

- Check Table One to see the number of identified sites by distance intervals.

- Check Table Two to see identified sites sorted by direction.

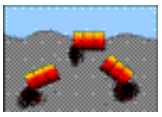
- Check Table Three to see identified sites ranked by proximity to the target address.

- Check Table Four to see identified sites sorted by site categories.

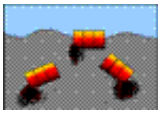
- Use Table Five to get info for the subject parcel and every parcel found on the Tax Parcel Map
- Refer to the various maps to see the locations of identified toxic sites. Refer to the *Toxic Site Profile* and *Appendix* sections for additional information.

Toxic Site Databases Analyzed In Your Report

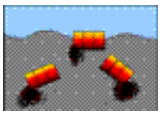
Search Radius

One-Mile 

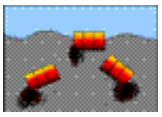
1) ***National Priority List for Federal Superfund Cleanup****:* a listing of sites known to pose environmental or health hazards that are being investigated or cleaned up under the Federal Superfund program.

Half-Mile 

2) ***Delisted National Priority List Sites****:* a listing of NPL sites that have been removed from the National Priority List.

One-Mile 

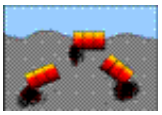
3) ***New York Inactive Hazardous Waste Disposal Site Registry****:* a state listing of sites that can pose environmental or public health hazards requiring investigation or clean up.

One-Mile 

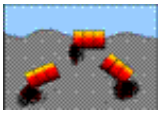
4) ***New York Inactive Hazardous Waste Disposal Site Registry Qualifying****:* a state listing of sites that qualify for possible inclusion to the NYS DEC Inactive Haz. Waste Disposal Site Registry.

One-Mile 

5) ***New York and Federal RCRA Corrective Action Activity (CORRACTS):*** waste facilities with RCRA corrective action activity reported by the USEPA and NYS DEC.

Half-Mile 

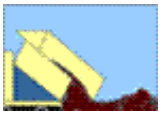
6) ***CERCLIS*** (Comprehensive Environmental Response, Compensation and Liability Information System): a federal listing of Non-NFRAP sites that can pose environmental or public health hazards requiring investigation or clean up.

Half-Mile 

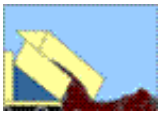
7) ***CERCLIS NFRAP:*** a federal listing of CERCLIS sites that have no further remedial action planned.

Half-Mile 

8) ***New York State Brownfield Cleanup Sites****:* a listing of sites that are abandoned, idled or under-used industrial and commercial sites where expansion or redevelopment is complicated by real or perceived environmental contamination.

Half-Mile 

9) ***New York Solid Waste Facilities Registry****:* active and inactive landfills, incinerators, transfer stations or other solid waste management facilities.

Half-Mile 

10) ***New York City 1934 Solid Waste Sites****:* a listing of solid waste disposal sites operated by New York City municipal authorities circa 1934.

Half-Mile 

11) ***New York and Federal Hazardous Waste Treatment, Storage or Disposal Facilities****:* sites reported by the NYS manifest system and the USEPA's Resource Conservation and Recovery Act Information System (RCRIS). Also includes the following database:

- ***RCRA violations:*** waste facilities with violations reported by the USEPA pursuant to the Resource Conservation and Recovery Act.

Half-Mile 

12) ***Toxic Spills: active and inactive or closed*** spills reported to state environmental authorities, including *remediated* and *unremediated* leaking underground storage tanks. This database includes the following categories:

- Tank Failures
- Tank Test Failures
- Unknown Spill Cause or Other Spill Causes
- Miscellaneous Spill Causes

Eighth-Mile 

13) ***New York State Major Oil Storage Facilities****:* sites with more than a 400,000 gallon capacity for storing petroleum products.

Eighth-Mile 

14) ***New York State Petroleum Bulk Storage Facilities****:* sites with more than an 1,100 gallon capacity for storing petroleum products.

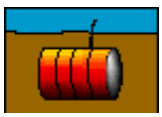
Eighth-Mile 

15) ***New York City Fire Dept Tank Data****:* tank data from 1997.

Eighth-Mile 

16) ***New York and Federal Hazardous Waste Generators and Transporters****:* sites reported by the NYS manifest system and the USEPA's Resource Conservation and Recovery Act Information System (RCRA). Also includes the following database:

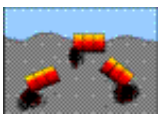
- ***RCRA violations:*** waste facilities with violations reported by the USEPA pursuant to the Resource Conservation and Recovery Act.

Eighth-Mile 

17) ***New York Chemical Bulk Storage Facilities****:* sites storing hazardous substances listed in 6 NYCRR Part 597 in aboveground tanks with capacities of 185 gallons or more and/or underground tanks of any size

Eighth-Mile 

18) ***Historic New York City Utility Sites (1890's to 1940's)****:* power generating stations, manufactured gas plants, gas storage facilities, maintenance yards and other gas and electric utility sites.

Half-Mile 

19) ***New York Hazardous Substance Disposal Site Draft Study****:* a state listing of sites contaminated with toxic substances that can pose environmental or public health hazards. These sites were not eligible for state clean up funding programs.

Eighth-Mile 

20) ***Federal Toxic Release Inventory Facilities****:* discharges of selected toxic chemicals to air, land, water or treatment facilities.

Eighth-Mile 

21) ***Federal Air Discharges****:* air pollution point sources monitored by U.S. EPA and/or state and local air regulatory agencies.

Eighth-Mile 

22) ***Federal Permit Compliance System Toxic Wastewater Discharges:*** permitted toxic wastewater discharges.

Eighth-Mile 

23) ***Federal Civil and Administrative Enforcement Docket****:* judiciary cases filed on behalf of the U. S. Environmental Protection Agency by the Department of Justice.

On-site only (250 ft) 

24) ***New York City Environmental Quality Review (CEQR) – E Designation Sites****:* parcels assigned a special environmental ("E") designation under the CEQR process. E designation requires specific protocols that must be followed.

Property only 

25) ***ERNS: Federal Emergency Response Notification System Spills****:* a listing of federally reported spills.

Limitations Of The Information In Your Report

The information presented in your *Environmental Report* has been obtained from various local, state and federal government agencies. Please be aware that: **1)** additional information on individual sites may be available, **2)** newly discovered sites are continually reported and **3)** all map locations are approximate. As a result, this report is intended to be the FIRST STEP in the process of identifying and evaluating possible environmental threats to specific properties and can only serve as a guide for conducting on-site visits or additional, more detailed toxic hazard research.

Toxics Targeting tries to ensure that the information in your report is presented accurately and with minimal alteration. Systematic changes are made to correct obvious address errors in order to allow sites to be mapped. Any address changes that are made are noted in the map information section at the top of each corresponding *Toxic Site Profile*. Some information that has been withheld by government authorities remains included in Toxic Site Profiles and is identified as archival information. Since the information presented in your report is not edited, please be aware that it can contain reporting errors or typographical mistakes made by the site owners/operators or government agencies that produced the information. Also please be aware of some other limitations of the information in your report:

- The digital map used by *Toxics Targeting* is the same one used by the U. S. Census or local authorities in New York City. While the map is generally accurate, no map is perfect. In addition, *Toxics Targeting's* mapping methods estimate where toxic site addresses are located if the address is not specifically designated. FOR THESE REASONS, ALL MAP LOCATIONS OF ADDRESSES AND REPORTED TOXIC SITES SHOULD BE CONSIDERED APPROXIMATE AND SHOULD BE VERIFIED BY ON-SITE VISITS;

- UNDISCOVERED, UNREPORTED OR UNMAPPABLE TOXIC SITES MIGHT NOT BE IDENTIFIED BY THIS REPORT'S CHECK OF 25 TOXIC SITE CATEGORIES. TOXIC SITES REPORTED IN OTHER GOVERNMENT DATABASES MIGHT ALSO EXIST. FOR THESE REASONS, YOUR REPORT MIGHT NOT IDENTIFY ALL THE TOXIC SITES THAT EXIST IN THE AREA IT SEARCHES;

- The appendix of your report contains a listing of sites that could not be mapped due to incomplete or erroneous address information or other mapping problems. This listing includes unmappable toxic sites in the zip codes searched for the report as well as toxic sites without zip codes reported in the same county. IF YOU WOULD LIKE INFORMATION ON ANY OF THE LISTED SITES, PLEASE CONTACT *TOXICS TARGETING AND REFER TO THE SITE ID NUMBER.*

- New York State Department of Environmental Conservation Remediation Site Borders are approximate and may not align with tax parcel boundaries mapped by local authorities or the digital map used by the US Census Bureau. As a result, Remediation Site Borders may overlap parcels that do not involve site remediation activities. Selected parcels also can involve multiple Remediation Site Borders. Refer to individual site profiles for more information. Sites without profiles include potential new sites or sites that have not yet been publicly listed by DEC.

- Some toxic sites identified in your report may be classified as **known hazards**. Most of the toxic sites identified in your report involve **potential hazards** related to the on-site use, manufacture, handling, storage, transport or disposal of toxic chemicals. Some of the toxic sites identified in your report may be the addresses of parties responsible for toxic sites located elsewhere. YOU SHOULD ONLY CONCLUDE THAT TOXIC HAZARDS ACTUALLY EXIST AT A SPECIFIC SITE WHEN GOVERNMENT AUTHORITIES MAKE THAT DETERMINATION OR WHEN THAT CONCLUSION IS FULLY DOCUMENTED BY THE FINDINGS OF AN APPROPRIATE SITE INVESTIGATION UNDERTAKEN BY LICENSED PROFESSIONALS;

- Compass directions and distances are approximate. Compass directions are calculated from the subject property address to the mapped location of each identified toxic site. The compass direction does not necessarily refer to the closest property boundary of an identified toxic site. The compass direction also can vary substantially for toxic sites that are located very close to the subject property address.

- The information presented in your report is a summary of the information that *Toxics Targeting* obtains from government agencies on reported toxic sites. YOU MAY BE ABLE TO OBTAIN ADDITIONAL INFORMATION ABOUT REPORTED SITES WITH THE FREEDOM OF INFORMATION REQUEST FORM LETTERS THAT ARE PROVIDED ON THE INSIDE OF THE BACK COVER.

Section One:

Report Summary

- *Table One: Number of Identified Toxic Sites By Distance Interval*
- *Table Two: Identified Toxic Sites By Direction*
- *Table Three: Identified Toxic Sites By Category*
- *Table Four: Identified Toxic Sites By Proximity*
- *Map One: One-Mile Radius Map*
- *Map Two: Half-Mile Radius Map*
- *Map Three: Eighth-Mile Radius Map*
- *Map Four: Eighth-Mile Radius Close up Map*
- *Map Five: Tax Parcel Map*
- *Table Five: Tax Parcel Map Information Table*

NUMBER OF IDENTIFIED SITES BY DISTANCE INTERVAL

Database Searched	0 − 100 ft	100 ft − 1/8 mi	1/8 mi − 1/4 mi	1/4 mi − 1/2 mi	1/2 mi − 1 mi	Site Category Totals
ASTM−Required 1 Mile Search						
National Priority List (NPL) Sites	0	0	0	0	0	0
NYS Inactive Hazardous Waste Disposal Site Registry	0	0	0	1	0	1
NYS Inactive Haz Waste Disposal Site Registry Qualifying	0	0	0	0	0	0
RCRA Corrective Action (CORRACTS) Sites	0	0	0	0	0	0
ASTM−Required 1/2 Mile Search						
Delisted National Priority List (NPL) Sites	0	0	0	0	Not searched	0
CERCLIS Superfund Non−NFRAP Sites	0	0	0	0	Not searched	0
CERCLIS Superfund NFRAP Sites	0	0	0	0	Not searched	0
Brownfields Sites						
Voluntary Cleanup Program	0	0	0	0	Not searched	0
Environmental Restoration Program	0	0	0	0	Not searched	0
Brownfield Cleanup Program	0	0	0	0	Not searched	0
NYSDEC Solid Waste Facilities / Landfills	0	0	0	0	Not searched	0
RCRA Hazardous Waste Treatment, Storage, Disposal Sites	0	0	0	0	Not searched	0
NYS Toxic Spills						
Active Tank Failures	0	0	0	0	Not searched	0
Active Tank Test Failures	0	0	0	0	Not searched	0
Active Spills − Unknown / Other Causes	0	0	0	0	Not searched	0
Active Spills − Miscellaneous Causes	0	0	0	0	Not searched	0
Closed Tank Failures	0	0	0	0	Not searched	0
Closed Tank Test Failures	0	0	0	0	Not searched	0
Closed Spills − Unknown / Other Causes	2	1	4	7	Not searched	14
Closed Spills − Miscellaneous Causes	3	2	0(3)	2(8)	Not searched	7(11)
ASTM−Required Property & Adjacent Property (1/8 Mile Search)						
NYS Major Oil Storage Facilities	0	0	Not searched	Not searched	Not searched	0
Local & State Petroleum Bulk Storage Sites	1	0	Not searched	Not searched	Not searched	1
RCRA Hazardous Waste Generators & Transporters	1	0	Not searched	Not searched	Not searched	1
NYS Chemical Bulk Storage Sites	1	0	Not searched	Not searched	Not searched	1
Historic Utility Facilities	0	0	Not searched	Not searched	Not searched	0
ASTM−Required On−Site Only Search						
NYC Environmental Quality Review Requirements ("E") Sites*	0	0	Not searched	Not searched	Not searched	0
Emergency Response Notification System (ERNS)	0	Not searched	Not searched	Not searched	Not searched	0
Institutional Controls / Engineering Controls (IC/EC)	See databases for NPL, CERCLIS, Inactive Hazardous Waste Disposal Site Registry and Brownfield Sites.					
ASTM−Required Databases Distance Interval Totals	**8**	**3**	**4(3)**	**10(8)**	**0**	**25(11)**

Numbers in ( ) indicate spills not mapped and profiled in this report, and are listed at the end of the active and closed spills sections. See these lists for a description of the parameters involved with identifying these spills.

* NYC Environmental Quality Review Requirements ("E") Sites were searched at 250 feet.

NOTE: Table continues on next page.

Non−ASTM Databases 1/2 Mile Search						
1934 NYC Municipal Waste Landfills	0	0	0	0	Not searched	0
Hazardous Substance Waste Disposal Sites	0	0	0	0	Not searched	0
Non−ASTM Databases 1/8 Mile Search						
Toxic Release Inventory Sites (TRI)	0	0	Not searched	Not searched	Not searched	0
Permit Compliance System (PCS) Toxic Wastewater Discharges	0	0	Not searched	Not searched	Not searched	0
Air Discharges	1	0	Not searched	Not searched	Not searched	1
Civil & Administrative Enforcement Docket Facilities	1	0	Not searched	Not searched	Not searched	1
Non−ASTM Databases Distance Interval Totals	**2**	**0**	**0**	**0**	**Not Searched**	**2**
Distance Interval Totals	***10***	***3***	***4(3)***	***10(8)***	***0***	***27(11)***

Numbers in ( ) indicate spills not mapped and profiled in this report, and are listed at the end of the active and closed spills sections. See these lists for a description of the parameters involved with identifying these spills.

Identified Toxic Sites by Direction

Staten Island University Hosp − S Campus
Staten Island, NY 10309

* Compass directions can vary substantially for sites located very close to the subject property address.

Sites less than 100 feet from subject property sorted by distance

Map Id#	Site Name	Site Street	Approximate Distance & Direction From Property	Toxic Site Category
24	NORTH SHORE − STATEN ISLAND UNIVERSITY HOSPITAL	375 SEGUINE AVE	0 feet	Hazardous Waste Generator/Transporter
26	STATEN ISLAND UNIVERSITY HOSPITAL−SOUTH	375 SEGUINE AVENUE	0 feet	Air Discharge Site
25	STATEN ISLAND UNIVERSITY HOSPITAL	375 SEGUINE AVENUE	0 feet	Chemical Bulk Storage Facility
27	STATEN ISLAND UNIVERSITY HOSPI	375 SEGUINE AVE	0 feet	Civil & Admin. Enforcement Docket Site
23	STATEN ISLAND UNIVERSITY HOSPITAL	375 SEGUINE AVENUE	0 feet	Petroleum Bulk Storage Site
2	375 SEGUINE AVE/S.I.	375 SEGUINE AVENUE	0 feet	Closed Status Spill (Unk/Other Cause)
3	RICHMOND MEMORIAL HOSP/SI	RICHMOND MEMORIAL HOSPITA	0 feet	Closed Status Spill (Unk/Other Cause)
16	STATEN ISLAND UNIV HOSP	375 SEGUINE AVE	0 feet	Closed Status Spill (Misc. Spill Cause)
17	UNIVERSITY HOSPITAL	SEGUINE AVE/HYLAN BLVD	0 feet	Closed Status Spill (Misc. Spill Cause)
18	355 SEGUINE LN	355 SEGUINE LN	0 feet	Closed Status Spill (Misc. Spill Cause)

Sites between 100 ft and 660 ft from the subject property sorted by direction and distance

Map Id#	Site Name	Site Street	Approximate Distance & Direction From Property	Toxic Site Category
19	POLE # 16434	10 CASE AVE	358 feet to the NNE	Closed Status Spill (Misc. Spill Cause)
20	TRANSFORMER POLE 16434	CASE AVE/OPP 29 COOPER PL	461 feet to the NE	Closed Status Spill (Misc. Spill Cause)
4	AERIAL XFMR LEAKING LESS THAN ONE	IN FRONT OF 425 SEQUINE AVENUE	429 feet to the SSW	Closed Status Spill (Unk/Other Cause)

Sites equal to or greater than 660 ft from subject property sorted by direction and distance

Map Id#	Site Name	Site Street	Approximate Distance & Direction From Property	Toxic Site Category
12	WOLF POND PARK	HOLTEN AVE & MELVILLE AVE	2158 feet to the NNE	Closed Status Spill (Unk/Other Cause)
13	WOLFS PARK POND	WOLFS PARK POND	2158 feet to the NNE	Closed Status Spill (Unk/Other Cause)
6	POLE	8 MARCHER PLACE	1034 feet to the S	Closed Status Spill (Unk/Other Cause)
7	SEJUINE ST & MARSIER ST	SEJUINE ST / MARSIER ST	1042 feet to the S	Closed Status Spill (Unk/Other Cause)
9	S.I. UNIVERSITY HOSPITAL	522 SEGUINE AVE	1454 feet to the S	Closed Status Spill (Unk/Other Cause)

10	522 SEGUINIE AVENUE	522 SEGUINIE AVENUE	1454 feet to the S	Closed Status Spill (Unk/Other Cause)
11	522 SEGUINE AVE	522 SEGUINE AVE	1454 feet to the S	Closed Status Spill (Unk/Other Cause)
21	522 SEGUINE AVE	522 SEGUINE AVE	1454 feet to the S	Closed Status Spill (Misc. Spill Cause)
1	ALLIED PRINCE'S BAY	SEGUINE AVENUE & JOHNSTON TERRACE	2120 feet to the S	NYSDEC Inactive Haz Waste Disposal Site
8	LEMON CREEK	LEMON CREEK	1278 feet to the SW	Closed Status Spill (Unk/Other Cause)
22	105 COMMODORE DRIVE	105 COMMODORE DRIVE	1786 feet to the WSW	Closed Status Spill (Misc. Spill Cause)
14	237 BAYVIEW/S.I.	237 BAYVIEW	2411 feet to the WNW	Closed Status Spill (Unk/Other Cause)
5	5770 HYLAN BLVD	5770 HYLAN BLVD	764 feet to the NNW	Closed Status Spill (Unk/Other Cause)
15	DRAINAGE EASEMENT BLUE BELT	BTW 136 AND 140 SEGUINE AVE	2413 feet to the NNW	Closed Status Spill (Unk/Other Cause)

Identified Toxic Sites by Category

Staten Island University Hosp − S Campus
Staten Island, NY 10309

* Compass directions can vary substantially for sites located very close to the subject property address.

NYSDEC Inactive Haz. Waste Disposal Site Registry −− Total Sites − 1 — **Database searched at 1 MILE − ASTM required search distance: 1 Mile**

MAP ID	FACILITY ID	FACILITY NAME	FACILITY STREET	DISTANCE & DIRECTION
1	243014	ALLIED PRINCE'S BAY	SEGUINE AVENUE & JOHNSTON TERRACE	2120 feet to the S

Closed Status Spills (Unknown Causes & Other Causes) −− Total Sites − 14 — **Database searched at 1/2 MILE − ASTM required search distance: 1/2 Mile**

MAP ID	FACILITY ID	FACILITY NAME	FACILITY STREET	DISTANCE & DIRECTION
2	9104367	375 SEGUINE AVE/S.I.	375 SEGUINE AVENUE	0 feet
3	9012079	RICHMOND MEMORIAL HOSP/SI	RICHMOND MEMORIAL HOSPITA	0 feet
4	0705105	AERIAL XFMR LEAKING LESS THAN ONE	IN FRONT OF 425 SEQUINE AVENUE	429 feet to the SSW
5	9811679	5770 HYLAN BLVD	5770 HYLAN BLVD	764 feet to the NNW
6	0913258	POLE	8 MARCHER PLACE	1034 feet to the S
7	9308712	SEJUINE ST & MARSIER ST	SEJUINE ST / MARSIER ST	1042 feet to the S
8	8603527	LEMON CREEK	LEMON CREEK	1278 feet to the SW
9	9405710	S.I. UNIVERSITY HOSPITAL	522 SEGUINE AVE	1454 feet to the S
10	9311902	522 SEGUINIE AVENUE	522 SEGUINIE AVENUE	1454 feet to the S
11	9202486	522 SEGUINE AVE	522 SEGUINE AVE	1454 feet to the S
12	9814616	WOLF POND PARK	HOLTEN AVE & MELVILLE AVE	2158 feet to the NNE
13	9203074	WOLFS PARK POND	WOLFS PARK POND	2158 feet to the NNE
14	9010548	237 BAYVIEW/S.I.	237 BAYVIEW	2411 feet to the WNW
15	1103030	DRAINAGE EASEMENT BLUE BELT	BTW 136 AND 140 SEGUINE AVE	2413 feet to the NNW

Closed Status Spills (Miscellaneous Spill Causes) −− Total Sites − 7 — **Database searched at 1/2 MILE − ASTM required search distance: 1/2 Mile**

MAP ID	FACILITY ID	FACILITY NAME	FACILITY STREET	DISTANCE & DIRECTION
16	9811180	STATEN ISLAND UNIV HOSP	375 SEGUINE AVE	0 feet
17	9613272	UNIVERSITY HOSPITAL	SEGUINE AVE/HYLAN BLVD	0 feet
18	9308175	355 SEGUINE LN	355 SEGUINE LN	0 feet
19	0402007	POLE # 16434	10 CASE AVE	358 feet to the NNE
20	9910316	TRANSFORMER POLE 16434	CASE AVE/OPP 29 COOPER PL	461 feet to the NE
21	9303180	522 SEGUINE AVE	522 SEGUINE AVE	1454 feet to the S
22	1209739	105 COMMODORE DRIVE	105 COMMODORE DRIVE	1786 feet to the WSW

Petroleum Bulk Storage Sites −− Total Sites − 1 — **Database searched at 1/8 MILE − ASTM required search distance: Property & Adjacent**

MAP ID	FACILITY ID	FACILITY NAME	FACILITY STREET	DISTANCE & DIRECTION
23	2−092053	STATEN ISLAND UNIVERSITY HOSPITAL	375 SEGUINE AVENUE	0 feet

Hazardous Waste Generators, Transporters −− Total Sites − 1 — **Database searched at 1/8 MILE − ASTM required search distance: Property & Adjacent**

MAP ID	FACILITY ID	FACILITY NAME	FACILITY STREET	DISTANCE & DIRECTION
24	NYR000214528	NORTH SHORE − STATEN ISLAND UNIVERSITY HOSPITAL	375 SEGUINE AVE	0 feet

Chemical Bulk Storage Facilities −− Total Sites − 1 — **Database searched at 1/8 MILE − ASTM required search distance: Property & Adjacent**

MAP ID	FACILITY ID	FACILITY NAME	FACILITY STREET	DISTANCE & DIRECTION
25	2−000075	STATEN ISLAND UNIVERSITY HOSPITAL	375 SEGUINE AVENUE	0 feet

Air Discharge Sites −− Total Sites − 1 — **Database searched at 1/8 MILE − Non−ASTM Database**

MAP ID	FACILITY ID	FACILITY NAME	FACILITY STREET	DISTANCE & DIRECTION
26	3608500350	STATEN ISLAND UNIVERSITY HOSPITAL−SOUTH	375 SEGUINE AVENUE	0 feet

Civil & Administrative Enforcement Docket Sites −− Total Sites − 1 **Database searched at 1/8 MILE − Non−ASTM Database**

MAP ID	FACILITY ID	FACILITY NAME	FACILITY STREET	DISTANCE & DIRECTION
27	NY0002399285	STATEN ISLAND UNIVERSITY HOSPI	375 SEGUINE AVE	0 feet

Identified Toxic Sites by Proximity

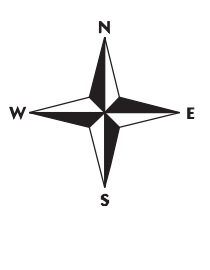
Staten Island University Hosp − S Campus, Staten Island, NY 10309

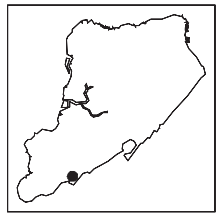
* Compass directions can vary substantially for sites located very close to the subject property address.

Map Id#	Site Name	Site Street	Approximate Distance & Direction From Property	Toxic Site Category
24	NORTH SHORE − STATEN ISLAND UNIVERSITY HOSPITAL	375 SEGUINE AVE	0 feet	Hazardous Waste Generator/Transporter
26	STATEN ISLAND UNIVERSITY HOSPITAL−SOUTH	375 SEGUINE AVENUE	0 feet	Air Discharge Site
25	STATEN ISLAND UNIVERSITY HOSPITAL	375 SEGUINE AVENUE	0 feet	Chemical Bulk Storage Facility
27	STATEN ISLAND UNIVERSITY HOSPI	375 SEGUINE AVE	0 feet	Civil & Admin. Enforcement Docket Site
23	STATEN ISLAND UNIVERSITY HOSPITAL	375 SEGUINE AVENUE	0 feet	Petroleum Bulk Storage Site
2	375 SEGUINE AVE/S.I.	375 SEGUINE AVENUE	0 feet	Closed Status Spill (Unk/Other Cause)
3	RICHMOND MEMORIAL HOSP/SI	RICHMOND MEMORIAL HOSPITA	0 feet	Closed Status Spill (Unk/Other Cause)
16	STATEN ISLAND UNIV HOSP	375 SEGUINE AVE	0 feet	Closed Status Spill (Misc. Spill Cause)
17	UNIVERSITY HOSPITAL	SEGUINE AVE/HYLAN BLVD	0 feet	Closed Status Spill (Misc. Spill Cause)
18	355 SEGUINE LN	355 SEGUINE LN	0 feet	Closed Status Spill (Misc. Spill Cause)
19	POLE # 16434	10 CASE AVE	358 feet to the NNE	Closed Status Spill (Misc. Spill Cause)
4	AERIAL XFMR LEAKING LESS THAN ONE	IN FRONT OF 425 SEQUINE AVENUE	429 feet to the SSW	Closed Status Spill (Unk/Other Cause)
20	TRANSFORMER POLE 16434	CASE AVE/OPP 29 COOPER PL	461 feet to the NE	Closed Status Spill (Misc. Spill Cause)
5	5770 HYLAN BLVD	5770 HYLAN BLVD	764 feet to the NNW	Closed Status Spill (Unk/Other Cause)
6	POLE	8 MARCHER PLACE	1034 feet to the S	Closed Status Spill (Unk/Other Cause)
7	SEJUINE ST & MARSIER ST	SEJUINE ST / MARSIER ST	1042 feet to the S	Closed Status Spill (Unk/Other Cause)
8	LEMON CREEK	LEMON CREEK	1278 feet to the SW	Closed Status Spill (Unk/Other Cause)
9	S.I. UNIVERSITY HOSPITAL	522 SEGUINE AVE	1454 feet to the S	Closed Status Spill (Unk/Other Cause)
10	522 SEGUINIE AVENUE	522 SEGUINIE AVENUE	1454 feet to the S	Closed Status Spill (Unk/Other Cause)
11	522 SEGUINE AVE	522 SEGUINE AVE	1454 feet to the S	Closed Status Spill (Unk/Other Cause)
21	522 SEGUINE AVE	522 SEGUINE AVE	1454 feet to the S	Closed Status Spill (Misc. Spill Cause)
22	105 COMMODORE DRIVE	105 COMMODORE DRIVE	1786 feet to the WSW	Closed Status Spill (Misc. Spill Cause)
1	ALLIED PRINCE'S BAY	SEGUINE AVENUE & JOHNSTON TERRACE	2120 feet to the S	NYSDEC Inactive Haz Waste Disposal Site
12	WOLF POND PARK	HOLTEN AVE & MELVILLE AVE	2158 feet to the NNE	Closed Status Spill (Unk/Other Cause)
13	WOLFS PARK POND	WOLFS PARK POND	2158 feet to the NNE	Closed Status Spill (Unk/Other Cause)
14	237 BAYVIEW/S.I.	237 BAYVIEW	2411 feet to the WNW	Closed Status Spill (Unk/Other Cause)
15	DRAINAGE EASEMENT BLUE BELT	BTW 136 AND 140 SEGUINE AVE	2413 feet to the NNW	Closed Status Spill (Unk/Other Cause)

Toxics Targeting
1 Mile Radius Map

Staten Island University Hosp - S Campus
Staten Island, NY 10309





Richmond County

National Priority List (NPL)

Inactive Hazardous Waste Disposal Registry Site

Inact. Haz Waste Disp. Registry Qualifying

RCRA Corrective Action Facility

Site Location

Waterbody

County Border

Railroad Tracks

1 Mile Radius

1/2 Mile Radius

1/4 Mile Radius

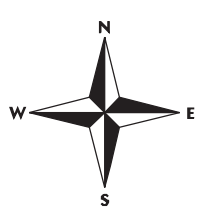
1/8 Mile Radius

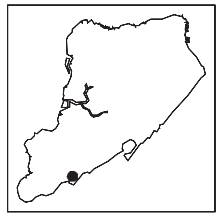
1 0 1/8 1/4 1/2 1

Distance in Miles

Toxics Targeting
1/2 Mile Radius Map

Staten Island University Hosp - S Campus
Staten Island, NY 10309

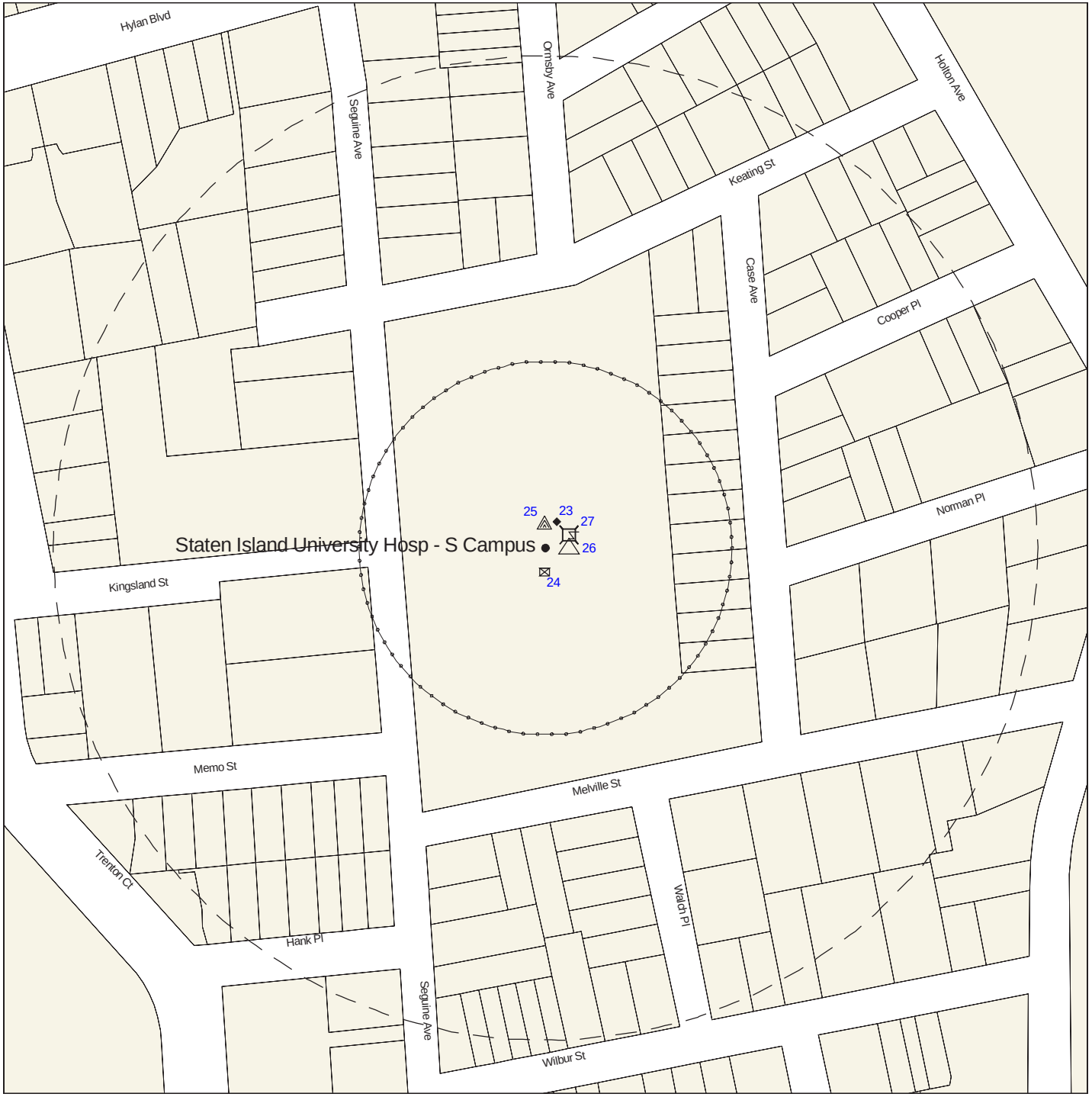




Richmond County

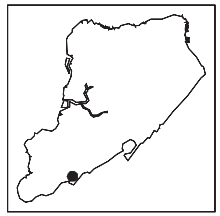
- Delisted NPL Site
- CERCLIS Superfund Non-NFRAP Site
- CERCLIS Superfund NFRAP Site
- Hazardous Waste Treater, Storer, Disposer
- Hazardous Substance Waste Disposal Site
- Solid Waste Facility
- Brownfields Site
- Hazardous Material Spill

- Site Location
- Waterbody
- County Border
- Railroad Tracks
- 1 Mile Radius
- 1/2 Mile Radius
- 1/4 Mile Radius
- 1/8 Mile Radius



Toxics Targeting
1/8 Mile Radius Map

Staten Island University Hosp - S Campus
Staten Island, NY 10309



Richmond County

- Major Oil Storage Facility
- Chemical Storage Facility
- Toxic Release
- Wastewater Discharge
- Hazardous Waste Generator, Transp.
- Enforcement Docket Facility
- Air Release
- Env Qual Review E Designation
- Petroleum Bulk Storage Facility
- Historic Utility Site

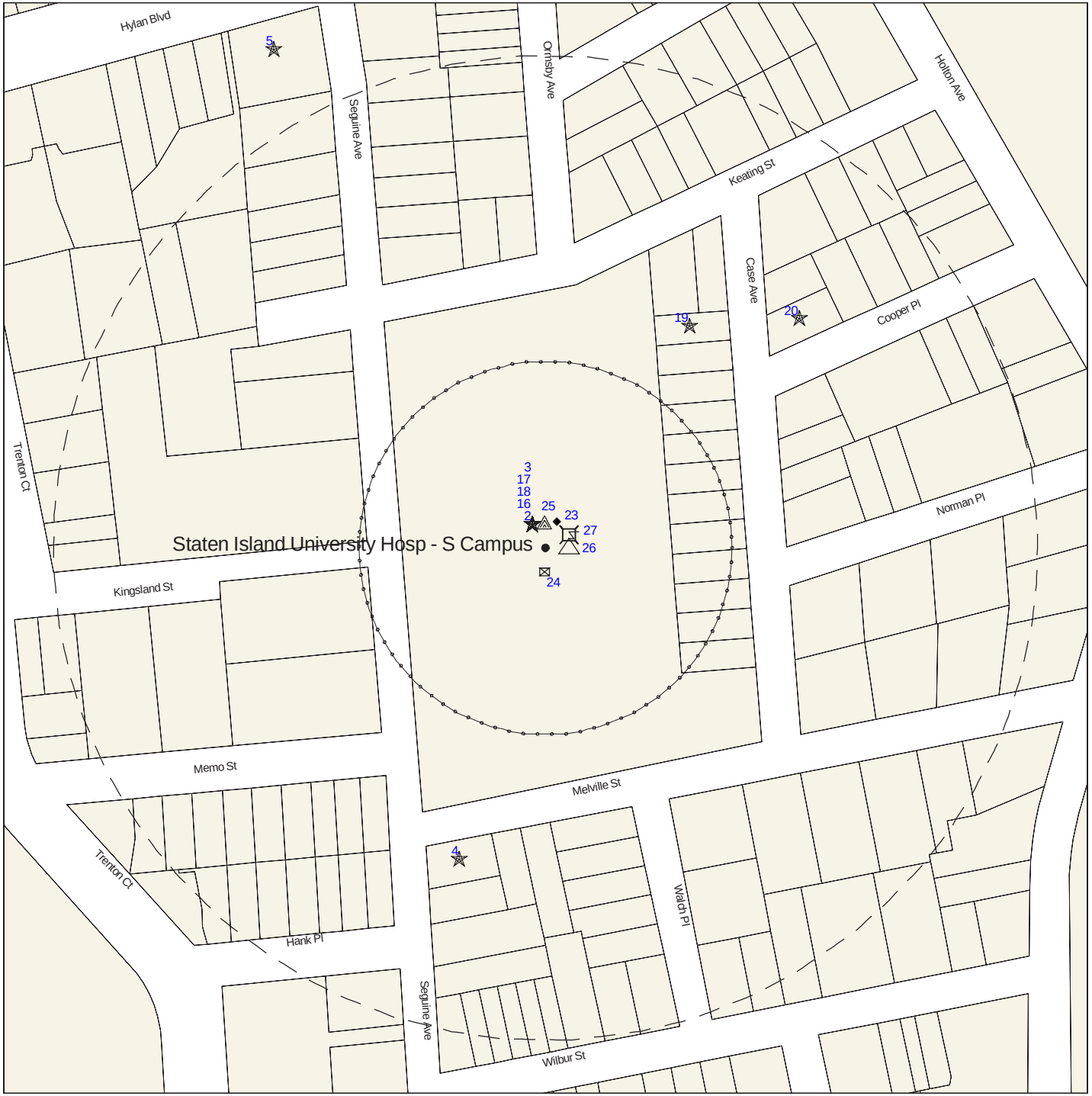
- Site Location
- County Border
- 1/8 Mile Radius
- Waterbody
- Railroad Tracks
- 250 Foot Radius

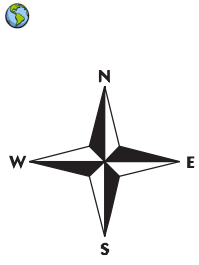
1/8 0 1/16 1/8

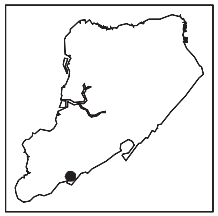
Distance in Miles

Toxics Targeting
1/8 Mile Closeup Map

Staten Island University Hosp - S Campus
Staten Island, NY 10309







Richmond County

- National Priority List (NPL) *
- Delisted NPL Site **
- CERCLIS Superfund Non-NFRAP Site **
- CERCLIS Superfund NFRAP Site **
- Inactive Hazardous Waste Disposal Registry Site *
- Inact. Haz Waste Disp. Registry Qualifying *
- Hazardous Waste Treater, Storer, Disposer **
- RCRA Corrective Action Facility *
- Hazardous Substance Waste Disposal Site **
- Solid Waste Facility **
- Major Oil Storage Facility ****
- Brownfields Site **
- Chemical Storage Facility ****
- Hazardous Material Spill **
- Toxic Release ****
- Wastewater Discharge ****
- Petroleum Bulk Storage Facility ****
- Hazardous Waste Generator, Transp. ****
- Historic Utility Site ****
- Enforcement Docket Facility ****
- Air Release ****
- Env Qual Review E Designation *****
- Remediation Site Borders
- Site Location
- Waterbody
- County Border
- Railroad Tracks
- 1/8 Mile Radius
- 250 Foot Radius

1/8 0 1/16 1/8

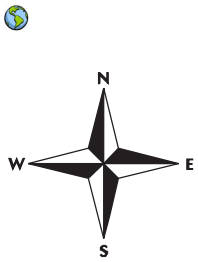
Distance in Miles

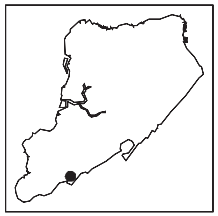
* 1 Mile Search Radius
** 1/2 Mile Search Radius
**** 1/8 Mile Search Radius
***** Onsite Search (250 Ft)

Toxics Targeting
Tax Parcel Map

Staten Island University Hosp - S Campus

Staten Island, NY 10309





Richmond County

- National Priority List (NPL)
- Delisted NPL Site
- CERCLIS Superfund Non-NFRAP Site
- CERCLIS Superfund NFRAP Site
- Inactive Hazardous Waste Disposal Registry Site
- Inact. Haz Waste Disp. Registry Qualifying
- Hazardous Waste Treater, Storer, Disposer
- RCRA Corrective Action Facility
- Hazardous Substance Waste Disposal Site
- Solid Waste Facility
- Major Oil Storage Facility
- Brownfields Site
- Chemical Storage Facility
- Hazardous Material Spill
- Toxic Release
- Wastewater Discharge
- Petroleum Bulk Storage Facility
- Hazardous Waste Generator, Transp.
- Historic Utility Site
- Enforcement Docket Facility
- Air Release
- Env Qual Review E Designation
- Remediation Site Borders
- Site Location
- Waterbody
- County Border
- Railroad Tracks

Tax Parcel Information Table

Staten Island University Hosp – S Campus
Staten Island, NY 10309

Subject Parcel or Parcels

BBL #	Address	Owner	Zoning District(s)	Building Class	# of Buildings	Year Built	Assessment	Lot Area
5−06670−0001	375 SEGUINE AVENUE	STATEN ISLAND UNVRST	R3X	I1	2	1967	21080250	251199

Other Parcels Found On The Tax Parcel Map

BBL #	Address	Owner	Zoning District(s)	Building Class	# of Buildings	Year Built	Assessment	Lot Area
5−06670−0054	42 CASE AVENUE	VALERIE A. BEATON	R3X	A2	1	1955	22532	4000
5−06670−0056	46 CASE AVENUE	PRANIO, FRANCES	R3X	A1	1	1970	26661	4000
5−06670−0062	56 CASE AVENUE	JOHN M. FISCHETTI	R3X	A1	1	1970	26661	4000
5−06694−0201	376 SEGUINE AVENUE	STATEN ISLAND UNVRST	R3X	I4	1	1930	438750	22500
5−06670−0052	38 CASE AVENUE	’FREDERICK D’’ASSUNTA’	R3X	A1	1	1970	27568	4000
5−06670−0050	34 CASE AVENUE	MARTIN L ALTINI	R3X	A2	1	1965	22256	4000
5−06670−0059	48 CASE AVENUE	KLOBUCISTA, URIME	R3X	A1	1	1925	20002	4000
5−06694−0195	392 SEGUINE AVENUE	STATEN ISLAND UNVRST	R3X	I4	1	1930	1185300	22500
5−06670−0047	24 CASE AVENUE	MCINTYRE SEAN	R3X	A1	1	1925	20251	4000
5−06699−0071	342 SEGUINE AVENUE	STATEN ISLAND UNVRST	R3X	O7	1	1930	129150	7611
5−06670−0064	60 CASE AVENUE	TEFIK CAPANI	R3X	A1	1	1970	26661	4000
5−06670−0044	16 CASE AVENUE	COLELLA GIOVANNI V	R3X	B2	1	2003	27060	4000
5−06699−0074	346 SEGUINE AVENUE	STATEN ISLAND UNVRST	R3X	O7	2	1930	88650	14490
5−06699−0078	SEGUINE AVENUE	STATEN ISLAND UNVRST	R3X	G7	0		505350	58500
5−06670−0042	10 CASE AVENUE	AUGUSTINO, MARTINIELL	R3X	B2	1	2003	27060	4000
5−06670−0060	52 CASE AVENUE	SEDDIO, RODOLFO	R3X	B2	1	2009	34302	4000
5−06670−0048	30 CASE AVENUE	RHONDA HILARIO−CAGUIA	R3X	A2	1	1955	22200	4000

Section Two: Toxic Site Profiles

The heading of each *Toxic Site Profile* refers to the site's map location and details:

- The facility name, address, city, state, and zip code.
- Any changes that were made to a site's address in order to map its location.
- The site mapping method that was used (see ***How Sites are Located***, at the end of this section for more information).

Toxic Site Profiles summarize information provided by site owners or operators and government agencies regarding various toxic chemical activities reported at each site, such as:

- Whether chemicals were stored, produced, transported, discharged or disposed of.
- The name of chemicals and their Chemical Abstract Series (CAS) numbers.
- The amount of chemicals and the units (gallons/pounds) the chemical was measured in.
- Whether the site or storage tanks at the site are currently active or inactive.
- Special codes used by government agencies to regulate hazardous waste activities at some sites, or a complete description of the codes follows the profiles section.

For selected individual chemicals reported at various toxic sites, some potential health effect summary information appears below the site profile. Each potential health effect summary identifies chemicals by name and by Chemical Abstract Series (CAS) Number. An "x" under each potential health effect heading indicates positive toxicity testing results reported by the National Institute of Occupational Safety and Health's Registry of Toxic Effects of Chemical Substances (RTECS). Some chemicals (mostly appearing in profiles of Hazardous Waste facilities), are reported as mixtures, and RTECS health effect information is only available for individual chemicals. In addition, RTECS only provides information on approximately 100,000 common chemicals. Consequently, the absence of potential health effect summary information for a particular chemical identified in a Toxic Site Profile does not necessarily mean that the chemical does not pose potential health effects.

The Maximum Contaminant Level (MCL) in drinking water allowed for selected chemicals is also noted. In most cases, the only applicable MCL has been set by the New York State Department of Health (NYSDOH). Where NYSDOH has not set an MCL, the federal standard, if one exists, is listed and is marked by an asterisk.

Presented below are column headings that describe the health effect definitions used in RTECS and applicable New York State and federal drinking water standards. Reference sources for information presented in this section are also provided.

ACUTE TOX: **Acute Toxicity**: Short-term exposure to this chemical can cause lethal and non-lethal toxicity effects not included in the following four categories.

TUMOR TOX: **Tumorigenic Toxicity**: The chemical can cause an increase in the incidence of tumors.

MUTAG TOX: **Mutagenic Toxicity**: The chemical can cause genetic alterations that are passed from one generation to the next.

REPRO TOX: **Reproductive Toxicity**: May signify one of the following effects: maternal effects, paternal effects, effects on fertility, effects on the embryo or fetus, specific developmental abnormalities, tumorigenic effects, or effects on the newborn (only positive reproductive effects data for mammalian species are referenced).

IRRIT TOX: **Primary Irritant**: The chemical can cause eye or skin irritation.

MCL: **Drinking Water Standard - Maximum Contaminant Level** (MCL) listed under Drinking Water Supplies, 10 NYCRR Part 5, Subparts 1.51(f),(g), and (h) for NYDOH MCL's and under the Safe Drinking Water Act, 40 CFR 141, Subparts B and G, (* indicates value for total trihalomethanes) for federal MCL's.

Reference Source for Toxicity Information: Registry of Toxic Effects of Chemical Substances (RTECS), NIOSH (on-line database); For further information, contact: NIOSH, 4676 Columbia Parkway, Cincinnati, OH, 45226, 800/35-NIOSH.

Reference Source for Drinking Water Standards: New York State Department of Health, Bureau of Toxic Substances Assessment, 2 University Place, Room 240, Albany, NY 12203, 518/458-6373.

U.S. Environmental Protection Agency, Office of Drinking Water, 401 M St SW, Mailstop WH-556, Washington, DC, 20460, 202/260-5700.

Inactive Hazardous Waste Disposal Site Classifications:

1 -- Causing or presenting an imminent danger of causing irreversible or irreparable damage to the public health or the environment -- immediate action required;
2 -- Significant threat to the public health or environment -- action required;
3 -- Does not Present a significant threat to the environment or public health -- action may be deferred;
4 -- Site properly closed --requires continued management;
5 -- Site properly closed, no evidence of present or potential adverse impact -- no further action required;
2a -- This temporary classification has been assigned to sites where there is inadequate data to assign them to the five classifications specified by law;
A -- Work underway and not yet complete;
P -- Potential Site;
$D_{1, 2, 3}$ -- Delisted Site (1: hazardous waste not found; 2: remediated; 3: consolidated site or site incorrectly listed);
C -- Remediation Complete (formerly D2).

NO NATIONAL PRIORITIES LIST (NPL) SITES IDENTIFIED WITHIN 1 MILE SEARCH RADIUS

INACTIVE HAZ WASTE DISPOSAL REGISTRY OR REGISTRY−QUALIFYING SITES IDENTIFIED WITHIN 1 MILE SEARCH RADIUS

PLEASE NOTE: * Compass directions can vary substantially for sites located very close to the subject property address.

Map Identification Number 1 **ALLIED PRINCE'S BAY** **Facility Id: 243014**
SEGUINE AVENUE & JOHNSTON TERRACE STATEN ISLAND, NY 10309 TT−Id: 120A−0003−146

MAP LOCATION INFORMATION
Site location mapped by: MAP COORDINATE − LARGE SITE
Approximate distance from property: 2120 feet to the S

ADDRESS CHANGE INFORMATION
Revised street: SEGUINE AVENUE / JOHNSTON TERRACE
Revised zip code: NO CHANGE

****

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
INACTIVE HAZARDOUS WASTE DISPOSAL SITE INFORMATION

SITE CODE: 243014
CLASSIFICATION CODE: C REGION: 2 DEC ID: 55935
CLASSIFICATION CODE DESCRIPTION:
Remediation Complete (formerly D2). Sites may still require some degree of site management associated with either operation, maintenance, and monitoring or with institutional/engineering controls (IC/ECs).

NAME OF SITE: Allied Prince's Bay
STREET ADDRESS: Seguine Avenue & Johnston Terrace TOWN: New York City
CITY: Staten Island ZIP: 10309 COUNTY: Richmond

ESTIMATED SIZE: 23 Acres
SITE TYPE: Dump- Structure- Lagoon- Landfill-X Treatment Pond-

INSTITUTIONAL/ENGINEERING CONTROLS:
None reported

CROSS REFERENCES:
None reported

SITE OWNER/OPERATOR/REPOSITORY INFORMATION:
CURRENT OWNER(S):
NAME: Muss Development Co. Owner Type: Corporate or Commercial
ADDRESS: 118-35 QUEENS BOULEVARD
FOREST HILLS, NY 11375

OWNER(S) DURING DISPOSAL:
NAME: S.S. WHITE MANUFACTURING COMPANY
ADDRESS:

OPERATOR(S) DURING DISPOSAL:
NAME: S.S. White Manufacturing Co. Operator Type: Corporate or Commercial
ADDRESS:

HAZARDOUS WASTE DISPOSAL PERIOD: from 1854 to 1971

SITE DESCRIPTION:
This site is located in southeastern Staten Island on Sequine Point and is surrounded on the southeast by Raritan Bay and on the southwest by Prince's Bay. The site is bounded by Sequine Avenue, Johnston Terrace, and Holton Avenue. In 1854 this location became the Palm Oil Processing Plant. Over its history it was used as a drainpipe manufacturing plant and later a dental supply manufacturer. During the latter period, nitrous oxide (laughing gas), engines, compressors, syringes, gold solders, and dental filling materials were produced on-site. By the 1940s, molded plastic products were also produced. The marsh and creek north of the factory complex were used for dumping the wastes and debris from the plastic moldings. The present owners, Muss Development Corporation, converted the buildings in 1970 into a shopping complex that was active until 1983. Sampling indicated the presence of PCBs and heavy metals in the sediment of Lemon Creek. A Remedial Investigation / Feasibility Study (RI/FS) to characterize the site's contamination has been completed. The Record of Decision (ROD) calls for the division of the site into two Operable Units (OUs) and delisting a portion of the property. All hazardous and contaminated soils from units 1 and 2 have been excavated and transported off-site for proper disposal. The construction of the new Lemon Creek stream has been completed. A total of 3,200 tons of contaminated soils were excavated and transported off site for disposal. Old Lemon Creek was excavated and backfilled with clean soil. The grade of the entire property has been raised by more than four feet with clean soils. Revetment has been constructed along the Prince's Bay side. OM&M has been completed and the Site has been removed from the Registry of Inactive Hazardous Waste Sites.

The property is being redeveloped for luxury homes.

CONFIRMED HAZARDOUS WASTE DISPOSED:

TYPE	QUANTITY
LEAD	UNKNOWN
PCBS	UNKNOWN
POLYNUCLEAR AROMATIC HYDROCARBONS	UNKNOWN
VOLATILE ORGANIC CHEMICALS	UNKNOWN
POLYCHLORINATED BIPHENYLS (PCB)	UNKNOWN

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:
There are no environmental problems associated with waste remaining at this site. Institutional controls are in place to prevent any potential health and safety problems resulting from any future excavations.

Developer has started construction of luxury homes.

ASSESSMENT OF HEALTH PROBLEMS:
Removal of PCBs, polynuclear aromatic hydrocarbons (PAHs) and volatile organic compound (VOCs) contaminated soil hot spots have been completed. Residual soil contamination was covered with clean fill, reducing the potential for direct contact exposure to contaminants in soils. The homes in the area are served by public water.

PROJECT COMPLETIONS:

Operable Unit 00 - Site Management

PROJECT	DESCRIPTION	END DATE	STATUS
Site Management		07/26/2004	Actual

Operable Unit 01 - REMEDIAL PROGRAM

PROJECT	DESCRIPTION	END DATE	STATUS
Site Characterization		12/31/1988	Actual
Remedial Investigation		03/01/1997	Actual
Remedial Design		12/01/1997	Actual
Remedial Action		08/30/2000	Actual

Operable Unit 02 - REM PRG-SOUTH UNIT

PROJECT	DESCRIPTION	END DATE	STATUS
Remedial Investigation		03/01/1997	Actual
Remedial Design		10/01/1997	Actual
Remedial Action		03/01/1998	Actual

The New York State Department of Environmental Conservation has not publicly updated the following fields since 2003:

ANALYTICAL DATA AVAILABLE FOR:	Air-	Surface Water-	Groundwater-	Soil-	Sediment-
APPLICABLE STANDARDS EXCEEDED IN:	Groundwater-	Drinking Water-	Surface Water-	Air-	

GEOTECHNICAL INFORMATION:
SOIL/ROCK TYPE:
GROUNDWATER DEPTH:

LEGAL ACTION:	Type:		State-	Federal-
STATUS:	Negotiation in Progress-		Order Signed-	
REMEDIAL ACTION:	Proposed-	Under Design-	In Progress-	Completed-
NATURE OF ACTION:				

NO RCRA CORRECTIVE ACTION SITES IDENTIFIED WITHIN 1 MILE SEARCH RADIUS

NO CERCLIS SUPERFUND SITES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS

NO BROWNFIELDS SITES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS

NO SOLID WASTE FACILITIES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS

NO HAZARDOUS WASTE TREATMENT/STORAGE/DISPOSERS IDENTIFIED WITHIN THE 1/2 MILE SEARCH RADIUS

HAZARDOUS MATERIAL SPILLS INTRODUCTION

The Hazardous Material Spills in this section are divided into eight spill cause groupings. These include:

Active Spills Section: Spills with incomplete paperwork that may or may not be cleaned up (See Date Cleanup Ceased)

1) Tank Failures
2) Tank Test Failures
3) Unknown Spill Cause or Other Spill Cause Hazardous Spills
4) Miscellanous Spill Causes: Equipment Failure, Human Error, Tank Overfill, Deliberate Spill, Traffic Accidents, Housekeeping, Abandoned Drum, Vandalism and Storms.

Closed Status Spills Section: Spills with completed paperwork that may or may not be cleaned up (See Date Cleanup Ceased)

5) Tank Failures
6) Tank Test Failures
7) Unknown Spill Cause or Other Spill Cause Hazardous Spills
8) Miscellanous Spill Causes: Equipment Failure, Human Error, Tank Overfill, Deliberate Spill, Traffic Accidents, Housekeeping, Abandoned Drum, Vandalism and Storms.

All spills within each spill cause category are presented in order of proximity to the subject site address.

Please note that spills reported within 0.25 mile (or one−eighth mile in New York City) are mapped and profiled.

Between 0.25 mile (or one−eighth mile in New York City) and 0.5 mile, only the following spills are mapped and profiled:

* Tank Failures;

* Tank Test Failures;

* Unknown Spill Cause or Other Spill Cause;

* Spills greater than 100 units of quantity; and

* Spills reported in the NYSDEC Fall 1998 MTBE Survey.

A table at the end of each section presents a listing of reported Miscellanous Spills with less than 100 units located between 0.25 mile (or one−eighth mile in Manhattan) and 0.5 mile. These spills are neither mapped nor profiled.

NO ACTIVE TANK FAILURES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS

NO ACTIVE TANK TEST FAILURES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS

NO ACTIVE UNKNOWN CAUSE SPILLS AND OTHER CAUSE SPILLS IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS

NO ACTIVE HAZARDOUS SPILLS − MISC. SPILL CAUSES − EQUIPMENT FAILURE, HUMAN ERROR, TANK OVERFILL, DELIBERATE SPILL, TRAFFIC ACCIDENT, HOUSEKEEPING, ABANDONED DRUM, VANDALISM AND STORMS − IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS.
All spills mapped and profiled within 1/8 mile. Between 1/8 mile and 1/2 mile search radius, spills reported to be greater than 100 units and spills reported in the NYSDEC Fall 1998 MTBE Survey are mapped and profiled. Spills reported to be less than 100 units are listed in a table at the end of this section.

THE FOLLOWING ACTIVE SPILLS FOR THIS CATEGORY WERE REPORTED BETWEEN 1/8 MILE AND 1/2 MILE SEARCH RADIUS FROM THE SUBJECT ADDRESS. THESE SPILLS WERE REPORTED TO BE LESS THAN 100 UNITS IN QUANTITY AND CAUSED BY: EQUIPMENT FAILURE, HUMAN ERROR, TANK OVERFILL, DELIBERATE SPILL, TRAFFIC ACCIDENT, HOUSEKEEPING, ABANDONED DRUM, VANDALISM, OR STORMS. THESE SPILLS ARE NEITHER MAPPED NOR PROFILED IN THIS REPORT.

FACILITY ID	FACILITY NAME	STREET	CITY

No dropped spills found for this category

NO CLOSED STATUS TANK FAILURES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS

NO CLOSED STATUS TANK TEST FAILURES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS

CLOSED STATUS UNKNOWN CAUSE SPILLS AND OTHER CAUSE SPILLS IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS

PLEASE NOTE: * Compass directions can vary substantially for sites located very close to the subject property address.

Map Identification Number 2 **375 SEGUINE AVE/S.I.** **Spill Number: 9104367** **Close Date: 07/29/1991**
375 SEGUINE AVENUE NEW YORK CITY, NY TT−Id: 520A−0144−365

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (1)
Approximate distance from property: 0 feet

ADDRESS CHANGE INFORMATION
Revised street: NO CHANGE
Revised zip code: 10309

Source of Spill: INSTITUTIONAL, EDUC, GOV, OTHER Spiller: RICHMOND HOSPITAL Spiller Phone: (718) 226−2034
Notifier Type: Responsible Party Notifier Name: Notifier Phone:
Caller Name: DOUG FORD Caller Agency: RICHMOND HOSPITAL Caller Phone: (718) 226−2000
DEC Investigator: MCTIBBE Contact for more spill info: Contact Person Phone:

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
07/23/1991	07/29/1991	OTHER	UNKNOWN	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
RAW SEWAGE	OTHER	−1.00	UNKNOWN	0.00	UNKNOWN	SURFACE WATER

Caller Remarks:

CON ED POWER FAILURE,40K GAL/DAY OF RAW SEWAGE RELEASED,CHLORINATING DISCHARGE.

DEC Investigator Remarks:

Prior to Sept, 2004 data translation this spill Lead_DEC Field was "TIBBE"

Map Identification Number 3 **RICHMOND MEMORIAL HOSP/SI** **Spill Number: 9012079** **Close Date: 02/27/2003**
RICHMOND MEMORIAL HOSPITA NEW YORK CITY, NY TT−Id: 520A−0144−363

MAP LOCATION INFORMATION
Site location mapped by: MANUAL MAPPING (3)
Approximate distance from property: 0 feet

ADDRESS CHANGE INFORMATION
Revised street: RICHMOND MEMORIAL HOSPITAL
Revised zip code: 10309

Source of Spill:	UNKNOWN	Spiller:	UNKNOWN	Spiller Phone:	
Notifier Type:	Other	Notifier Name:		Notifier Phone:	
Caller Name:		Caller Agency:		Caller Phone:	
DEC Investigator:	TOMASELLO	Contact for more spill info:		Contact Person Phone:	

Category: Known petroleum or hazardous material release with minimal potential for fire/explosion (indoors or outdoors), drinking water contamination, or releases to surface waters.
Class: Unknown RP − DEC Field Response − DEC Corrective Action Required

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
02/19/1991		UNKNOWN	NO	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
UNKNOWN PETROLEUM	PETROLEUM	1000	GALLONS	0	GALLONS	SOIL

Caller Remarks: NO REMARKS GIVEN FOR THIS SPILL

DEC Investigator Remarks: NO DEC INVESTIGATOR REMARKS GIVEN FOR THIS SPILL.

Map Identification Number 4 **AERIAL XFMR LEAKING LESS THAN ONE** **Spill Number: 0705105** **Close Date: 09/20/2007**
IN FRONT OF 425 SEQUINE AVENUE STATEN ISLAND, NY TT−Id: 520A−0144−838
PINT OIL FROM POLE 27608

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (1)
Approximate distance from property: 429 feet to the SSW

ADDRESS CHANGE INFORMATION
Revised street: 425 SEGUINE AVE
Revised zip code: 10309

Source of Spill:	COMMERCIAL/INDUSTRIAL	Spiller:	CON EDISON	Spiller Phone:	
Notifier Type:	Responsible Party	Notifier Name:		Notifier Phone:	
Caller Name:		Caller Agency:		Caller Phone:	
DEC Investigator:	gdbreen	Contact for more spill info:	ERTSDESK	Contact Person Phone:	(212) 580−8383

Category: Known petroleum or hazardous material release with minimal potential for fire/explosion (indoors or outdoors), drinking water contamination, or releases to surface waters.
Class: Willing RP − No DEC Field Response − Corrective Action Initiated or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
08/03/2007		OTHER	NO	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
TRANSFORMER OIL	PETROLEUM	1.00	GALLONS	0.00	GALLONS	SOIL

Caller Remarks:

3/4 of pint spilled on land. 4’x4’ area.
Ref.# 207377

DEC Investigator Remarks:

09/20/07 − See eDocs for Con Ed report detailing cleanup and closure.

207377. see eDocs

Map Identification Number 5 **5770 HYLAN BLVD** **Spill Number: 9811679** **Close Date: 12/10/2013**
5770 HYLAN BLVD STATEN ISLAND, NY TT−Id: 520A−0144−368

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (3)
Approximate distance from property: 764 feet to the NNW

ADDRESS CHANGE INFORMATION
Revised street: NO CHANGE
Revised zip code: NO CHANGE

Source of Spill:	GASOLINE STATION OR PBS FACILITY	Spiller:	MIKE PICCOLO − TRANS AUTO SERVICE	Spiller Phone:	(718) 984−0594
Notifier Type:	Other	Notifier Name:	MARK TUROFF .	Notifier Phone:	(718) 761−4334
Caller Name:	MARK TUROFF	Caller Agency:	PET. TECH INC	Caller Phone:	(718) 761−4334
DEC Investigator:	aaobliga	Contact for more spill info:		Contact Person Phone:	

Category: Known or probable release, where, without action, there is a potential for a fire/explosion hazard (indoors or outdoors), contamination of drinking water supplies, or significant release to surface waters.

Class: Willing RP − DEC Field Response − Corrective Action Initiated, Taken Over, or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
12/16/1998		UNKNOWN	NO	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
GASOLINE	PETROLEUM	0	GALLONS	0	GALLONS	SOIL

Caller Remarks:

tanks being removed tanks showed no signs of holes but contaminated soil has been found soil being stock pile on site

DEC Investigator Remarks:

Prior to Sept, 2004 data translation this spill Lead_DEC Field was "VOUGHT"
FORMER GETTY/POWERTEST.

04/12/04

TRANSFERRED FROM TIBBE TO VOUGHT.

9/21/05 − Transferred from Vought to Obligado

1/9/06 − Obligado − Review Site Investigation Report UST Discharge. Submitted by Precision Environmental and remediation services, inc, June 1999. Soil and GW investigation, USTs and tanks have been previously removed. Soil is fine grained sand with clay and silt lenses. Water table at 9.5 to 11 ft. At time of tank removal adischarge was discovered and some soil was excavated but no soil was sampled. Precision did 5 geoprobe borings.

Soil results in ppb:
B−1 − 5300 ethlybenzene, 2330 xylene

GW results in ppb:
WP−1 − 7000 benzene, 11000 ethlybenzene, 12000 xylene, 7400 MTBE (former UST Excavation)
WP−2 − 680 benzene, 750 ethylbenzene, 815 xylenes, 650 MTBE (30 ft "down gradient" from WP1)

Recomendations: 1) Soil recommended to be removed on western side of excavation. 2)Monitoring wells should be installed. Minimum of three. 3) Perform a receptor survey down gradient.

Report was prepared for:
Petroleum Technology, Inc.
80 Richmond Hill Road, Suite 1C
Staten Island, NY 10374

From GIS areal photos, site was being rebuilt during 2001, as of 2004 site is completely rebuilt. There is a commercial building in the location of the former UST area. From PBS 2−482528, 12 550 tanks closed and removed in 98.

From GIS:
Current Resident:
5570 HYLAN LLC
5770 HYLAN BOULEVARD
STATEN ISLAND NY, 10309

1/13/06 − Obligado − From "property shark" website, current owner is:
Phil Mancuso
5570 Hylan, LLC
President
2351 Hylan Blvd
SI, NY 10306
Sent do work letter to Mancuso at above address with requirements to install wells to delineate soil and gw contamination. Due date is March 10, 2006.

1/31/07 − Obligado attempted again to contact property owner. Unable to find a phone number for 5570 LLC. Tried sending the letter again, but this time I sent it to the actual spill site at 5770 Hylan Blvd.

2/5/07 − Obligado − Received delivery confirmation that the letter was received by Rita Pirrone on 2/5/07.

4/17/07 − Obligado − Called Richmond Savings Bank (718) 605−1397 to inquire if letter was received and forwarded to owner. I left message to call the DEC. I was told Rita Pirrone would call me back tomorrow.

4/18/07 − Obligado − Received call from Rita Pirrone. She does not know who owns the property but she will forward the issue to someone in "front office" who might know and he/she will call me directly.

4/18/07 − Obligado − Received a phone call from Anthony Santo. He is the site owner is contact information is

Anthony Santo
201 Edward Curry Ave
Staten Island, NY 10314
718−983−7777

We discussed the site. I told him that according to my file ground water was contaminated at the site and additional work was needed. He said he took care of this problem back in 1999. He had a report by Sefron company documenting the remediation. I asked him to send me that report and I would review it but additional work might be still be needed.

5/11/07 − Obligado − Received voice mail from Anthony Santo. He inquired if I had received report.

5/14/07 − Obligado − Called back Mr. Santo. I told him I haven't received the report yet. he said he will resend via FEDEX.

5/21/07 − Obligado − Reviewed Site Investigation Report, prepared by Cifron Environmental Services, received by the Department on May 15, 2007. A cover letter dated May 14, 2007 attached to the Report states that no further action was required back in 1999. I revied the file and I did not find any NFA letter in file. I also spoke to previous case manager Mark Tibbe, who said he never granted NFA due to high gw concentrations and no ground water flow direction. The report documents the additional excavation of 296 tons of soil. Waste manifests included. Endpoint soil samples had minor concentrations of VOCs slightly exceed Allowable Soil Concentrations. 2 gw probes collected down gradient of tankfield (west) were ND for VOCs. However, no data included to support ground water flow direction. Samples appear to be collected about 30 ft west of impacted gw sample Precision's WP1 (7700 benzene). Due to no determination of ground water flow direction, sent letter requiring installation of 1 gw well at location WP1, and 3 surrounding monitoring wells to delineate gw contamination and to establish flow direction. Required soil and ground water sampling for VOCs by EPA method 8260. Required report be submitted within 90 days. Called Santo to discuss. Left message to call back the DEC. Faxed copy of letter to Santo.

Contact Information from report Cover Letter:
5770 Hylan LLC
201 Edward Curry Avenue − Suite 203
Staten Island, NY 10314
Telephone (718) 983−6140
Fax (718) 983−7779

5/22/07 − Obligado − Received call back from A. Santo. He said he received the fax and he was would do the work.

6/18/07 − Obligado − Received phone call from Mr. Anthony Soricelli (845−567−6530 x 115) from Kleinfelder, consultant working for Mr. Santo. He said he put in a foil request for the file.

9/10/07 − Obligado − Received Investigation Workplan. Proposes 4 borings to be converted into monitoring wells. Called Eric Chastain at 845−567−6530 to disucss. Moved one location to the northwest corner of the site. I approved the plan and sent him an approval email with the modified boring location.

11/1/07 − Obligado − Review Investigation Summary report, submitted by Kleinfelder, dated October 9, 2007. 4 Monitoring wells were installed as per approved workplan. One soil sample and one ground water sample was collected from each well. Maximum contamination found as expected in MW2 (4108 ppb BTEX) the location of the former USTs and dispensers. No impacts were detected in MW1. MW3 and MW4 had low levels of BTEX − 24.5 ppb and 39 ppb respectively. Max MTBE only 13.6 ppb. GW flow direction shown to be to the west towards MW1. The report recommends 2 quarters of monitoring to monitor the mobility of the dissolved plume. A sensitive receptor survey was included in the report. The sensitive receptors include utility vaults on and ajacent to the site, and residential and commercial properties with basements. No private, municipal, or surface waters within 300 meters, closest

well is 1,207 meters south−southeast of the site. Sent letter approving of the recommendation to continue monitoring dissolved phase plume. Require submission of Site Update Report by 4/31/07.

4/7/08 − Obligado − Received extension request. Request 30 day extension to complete the report by 5/31/07. Sent email approval of extension request.

6/5/08 − Obligado − Review Site Status Update Report. There is an overal decreasing trend. Over 3 quarters, MW2 decreased from 4108 ug/L BTEX to 28 ug/L BTEX. MW1 not sampled because it was dry. MW3 adn MW4 ND. Require continued monitoring to ensure decreasing trend and not just seasonal variation. Sent email to Rahul Verma stating same.

5/20/09 − Obligado − Called Eric Chastain. Left message inquiring about the quarterly monitoring. Spoke to Eric shortly after. He will submit a quarterly report 6/30/09. The 4th Quarter data was not collected due to non−payment. I asked him to include hydrographs to show seasonal fluctuations.

9/2/09 − Obligado − Reviewed report. All wells were ND during the last sampling event, requests closure after 5 sampling events. As per DER−10 guidance, 8 quarters of sampling required. Sent letter to Mr. Santo rejecting closure and requiring 3 additional quarters. Aslo required sampling for full STARS list VOCs.

4/7/11− Obligado − I emailed Eric Chastain to inquire about the status of the monitoring.

1/6/12 − Obligado − Sent a letter to Mr. Santos requiring sampling within 30 days or case will be refereed for enforcement. Certified mail receipt #7010 0290 0000 9758 2639

1/11/12 − Obligado − I received a phone call from Mr. Santos. He said he though the matter was closed. He said he will contact Kleinfelder and do the additonal work.

12/10/13 − Obligado − I re−reviewed the spill closure request in light of recent spill closure guidance provided to R2 from Central Office. This spill is closed due to:

1) All USTs removed
2) Site has been redeveloped into a bank (no sensitive receptors on−site). Additional remediation not feasible as former source area is covered by bank drive through.
3) Groundwater contamination has been completely delineated via determination of groundwater flow direction and installation of a monitoring well network.
4) All Groundwater samples below standards during the last sampling round
5) All soil samples met soil cleanup objectives.
6) No migration of contamination off−site likely.

10−8−14 − Obligado − I received a call from Rob Fergussen. All the wells have been abandoned.

Map Identification Number 6 **POLE** **Spill Number: 0913258** **Close Date: 04/27/2010**
8 MARCHER PLACE STATEN ISLAND, NY TT−Id: 520A−0239−362

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (4)
Approximate distance from property: 1034 feet to the S

ADDRESS CHANGE INFORMATION
Revised street: 8 MARSCHER PL
Revised zip code: 10309

Source of Spill: COMMERCIAL/INDUSTRIAL
Notifier Type: Other
Caller Name:
DEC Investigator: Con Ed Unassigned
Spiller:
Notifier Name:
Caller Agency:
Contact for more spill info: ERT
Spiller Phone:
Notifier Phone:
Caller Phone:
Contact Person Phone: (212) 580−8383

Category: Known petroleum or hazardous material release with minimal potential for fire/explosion (indoors or outdoors), drinking water contamination, or releases to surface waters.
Class: Willing RP − No DEC Field Response − Corrective Action Initiated or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
03/17/2010		OTHER	NO	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
DIELECTRIC FLUID	PETROLEUM	0.13	UNKNOWN	0.00	UNKNOWN	

Caller Remarks:

ONTO ASPHALT.CLEAN UP PENDING

DEC Investigator Remarks:

04/27/10 − See eDocs for Con Ed report detailing cleanup and closure.

220664

Map Identification Number 7 **SEJUINE ST & MARSIER ST** **Spill Number: 9308712** **Close Date: 04/14/2003**
SEJUINE ST / MARSIER ST STATEN ISLAND, NY TT−Id: 520A−0142−509

MAP LOCATION INFORMATION
Site location mapped by: ADDRESS MATCHING
Approximate distance from property: 1042 feet to the S

ADDRESS CHANGE INFORMATION
Revised street: SEGUINE AVE / MARSCHER PL
Revised zip code: 10309

Source of Spill:	UNKNOWN	Spiller:	CITY DEP	Spiller Phone:	
Notifier Type:	Citizen	Notifier Name:		Notifier Phone:	
Caller Name:	RICHARD RYAN	Caller Agency:	SI, SOUTHSIDE HOSPITAL	Caller Phone:	(718) 317−6469
DEC Investigator:	MCTIBBE	Contact for more spill info:		Contact Person Phone:	

Category: Known petroleum or hazardous material release with minimal potential for fire/explosion (indoors or outdoors), drinking water contamination, or releases to surface waters.
Class: Willing RP − DEC Field Response − Corrective Action Initiated, Taken Over, or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
10/18/1993		UNKNOWN	NO	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
UNKNOWN PETROLEUM	PETROLEUM	0	POUNDS	0	POUNDS	SOIL

Caller Remarks:

NOTICIED SEWAGE COMING UP FROM MANHOLE. CITY REPAIRED PIPE 10/18/93. DEP NOTIFIED. SEWER DEPT NOTIFIED. REFER TO SPEDES.

DEC Investigator Remarks:

Prior to Sept, 2004 data translation this spill Lead_DEC Field was "TIBBE"
handled by NYCDEP.

Map Identification Number 8 **LEMON CREEK** **Spill Number: 8603527** **Close Date: 08/28/1986**
LEMON CREEK STATEN ISLAND, NY TT−Id: 520A−0144−373

MAP LOCATION INFORMATION
Site location mapped by: MANUAL MAPPING − LARGE SITE
Approximate distance from property: 1278 feet to the SW

ADDRESS CHANGE INFORMATION
Revised street: NO CHANGE
Revised zip code: 10309

Source of Spill:	UNKNOWN	Spiller:	UNK	Spiller Phone:	
Notifier Type:	Citizen	Notifier Name:		Notifier Phone:	
Caller Name:		Caller Agency:		Caller Phone:	
DEC Investigator:	UNASSIGNED	Contact for more spill info:		Contact Person Phone:	

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
08/27/1986	08/28/1986	UNKNOWN	UNKNOWN	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
UNKNOWN PETROLEUM	PETROLEUM	0	GALLONS	0	GALLONS	SURFACE WATER
NONENE	OTHER	0	UNKNOWN	0	UNKNOWN	SURFACE WATER

Caller Remarks:

GREEN COLOR REPORTED IN LEMON CREEK. NO APPARENT SOURCE,DISSIPATED BY THE TIME DEC ARRIVED. POSSIBLE ALGAL BLOOM. SPECIES EUTREPTIELLA SP

DEC Investigator Remarks:

Prior to Sept, 2004 data translation this spill Lead_DEC Field was " "

Map Identification Number 9 **S.I. UNIVERSITY HOSPITAL** **Spill Number: 9405710** **Close Date: 07/27/1994**
522 SEGUINE AVE STATEN ISLAND, NY TT−Id: 520A−0144−375

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (5)
Approximate distance from property: 1454 feet to the S

ADDRESS CHANGE INFORMATION
Revised street: NO CHANGE
Revised zip code: NO CHANGE

Source of Spill: UNKNOWN Spiller: UNKNOWN Spiller Phone:
Notifier Type: Affected Persons Notifier Name: Notifier Phone:
Caller Name: MIKE MASCHER Caller Agency: S.I. UNIVERSITY HOSPITAL Caller Phone: (718) 317−6469
DEC Investigator: KSTANG Contact for more spill info: Contact Person Phone:

Category: Possible petroleum release with minimal potential for fire/explosion (indoors or outdoors), drinking water contamination, or releases to surface waters, known releases with no potential for damage, or non−petroleum/non−hazardous spills.
Class: Willing RP − No DEC Field Response − Corrective Action Initiated or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
07/27/1994	07/27/1994	UNKNOWN	UNKNOWN	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
UNKNOWN PETROLEUM	PETROLEUM	−1.00	UNKNOWN	0.00	UNKNOWN	SEWER

Caller Remarks:

CONTRACTORS WILL PUMP FROM ONE MANHOLE TO ANOTHER.

DEC Investigator Remarks:

Prior to Sept, 2004 data translation this spill Lead_DEC Field was "TANG"
10/10/95: This is additional information about material spilled from the translation of the old spill file: SEWER LINE CLOGGED.

Map Identification Number 10 **522 SEGUINIE AVENUE** **Spill Number: 9311902** **Close Date: 11/22/2006**
522 SEGUINIE AVENUE STATEN ISLAND, NY TT−Id: 520A−0144−376

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (5)
Approximate distance from property: 1454 feet to the S

ADDRESS CHANGE INFORMATION
Revised street: 522 SEGUINE AVENUE
Revised zip code: 10309

Source of Spill: INSTITUTIONAL, EDUC, GOV, OTHER Spiller: SAME Spiller Phone:
Notifier Type: Responsible Party Notifier Name: Notifier Phone:
Caller Name: MIKE MASCHER Caller Agency: STATEN ISLAND UNIV. HOSP. Caller Phone: (718) 317−6469
DEC Investigator: DATROMP Contact for more spill info: Contact Person Phone:

Category: Known petroleum or hazardous material release with minimal potential for fire/explosion (indoors or outdoors), drinking water contamination, or releases to surface waters.
Class: Willing RP − DEC Field Response − Corrective Action Initiated, Taken Over, or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
01/08/1994		OTHER	NO	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
UNKNOWN PETROLEUM	PETROLEUM	500.00	GALLONS	0.00	GALLONS	SURFACE WATER

Caller Remarks:

HOSPITAL LOST POWER CAUSING WET WELL PUMPS TO SHUT OFF CAUSING OVERFLOW − PUMPING EXTENSION TANK.

DEC Investigator Remarks:

Prior to Sept, 2004 data translation this spill Lead_DEC Field was "M TIBBE"

10/27/06 − Spoke to John Smith (718) 226−2032. He talked to a coworker that the spill was contained and remediated during that time. Spoke to Paul Rhodes (718) 226−9079 about this spill and files on the spill.

Map Identification Number 11 **522 SEGUINE AVE** **Spill Number: 9202486** **Close Date: 03/07/2003**
522 SEGUINE AVE STATEN ISLAND, NY TT−Id: 520A−0144−377

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (5)
Approximate distance from property: 1454 feet to the S

ADDRESS CHANGE INFORMATION
Revised street: NO CHANGE
Revised zip code: NO CHANGE

Source of Spill:	UNKNOWN	Spiller:		Spiller Phone:	
Notifier Type:	Affected Persons	Notifier Name:		Notifier Phone:	
Caller Name:	B VITOLO	Caller Agency:	SIU	Caller Phone:	(718) 226−2030
DEC Investigator:	KSTANG	Contact for more spill info:		Contact Person Phone:	

Category: Known petroleum or hazardous material release with minimal potential for fire/explosion (indoors or outdoors), drinking water contamination, or releases to surface waters.
Class: Willing RP − DEC Field Response − Corrective Action Initiated, Taken Over, or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
06/01/1992		UNKNOWN	NO	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
UNKNOWN PETROLEUM	PETROLEUM	1.00	GALLONS	0.00	GALLONS	SOIL

Caller Remarks:

ANTI−FREEZE IN WET WELL; NYCDEP NOTIFIED.

DEC Investigator Remarks:

Prior to Sept, 2004 data translation this spill Lead_DEC Field was "TANG"
03/07/2003 Closed Due To The Nature / Extent Of The Spill Report

Map Identification Number 12 **WOLF POND PARK** **Spill Number: 9814616** **Close Date: 11/24/2003**
HOLTEN AVE & MELVILLE AVE STATEN ISLAND, NY TT−Id: 520A−0144−371

MAP LOCATION INFORMATION
Site location mapped by: MANUAL MAPPING − LARGE SITE
Approximate distance from property: 2158 feet to the NNE

ADDRESS CHANGE INFORMATION
Revised street: HOLTEN AV / MELVILLE ST
Revised zip code: NO CHANGE

Source of Spill:	UNKNOWN	Spiller:	STATEN ISLAND UNIVERSITY?	Spiller Phone:	
Notifier Type:	Local Agency	Notifier Name:	PARK ENFORCEMENT	Notifier Phone:	
Caller Name:	BOB PARRELLA	Caller Agency:	NYC DEPT OF PARKS	Caller Phone:	(718) 984−8266
DEC Investigator:	RWAUSTIN	Contact for more spill info:	BOB PARRELLA	Contact Person Phone:	(718) 984−8266

Category: Known or probable release, where, without action, there is a potential for a fire/explosion hazard (indoors or outdoors), contamination of drinking water supplies, or significant release to surface waters.
Class: Willing RP − DEC Field Response − Corrective Action Initiated, Taken Over, or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
03/08/1999		UNKNOWN	NO	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
#2 FUEL OIL	PETROLEUM	0	GALLONS	0	GALLONS	SURFACE WATER

Caller Remarks:

OIL IS RUNNING DOWN ROAD ABOUT 1/2 BLOCK TOWARDS THE LAKE − HOSPITAL RECENTLY HAD AN OIL DELIVERY & IT IS POSSIBLY ORIGINATING FROM THERE

DEC Investigator Remarks:

Prior to Sept, 2004 data translation this spill Lead_DEC Field was "AUSTIN"
11/24/03 − AUSTIN − SURF. WATER SPILL REPORTED OVER 3 1/2 YRS AGO − CLOSED − ORIG. ASSIGNED TO MULQUEEN − END

Map Identification Number 13 **WOLFS PARK POND** **Spill Number: 9203074** **Close Date: 06/14/1992**
WOLFS PARK POND STATEN ISLAND, NY TT−Id: 520A−0144−370

MAP LOCATION INFORMATION
Site location mapped by: MANUAL MAPPING − LARGE SITE
Approximate distance from property: 2158 feet to the NNE

ADDRESS CHANGE INFORMATION
Revised street: NO CHANGE
Revised zip code: NO CHANGE

Source of Spill: UNKNOWN | Spiller: | Spiller Phone:
Notifier Type: Federal Government | Notifier Name: | Notifier Phone:
Caller Name: CHIEF EUBELACTKER | Caller Agency: USCG | Caller Phone: (212) 668−7936
DEC Investigator: O'DOWD | Contact for more spill info: | Contact Person Phone:

Category: Possible petroleum release with minimal potential for fire/explosion (indoors or outdoors), drinking water contamination, or releases to surface waters, known releases with no potential for damage, or non−petroleum/non−hazardous spills.
Class: Willing RP − No DEC Field Response − Corrective Action Initiated or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
06/14/1992	06/14/1992	UNKNOWN	UNKNOWN	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
UNKNOWN PETROLEUM	PETROLEUM	−1.00	UNKNOWN	0.00	UNKNOWN	SURFACE WATER

Caller Remarks:

NYCDEP NOTIFIED; USCG INVESTIGATING. SUBSTANCE DISSIPATED.

DEC Investigator Remarks: DEC INVESTIGATOR REMARKS NOT AVAILABLE FOR THIS SPILL ACCORDING TO THE LAST UPDATE.

The following DEC Investigator Remarks were available prior to 1/1/2002:

10/10/95: This is additional information about material spilled from the translation of the old spill file: BROWN FOAM SUBSTANCE.

Map Identification Number 14 **237 BAYVIEW/S.I.** **Spill Number: 9010548** **Close Date: 06/07/1995**
237 BAYVIEW STATEN ISLAND, NY TT−Id: 520A−0143−750

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (1)
Approximate distance from property: 2411 feet to the WNW

ADDRESS CHANGE INFORMATION
Revised street: 237 BAYVIEW AVE
Revised zip code: UNKNOWN

Source of Spill: PRIVATE DWELLING | Spiller: | Spiller Phone:
Notifier Type: Responsible Party | Notifier Name: | Notifier Phone:
Caller Name: EUGENE DECARARO | Caller Agency: CITIZEN | Caller Phone: (718) 447−8601
DEC Investigator: FINGER | Contact for more spill info: | Contact Person Phone:

Category: Known petroleum or hazardous material release with minimal potential for fire/explosion (indoors or outdoors), drinking water contamination, or releases to surface waters.
Class: Willing RP − DEC Field Response − Corrective Action Initiated, Taken Over, or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
01/01/1991	06/07/1995	UNKNOWN	UNKNOWN	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
#2 FUEL OIL	PETROLEUM	−1.00	POUNDS	0.00	POUNDS	SOIL

Caller Remarks:

SPILLAGE IN BASEMENT,SORBENT APPLIED.

DEC Investigator Remarks: NO DEC INVESTIGATOR REMARKS GIVEN FOR THIS SPILL.

Map Identification Number 15 **DRAINAGE EASEMENT BLUE BELT** **Spill Number: 1103030** **Close Date: 11/02/2011**
BTW 136 AND 140 SEGUINE AVE STATEN ISLAND, NY TT−Id: 520A−0263−068

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (2)
Approximate distance from property: 2413 feet to the NNW

ADDRESS CHANGE INFORMATION
Revised street: NO CHANGE
Revised zip code: NO CHANGE

Source of Spill: UNKNOWN Spiller: UNKNOWN Spiller Phone:
Notifier Type: Responsible Party Notifier Name: Notifier Phone:
Caller Name: Caller Agency: Caller Phone:
DEC Investigator: RWAUSTIN Contact for more spill info: PERSIS LUKE Contact Person Phone: 718 595−5266

Category: Investigation indicates there was no spill.
Class: Any Type of RP, Including No RP − DEC Field Response − Corrective Action Not Required or Not Possible

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
06/16/2011		UNKNOWN	NO	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
UNKNOWN MATERIAL	OTHER	0	UNKNOWN	0	UNKNOWN	SOIL

Caller Remarks:

unk material found in drainage ditch by employee, caller believes the property is owned by DEC. Possibly paint that was dumped down a sewer

DEC Investigator Remarks:

6/17/11−HRAHMED−Responded to the site. met with Robert Brauman (718 984 0489, email−braumanr@dep.nyc.gov) from NYC DEP.

6/20/11 − Austin − After Ahmed returned to the office from his 6/17/11 inspection, I examined a water/sediment sample taken by DEC Ahmed, and spoke with Ahmed about the ecent. No shen was observed in the sample or in the drainage channel, but there was white particulate substnace that settledinto the sediment. We tested for pH (neutral) and there were no significant odors were detected in either the sample or the filed investigation. Construction work was occurring in the neighborhood, so it was felt (but could not be proven) that this was the result of concrete mix trucks discharging wastewater into the sewer/channel. No spill − Case closed, upon review of open spills being transferred from Ahmed to other staff when he went to Remed. Section "A". − end

CLOSED STATUS HAZARDOUS SPILLS − MISC. SPILL CAUSES − EQUIPMENT FAILURE, HUMAN ERROR, TANK OVERFILL, DELIBERATE SPILL, TRAFFIC ACCIDENT, HOUSEKEEPING, ABANDONED DRUM, VANDALISM AND STORMS − WITHIN 1/2 MILE SEARCH RADIUS.
All spills mapped and profiled within 1/8 mile. Between 1/8 mile and 1/2 mile search radius, spills reported to be greater than 100 units and spills reported in the NYSDEC Fall 1998 MTBE Survey are mapped and profiled. Spills reported to be less than 100 units are listed in a table at the end of this section.

PLEASE NOTE: * Compass directions can vary substantially for sites located very close to the subject property address.

Map Identification Number 16 **STATEN ISLAND UNIV HOSP** **Spill Number: 9811180** **Close Date: 12/07/1998**
375 SEGUINE AVE STATEN ISLAND, NY TT−Id: 520A−0144−364

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (1)
Approximate distance from property: 0 feet

ADDRESS CHANGE INFORMATION
Revised street: 375 SEGUINE AV
Revised zip code: 10309

Source of Spill: INSTITUTIONAL, EDUC, GOV, OTHER Spiller: COSMO ZINGAROPOLI − STATEN ISLAND UNIV HOSP Spiller Phone: (917) 769−0436
Notifier Type: Local Agency Notifier Name: COSMO ZINGAROPOLI Notifier Phone: (917) 769−0436
Caller Name: COSMO ZINGAROPOLI Caller Agency: DEP Caller Phone: (917) 769−0436
DEC Investigator: MCTIBBE Contact for more spill info: COSMO ZINGAROPOLI Contact Person Phone: (917) 769−0436

Category: Investigation indicates there was no spill.
Class: Any Type of RP Including No RP − No DEC Field Response − Corrective Action by Spill Response Not Required

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
12/05/1998		EQUIPMENT FAILURE	NO	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
RAW SEWAGE	OTHER	0	GALLONS	0	GALLONS	SURFACE WATER

Caller Remarks:

HOSPITAL IS HAVING PROBLEM WITH SEWER SYSTEM AND PRODUCT IS LEAKING DOWN STREET INTO POND − CALLER MADE CONTACT WITH HOSPITAL REPAIR PERSONNEL ENROUTE

DEC Investigator Remarks:

Prior to Sept, 2004 data translation this spill Lead_DEC Field was "TIBBE"
REFERRED TO WATER.

Map Identification Number 17 **UNIVERSITY HOSPITAL** **Spill Number: 9613272** **Close Date: 02/25/2003**
SEGUINE AVE/HYLAN BLVD STATEN ISLAND, NY TT−Id: 520A−0144−362

MAP LOCATION INFORMATION
Site location mapped by: MANUAL MAPPING (3)
Approximate distance from property: 0 feet

ADDRESS CHANGE INFORMATION
Revised street: SEGUINE AVE / HYLAND BLVD
Revised zip code: 10309

Source of Spill:	INSTITUTIONAL, EDUC, GOV, OTHER	Spiller:	UNKNOWN	Spiller Phone:	
Notifier Type:	Local Agency	Notifier Name:	MR PRESTON	Notifier Phone:	
Caller Name:	GWENDALYN HAWKINS	Caller Agency:	NYC DEP	Caller Phone:	(718) 595−6777
DEC Investigator:	TOMASELLO	Contact for more spill info:	MR PRESTON	Contact Person Phone:	(718) 356−8260

Category: Known or probable release, where, without action, there is a potential for a fire/explosion hazard (indoors or outdoors), contamination of drinking water supplies, or significant release to surface waters.
Class: Willing RP − DEC Field Response − Corrective Action Initiated, Taken Over, or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
02/09/1997		EQUIPMENT FAILURE	NO	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
RAW SEWAGE	OTHER	0	GALLONS	0	GALLONS	SURFACE WATER

Caller Remarks:

FROM TREATMENT PLANT, RAW SEWAGE IS SEEPING INTO THE CREEK.

DEC Investigator Remarks: NO DEC INVESTIGATOR REMARKS GIVEN FOR THIS SPILL.

Map Identification Number 18 **355 SEGUINE LN** **Spill Number: 9308175** **Close Date: 02/15/1995**
355 SEGUINE LN STATEN ISLAND, NY TT−Id: 520A−0144−366

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (1)
Approximate distance from property: 0 feet

ADDRESS CHANGE INFORMATION
Revised street: 355 SEGUINE AVE
Revised zip code: 10309

Source of Spill:	COMMERCIAL/INDUSTRIAL	Spiller:	SAME	Spiller Phone:	
Notifier Type:	DEC	Notifier Name:		Notifier Phone:	
Caller Name:	BEVERLY DE ANGELIS	Caller Agency:	DEC	Caller Phone:	(718) 482−4885
DEC Investigator:	SPEDES UNIT	Contact for more spill info:		Contact Person Phone:	

Category: Investigation indicates there was no spill.
Class: Any Type of RP Including No RP − No DEC Field Response − Corrective Action by Spill Response Not Required

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
10/04/1993	02/15/1995	EQUIPMENT FAILURE	UNKNOWN	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
UNKNOWN PETROLEUM	PETROLEUM	10000	GALLONS	0	GALLONS	SURFACE WATER

Caller Remarks:

PLUGGED PIPE − SEWAGE OVERFLOWING FROM MAN HOLE TO CATCH BASIN INTO STORM DRAIN INTO CREEK − NYC DEP ON SITE THIS AM − CLEARED PIPE ONCE BUT IT PLUGGED AGAIN − SPEDES #0200255 NO CALL BACK.

DEC Investigator Remarks:

Prior to Sept, 2004 data translation this spill Lead_DEC Field was "SPDES/MARTINKAT"

Map Identification Number 19 **POLE # 16434** **Spill Number: 0402007** **Close Date: 09/10/2004**
10 CASE AVE STATEN ISLAND, NY TT−Id: 520A−0144−367

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (1)
Approximate distance from property: 358 feet to the NNE

ADDRESS CHANGE INFORMATION
Revised street: NO CHANGE
Revised zip code: NO CHANGE

Source of Spill:	COMMERCIAL/INDUSTRIAL	Spiller:	ERT DESK − CON EDISON	Spiller Phone:	(212) 580−8383
Notifier Type:	Responsible Party	Notifier Name:	RAGGI	Notifier Phone:	(212) 580−6763
Caller Name:	TOM MARCINEK	Caller Agency:	CON ED	Caller Phone:	(212) 580−6763
DEC Investigator:	SKARAKHA	Contact for more spill info:	ERT DESK	Contact Person Phone:	(212) 580−8383

Category: Known petroleum or hazardous material release with minimal potential for fire/explosion (indoors or outdoors), drinking water contamination, or releases to surface waters.

Class: Willing RP − No DEC Field Response − Corrective Action Initiated or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
05/24/2004		EQUIPMENT FAILURE	NO	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
TRANSFORMER OIL	PETROLEUM	0	POUNDS	0	POUNDS	SOIL

Caller Remarks:

5−6 oz. of material spilled. spilled onto curb and some grass. Material is Non PCB. Clean up crew is on route and bagged transformer in the mean time to contain material.

DEC Investigator Remarks:

e2mis # 153537

M. Catalano # 28712 reports approx. 5 Ozs. leaking from a 50 K.V.A. Transformer on Pole # 16434. An area of FT. x 6FT. of grass was affected. An area of concrete curb 6 inches by Ft. long was affected. No sewers or waterways were affected. No smoke or fire present. A Bag was installed on transformer to contain leak. Cleanup is in progress. C.D.O.H. is in route for cleanup and replacement of transformer.

5/24/ :00 Hrs. W. Zimmer O.H. Supervisor reports that an area of grass and dirt 7 Ft. By 7 Ft. BY 6 Inches. deep was removed and placed in a 55 Gallon Drum. The transformer on pole # 16434 in front of # 10 Case Ave. was found to have no pcb. The concrete curb area affected was 6" x 3' and an area o 1' x 4' was double washed with Citric Clean and speedy dry was used as an absorbent.

The transformer leaked due to being hit by lightening. Overhead Construction removed the damage transformer and replaced it with a new transformer.

Map Identification Number 20 **TRANSFORMER POLE 16434** **Spill Number: 9910316** **Close Date: 11/12/2004**
CASE AVE/OPP 29 COOPER PL STATEN ISLAND, NY TT−Id: 520A−0144−369

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (1)
Approximate distance from property: 461 feet to the NE

ADDRESS CHANGE INFORMATION
Revised street: 29 COOPER PL
Revised zip code: 10309

Source of Spill:	COMMERCIAL/INDUSTRIAL	Spiller:	CALLER − CON EDISON	Spiller Phone:	(212) 580−6763
Notifier Type:	Responsible Party	Notifier Name:	MR CUBAS	Notifier Phone:	(212) 580−6763
Caller Name:	MARK SCHLAGEL	Caller Agency:	CON EDISON	Caller Phone:	(212) 580−6763
DEC Investigator:	JHOCONNE	Contact for more spill info:		Contact Person Phone:	

Category: Known petroleum or hazardous material release with minimal potential for fire/explosion (indoors or outdoors), drinking water contamination, or releases to surface waters.
Class: Willing RP − DEC Field Response − Corrective Action Initiated, Taken Over, or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
11/27/1999		EQUIPMENT FAILURE	NO	NO

Material Spilled	Material Class	Quantity Spilled	Units	Quantity Recovered	Units	Resource(s) Affected
DIELECTRIC FLUID	PETROLEUM	20.00	GALLONS	0.00	GALLONS	SOIL

Caller Remarks:

CALLER REPORTING A SPILL FROM A TRANSFORMER POLE WHICH HAD A LEAK IN IT AND EFFECTED LAND ONLY CLEAN UP PENDING A CREW AND NO CALLBACK MANUFACTURING LABEL SHOWING NON PCB NO SEWERS OR WATERWAYS EFFECTED CONED#129108

DEC Investigator Remarks:

e2mis no. 129108:

11/27/99
At 1355 Hrs. A. Simonelli # 16944 of the field operations dept. reported to the Control Center that the transformer on pole 16434 Case Ave is leaking from a hole in the casing approximately 1/2 way down from the top. The Oil leaked onto the concrete, lawn, and fence of a customer at 29 Cooper Pl. No sewers or waterways involved. The transformer is a 50 Kva Mfg. ABB Serial # 93− A 182135. labeled by Mfg as Non− Pcb. Troubleshooter to take transformer out of service and plug hole to stop leak. FOD and troubleshooter to contain leak until Construction Overhead responds to replace transformer and clean spill. Approximately 20 gallons of Oil leaked from the transformer. Put down pigs, blankets and speedy dry to contain the spill.

At 1630 Hrs. M. Kessler of the ERT was on the scene of the spill as was the DEP inspector Christopher Haas who took information off the name plate.

11/28/99 @ 0045 hrs. Cleanup Supervisor F. Quinonez (emp. # 12369) reported that the cleanup was completed at 2330 hrs. by overhead construction employees. Eight 55 gal. drums of oil contaminated soil were removed from the area around pole 16434 on Case Ave. to the corner of Cooper Pl. which measures approximately 70 ft X 2 ft X 2 in deep. Approximately 5ft X 3 ft area of inside and outside surfaces of the chain−link fence with brown plastic inserts were wiped using absorbent pads. An area of sidewalk approximately 10 ft X 3 ft was cleaned using absorball and pads. No lawn was removed. The transformer was removed, bagged, tagged and placed in a plastic container. All waste material was taken to the Victory Blvd. Service Center as industrial waste. Supervisor Quininez spoke with the property owner, Mr. Vincent Dileo, tel. # 718−948−3866 who was satisfied with the cleanup response. Supervisor recommends a post cleanup inspection to be performed to determine if sidewalk and fence are to be replaced.

11/29/99 0930 Hrs. After a post cleanup inspection it was determined that the sidewalk area two slabs of concrete 4’ x6’ and the grassy area 10’ x5’ x6’ deep of the customers yard should be cleaned further and a contractor was called. The sidewalk was pressure washed and the grass was removed from the area by Allstate Power − Vac Inc. At 1630 hours. Allstate reported that they had completed that task and were going to dispose of the waste accordiong to procedure CA&I to be notified to replace grass that was removed.

Note* The grass area that was removed should read 10’ x 5’ x 6" deep not 6 ft deep

UPDATED on 12/3/99 @ 1420 hrs. Event Material History table updated to reflect the level of containment at the time of the release as per EH&S. Also, as per R. Shakir of Construction
Management, the homeowner, V. Dileo, stated that he is satisfied with the power washed sidewalk and does not want it replaced. Sod replacement still pending, see B−ticket SE99017706.

12/5/01 − As per Construction Management (R. Shakir) the sod was replaced on 5/15/2000.

Map Identification Number 21 **522 SEGUINE AVE** **Spill Number: 9303180** **Close Date: 06/10/1993**
522 SEGUINE AVE STATEN ISLAND, NY TT−Id: 520A−0144−378

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (5)
Approximate distance from property: 1454 feet to the S

ADDRESS CHANGE INFORMATION
Revised street: NO CHANGE
Revised zip code: NO CHANGE

Source of Spill:	COMMERCIAL/INDUSTRIAL	Spiller:	STATEN IS. UNIVERS. HOSPI	Spiller Phone:	
Notifier Type:	Responsible Party	Notifier Name:		Notifier Phone:	
Caller Name:	MIKE MASCHER	Caller Agency:	STATEN IS.UNIVERSITY HOSP	Caller Phone:	(718) 317−6469
DEC Investigator:	KSTANG	Contact for more spill info:		Contact Person Phone:	

Category: Possible petroleum release with minimal potential for fire/explosion (indoors or outdoors), drinking water contamination, or releases to surface waters, known releases with no potential for damage, or non−petroleum/non−hazardous spills.
Class: Willing RP − DEC Field Response − Corrective Action Initiated, Taken Over, or Completed by RP or Other Agency

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
06/10/1993	06/10/1993	EQUIPMENT FAILURE	UNKNOWN	NO

NO MATERIAL INFORMATION GIVEN FOR THIS SPILL

Caller Remarks:

STORM KNOCKED POWER OUT − NYC DEP IS NOTIFIER − 212 491−5050 ROBERT BRUNO'S OFFICE − REFER TO SPDES.

DEC Investigator Remarks:

Prior to Sept, 2004 data translation this spill Lead_DEC Field was "TANG."
10/10/95: This is additional information about material spilled from the translation of the old spill file: 24000 GALLON/DAY

Map Identification Number 22 **105 COMMODORE DRIVE** **Spill Number: 1209739** **Close Date: 11/12/2012**
105 COMMODORE DRIVE , NY TT−Id: 520A−0280−777

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (3)
Approximate distance from property: 1786 feet to the WSW

ADDRESS CHANGE INFORMATION
Revised street: NO CHANGE
Revised zip code: NO CHANGE

Source of Spill:	COMMERCIAL/INDUSTRIAL	Spiller:		Spiller Phone:	
Notifier Type:	Federal Government	Notifier Name:		Notifier Phone:	
Caller Name:		Caller Agency:		Caller Phone:	
DEC Investigator:	HRPATEL	Contact for more spill info:		Contact Person Phone:	

Spill Date	Date Cleanup Ceased	Cause of Spill	Meets Cleanup Standards	Penalty Recommended
10/29/2012		STORM	NO	NO

NO MATERIAL INFORMATION GIVEN FOR THIS SPILL

Caller Remarks: NO REMARKS GIVEN FOR THIS SPILL

DEC Investigator Remarks:

"A lot" of sail boats came off bay towards Lemon Creek Marina; "several large puddles of oil discharging from vessels". DEC Patel to inspect. DEC Patel performed site visit and "Only minor sheen observed in few areas."

11/12/12−Hiralkumar Patel. case closed. refer to spill #: 1208682.

THE FOLLOWING CLOSED SPILLS FOR THIS CATEGORY WERE REPORTED BETWEEN 1/8 MILE AND 1/2 MILE FROM THE SUBJECT ADDRESS. THESE SPILLS WERE REPORTED TO BE LESS THAN 100 UNITS IN QUANTITY AND CAUSED BY: EQUIPMENT FAILURE, HUMAN ERROR, TANK OVERFILL, DELIBERATE SPILL, TRAFFIC ACCIDENT, HOUSEKEEPING, ABANDONED DRUM, VANDALISM OR STORMS. THESE SPILLS ARE NEITHER MAPPED NOR PROFILED IN THIS REPORT.

FACILITY ID	FACILITY NAME	STREET	CITY
0203563	POLE #17639	IFO 269 SEGUINE AVE	STATEN ISLAND
0203650	POLE #26006	5811 HIGHLAND BLVD	STATEN ISLAND
9110235	HYLAN BLVD & HOLTEN AVE	HYLAN BLVD & HOLTEN AVE	STATEN ISLAND
9612594	BEACH	PURDYPL AND SEGUINE AVE	STATEN ISLAND
0504126	CONSTRUCTION SITE	PURDY PLACE & SEGUNE AVE	STATEN ISLAND
9110867	SEGUINE AVE TREATMENT PL	SEGUINE AVE TREATMENT PL	STATEN ISLAND
1208682	PRINCESS BAY	BAYVIEW AVE & JOHNSTON TERRACE	STATEN ISLAND
0706686	ONE QT LEAK FROM PAD MOUNT PM 10621	IN FRONT OF 25 ADMIRALY LOOP	STATEN ISLAND
9309610	FOOT OF SUGOINE AVENUE	FOOT OF SUGOINE AVENUE	STATEN ISLAND
0212542	SPILL NUMBER 0212542	275 CORNELIA AVENUE	STATEN ISLAND
9209669	237−239 BAYVIEW AVE.	237−239 BAYVIEW AVE	STATEN ISLAND

NO OIL STORAGE FACILITIES LARGER THAN 400,000 GALLONS IDENTIFIED WITHIN 1/8 MILE SEARCH RADIUS

PETROLEUM BULK STORAGE FACILITIES LESS THAN 400,000 GALLONS IDENTIFIED WITHIN THE 1/8 MILE SEARCH RADIUS

PLEASE NOTE: * Compass directions can vary substantially for sites located very close to the subject property address.

Map Identification Number 23 **STATEN ISLAND UNIVERSITY HOSPITAL** **Facility Id: 2−092053** **Source: NYS DEC**
375 SEGUINE AVENUE STATEN ISLAND, 10309 TT−Id: 640A−0052−258

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (1)
Approximate distance from property: 0 feet

ADDRESS CHANGE INFORMATION
Revised street: NO CHANGE
Revised zip code: NO CHANGE

Facility Type: Other
Site Status: Active
Expiration Date of the facility's registration certificate: 07/07/2017
Operator Name: CHRISTOPHER STEWART
Operator Phone #: (718) 226−2369
Owner Name: PAUL RHODES − ASSOC VP, FACILITIES
Owner Company: STATEN ISLAND UNIVERSITY HOSPITAL
Owner Type: Corporate or Commercial
Owner Address: 375 SEGUINE AVE, STATEN ISLAND, NY 10309

TANK NUMBER	TANK STATUS	TANK CONTENT	CAPACITY GALLONS	TANK LOCATION	INSTALL DATE	TEST DATE	CLOSE DATE
001	In Service	#2 Fuel Oil	30000	Underground	12/01/1973	05/04/2015	
002	Closed − In Place	#2 Fuel Oil	1000	Aboveground − 10% or More Below Ground	12/01/1973		06/23/2005

TANK NUMBER: 001
TANK TYPE: Steel/Carbon Steel/Iron
TK INT. PROTECTION: Epoxy Liner
TANK EXT. PROTECTION: None
TANK LEAK DETECTN: None
TK SEC. CONTAINMNT: None
PIPING EXT. PROTECTN: None
PIPING LEAK DETECTN: None
PIPE SEC. CONTAINMNT: None
PIPING TYPE: Steel/Carbon Steel/Iron
PIPING LOCATION: Aboveground/Underground Combination
OVERFILL PROTECTION: None
SPILL PREVENTION: Catch Basin
DISPENSER METHOD: Suction

TANK NUMBER: 002
TANK TYPE: Steel/Carbon Steel/Iron
TK INT. PROTECTION: Epoxy Liner
TANK EXT. PROTECTION: None
TANK LEAK DETECTN: None
TK SEC. CONTAINMNT: None
PIPING EXT. PROTECTN: None
PIPING LEAK DETECTN: None
PIPE SEC. CONTAINMNT: None
PIPING TYPE: Steel/Carbon Steel/Iron
PIPING LOCATION: Aboveground/Underground Combination
OVERFILL PROTECTION: None
SPILL PREVENTION:
DISPENSER METHOD: Suction

HAZARDOUS WASTE GENERATORS/TRANSPORTERS IDENTIFIED WITHIN 1/8 MILE SEARCH RADIUS

PLEASE NOTE: * Compass directions can vary substantially for sites located very close to the subject property address.

Map Identification Number 24 **NYSDEC Name:** **NORTH SHORE − STATEN ISLAND UNIVERSITY HOSPITAL** **Facility Id: NYR000214528**

NYSDEC Address: 375 SEGUINE AVE STATEN ISLAND, NY 10309 TT−Id: 740A−0125−089
EPA (RCRA) Name: NORTH SHORE − STATEN ISLAND UNIVERSITY H
EPA (RCRA) Address: 375 SEGUINE AVE STATEN ISLAND, NY 10309

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (1)
Approximate distance from property: 0 feet

ADDRESS CHANGE INFORMATION
Revised street: NO CHANGE
Revised zip code: NO CHANGE

US EPA RCRA Type: SMALL QUANTITY GENERATOR
Notification date: 11/12/2014
Land Disposal: Receives offsite waste: Incinerator:
Storer: Treatment facility: Transporter:
Contact Name: JIM WELLER Source Type: Notification Contact Phone: 718−226−8190 Contact Info Date: 11/12/2014

NYS DEC Manifested Waste Summary:
Waste Codes, Waste Units, and Transaction Types are only shown for the most recently reported year.

WASTE CODE	WASTE DESCRIPTION	WASTE AMOUNT	WASTE UNITS	TRANSACTION TYPE	YEAR	HISTORIC MAXIMUM AMOUNT	HISTORIC MAXIMUM YEAR
D001	Solid waste that exhibits the characteristic of ignitability	177	POUNDS	GENERATED	2015	352	2014
More than one waste code was reported for the following waste amount:		207	POUNDS	GENERATED	2015		
D001	Solid waste that exhibits the characteristic of ignitability						
F003	Spent non−halogenated solvents						
More than one waste code was reported for the following waste amount:		164	POUNDS	GENERATED	2015	775	2014
D001	Solid waste that exhibits the characteristic of ignitability						
F003	Spent non−halogenated solvents						
F005	Spent non−halogenated solvents						
More than one waste code was reported for the following waste amount:		8	POUNDS	GENERATED	2015		
D001	Solid waste that exhibits the characteristic of ignitability						

NYS DEC Manifested Waste Transactions for NYR000214528 continued −−− see previous page

WASTE CODE	WASTE DESCRIPTION	WASTE AMOUNT	WASTE UNITS	TRANSACTION TYPE	YEAR	HISTORIC MAXIMUM AMOUNT	HISTORIC MAXIMUM YEAR
U154	Methyl alcohol (I)						
D002	Solid waste that exhibits the characteristic of corrosivity	17	POUNDS	GENERATED	2014		
More than one waste code was reported for the following waste amount:		2	POUNDS	GENERATED	2014		
D001	Solid waste that exhibits the characteristic of ignitability						
D002	Solid waste that exhibits the characteristic of corrosivity						

NOTE: 2015 waste amounts are for 1/1/2015 to 8/3/2015 only

CHEMICAL STORAGE FACILITIES IDENTIFIED WITHIN THE 1/8 MILE SEARCH RADIUS

PLEASE NOTE: * Compass directions can vary substantially for sites located very close to the subject property address.

Map Identification Number 25 **STATEN ISLAND UNIVERSITY HOSPITAL** **Facility Id: 2−000075**
375 SEGUINE AVENUE STATEN ISLAND, NY 10309 TT−Id: 780A−0002−242

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (1)
Approximate distance from property: 0 feet

ADDRESS CHANGE INFORMATION
Revised street: NO CHANGE
Revised zip code: NO CHANGE

Expiration Date of the facility's registration certificate: 07/05/2001
Site Type: Utility (Other than Municipal)

Site Status: Unregulated/Closed

NOTE: The following detailed facility and tank information has not been made publicly available by the NYSDEC since 1/1/2002.

Owner Name: STATEN ISLAND UNIVERSITY HOSPITAL
Owner Address: 375 SEGUINE AVENUE STATEN ISLAND, NY 10309
Operator Name: PLANT OPERATIONS DEPT. Facility Phone #: (718) 226−2000

TANK NUMBER	TANK STATUS	CHEMICAL NAME	CAPACITY GALLONS	TANK LOCATION	INSTALL DATE	DATE CLOSED
00001	CLOSED−REMOVED	CHLORINE	350	ABOVEGROUND	09/85	10/00

Toxicity Information Summary

CHEMICAL NAME	CAS−NO	ACUTE TOX	TUMOR TOX	MUTAG TOX	REPRO TOX	IRRIT TOX	MCL
CHLORINE	7782505	X		X	X		

NO HISTORIC UTILITY SITES IDENTIFIED WITHIN 1/8 MILE SEARCH RADIUS

NO HAZARDOUS SUBSTANCE WASTE DISPOSAL SITES IDENTIFIED WITHIN 1/2 MILE SEARCH RADIUS

NO TOXIC AIR, LAND AND WATER RELEASES IDENTIFIED WITHIN 1/8 MILE SEARCH RADIUS

NO WASTEWATER DISCHARGES IDENTIFIED WITHIN 1/8 MILE SEARCH RADIUS

AIR DISCHARGE FACILITIES IDENTIFIED WITHIN THE 1/8 MILE SEARCH RADIUS

PLEASE NOTE: * Compass directions can vary substantially for sites located very close to the subject property address.

Map Identification Number 26 **STATEN ISLAND UNIVERSITY HOSPITAL−SOUTH** **Facility Id: 3608500350** **State−county CDS Id: 3608500350**
375 SEGUINE AVENUE STATEN ISLAND, NY 10309 State−county NED id:
TT−ID: 900A−0006−573

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (1)
Approximate distance from property: 0 feet

ADDRESS CHANGE INFORMATION
Revised street: NO CHANGE
Revised zip code: NO CHANGE

CDS−ID: 00350 NED−ID: None Given EPA−ID: None Given FINDS−ID: None Given
Plant Phone #1: (718)226−2369 Plant Phone #2: None Given
Operating Status: OPERATING
EPA Classification:
State Classification: ACTUAL OR POTENTIAL EMISSIONS ARE ABOVE THE APPLICABLE MAJOR SOURCE THRESHOLDS
EPA Plant Compliance Status:
State Plant Compliance Status: IN COMPLIANCE − CERTIFICATION

AIR PROGRAM INFORMATION
Regulatory Air Program: SIP SOURCE Program Status: OPERATING
Regulatory Air Program: TITLE V PERMITS Program Status: OPERATING

POLLUTANT INFORMATION
Pollutant: NITROGEN DIOXIDE
State Pollutant Compliance for this pollutant: IN COMPLIANCE − CERTIFICATION

CIVIL & ADMINISTRATIVE ENFORCEMENT DOCKET FACILITIES IDENTIFIED WITHIN 1/8 MILE SEARCH RADIUS

PLEASE NOTE: * Compass directions can vary substantially for sites located very close to the subject property address.

Map Identification Number 27 **STATEN ISLAND UNIVERSITY HOSPI** **Facility Id: NY0002399285**
375 SEGUINE AVE STATEN ISLAND, NY 10309 TT−Id: 920A−0001−203

MAP LOCATION INFORMATION
Site location mapped by: PARCEL MAPPING (1)
Approximate distance from property: 0 feet

ADDRESS CHANGE INFORMATION
Revised street: NO CHANGE
Revised zip code: NO CHANGE

==========
ADMINISTRATIVE DOCKET CASE INFORMATION
==========

DOCKET CASE #	COURT DOCKET NUMBER	DATE ISSUED	DATE FINAL ORDER ISSUED	CASE NAME
02−1998−0408	98−0111	09−18−1998	03−31−1999	STATEN ISLAND UNIVERSITY HOSPI

DEFENDANT NAME(S): STATEN ISLAND UNIVERSITY HOSPITAL

LAW(S) VIOLATED
Clean Air Act − Section OTHER

DISPOSITION OF CASE
Consent instrument with penalty

FEDERAL PENALTY ASSESSED COST RECOVERY AWARDED
39600

TYPE OF VIOLATION(S)
Discharge, Emission Or Activity WO Required Permit

TYPE OF POLLUTANT(S)
Nitrogen Oxide

NO NYC ENVIRONMENTAL QUALITY REVIEW REQUIREMENTS − "E" DESIGNATION SITES IDENTIFIED WITHIN 250 FT SEARCH RADIUS

U.S. EPA EMERGENCY RESPONSE NOTIFICATION SYSTEM (ERNS) SPILLS
AT THE LOCATION OR POTENTIALLY AT THE LOCATION OF
Staten Island University Hosp - S Campus
Staten Island, NY 10309

* Any ERNS Spills listed below are NOT mapped in this report *

ONSITE ERNS (A count of these spills can be found in the distance interval table):
THIS SITE IS NOT FOUND IN THE ERNS DATABASE

POTENTIALLY ONSITE ERNS:
THIS SITE IS NOT FOUND IN THE ERNS DATABASE

 October 16, 2015 'Staten Island University Hosp - S Campus'

Unmappable facilities for 'Richmond' County

NPL/CERCLIS/NYSDEC Inactive Haz. Waste or Reg. Qual. Sites

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
243017	COLONIAL SQUARE	243017 COLONIAL SQUARE		UNKNOWN

Solid Waste Facilities

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
43C23	NYCDOS FOOD COMPOST			UNKNOWN
43D06	CARMENS REST. DEMO SLF			UNKNOWN
43D09	ARROW REHAB T.S.			UNKNOWN
43E02	PROCTOR & GAMBLE WOOD STO			UNKNOWN
43T01	UNLOADING STATION #1			UNKNOWN
43T21	STAR SAND & GRAVEL			UNKNOWN
43T25	STATEN ISLAND RECYCLING			UNKNOWN
43W31	M QUINTAVALLE TREE SERVIC			UNKNOWN
43W43	INTERSTATE MATERIALS CORP			UNKNOWN
43Y20	NYCDOS FRESH KILLS			UNKNOWN
		HAMMERSLEY	STATEN ISLAND	UNKNOWN
43F21	GSF ENERGY LLC	P.O. BOX 39	STATEN ISLAND	UNKNOWN

Hazardous Spills - UNKNOWN CAUSE OR OTHER CAUSES - Active

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
1410485	RICHMOND COUNTY EM. RES.	ONE HUNTERS POINT PLAZA		UNKNOWN
1410563	NYCTA	STATEN ISLAND	STATEN ISLAND	UNKNOWN
0107381	FEEDER 38R52	STA 244 +00	STATEN ISLAND	UNKNOWN

Hazardous Spills - MISC. SPILL CAUSES - Active

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
1400567	MOUNT LORETTO	HYLAN BOULEVARD		UNKNOWN

Hazardous Spills - TANK FAILURES - Closed

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
0010946	GRAVESEND ANCHORAGE	NO ADDRESS	BROOKLYN	UNKNOWN
9314032	BAYWAY REFINERY	BAYWAY REFINERY	STATEN ISLAND	UNKNOWN
9207117	VESSEL - PIN HOLE LEAK	IMTT TERMINAL/BAYONNE NJ	STATEN ISLAND	UNKNOWN
9105256	240 SUPERIOR ST/CONFECTIO	240 SUPERIOR ST/CONFECTIO	STATEN ISLAND	UNKNOWN
9500199	132 FLAGAMAN PL	132 FLAGAMAN PL	STATEN ISLAND PL	UNKNOWN

Hazardous Spills - TANK TEST FAILURES - Closed

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
8806618	CLOSED-LACKOF RECENT INFO	77 SOUTHERN AVENUE	NEW YORK CITY	UNKNOWN
9809823	SPILL NUMBER 9809823	320 VONDERVILLE	STATEN ISLAND	UNKNOWN
9012142	PORT AUTH/OUTERBRIDGE	PORT AUTH/OUTERBRIDGE	STATEN ISLAND	10309

Hazardous Spills - UNKNOWN CAUSE OR OTHER CAUSES - Closed

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
9512887	MSC CLAUDIA	UNKNOWN		UNKNOWN
8503968	UNKNOWN	STATEN ISLAND		UNKNOWN
9712210	SILKEBORG VESSEL	BERTH 5	BROOKLYN	UNKNOWN
9203903	ATLANTIC OCEAN	ATLANTIC OCEAN	BROOKLYN	UNKNOWN
9200284	400 MILE OFF AMBROSE LGHT	12 MILE FROM VZ BR	BROOKLYN	UNKNOWN
9106508	NY HARBOR/BKLYN FLATS	NY HARBOR/BKLYN FLATS	BROOKLYN	UNKNOWN
0504086	PRIVATE RESIDENCE	536 PARGEE ST	BROOKLYN	UNKNOWN
0403401	LEHIGH CEMENT TERMINAL	NEW YORK HARBOR	BROOKLYN	UNKNOWN
0012426	BAY RIDGE ACHORAGE	UNKNOWN	BROOKLYN	UNKNOWN
0003589	ATLANTIC OCEAN	RIISE PARK	BROOKLYN	UNKNOWN

9909919	ROMER SHOAL	APPROACH TO VER. NAR BRI	CONEY ISLAND	UNKNOWN
1400773	DRILL - NEW YORK HARBOR ST GEORGE FERRY TERM	DRILL - 1 BAY ST	DRILL - STATEN ISLAND	UNKNOWN
9501966	DOS- ISLAND OF MEADOWS	DOS/ AREA OD LAND FILL	ISLAND OF MEADOWS	UNKNOWN
9310265	SOUTH WOOD AVE.	SOUTH WOOD AVE	LINDEN	UNKNOWN
9710317	NEW YORK HARBOR ENTRANCE	NY HARBOR ENTR MANHATTAN	MANHATTAN	UNKNOWN
9507172	NEW YORK HARBOR	NY HARBOR/UPPER BAY	MANHATTAN	UNKNOWN
9804674	CHANNEL BETWEEN	NY HARBOR / ATLANTIC	NEW YORK	UNKNOWN
0604625	LOWER NY BAY	KMI TERMINAL	NEW YORK	WLNYB
8912091	CLIFFWOOD ROAD/S.I/BARGE	CLIFFWOOD ROAD/ARTHUR KIL	NEW YORK CITY	UNKNOWN
8905312	LOWER NEW YORK BAY/S.I.	LOWER NEW YORK BAY	NEW YORK CITY	UNKNOWN
8904267	GREAT KILLS DUMP/S.I.	GREAT KILLS DUMP	NEW YORK CITY	UNKNOWN
8903346	NEW YORK HARBOR/MANHATTAN	NEW YORK HARBOR	NEW YORK CITY	UNKNOWN
8803092	STATEN ISLAND-BEACHES	STATEN ISLAND/BEACHES	NEW YORK CITY	UNKNOWN
8801873	ROBIN REEF/SI/ANCHOR BUOY	ROBIN REEF/ANCHOR BUOY	NEW YORK CITY	UNKNOWN
8702694	EXXON BAYWAY / ELIZABETHT	@ EXXON BAYWAY	NEW YORK CITY	UNKNOWN
8605577	RAW SEW.BARGE GROUNDED/ST	3 MILES OFF S.I. ATLANTIC	NEW YORK CITY	UNKNOWN
8602875	NEW LAME RD	NEW LAME RD	NEW YORK CITY	UNKNOWN
9510030	LOWER NY BAY	LOWER NY BAY	NYC	11220
9314740	OF NY HARBOR	OF NY HARBOR	NYC	UNKNOWN
8602086	STATEN ISLAND GAS ODORS	DTATEN ISLAND (ENTIRE ISL	NYC STATEN ISLAND	10300
9708054	LOWER NY HARBOR CROOKS PT	UNK	PATCHOGUE	UNKNOWN
9304466	HYLARD BLVD -SO.SIDE OF S	HYLARD BLVD-SO.OF STREET	RICHMOND	UNKNOWN
0110469	VERRAZANO NARROWS	HOMEPORT FRONT	RICHMOND	UNKNOWN
9703456	3 1/2 MILES - ROCKAWAY	ATLANTIC OCEAN	ROCKAWAY	UNKNOWN
0603346	STAPLETON ANCHORAGE DELTA	UNKNOWN	ROSEBANK	UNKNOWN
1114418	DRILL	SLIP ONE / BARGE 4/FUELING VESSEL	STATEN ISALND	UNKNOWN
9913764	RESIDENCE	485 MARITHIS AVE	STATEN ISLAND	UNKNOWN
9906856	FRESHKILL PLANT	1 WATERWAY	STATEN ISLAND	UNKNOWN
9814444	NAUTILUS COURT PUMP	STATION	STATEN ISLAND	10300
9810547	AMERADA HESS PORT REDDING	UNKNOWN	STATEN ISLAND	UNKNOWN
9703129	1 DELMONT TERR	1 DELMONT TERR	STATEN ISLAND	UNKNOWN
9700544	UNDER RICHAMOND VAL TRAIN	STATION / MURPHY ST	STATEN ISLAND	UNKNOWN
9605710	WAINWRIGHT SUB-STATION	WAINWRIGHT SUB-STATION	STATEN ISLAND	UNKNOWN
9604297	ARTHURKILL	NOT APPLICABLE	STATEN ISLAND	UNKNOWN
9503203	BODINE CREEK	BODINE CREEK	STATEN ISLAND	UNKNOWN
9501967	SHIP GRAVE YARD	SHIP GRAVE YARD	STATEN ISLAND	UNKNOWN
9500457	HOWLLAND HOOK	WEST OF SHANTERS ISLAND	STATEN ISLAND	UNKNOWN
9413027	GARRISON AV-RIDGEWOOD RD	GARRISON AVE-RIDGEWOOD RD	STATEN ISLAND	UNKNOWN
9403012	DIANE FALLON	14 WOODWELL AVE	STATEN ISLAND	UNKNOWN
9310779	CHEVRON DOCK -PERTH AMBOY	CHEVRON DOCK -PERTH AMBOY	STATEN ISLAND	UNKNOWN
9309914	HERBERTSON & 106 NEW STA.	HERBERTSON & 106 NEW STA	STATEN ISLAND	UNKNOWN
9307886	HALL AVENUE	HALL AVENUE	STATEN ISLAND	UNKNOWN
9304249	SHIP GRAVEYARD ROTHVILLE	SHIP GRAVEYARD ROTHVILLE	STATEN ISLAND	UNKNOWN
9303658	IMTT FUEL FACILITY	IMTT FUEL FACILITY	STATEN ISLAND	UNKNOWN
9303060	1/4 MILE SOUTH V.3 BRIDGE	1/4 MILE SOUTH V.3 BRIDGE	STATEN ISLAND	UNKNOWN
9301726	RUFFEK DR. STATEN ISLAND	CASTRO RES.RUFFEK DR.	STATEN ISLAND	UNKNOWN
9208970	BART AVE.	BART AVE	STATEN ISLAND	UNKNOWN
9206250	SEQUINE AVE.	SEQUINE AVE	STATEN ISLAND	10309
9103881	LOWER NY BAY	LOWER NEW YORK BAY	STATEN ISLAND	UNKNOWN
9100111	HYLAN BLVD/S.I.	HYLAN BLVD	STATEN ISLAND	UNKNOWN
9005744	ALLIED TANK CORP/S.I.	PERTH AMBOY ANCHORAGE	STATEN ISLAND	UNKNOWN
9003773	NY & NJ/STATEN ISLAND	NY & NJ AREA/STATEN ISLAN	STATEN ISLAND	UNKNOWN
8806335	TOTTENVILLE/S.I.	NEAR DECK AT TOTTENVILLE	STATEN ISLAND	UNKNOWN
8805057	FRESHKILL LANDFILL	PLANT#1,MRINE LODING AREA	STATEN ISLAND	UNKNOWN
8805043	BURGEN PT / CON HOOK	BURGEN PT/ CON HOOK	STATEN ISLAND	UNKNOWN
8801512	HYLAN BLVD/S.I.	HYLAN BLVD	STATEN ISLAND	UNKNOWN
8504840	STATEN ISLAND	STATEN ISLAND	STATEN ISLAND	UNKNOWN
8504757	STATEN ISLAND,RICHMOND CT	STATEN ISLAND, RICHMOND CT	STATEN ISLAND	UNKNOWN
8503876	FRESH KILLS LANDFILL	FRESHKILLS LANDFILL	STATEN ISLAND	UNKNOWN
8503342	STATEN ISLAND	STATEN ISLAND	STATEN ISLAND	UNKNOWN

8503295	STATEN ISLAND	STATEN ISLAND	STATEN ISLAND	UNKNOWN
8503290	STATEN ISLAND RICHMOND CT	STATEN ISLAND, RICHMOND	STATEN ISLAND	UNKNOWN
8503246	STATEN ISLAND	STATEN ISLAND	STATEN ISLAND	UNKNOWN
8503169	STATEN ISLAND	STATEN ISLAND	STATEN ISLAND	UNKNOWN
8503037	STATEN ISLAND	STATEN ISLAND	STATEN ISLAND	UNKNOWN
8502945	UNKNOWN	GREAT KILLS	STATEN ISLAND	UNKNOWN
7900846	SPILL NUMBER 7900846		STATEN ISLAND	UNKNOWN
1500794	PARKING LOT	1331 TRAVIS AVE	STATEN ISLAND	UNKNOWN
1409496	MERYL LYNCH DATA CENTER	10 TELEPORT DR	STATEN ISLAND	UNKNOWN
1306852	DRILL - OFF STATEN ISLAND (TREMBLEY POINT)	DRILL - IN WATERWAY	STATEN ISLAND	UNKNOWN
1305690	TO ROADWAY	845 CLIFTON AVE	STATEN ISLAND	UNKNOWN
1113066	ON THE BEACH	PARLPON	STATEN ISLAND	UNKNOWN
1100402	OAKWOOD STATION	REWIS AVE/ SELWWOD AVE	STATEN ISLAND	UNKNOWN
0913173	POLE #5	20 LAGAPE AVE	STATEN ISLAND	UNKNOWN
0900156	NORTON SUB STATION	2226 DUNGEN HILL AVE	STATEN ISLAND	UNKNOWN
0813487	STORM SEWER LINE	ELLIS ST	STATEN ISLAND	UNKNOWN
0808849	MANHOLE 14	TOMKINS ST STATEN ISLAND RAPID TRANSIT	STATEN ISLAND	UNKNOWN
0710891	KMI #6	KMI TERMINAL	STATEN ISLAND	UNKNOWN
0708916	DEGAETANO RESIDENCE	26 CRISTI LN.	STATEN ISLAND	UNKNOWN
0607763	MANHOLE #55	SI RAPID TRANSIT/BANKI ST	STATEN ISLAND	UNKNOWN
0605477	ARTHUR KILL	UNKNOWN	STATEN ISLAND	UNKNOWN
0513704	OVERSEAS REINEAR	STATEN ISLAND	STATEN ISLAND	UNKNOWN
0508903	AMBROSE ANCHORAGE	ATLANTIC OCEAN	STATEN ISLAND	UNKNOWN
0503967	SI	EDDINBOO ST / NAVESINK ST	STATEN ISLAND	UNKNOWN
0400303	STATEN ISLAND RAILROAD TR	RIGHT OF WAY	STATEN ISLAND	10300
0313976	UNKNOWN	UNKNOWN	STATEN ISLAND	UNKNOWN
0308953	SPILL NUMBER 0308953	STATEN ISLAND	STATEN ISLAND	10300
0305750	MAN HOLE 42	SIRT RAILROAD ROW	STATEN ISLAND	UNKNOWN
0211003	NY HARBOR	NY HARBOR	STATEN ISLAND	UNKNOWN
0200603	MAN HOLE #7110	WOODROW SUB STA.	STATEN ISLAND	UNKNOWN
0110515	SPILL NUMBER 0110515	NEW YORK HARBOR	STATEN ISLAND	UNKNOWN
0007607	VS8155	STEUBEN ST	STATEN ISLAND	UNKNOWN
9208284	UNK	UNKNOWN	UNKNOWN	UNKNOWN
9415801	FERRY ST & STATE ST	FERRY ST & STATE ST	WOODBRIDGE	UNKNOWN

Hazardous Spills - MISC. SPILL CAUSES - Closed

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
9709485	M/V TEVAL	AT SEA	AT SEA	UNKNOWN
9808924	ST 112	OMIKORN VENTURE L	BROOKLYN	UNKNOWN
9801893	NEW YORK BAY	NEW YORK BAY	BROOKLYN	UNKNOWN
9710101	NEW TOWN CREEK REGULATOR	UNIT B-5A	BROOKLYN	UNKNOWN
9613013	NEW YORK HARBOR	NY HARBOR 1 MI.W ROCKAWAY	BROOKLYN	UNKNOWN
9214074	NEW YORK HARBOR	NEW YORK HARBOR	BROOKLYN	UNKNOWN
9111782	ATLANTIC OCEAN	ATLANTIC OCEAN	BROOKLYN	UNKNOWN
0201365	NEW YORK HARBOR	BAY ANCHORAGE	BROOKLYN	UNKNOWN
1210329	GREAT KILLS HARBOR	HYLAN BLVD	GREAT KILLS	UNKNOWN
9501835	LOWER NEW YORK BAY	BUOY #9 AMBROSE CHANNEL	MANHATTAN	UNKNOWN
9307139	NY HARBOR	NY HARBOR	MANHATTAN	UNKNOWN
9312977	DDNEW YORK HARBOR ANCORAG	NEW YORK HARBOR	NEW YORK	UNKNOWN
9005644	26 LANDIS AVE/ST JOHNSVIL	26 LANDIS AVENUE	NEW YORK CITY	UNKNOWN
8904603	ARBUTUS LAKE/S.I.	ARBUTUS LAKE	NEW YORK CITY	10312
8903986	ROSSVILLE/S.I.	ROSSVILLE	NEW YORK CITY	UNKNOWN
8703837	OUTTER BRIDGE CROSSING /	OUTTER BRIDGE CROSSING	NEW YORK CITY	10309
1304968	PAD MOUNT TRANSFORMER	100 ESSEX DR AND WESTPORT ST	NEW YORK CITY	UNKNOWN
9205930	NYC HARBOR	NYC HARBOR	NYC	UNKNOWN
8605967	12 HRS OFF NY COAST/VESSE	12 HRS OFF N.Y. COAST	NYC	UNKNOWN
0010548	STAPLETON ANCHORAGE	AMBROSE CHANNEL	NYC	UNKNOWN
9505601	RARITAN BAY/HUGE KNOT BEA	HUGE KNOT BEACH	RICHMOND	10312
0603259	GRAVES INN BAY ANCHORAGE	UNKNOWN	STAPLETON	UNKNOWN
1112072	UNDERGROUND OIL LINE	45 GRETTA PLACE	STATAN ISLAND	UNKNOWN

9703851	NEW YORK HARBOR -UPPER	NEW YORK HARBOR -UPPER	STATEN HARBOR	UNKNOWN
9913588	B. NO. 85	BOUCHARD TRANSPORT	STATEN ISLAND	UNKNOWN
9913296	SPILL NUMBER 9913296	442 N FIELDS AVE	STATEN ISLAND	UNKNOWN
9814498	WILANA -VESSEL	50 MI OF LONG ISLAND	STATEN ISLAND	UNKNOWN
9809377	SPILL NUMBER 9809377	108 SPANISH COLONY ROAD	STATEN ISLAND	10312
9806999	POLE #32633	UNKNOWN	STATEN ISLAND	UNKNOWN
9804464	SPILL NUMBER 9804464	IFO 11 MINNER ST	STATEN ISLAND	UNKNOWN
9708279	SEGUINE AVENUE	SEGUINE AVENUE	STATEN ISLAND	UNKNOWN
9614788	BETWEEN FRESHKILL SUB STA	& STATEN ISLAND	STATEN ISLAND	UNKNOWN
9609174	85 AFAFIA AVE	85 AFAFIA AVE	STATEN ISLAND	UNKNOWN
9511554	FEEDER 38R582 SECTION 1	CON ED	STATEN ISLAND	UNKNOWN
9504643	409 COLLIN ST	409 COLLIN ST	STATEN ISLAND	UNKNOWN
9500674	546 DRUMGOOLE ROAD	546 DRUMGOOLE ROAD	STATEN ISLAND	10312
9408700	LEMON CREEK- BAYVIEW AVE	LEMON CREEK & BAYVIEW AVE	STATEN ISLAND	10309
9408572	OLD ORCHARD SCHOOL LIGHT	LOWER BAY-OLD ORCHARD SCH	STATEN ISLAND	UNKNOWN
9403041	71 BEGROOT PLACE	71 BEGROOT PLACE	STATEN ISLAND	UNKNOWN
9401461	OSHKILL RD	OSHKILL ROAD	STATEN ISLAND	UNKNOWN
9400190	88 POGGY STREET	88 POGGY STREET	STATEN ISLAND	UNKNOWN
9312166	6 PERSLEY STREET	6 PERSLEY STREET	STATEN ISLAND	UNKNOWN
9311675	178 DENZIER AVENUE	178 DENZIER AVENUE	STATEN ISLAND	UNKNOWN
9309148	AT BROOKLYN TOWER	AT BROOKLYN TOWER	STATEN ISLAND	UNKNOWN
9305414	NAVAL STA. NY 423 SITE	NAVAL STA. NY 423 SITE	STATEN ISLAND	UNKNOWN
9303304	VAN DEUSSEN STREET	VAN DEUSSEN STREET	STATEN ISLAND	UNKNOWN
9300254	BUCKEYE PIPELINE	BUCKEYE PIPELINE	STATEN ISLAND	UNKNOWN
9207814	21 COLLONIAL PARK STREET	21 COLLONIAL PARK STREET	STATEN ISLAND	UNKNOWN
8607769	SHARROT`S ROAD / STATEN I	SHARROT`S ROAD	STATEN ISLAND	10309
8603342	NORTH RD & SOUTH AVE	NORTH RD & SOUTH AVE	STATEN ISLAND	UNKNOWN
1309695	GREAT LAKES DREGE AND DOCK	STATEN ISLAND	STATEN ISLAND	UNKNOWN
1208971	OIL TERMINAL INTT	UPPER BAY	STATEN ISLAND	UNKNOWN
1208485	STATEN ISLAND	ALL STREETS	STATEN ISLAND	UNKNOWN
1208354	TRANSFORMER POLE # T-7	68 COLLINS ST	STATEN ISLAND	UNKNOWN
1208353	TRANSFORMER POLE # 32259	39 COLLINS ST	STATEN ISLAND	UNKNOWN
1203655	VESSEL- COMMERCIAL	ADDRESS NOT AVAILABLE AT THIS TIME	STATEN ISLAND	UNKNOWN
1112910	PAD MOUNT TRANSFORMER	9 DIEDRICH AVE	STATEN ISLAND	UNKNOWN
1111869	DRILL	DRILL	STATEN ISLAND	UNKNOWN
1110645	ARLENE ST PUMP STATION	ARLENE ST	STATEN ISLAND	UNKNOWN
1108097	SEWAGE TREATMENT BYPASS	ARLENI ST	STATEN ISLAND	UNKNOWN
1107844	DRUM RUN	NW CORNER LOIS LANE AND SOUTH AVE	STATEN ISLAND	UNKNOWN
1107358	POLE # 17022	219 MELBA STREET & WESTWOOD AVE.	STATEN ISLAND	UNKNOWN
1106542	CON EDISON UNDERGROUND TRANSFORMER 10040	140 NICHOLS DRIVE	STATEN ISLAND	UNKNOWN
1009780	ROADWAY	PORT RICHMOND SQUARE	STATEN ISLAND	UNKNOWN
1006537	NAUGHTON SUBSTATION	226 DUNCAN HILLS AVE	STATEN ISLAND	UNKNOWN
1003736	OVERHEAD TRANSFORMER	69 GROVER ST	STATEN ISLAND	UNKNOWN
1001254	VESSEL ATLANTIC COMPANION	NEWARK TERMINAL 17	STATEN ISLAND	UNKNOWN
0905961	MANHOLE # 100 EMIS 218141	STATEN ISLAND TRANSIT R/O/W	STATEN ISLAND	UNKNOWN
0904379	CON EDISON POLE # 19763	OPPOSITE 278 WOLFEN AVE	STATEN ISLAND	UNKNOWN
0712221	DEP TRUCK	14-66 MANNER ROAD	STATEN ISLAND	UNKNOWN
0711009	RUCCI TRUCK	ROME AVE	STATEN ISLAND	UNKNOWN
0709207	STATEN ISLAND TRANSFOR ST	600 WEST ROYAL STREET	STATEN ISLAND	UNKNOWN
0609939	LEAKING XFMR IN VAULT 9383	21 BLACKBERRY LANE	STATEN ISLAND	UNKNOWN
0603874	TOTTENVILLE SUBSTATION	4250 TOTTENVILLE RD	STATEN ISLAND	UNKNOWN
0600890	UNKNOWN	MARTLING POND RD	STATEN ISLAND	UNKNOWN
0513099	OUTER BRIDGE CROSSING	UNKNOWN	STATEN ISLAND	UNKNOWN
0503760	AERIAL CABLE	S SIDE VICTORY BD/E OF MO	STATEN ISLAND	UNKNOWN
0313087	POLE #185 TRANSFORMER	1532 DAY ST	STATEN ISLAND	UNKNOWN
0303673	SPILL NUMBER 0303673	TRINA AVE/CRAB TREE AVE	STATEN ISLAND	10309
0301323	SPILL NUMBER 0301323	76 FORSTER RD	STATEN ISLAND	UNKNOWN
0203564	PAD MOUNTED TRANSFORMER	14 MONTERY PLACE	STATEN ISLAND	UNKNOWN
0200681	WAGNER SUBSTATION	WAGNER SUBSTATION	STATEN ISLAND	UNKNOWN
0104248	SPILL NUMBER 0104248	NEW YORK HARBOR	STATEN ISLAND	UNKNOWN

0104052	MOTIVA SEWAREN TERMINAL	STATEN ISLAND	STATEN ISLAND	UNKNOWN
0103997	BETWEEN #91 & 95-POLE T-1	HECKER ST	STATEN ISLAND	UNKNOWN
0101217	POLE 11702	MERRILL AVE	STATEN ISLAND	UNKNOWN
0101183	SPILL NUMBER 0101183	IRT RIGHT OF WY/MEREDITH	STATEN ISLAND	UNKNOWN
0100745	BERTOS AUTO REPAIR	BURGHER AVE	STATEN ISLAND	UNKNOWN
0009391	MANHOLE 94	STATEN ISLAND RAPID TRANS	STATEN ISLAND	10300
0008453	GREAT KILLS HARBOR	RICHMOND COUNTY MARINA	STATEN ISLAND	UNKNOWN
0006784	HYLAND BLVD/SPRIG AV	ON THE GROUND	STATEN ISLAND	UNKNOWN
0004637	UNKNOWN DEVELOPMENT	PATTERSON AVE	STATEN ISLAND	UNKNOWN
0003249	CONSTRUCTION SITE	PIER 6 ST GEORGE	STATEN ISLAND	UNKNOWN
0000074	SMITH PL & MOTT AVE	SMITH PL & MOTT AVE	STATEN ISLAND	UNKNOWN

Petroleum Bulk Storage Facilities

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
2-609917	PELLICANO'S SERVICE CENTER	38 WINANT CENTER	STATEN ISLAND	10309

Hazardous Waste Generation or Transport Facilities

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
NYP004003703	CONSOLIDATED EDISON CO	LAFAYETTE AVENUE MH22219		UNKNOWN
NYP004019766	CONSOLIDATED EDISON CO	V462 WILLIAM ST		UNKNOWN
NYP000930006	CONSOLIDATED EDISON	V773-MAIN ST	BROOKLYN	UNKNOWN
NYP000930008	CONSOLIDATED EDISON	V6739-MAIN ST & MAPLE ST	BROOKLYN	UNKNOWN
NYP000930099	CONSOLIDATED EDISON	V6098-FRANKLIN AVE	BROOKLYN	UNKNOWN
NYP000930180	CONSOLIDATED EDISON	TM6675-ORS MET AVE	BROOKLYN	UNKNOWN
NY0000010363	NYCDOT	N/S	N/S	UNKNOWN
NYP004053427	CONSOLIDATED EDISON	V7558-NORTH BLVD & UNION AVE	NEW YORK	UNKNOWN
NYP004054946	CONSOLIDATED EDISON	V5971-LEXINGTON AVE	NEW YORK	UNKNOWN
NYP004106563	CONSOLIDATED EDISON	87 MEADOW LANE CNR	NEW YORK	UNKNOWN
NYD986934701	NYCTA - ELY AVENUE STATION	ELY AVE & 23RD ST	QUEENS	UNKNOWN
NYP000928650	CONSOLIDATED EDISON	MH58293 - OCEAN AVE	QUEENS	UNKNOWN
NYP004002937	CONSOLIDATED EDISON	V0466 - WEBSTER AVE	QUEENS	UNKNOWN
NYP004003778	CONSOLIDATED EDISON	V815 - UNION AVE	QUEENS	UNKNOWN
NYP004006524	CONSOLIDATED EDISON	MH4864	QUEENS	UNKNOWN
NYP004011092	CONSOLIDATED EDISON	TAP. CHANCER-S.S DELAWARE -YK	QUEENS	UNKNOWN
NYP004016747	CONSOLIDATED EDISON	V0609-THOMPSON STREET	QUEENS	UNKNOWN
NYD000885947	KEYSPAN ENERGY	NEW LANE ST	STATEN ISLAND	UNKNOWN
NYP000791061	USEPA	MADISON WIRE WORKS SITE	STATEN ISLAND	UNKNOWN
NYP004014502	CONSOLIDATED EDISON	V5760 - JAMES ST & ROLLING	STATEN ISLAND	UNKNOWN
NYP004015632	CONSOLIDATED EDISON	TM 4381	STATEN ISLAND	UNKNOWN
NYP004025961	CONSOLIDATED EDISON	MH35314	STATEN ISLAND	UNKNOWN
NYP004045407	CONSOLIDATED EDISON	V7664-20 HILLCREST	STATEN ISLAND	UNKNOWN
NYP004098075	CONSOLIDATED EDISON	EAST SVCE RD STA 198 & 60	STATEN ISLAND	UNKNOWN
NYP004105979	CONSOLIDATED EDISON	MH413-CANTERBURY AVE	STATEN ISLAND	UNKNOWN
NYP004112561	CONSOLIDATED EDISON	98 OLEAN AVE	STATEN ISLAND	UNKNOWN
NYP004114450	CONSOLIDATED EDISON	ST GEORGE S/S	STATEN ISLAND	UNKNOWN
NYP004140430	CONSOLIDATED EDISON	E HALOM AVE	STATEN ISLAND	UNKNOWN
NYP004146536	CONED	WATERS STREET	STATEN ISLAND	UNKNOWN
NYP004241212	CONED	80 E ALT LOOP ROAD	STATEN ISLAND	UNKNOWN
NYP004241303	CONSOLIDATED EDISON	300 THERFCOFF AVE	STATEN ISLAND	UNKNOWN
NYP004258091	CONSOLIDATED EDISON OF NY	327 STIDE AVE	STATEN ISLAND	UNKNOWN

Hazardous Substance Waste Sites

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
NY0369	OLD PLACE CREEK	U	U	UNKNOWN

Wastewater Discharges

FACILITY ID	FACILITY NAME	STREET	CITY	ZIP
NY0140767	RICHMOND AVENUE SHOPPING PLAZA			UNKNOWN
NY0200255	RICHMOND MEMORIAL HOSPITAL			UNKNOWN
NY0200697	AMERADA HESS SERVICE STATION			UNKNOWN

NYU080008	NATIONAL SEATRADE INC.	UNKNOWN
NYU200021	NYC-CSO	UNKNOWN
NYU200063		UNKNOWN

Hazardous waste codes presented in individual Toxic Information Profiles are defined below.

D001 Solid waste that exhibits the characteristic of ignitability, but is not listed under any other hazardous waste code.

D002 Solid waste that exhibits the characteristic of corrosivity, but is not listed under any other hazardous waste code.

Source: U. S. Environmental Protection Agency

How Toxic Site Locations Are Mapped

Toxics Targeting maps toxic site locations on a digital version of the U. S. Census map or those used by local authorities using addresses and map coordinates provided by site owners/operators or government agencies. In order to allow site locations to be verified independently, the information used to map each site is presented in the first section of each Toxic Site Profile, along with a description of the mapping technique used and any address corrections that were made in order to locate toxic sites with incomplete or inadequate site location information. The mapping process is explained below.

Map Identification Number: 12 Site Name: Acme World Manufacturing, Inc.

Site Address: 55 Main Street Anytown, NY 11797

MAP LOCATION INFORMATION

Site location mapped by:

Address Matching

1) Most toxic sites are mapped by matching addresses provided by site owners/operators or government agencies with locations on a digital version of the street or parcel map. These site locations are identified with the method used to map them.

Note: Some sites have an address match location and a map coordinate location. Both locations are mapped because they can be equally correct.

or Map Coordinate

2) Some toxic sites are located using map coordinates provided by site owners/ operators or government agencies. These site locations are identified "map coordinate." Map coordinates for Toxic Wastewater Discharges, Toxic Release Inventory sites and Major Oil Storage Facilities should be considered suspect.

or Manual Mapping

or Site Visit

3) Incomplete addresses or map coordinates require some site locations to be determined by commercial street maps (manual mapping), site visits, map coordinates from other databases and address location services. Application of any of these methods is identified accordingly.

ADDRESS CHANGE INFORMATION

Revised Street: NO CHANGE

Revised zip code: NO CHANGE

4) Site addresses are sometimes corrected to eliminate obvious errors that prevent sites from being mapped. All address corrections are noted here.

Information Source Guide

Toxics Targeting's Environmental Reports contain government and other information compiled on 21 categories of reported known or potential toxic sites. Each toxic site database is described below with information detailing a) the source of the information, b) the date when each database is covered to and c) when *Toxics Targeting* obtained the information..

1) **National Priority List for Federal Superfund Cleanup:** Toxic sites nominated for cleanup under the Federal Superfund program. Annual compilation of special two-page detailed profiles of NPL sites. Also includes delisted NPL sites.
ASTM required.* Fannie Mae required.** Source: U. S. Environmental Protection Agency.[1]
Data attributes updated from: 9/9/2015. Data obtained by Toxics Targeting: 9/9/2015.
New Facilities updated through: 9/9/2015. Data obtained by Toxics Targeting: 9/9/2015.

2) **Inactive Hazardous Waste Disposal Site Registry:** New York State database that maintains information and aids decision making regarding the investigation and cleanup of toxic sites. The Registry's data includes two-page profiles noting site name, ID number, description, classification, cleanup status, types of cleanup, owner information, types and quantities of contaminants, and assessment of health and environmental problems. Also included are sites that qualify for possible inclusion on the Registry. These Registry Qualifying sites may or may not be on the Site Registry.
ASTM required.* Fannie Mae required.** Source: New York State Department of Environmental Conservation.[2]
Data attributes updated through: 7/26/2015. Data obtained by Toxics Targeting: 7/26/2015.
New Facilities updated to: 7/26/2015. Data obtained by Toxics Targeting: 7/26/2015.

3) **Corrective Action Activity (CORRACTS):** New York State and Federal databases of hazardous facilities regulated pursuant to the Resource Conservation and Recovery Act (RCRA).
ASTM required.* Fannie Mae required.** Source: U. S. Environmental Protection Agency[1]
Source: New York State Department of Environmental Conservation.[2]
Data attributes updated through: 8/13/2015. Data obtained by Toxics Targeting: 8/13/2015.
New facilities updated through: 8/13/2015. Data obtained by Toxics Targeting: 8/13/2015.

4) **CERCLIS:** Toxic sites listed in the Federal Comprehensive Environmental Response, Compensation and Liability Information System. Includes Active and No Further Remedial Action Planned (NFRAP) sites.
ASTM required.* Fannie Mae required.** Source: U. S. Environmental Protection Agency.[1]
Data attributes updated through: 10/25/2013. Data obtained by Toxics Targeting: 1/7/2014.
New Facilities updated through: 10/25/2013. Data obtained by Toxics Targeting: 1/7/2014.

5) **Brownfield Programs:** NYS programs for sites that are abandoned, idled or under-used industrial and/or commercial sites where expansion or redevelopment is complicated by real or perceived environmental contamination.
ASTM required.* Source: New York State Department of Environmental Conservation.[2]
Data attributes updated through: 7/26/2015. Data obtained by Toxics Targeting: 7/26/2015.
New Facilities updated to: 7/26/2015. Data obtained by Toxics Targeting: 7/26/2015.

(a) **Brownfield Cleanup Program (BCP)**
(b) **Voluntary Cleanup Program (VCP)**
(c) **Environmental Restoration Program (ERP)**

6) **Solid Waste Facilities:** a compilation of the following 2 databases:

(a) **NYS Solid Waste Registry:** which includes, but is not limited to, landfills, incinerators, transfer stations, recycling centers.
ASTM required.* Fannie Mae required.** Source: New York State Dept. of Environmental Conservation.[2]
Data updated to: 4/1/2013. Data obtained by Toxics Targeting: 4/1/2013.

(b) **1934 Solid Waste Disposal Site in New York City:** which includes sites operated by municipal authorities circa 1934. Source: City of New York Department of Sanitation (1984). The Waste Disposal Problem in New York City: A Proposal For Action.

7) **RCRA Hazardous Waste Treatment, Storage or Disposal Facility Databases:**

(a) **Manifest Information:** New York State database of hazardous waste facilities and shipments regulated by the DEC's Division of Environmental Remediation pursuant to NYS Law and the Resource Conservation and Recovery Act (RCRA).
ASTM required.* Fannie Mae required.** Source: New York State Department of Environmental Conservation.[2]

New facilities updated through: 8/3/2015. New facilities obtained by Toxics Targeting: 8/14/2015.
Manifest transactions data updated to: 8/3/2015. Manifest transactions data obtained by Toxics Targeting: 8/14/2015.

(b) **RCRA Notifier & Violations Information:** U. S. Environmental Protection Agency database of hazardous facilities regulated pursuant to the Resource Conservation and Recovery Act (RCRA).
ASTM required.* Fannie Mae required.** Source: U. S. Environmental Protection Agency[1]
New facilities updated through: 8/13/2015. Data obtained by Toxics Targeting: 8/13/2015.
Data attributes updated through: 8/13/2015. Data obtained by Toxics Targeting: 8/13/2015.

8) **Spills Information Database:** Spills reported to the DEC as required by one or more of the following: Article 12 of the Navigation Law, 6 NYCRR Section 613.8 (from Petroleum Bulk Storage Regulations) or 6 NYCRR Section 595.2 (from Chemical Bulk Storage Regulations). This database includes both *active* and *closed* spills.
ASTM required.* Fannie Mae.** Source: NYS Department of Environmental Conservation.[2]

New spills through: 7/30/2015 New spills data obtained by Toxics Targeting: 7/30/2015
Spill attribute data through: 7/30/2015 Spill attribute data obtained by Toxics Targeting: 7/30/2015

Active spills: paperwork not completed. Closed spills: paperwork completed.
Both active and closed spills may or may not have been cleaned up (see Date Cleanup Ceased in spill profiles).

9) **Major Oil Storage Facilities:** NYS database of facilities licensed pursuant to Article 12 of the Navigation Law, 6NYCRR Parts 610 and 17NYCRR Part 30, such as onshore facilities or vessels, with petroleum storage capacities equal to or greater than four hundred thousand gallons. **Tank & other data withheld by NYSDEC as of 4/1/2002**.
ASTM required.* Fannie Mae required.** Source: New York State Department of Environmental Conservation.[2]

Data updated through: 8/3/2015. Data obtained by Toxics Targeting: 8/3/2015.

10) **Petroleum Bulk Storage Facilities:** a compilation of local and state databases of aboveground and underground petroleum storage tank facilities.

(a) **NYS Petroleum Bulk Storage Database:** This includes all New York State counties except Cortland, Nassau, Rockland, Suffolk, and Westchester. ASTM required.* Fannie Mae required.**
Source: NYS Department of Environmental Conservation.[2]
New facilities updated through: 8/3/2015. Data obtained by Toxics Targeting: 8/3/2015.
Tank data updated through: 8/3/2015. Data obtained by Toxics Targeting: 8/3/2015.

(b) **New York City Fire Department Tank Data:** **Data has been withheld by the NYC Fire Dept.**
Source: New York City Fire Department. Data obtained by Toxics Targeting: 2/18/1997

11) **RCRA Hazardous Waste Generators and/or Transporters Databases:**

(a) **Manifest Information:** New York State database of hazardous waste facilities and shipments regulated by the NYS Department of Environmental Conservation's Division of Environmental Remediation pursuant to New York State Law. ASTM required.* Fannie Mae required.** Source: New York State Department of Environmental Conservation.[2]

New facilities updated through: 8/03/2015. New facilities obtained by Toxics Targeting: 8/14/2015.
Manifest transactions data updated to: 8/03/2015. Manifest transactions data obtained by Toxics Targeting: 8/14/2015.

(b) **RCRA Notifier & Violations Information:** U. S. Environmental Protection Agency database of hazardous facilities regulated pursuant to the Resource Conservation and Recovery Act (RCRA).
ASTM required.* Fannie Mae required.** Source: U. S. Environmental Protection Agency[1]

New facilities updated through: 8/13/2015. Data obtained by Toxics Targeting: 8/13/2015.
Data attributes updated through: 8/13/2015. Data obtained by Toxics Targeting: 8/13/2015.

12) **Chemical Bulk Storage Facilities:** New York State database of facilities compiled pursuant to 6NYCRR Part 596 that store regulated substances listed in 6NYCRR Part 597 in aboveground tanks with capacities greater than 185 gallons and /or in underground tanks of any size. **Tank & other data withheld by NYSDEC as of 4/1/2002**.
ASTM required.* Fannie Mae required.** Source: New York State Department of Environmental Conservation.[2]
Data updated through: 8/3/2015. Data obtained by Toxics Targeting: 8/3/2015.

13) **Historic New York City Utility Facilities (1898 to 1950):** An inventory of selected power generating stations, manufactured gas plants, gas storage facilities, maintenance yards and other gas and electric utility sites identified in various historic documents, maps and annual reports of New York utility companies, including: Sanborn Fire Insurance Maps of NYC (1898-1950); Consolidated Edison Co. Annual Reports (1922-1939); Consolidated Edison Co. Map: "Boroughs of Manhattan and the Bronx Showing Distribution Mains of the New York Edison Co.," (1922); and Consolidated Edison document: "Generating and Annex Stations," (1911).

14) **Hazardous Substance Waste Disposal Site Study:** NYS database of waste disposal sites that may pose threats to public health or the environment, but could not be remediated using monies from the Hazardous Waste Remedial Fund.
Source: New York State Department of Environmental Conservation.[2]
Data updated to: 5/16/2000. Data obtained by Toxics Targeting: 5/16/2000.

15) **Toxic Release Inventory (TRI):** Federal database of manufacturing facilities required under Section 313 of the Federal Emergency Planning and Community Right-to-Know Act to report releases to the air, water and land of any specifically listed toxic chemical. See Fannie Mae requirement** below.
Source: U. S. Environmental Protection Agency.[1] / NYS Department of Environmental Conservation[2]
Data updated through: 3/8/2004. Data obtained by Toxics Targeting: 3/25/2004

16) **Toxic Wastewater Discharges (Permit Compliance System):** Federal database of discharges of wastewater to surface waters and groundwaters. See Fannie Mae requirement** below. Source: U. S. Environmental Protection Agency.[1]
Data updated through: 6/17/2004. Data obtained by Toxics Targeting: 7/19/2004.

17) **Air Discharge Facilities:** EPA AIRS database containing address information on each air emission facility and the type of air pollutant emission it is. Compliance information is also provided on each pollutant as well as the facility itself.
See Fannie Mae requirement** below. Source: U. S. Environmental Protection Agency[1]
Data updated through: 11/24/1999. Data obtained by Toxics Targeting: 1/6/2000

18) **Civil Enforcement & Administrative Docket:** This database is the U. S. EPA's system for tracking administrative and civil judiciary cases filed on behalf of the agency by the Department of Justice. Fannie Mae required.**
Source: U. S. Environmental Protection Agency.[1]
New Sites through: 10/14/1999.
Data updated through: 10/14/1999. Data obtained by Toxics Targeting: 11/18/1999.

19) **New York City Environmental Quality Review (CEQR) – E Designation Sites:** These sites are parcels assigned a special environmental ("E") designation under the CEQR process. E designation requires specific protocols that must be followed. Source: New York City Department of Planning[3]
Data updated through: 4/28/2015. Data obtained by Toxics Targeting: 5/24/2015.

20) **Emergency Response Notification System (ERNS):** Federal database of spills compiled by the Emergency Response Notification System. On-site searches only.
ASTM required.* See Fannie Mae requirement** below. Source: U. S. Environmental Protection Agency.[1]
Data updated through: 1/31/2000. Data obtained by Toxics Targeting: 2/15/2000

21) **Remediation Site Borders:** Remediation site borders reported by NYSDEC.
Source: New York State Department of Environmental Conservation.[2]
Updated through: 4/8/2009. Data obtained by Toxics Targeting: 7/21/2009.

* American Society of Testing Materials: Standard Practice on Environmental Site Assessments: Phase I Environmental Site Assessment Process (E1527-05).

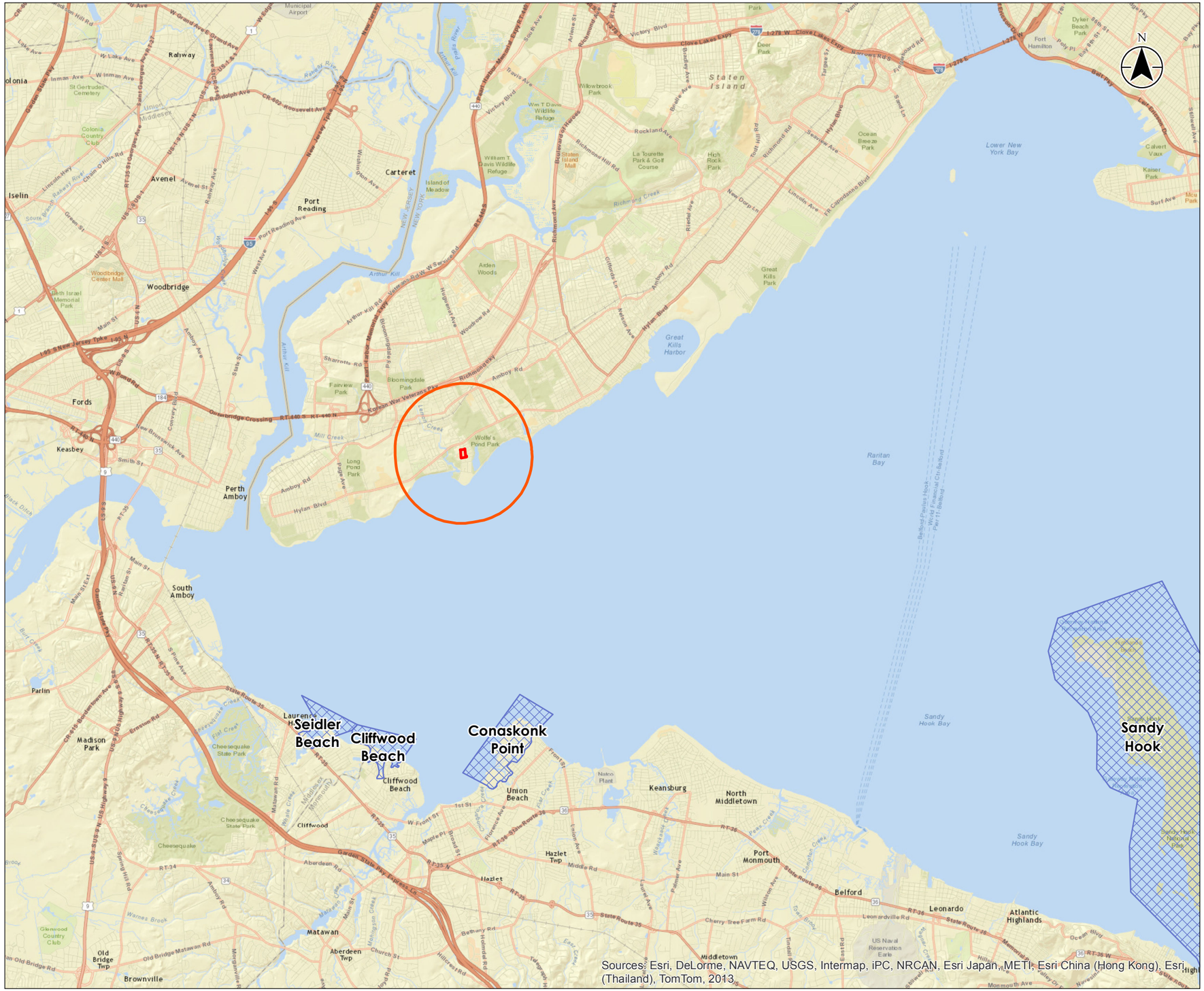
** Fannie Mae's Part X Environmental Hazards Management Procedures specify 1.0 mile searches for "any state or Federal list of hazardous waste sites (e.g. CERCLIS, HWDMS etc.)." Searches for the property and adjacent properties are specified for "chemical manufacturing plants," "obvious high risk neighbors engaging in storing or transporting hazardous waste, chemicals or substances" and "...any documented or visible evidence of dangerous waste handling... (e.g. stressed vegetation, stained soil, open or leaking containers, foul fumes or smells, oily ponds, etc." Searches for property and adjacent properties can include sites up to a quarter mile away (W. Hayward, Director, Multi-Family Business Planning and Control, Fannie Mae, personal communication, 5/94).

[1]U. S. Environmental Protection Agency, 290 Broadway, NY, NY 10007-1866.

[2]NYS Department of Environmental Conservation, 625 Broadway, Albany, NY 12233.

[3]New York City Department of City Planning, 22 Reade St, New York, NY 10007-1216

APPENDIX M COASTAL BARRIER RESOURCES



Stantec

North Shore LIJ

- Staten Island University Hospital - South Campus
- Coastal Barrier Resource Mapped Area
- One Mile Buffer

0 1 2 Miles

1:100,000 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
2. John H. Chafee Coastal Barrier Resources System Approximate Polygons, produced by the U.S. Fish and Wildlife Service, downloaded from data.gov (http://catalog.data.gov/dataset/john-h-chafee-coastal-barrier-resources-system-approximate-polygons) on October 19, 2015. The boundaries used to create the polygons herein were compiled between 4/1/2007 and 12/18/2014 from the official John H. Chafee Coastal Barrier Resources System CBRS maps.

Project Location:
375 Seguine Avenue
Staten Island, Richmond County, NY

Prepared by AG on 2015-10-20
Technical Review by BW on 2015-10-27
Independent Review by DH on 2015-11-05

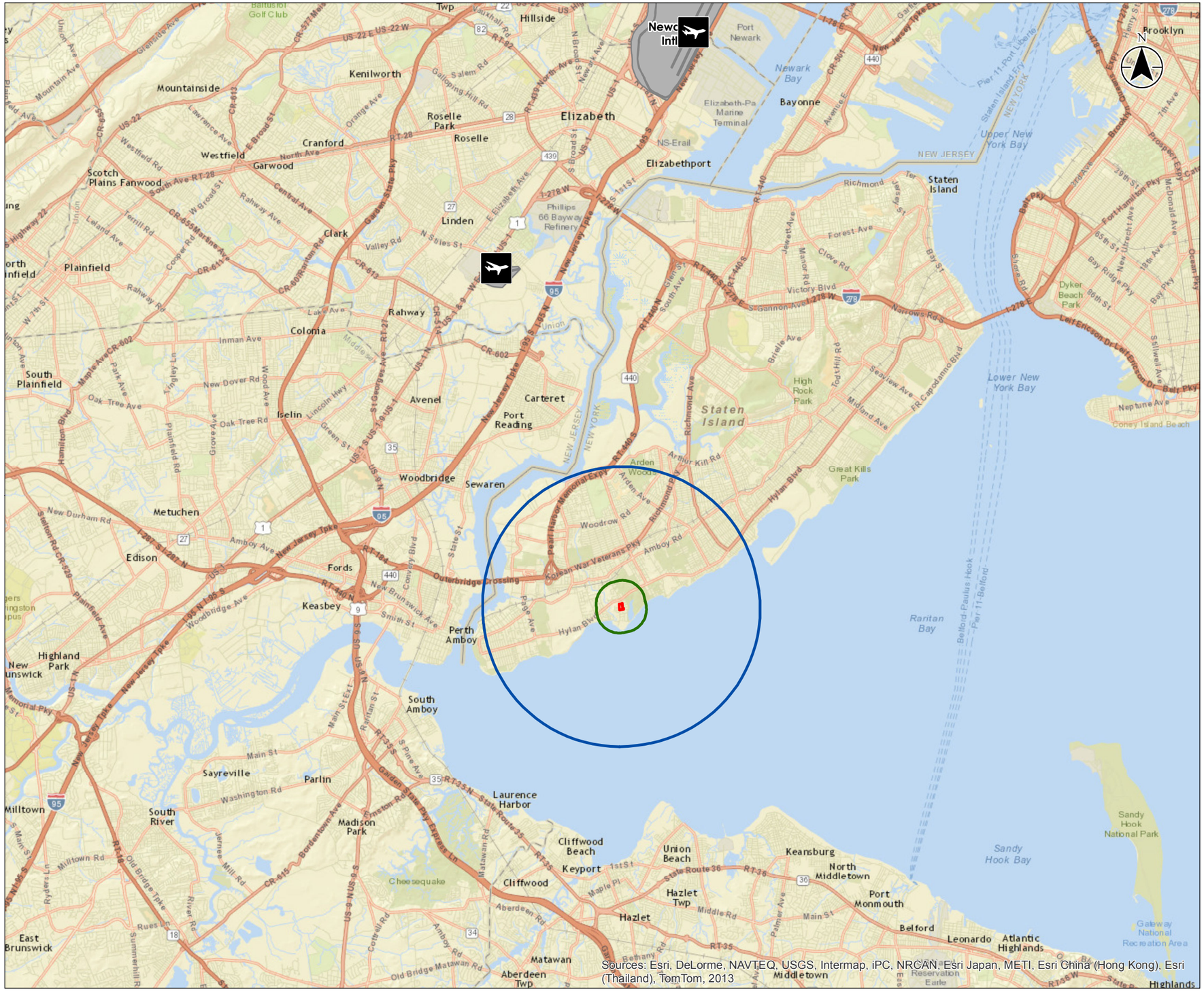
190500871

Client/Project
NSLIJ
Staten Island University Hospital
South Campus Upgrades

Figure No.
M

Title
Coastal Barrier Resources Map

APPENDIX N AIRPORT HAZARDS



Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

Stantec North Shore LIJ

🟥 Staten Island University Hospital - South Campus

✈ Airport Area

🟦 15,000 ft. Buffer

🟩 2,500 ft. Buffer

0 1.5 3 Miles

1:136,000 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet
2. Airport locations from ESRI StreetMap USA shapefile and verified using NEPAssist maping tools.

Project Location:

375 Seguine Avenue
Staten Island, Richmond County, NY

Prepared by	AG	on 2015-10-20
Technical Review by	BW	on 2015-10-27
Independent Review by	DH	on 2015-11-05

190500871

Client/Project
NSLIJ
Staten Island University Hospital
South Campus Upgrades

Figure No.
N

Title

Airport Hazards Map

U:\190500871\05_report_deliv\dwgs_design\GIS_figures\mxd\South Campus\B_airport_map.mxd Revised: 2015-11-05 By: aglose

APPENDIX O SITE PHOTOGRAPHS

Staten Island University Hospital South Campus
375 Seguine Avenue, Staten Island, NY
Photos Taken: 6/5/2015 by Regina Nash (P.W. Grosser)

Photo #1 View of ambulance driveway entrance looking southwest towards Melville Street

Photo #2 View of ambulance driveway entrance looking west towards hospital

Photo #3 View of ambulance driveway and Central Utility Plant access road looking northwest towards hospital

Photo #4 View of parking lot located south of the Central Utility Plant

Photo #5 View of parking lot located south of the Central Utility Plant

Photo #6 View of west side of Central Utility Plant

Photo #7 View of Central Utility Plant access road looking south towards Melville St.

Photo #8 View of existing boilers in Central Utility Plant

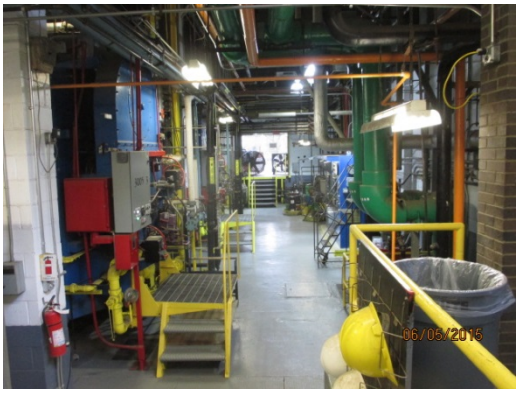


Photo #9 Alternative view of existing boilers in Central Utility Plant

Photo #10 View of generator to be removed

Photo #11 View of existing boiler (2)

Photo #12 View of generator to be removed

Photo #13 View of proposed location of third boiler

Photo #14 Existing electrical switchgear and panels

Photo #15 View of chiller to be refurbished

Photo #16 View of generator to be replaced

Photo #17 View of existing sump/proposed pump intake location