746 PROSPECT AVENUE

NEW CASSEL, NY 11590 SECTION 11, BLOCK 90, LOT 48

Analysis of Brownfield Cleanup Alternatives

USEPA Community-Wide Assessment Grant
Cooperative Agreement No. BF-9649919 (Petroleum)
AKRF Project Number: 200225

Prepared for:

United States Environmental Protection Agency, Region 2 290 Broadway, 25th Floor New York, NY 10007

On Behalf Of:

The Town of North Hempstead 210 Plandome Road Manhasset, NY 11030

Prepared by:



AKRF, Inc. 440 Park Avenue South, 7th Floor New York, New York 10016 (212) 696-0670

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1.0 INTRODUCTION AND BACKGROUND

AKRF, Inc. (AKRF) was retained by The Town of North Hempstead (ToNH) to prepare this Analysis of Brownfield Cleanup Alternatives (ABCA) for the property located at 746 Prospect Avenue in New Cassel, NY 11590 (the "Site"). The approximately 4,950-square foot Site, which is defined on the Nassau County Tax Map as Section 11, Block 90, Lot 48, is developed with a two-story mixed-use commercial and residential building with a partial cellar, an asphalt-paved parking area, and a vegetable garden. Historically, the Site appears to have been first developed circa 1936 with a two-story mixed-use commercial and residential building. Since construction, the building has been occupied by various commercial and residential tenants, including: Lonnie's Lawn Service in 1982; Chez Maggy Deli & Grocery, Inc. from 2000 to 2017; World Properties International from 2010 to 2017; 24 Hour Locksmith from 2014 to 2017; and Prospect Ave Plumbing & Heating from 2014 to 2017. Based on the findings from the review of historic topographic maps of the Site, its topography appeared to be altered between circa 1900 and 1947, indicating possible filling with material of unknown origin. A map showing the location of the Site is provided as Figure 1.

This ABCA was prepared to provide a summary of alternatives that were considered for the remediation of contamination identified at the Site. Previous environmental investigations conducted at the Site under the United States Environmental Protection Agency (USEPA) Community-Wide Assessment Grant Cooperative Agreement No. BF-9649919 (Petroleum) included a Phase I Environmental Site Assessment (ESA), a Phase II Environmental Site Investigation (ESI), two asbestos-containing material (ACM) surveys, and a lead-based paint (LBP) survey. The purpose of completing the alternatives analysis was to identify, evaluate, and select an appropriate remedial approach to address the contamination that was identified.

1.1 Site Location

The Site is located at 746 Prospect Avenue in New Cassel, NY 11590. The approximately 4,950-square foot Site, which is defined on the Nassau County Tax Map as Section 11, Block 90, Lot 48, is developed with a two-story mixed-use commercial and residential building with a partial cellar, an asphalt-paved parking area, and a vegetable garden. The Site is bounded by Prospect Avenue to the north, Sheridan Street to the east, a vacant lot to the west, and residences to the south. The surrounding area was predominantly residential and commercial, with some institutional and parkland uses.

Topography at the Site is generally level, with a slight slope down to the west. Based on the United States Geological Survey (USGS) 7.5-Minute Quadrangle Map for Hicksville, NY (2019) and Freeport, NY (2019), the Site is situated approximately 120 feet above the North American Vertical Datum of 1988 (NAVD 88), an approximation of mean sea level. Based on regional topography and the USGS Long Island Depth to Water Viewer, depth to groundwater in the vicinity of the Site is estimated to be approximately 50 to 75 feet below ground surface, with regional groundwater expected to flow in a southerly direction. The nearest tidally influenced surface water body is Roslyn Harbor, located approximately 5 miles northwest of the Site. Based on its topography, anticipated depth to groundwater, and distance from tidally influenced water bodies, there are currently no concerns associated with flooding due to climate change and/or sea level rising. Future redevelopment/rehabilitation of the Site will include appropriate engineering to address the management of stormwater and other concerns related to potential localized flooding of low-lying areas.

1.2 Previous Site Use(s)

Historically, the Site was vacant/undeveloped prior to construction of the current two-story mixed-use commercial and residential building circa 1936; a small, detached, ancillary building (suspected

former garage) was present in the southeastern portion of the Site prior to 1974 before it was demolished. Since construction, the building has been occupied by various commercial and residential tenants, including: Lonnie's Lawn Service in 1982; Chez Maggy Deli & Grocery, Inc. from 2000 to 2017; World Properties International from 2010 to 2017; 24 Hour Locksmith from 2014 to 2017; and Prospect Ave Plumbing & Heating from 2014 to 2017. Based on the findings from the review of historic topographic maps of the Site, its topography appeared to be altered between circa 1900 and 1947, indicating possible filling with material of unknown origin.

As documented in AKRF's September 2020 Phase I ESA and April 2021 Phase II ESI, the Site was observed to be developed with a two-story mixed-use commercial and residential building with a partial cellar, an asphalt-paved parking area, and a vegetable garden. At the time of AKRF's investigations, the commercial space and partial cellar were vacant; however, the second floor apartment was occupied. The commercial space was reportedly most recently occupied by a small grocery store with a deli, with the partial cellar containing the building's mechanical systems, utility connections, and storage areas. The building was heated by a natural gas boiler; however, evidence of the former use/storage of heating oil (petroleum-like staining on the concrete slab and suspected former fill/vent piping) was observed. Subsequent investigation in the vicinity of the suspected fill/vent piping revealed a buried 550-gallon fiberglass underground storage tank (UST) below the asphalt driveway that had been previously abandoned in place. The UST, which was spherical in shape and is suspected to have formerly stored heating oil, was removed during the Phase II ESI, with no evidence of a petroleum release/spill noted.

The condition of the building itself varied from fair to significantly damaged, with some peeling paint, cracked/damaged wood, damaged concrete, and water damage observed; portions of the concrete cellar floor were found to be broken/cracked, with exposed soil noted in several areas. A suspected cesspool (reportedly used for sanitary waste) was observed in the cellar below a manhole cover; the suspected cesspool was found to be filled with concrete debris, gravel, sand, and silt, and appeared to have a concrete bottom. Evidence of a potential second cesspool/drywell below the asphalt-paved parking area (a suspected sanitary line was traced from the building into the parking area) was identified during a geophysical survey; however, no subsurface structures were identified. Some general refuse was noted around exterior portions of the Site, with concrete pads reportedly associated with former heating, ventilation, and air conditioning (HVAC) and refrigeration equipment for the commercial space noted along the western boundary of the Site.

1.3 Previous Cleanups / Remediations

Evidence of a suspected UST (fill/vent piping) was identified in the asphalt-paved parking area outside the southeastern portion of the building during AKRF's September 2020 Phase I ESA. Subsequent to issuance of the Phase I ESA, Windmill Oil Tank Services (Windmill) of Yaphank, NY reportedly confirmed the presence of an UST in the vicinity of the suspected fill/vent piping, pumped out the remaining contents of the tank, and abandoned it in-place on October 7, 2020 by filling it with foam. As a component of the Phase II ESI, to evaluate soil conditions beneath the UST, AKRF directed the removal of the abandoned UST and evaluated the surrounding soil for evidence of a historical petroleum spill/release, including the collection and laboratory analysis of soil samples collected from the sidewalls and base of the tank grave.

On January 13, 2021, Eastern Environmental Solutions, Inc. (Eastern) of Manorville, NY, a certified tank removal contractor, removed the UST in accordance with the procedures outlined in 6 New York State Codes, Rules and Regulations (NYCRR) Part 613, Article 17, Title 10 – Petroleum Bulk Storage, updated November 10, 2015. A track-mounted backhoe was used to uncover and remove a 550-gallon fiberglass UST that was spherical in shape and approximately 5 feet in diameter. The tank grave was approximately 6 feet deep, 8 feet long, and 7 feet wide. The tank and the surrounding soil were visually inspected, with no evidence of historical petroleum

spill/release observed. The fill/vent piping observed during AKRF's Phase I ESA were no longer present and were likely removed when Windmill abandoned the UST.

Upon removal, the UST was found to be filled with foam; therefore, the tank was transported in its entirety to Eastern's yard in Manorville, NY to be cleaned prior to disposal at a licensed recycling facility. Two 55-gallon drums of foam, residual heating oil (reportedly No. 2 fuel oil), and sludge were generated during tank cleaning that were later disposed of at Clean Water of New York in Staten Island, NY on January 13, 2021. The UST was registered and closed with the Nassau County Department of Health on January 27, 2021, and the tank was disposed of at Crown Recycling Facility of Calverton, NY on February 2, 2021.

Following removal of the tank, five soil samples were collected from the tank grave; one sample was collected from each sidewall (746-SB-03N, 746-SB-03E, 746-SB-03S, and 746-SB-03W) from a depth of approximately 3 feet below ground surface (bgs) and one sample was collected from the base of the tank grave (746-SB-03B) from a depth of approximately 6 feet bgs. The tank grave sample IDs and depths are summarized in Table I.

Table I
Tank Grave Soil Sample Depths

Sample Location	Sample Depth (feet bgs)
746-SB-03N	3
746-SB-03E	3
746-SB-03S	3
746-SB-03W	3
746-SB-03B	6

Note:

bgs = below ground surface

No evidence of a historic petroleum spill/release [petroleum staining, odors, elevated photoionization detector (PID) readings, etc.] was observed in the soil samples collected from the tank grave, and no elevated concentrations of petroleum-related compounds were detected in the samples that were analyzed at the laboratory; the results of the laboratory analyses are discussed further in Section 1.4.

After collecting the tank grave soil samples, excavated overburden material that had been stockpiled was placed back into the tank grave and approximately 3.67 tons of clean sand was imported to the Site from Ranco Sand & Stone of Manorville, NY to complete backfilling of the tank grave. After the tank grave was backfilled, the area was patched with asphalt to match the existing surface.

1.4 Site Assessment Findings

AKRF prepared a Phase I ESA for the Site in conformance with American Society for Testing and Materials (ASTM) Practice E1527-13 in September 2020. At the time of the Phase I ESA, the Site was observed to be developed with a two-story mixed-use commercial and residential building with a partial cellar, an asphalt-paved parking area, and a vegetable garden. At the time of AKRF's Phase I ESA, the commercial space and partial cellar were vacant; however, the second floor apartment was occupied. The commercial space was reportedly most recently occupied by a small grocery store with a deli, with the partial cellar containing the building's mechanical systems, utility connections, and storage areas. The building was heated by a natural gas boiler; however, evidence of the former use/storage of heating oil (petroleum-like staining on the concrete cellar slab and suspected former fill/vent piping outside the building) was observed. The Phase I ESA identified recognized environmental concerns (RECs) associated with suspected former use/storage of

petroleum, a suspected former cesspool in the cellar of the building, a suspected cesspool/drywell in the parking area, and potential presence of historic fill of unknown origin.

Based on the findings of the Phase I ESA, AKRF prepared a Phase II ESI Work Plan to outline the scope of work to sample and analyze environmental media, with a focus on collecting soil data, and depending on field observations, groundwater data. The USEPA-approved December 2020 Phase II ESI Work Plan included a Health and Safety Plan (HASP) and a Quality Assurance Project Plan (QAPP). The field work associated with the Phase II ESI was completed on January 13 and 14, 2021, and included: completion of a geophysical survey across readily accessible areas of the Site; a cesspool, drywell, and tank investigation; collection and laboratory analysis of five soil samples from the tank grave; advancement of five soil borings to a maximum depth of 12 feet bgs; and collection and laboratory analysis of five soil samples from the soil borings. Groundwater was not encountered, and therefore, groundwater samples were not collected. Soil encountered consisted of historic fill (sand with varying amounts of silt, gravel, concrete, asphalt, and brick) extending from surface grade to depths down to approximately 7 feet below sidewalk grade at exterior soil boring locations (746-SB-04, 746-SB-05, and 746-SB-06) and to depths down to 12 feet below cellar grade at interior soil boring locations (746-SB-01 and 746-SB-02); apparent native sand with varying amounts of silt and gravel were identified underlying the fill layer in all but one location (746-SB-02, advanced in the suspected cesspool in the cellar). Since no field evidence of contamination other than fill material was observed, one sample from each soil boring was selected for laboratory analysis from the top two feet of soil below the ground surface, except for the sample from soil boring 746-SB-02, which was collected from the top two feet of soil below the concrete debris in the suspected cesspool. As noted in Section 1.3, five samples were collected from the tank grave following removal of the previously abandoned UST; one sample was collected from each sidewall (746-SB-03N, 746-SB-03E, 746-SB-03S, and 746-SB-03W) from a depth of approximately 3 feet bgs and one sample was collected from the base of the tank grave (746-SB-03B) from a depth of approximately 6 feet bgs. The soil boring and tank grave sample IDs and depths are summarized in Table II.

Table II - Soil Boring and Tank Grave Soil Sample Depths

Sample	Boring Depth	Sample Depth		
Location	(feet bgs)	(feet bgs)		
Soil Boring Samples				
746-SB-01 ⁽¹⁾	12	0 - 2		
746-SB-02 ⁽¹⁾	12	1.5 - 3.5		
746-SB-04 ⁽²⁾	12	0.5 - 2.5		
746-SB-05 ⁽²⁾	12	0 - 2		
746-SB-06 ⁽²⁾	12	0 - 2		
Tank Grave Samples				
746-SB-03N (2)	NA	3		
746-SB-03E (2)	NA	3		
746-SB-03S (2)	NA	3		
746-SB-03W (2)	NA	3		
746-SB-03B (2)	NA	6		

Notes:

bgs = below ground surface

NA = not applicable

- (1) = referenced depths are below cellar grade (interior location)
- (2) = referenced depths are below sidewalk grade (exterior location)

Samples were placed in laboratory-supplied containers within an ice-filled cooler, in accordance with USEPA protocols, and transported via courier with appropriate chain-of-custody (COC)

documentation to Eurofins TestAmerica Inc. (TestAmerica), a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified laboratory, in Edison, NJ. Samples were analyzed for target compound list (TCL) volatile organic compounds (VOCs) by USEPA Method 8260, polycyclic aromatic hydrocarbons (PAHs) by USEPA Method 8270, polychlorinated biphenyls (PCBs) by USEPA Method 8082, Resource Conservation and Recovery Act (RCRA) metals by USEPA 6020, and hexavalent chromium by USEPA Method 7196.

Analytical results from the 10 soil samples were compared to the New York State Department of Environmental Conservation (NYSDEC) Soil Cleanup Objectives (SCOs) presented in Section 6.8 of 6 New York State Codes, Rules, and Regulations (NYCRR) Part 375. Specifically, based on the potential future use of the Site (single-family residential or mixed-use commercial/residential), the Residential Soil Cleanup Objectives (RSCOs; applicable to single-family residential) and Restricted Residential Soil Cleanup Objectives (RRSCOs; applicable to mixed-use commercial/residential), developed for the protection of public health, were used for comparison. A comparison to Unrestricted Use Soil Cleanup Objectives (UUSCOs) was also included in relation to potential soil handling/disposal requirements and to assess potential remediation scenarios. No VOCs, PAHs, PCBs, or metals were detected at concentrations above their respective RSCOs, RRSCOs, or UUSCOs in any of the soil samples that were analyzed. No evidence of sanitary waste was detected in soil boring 746-SB-02 (advanced in the suspected cesspool in the cellar) or in soil boring 746-SB-04 (in the vicinity of the potential second cesspool/drywell below the asphalt-paved parking area).

1.5 Asbestos-Containing Materials / Lead-Based Paint Survey Findings

ATC Group Services LLC (ATC) was retained by the ToNH's Community Development Agency to conduct asbestos-containing materials (ACM) and lead-based paint (LBP) surveys of the building materials at the Site. According to ATC's February 4, 2022 Pre-Construction ACM Survey Report, ACM was identified on the "brick wall coating" on the first floor; no other asbestos was detected in the building materials that were sampled by ATC. AKRF conducted a supplemental ACM survey to target the building materials that had been omitted from ATC's survey. As documented in AKRF's August 2022 Limited Asbestos Survey Report, additional ACM was identified on the roof of the building. A summary of the building materials that were found to contain asbestos during the two ACM surveys is provided in Table III.

Table III – ACM Survey Results

Material	Location	Estimated Quantity		
AKRF Results				
Tar	Exterior – 2 nd Floor Roof Parapets on Brick	250 SF		
Tar	Exterior – 2 nd Floor Roof Parapet Caps and Roof Penetrations	150LF		
ATC Results				
Brick Coating	Interior – Brick Coating Behind Drywall	2,500 SF		

Notes:

LF = linear feet

SF = square feet

According to ATC's January 2022 Pre-Construction LBP Survey Report, all painted surfaces at the Site tested negative for LBP using an X-Ray Fluorescence (XRF) Paint Analyzer.

1.6 Project Goals / Site Reuse Plan

To support the revitalization of community assets, the ToNH intends to initially renovate the existing mixed-use commercial/residential building for similar uses. The ToNH is also contemplating demolishing the existing building and redeveloping the Site for either single-family residential or mixed-use commercial/residential. The overall project goal is to renovate or redevelop an underutilized property for the benefit of the community in an effort to improve their future and quality of life.

2.0 APPLICABILITY AND CLEANUP STANDARDS

2.1 Cleanup Oversight Responsibility

As no contamination was detected at concentrations above the applicable NYSDEC SCOs for the anticipated future use of the Site (single-family residential or mixed-use commercial/residential), the cleanup and redevelopment/rehabilitation activities will not be overseen by a state regulatory agency. The ToNH will retain a qualified environmental professional (QEP) to oversee the work to ensure that all activities are conducted in accordance with applicable federal, state, and local regulations. If evidence of USTs, petroleum contamination, or other unknown contamination is identified during redevelopment/rehabilitation activities, the appropriate state regulatory agency would be notified, and the condition(s) would be addressed accordingly (including applicable sampling and reporting).

2.2 Cleanup Standards for Major Contaminants

The applicable cleanup standards for the Site include the NYSDEC SCOs presented in Section 6.8 of 6 NYCRR Part 375. Specifically, based on the anticipated future use of the Site (single-family residential or mixed-use commercial/residential), the RSCOs (applicable to single-family residential) and RRSCOs (applicable to mixed-use commercial/residential), developed for the protection of public health, would be applicable to the redevelopment/rehabilitation project.

2.3 Laws & Regulations Applicable to the Cleanup

Laws and regulations that are applicable to this cleanup include the Federal Small Business Liability Relief and Brownfields Revitalization Act, the Federal Davis-Bacon Act, NYSDEC environmental laws, and local ToNH by-laws and ordinances. Federal, state, and local laws regarding procurement of contractors to conduct the cleanup will be followed. The ToNH will competitively bid and retain a QEP, in accordance with the competitive procurement provisions of 40 CFR Part 31.36. In addition, all appropriate permits and approvals (e.g., notify before you dig, state notifications/permits, soil transport/disposal approvals, etc.) will be obtained prior to the work commencing.

3.0 EVALUATION OF CLEANUP ALTERNATIVES

3.1 Cleanup Alternatives Considered

To address contamination identified at the Site, three different cleanup alternatives were considered as outlined below:

• Alternative 1: No Action

• Alternative 2: ACM Abatement

• Alternative 3: ACM Abatement and Demolition of the Existing Building

3.2 Criteria for Evaluation of Cleanup Alternatives

3.2.1 Effectiveness

- Alternative 1: No action is not effective in that it would not allow for the renovation or redevelopment of an underutilized property for the benefit of the community.
- Alternative 2: ACM abatement would be effective as it would allow for the existing building to be renovated and repurposed for the benefit of the community.
- Alternative 3: ACM abatement and demolition of the existing building would be effective as it would remove all building contaminants and allow for future redevelopment of the Site for a wide range of uses.

3.2.2 Implementation

- Alternative 1: No action could be readily implemented by leaving the Site in its current blighted state and maintaining security (e.g., site fencing, security cameras, etc.) to prevent future vandalism and/or dumping of debris/refuse in perpetuity.
- Alternative 2: ACM abatement could be readily implemented as abatement contractors
 are readily available to do the work. Under this alternative, the existing building would
 be renovated following abatement and off-site disposal of the known ACM (and any
 suspect ACM identified in the future) in accordance with applicable federal, state, and
 local regulations. This alternative would also include interior demolition to support
 building renovation activities.
- Alternative 3: ACM abatement and demolition of the existing building could be readily implemented as abatement and demolition contractors are readily available to do the work; however, it would be more complicated than Alternatives 1 and 2 as the existing building would have to be demolished. Under this alternative, the existing building would be demolished following the abatement and off-site disposal of the known ACM (and any suspect ACM identified in the future) in accordance with applicable federal, state, and local regulations. This alternative would also include characterization of soil requiring excavation and off-site disposal in accordance with the requirements of the intended destination facility(ies) to support redevelopment activities; excavation of soil to support construction of the proposed new building; demolition/removal of debris, former foundations; and fencing; and off-site disposal of soil and demolition debris in accordance with applicable federal, state, and local regulations.

3.2.3 Cost

• Alternative 1: No action would require installation and maintenance of safety features at the Site (e.g., fences, security cameras, etc.) to prevent future vandalism and/or

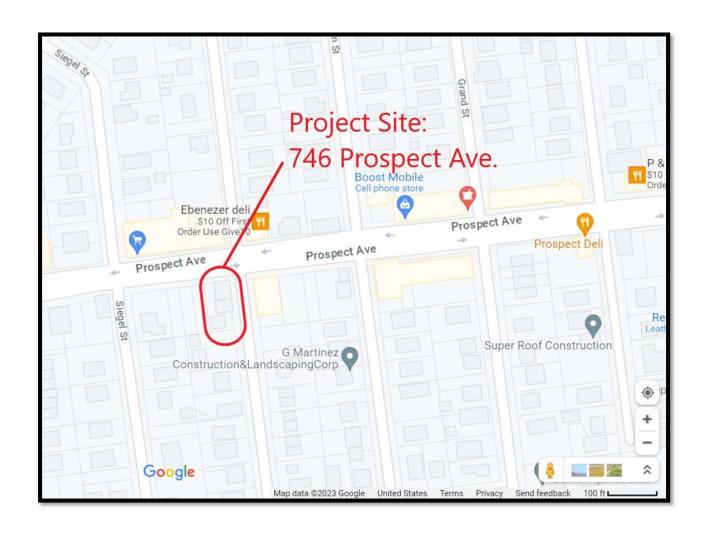
dumping of debris/refuse in perpetuity, with costs estimated to be on the order of \$50,000; there are no cleanup costs associated with this alternative.

- Alternative 2: ACM abatement would require abatement of all known/suspected ACM, interior demolition, and transportation and off-site disposal of ACM. The total costs for the renovation work are estimated to be approximately \$600,000, with the associated ACM cleanup (abatement) work anticipated to be on the order of \$200,000. Therefore, the cleanup costs for this alternative are estimated to be approximately \$200,000 (excluding renovation construction costs).
- Alternative 3: ACM abatement and demolition of the existing building to allow for redevelopment of the Site for single-family residential and/or mixed-use commercial/residential would require abatement of all known/suspected ACM in the current building; demolition of the current building; characterization of any soil requiring off-site disposal; and excavation/removal, transportation, and off-site disposal of ACM, demolition debris, and soil. The new building construction costs are estimated to be approximately \$2,000,000, with the associated ACM cleanup (abatement) and demolition work anticipated to be approximately \$500,000. As the soil currently meets the unrestricted use criteria (and could be reused on-site during redevelopment), the costs associated with the disposal of soil generated during the redevelopment work are expected to be negligible (little to no excess soil for disposal is expected in this scenario). Therefore, the cleanup costs for this alternative are estimated to be approximately \$500,000 (excluding new building construction costs).

3.3 Recommended Cleanup Alternatives

Based on an evaluation of the effectiveness, implementability, and costs associated with the three cleanup alternatives, the recommended approach is Alternative 2 (ACM Abatement). Alternative 2 would be the most appropriate approach as it would satisfy the ToNH's goal to renovate/redevelop an underutilized property for the benefit of the community and would be the least costly cleanup alternative. While Alternative 3 (ACM abatement and demolition of the existing building) also remediates the Site and enables the Site to be redeveloped, the cleanup costs for ACM abatement and building demolition activities are significantly greater than the cleanup costs to implement Alternative 2. As the ToNH's current goal is to renovate the existing building for mixed-use commercial/residential and/or redevelop the Site for single-family residential or mixed-use commercial/residential, Alternative 2 will achieve their goal while being the most cost-effective approach. Alternative 1 (No Action) is not recommended as it would not allow for renovation or redevelopment of an underutilized property for the benefit of the community; therefore, this approach is not in line with the ToNH go

FIGURE 1: SITE LOCATION



For more information regarding this project or proposed abatement plans for this property, or to provide comment(s) on the alternatives provided, please send mail or email correspondence to:

cdadepartment@northhempsteadny.gov

Community Development Agency Town of North Hempstead 51 Orchard Street Roslyn Heights, New York 11577