AMENDED RECORD OF DECISION

Powers Chemco
Glen Cove, Nassau County, New York
Site Number 130028

March 2014

Prepared by the:

Division of Environmental Remediation
New York State Department of Environmental Conservation

DECLARATION STATEMENT – AMENDED RECORD OF DECISION

Powers Chemco
Glen Cove, Nassau County
Site No. 130028
March 2014

Statement of Purpose and Basis

The Amended Record of Decision (AROD) presents the selected remedy for the Powers Chemco site, a Class 2 inactive hazardous waste disposal site. The selected remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Powers Chemco site and the public's input on the Proposed Amendment to the ROD presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the AROD.

Description of Selected Remedy

The remedy selected in the original 1991 Record of Decision failed to achieve the goals set forth in that ROD. A revised Feasibility Study was conducted and the Department has selected removal of the soils below the water table followed by in-situ chemical oxidation as the amended remedy.

The elements of the selected remedy are as follows:

1. Excavation and off-site disposal of approximately 10,000 cubic yards (16,000 tons) of contaminated subsurface soils exceeding the 6NYCRR375-6 protection of groundwater or restricted residential soil cleanup objectives (SCOs). Dewatering of contaminated groundwater to facilitate excavation is necessary due to the shallow depth of groundwater and is expected to remove most of the more significantly contaminated groundwater. Extracted groundwater will be treated to meet appropriate discharge requirements prior to disposal.

2. In-situ chemical oxidation (ISCO) of the remaining contaminated groundwater using RegenOx or other in-situ chemical oxidation technology after the soil excavations are backfilled with clean fill that meets the requirements of Part 375-6.7(d). RegenOx is an advanced in-situ chemical oxidation technology designed to treat organic contaminants.

3. Application of ISCO to the area of impacted soils located off-site between the northern perimeter of the excavation and “The Place” since it is infeasible to excavate due to the overhead power lines and gas line in the vicinity.

4. A site cover currently exists and will be maintained to allow for restricted residential use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for restricted residential use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

5. Site Management Plan

   A site management plan is required, which includes the following:
   a. monitoring of the groundwater to assess the performance and effectiveness of the remedy; and
   b. evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

6. Imposition of an institutional control in the form of an environmental easement that will:
   a. require compliance with the approved site management plan, and
   b. restrict use of groundwater as a source of potable or process water or irrigation, without necessary water quality treatment.
   c. allows the use and development of the controlled property for restricted residential use (commercial and industrial uses allowed) as defined by Part 375-1.8(g), although land use is subject to local zoning laws.

New York State Department of Health Acceptance

The NYSDOH concurs that the amendment to the ROD remedy for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

March 28, 2014
Date

Robert W. Schick, P.E., Director
Division of Environmental Remediation

AMENDED RECORD OF DECISION
POWERS CHEMCO SITE

City of Glen Cove / Nassau County / Registry No. 1-30-028 March 2014

Prepared by the New York State Department of Environmental Conservation
Division of Environmental Remediation

1.0 INTRODUCTION

On March 22, 1991, the New York State Department of Environmental Conservation (Department) signed a Record of Decision which selected a remedy to cleanup the Powers Chemco Site, also known as the Columbia Ribbon and Carbon Manufacturing Site.

A Record of Decision (ROD) was issued by the Department in March 1991which called for a remedial system consisting of a groundwater pump and treat system, and an air sparge/soil vapor extraction system to treat volatile organic compounds (VOCs) present at the site. The remedial system was designed and constructed based on results of the pilot study approved by the Department in 1992. The remedial system operation began in 1994 and was shutdown in 1999 in accordance with the approved Performance Analysis Design Modification Plan. Since then, the remedial system has been inactive as it was not cost-effective to operate. Post-shutdown monitoring was initiated in 2000.

The purpose of this document is to select a change in the remedial action from the initial actions approved in the 1991 ROD for the Powers Chemco Site. After the Department approved the permanent shutdown of the remedial systems in 1999, post-shutdown sampling results indicated the continued presence of VOC contamination in soil and groundwater at elevated levels. Based on these results, the Department directed that Konica Minolta (the responsible party) to conduct additional investigation and remediation of the residual VOC contamination.

Based on the results of these investigations and the evaluation of the performance of the original ROD remedial actions, the Department is proposing an amendment to the 1991 ROD, as the previously selected remedy has not achieved the remedial action objectives for this site.

Based on the evaluations conducted of the remedy in the 2013 Feasibility Study Report, the source of contamination in soil at the site will be remediated by conventional excavation, and disposed off-site at a permitted facility. Water collected during the dewatering process will be treated prior to discharge. The excavation remedy can be quickly implemented and is the most permanent solution for removal of VOC contaminated soil and sources to groundwater. Dewatering of groundwater (with appropriate treatment) during excavation will also remove additional contamination from the site.

In-situ chemical oxidation (ISCO) will be used to remediate residually impacted groundwater after the excavated area is backfilled with clean sandy soil. Clean sandy soil backfill in the excavated area would improve the ability of injected chemical oxidant material to treat the remaining groundwater contamination.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375 Environmental Remediation Programs.

This document is a summary of the information that can be found in the site-related reports and documents.

The Department sought input from the community on all remedies including this AROD. A public comment period was opened on January 17, 2014 in order to provide an opportunity for the public to comment on the proposed changes to the ROD remedy. The comment period was extended to February 24, 2014.

Two public meetings were held to inform the public of the proposed remedy and to receive public comment. The first meeting was held on January 30, 2014 at the Sea Cliff Village Library. The second public meeting was held on February 20, 2014 at Glen Cove City Hall. At the meetings, a description of the original ROD and the circumstances that have led to proposed changes in the ROD were presented. Comments were received at both public meetings as well as in writing. They are summarized in the Responsiveness Summary that is appended as Appendix 1 of this document.

2.0 SITE INFORMATION

2.1 Site Description

Site Location: The Powers Chemco Site, also known as the former Columbia Ribbon and Carbon Manufacturing Company Site, is a vacant, 1.4 acre property located within the 15 acre Konica Minolta property in the City of Glen Cove, Nassau County. The site is bounded to the south and east by the former Konica Minolta facility, to the west by Li Tungsten Parcel B (USEPA Superfund site) and to the north by a public roadway (The Place). All buildings on the adjacent 13.6 acre former Konica Minolta facility were demolished in the past year. Please see Figure 2 which shows the site boundary within the larger property.

Site Features: The 1.4 acre site served as an employee parking lot when the Konica Minolta facility (former Powers Chemco) was operating. To the north and east of the site, the properties are predominantly residential. To the south and west of the site is an industrial corridor that includes five other inactive hazardous waste disposal sites (i.e., State Superfund sites) and one Environmental Restoration Program site. The site is approximately 1,200 feet north and 60 feet above the eastern end of Glen Cove creek, which empties into Hempstead Harbor. The topography of the site is relatively flat. An inactive remedial treatment plant is still present at the site.

Current Zoning/Use(s): The property is zoned MW3 – Marine Waterfront and is currently vacant.

Past Use of the Site: Powers Chemco, Inc., a manufacturer of photographic equipment and supplies, purchased this site from Columbia Ribbon Carbon and Manufacturing Co. (Columbia) for use as a parking lot in 1979.

In 1983, Powers Chemco discovered the subsurface contamination while excavating. For an undetermined period prior to 1979, Columbia had disposed of wastes from the production of blue printing inks, carbon paper and typing ribbon in open pits behind their manufacturing buildings. Reportedly, wastes from 55-gallon drums were dumped into the open pits.

The drums were then crushed and added to the pits before burial. An aerial photograph taken between 1950 and 1960 showed the location of two or three of these pits. Additionally, wastes were pumped through a two-inch galvanized pipe from the Columbia plant directly into the pits.

The hazardous and industrial wastes disposed of in the area include, but were not necessarily limited to toluene, ethylbenzene, ethyl acetate, and other residues from the formulation of printing inks.

In the fall of 1987, Powers Chemco, Inc. was renamed Chemco Technologies, Inc., which was subsequently purchased and renamed Konica Imaging U.S.A., Inc. The owner name has changed several times since then, and in December 2011 became Konica Minolta Holding USA Inc.

Site Geology/Hydrogeology: There are three principal aquifers in the area of the site. These are the Upper Glacial, Magothy, and Lloyd aquifers. The site and its surrounding areas are underlain by the Harbor Hill ground moraine which consists of a mixture of sand, silt, clay and boulders. The soil beneath the site consisted of layers ranging from medium to coarse sand and gravel to hard, dense silt and clay. The presence of a shallow, perched water table zone was noted beneath most of the site. The depth to water in the perched zone ranges from 6 to 14 feet. The groundwater flow in the perched zone varies from southeast to southwest. Based upon regional hydrogeological data, groundwater in the shallow upper glacial aquifer flows to the south towards Glen Cove Creek. The Magothy aquifer is the principal source of drinking water in the area. The City of Glen Cove draws water from the 200-300 foot zone of the Magothy from public supply wells located east of the site.

A site location map is attached as Figure 1. Figure 2 shows the site boundary.

2.2 Summary of Human Exposure Pathways

Contaminated soil remains at the site below pavement or clean backfill; however, people will not come in contact with contaminated soil unless they dig below the surface materials. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in the groundwater or soil may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because there are no on-site buildings, inhalation of site contaminants in indoor air due to soil vapor intrusion does not represent a concern for the site in its current condition. However, the potential exists for the inhalation of site contaminants due to soil vapor intrusion for future on-site development. In addition, sampling indicates soil vapor intrusion is not a concern for off-site buildings.

2.3 Summary of Environmental Assessment

Nature and Extent of Contamination: Based upon subsequent investigations conducted after the implementation of the 1991 ROD remedy (i.e., groundwater pump and treat system, air sparge/soil vapor extraction system), the primary, residual contaminants of concern (COCs) are VOCs. These include toluene, xylene, ethylbenzene, methyl ethyl ketone (MEK) and benzene.

Nature and Extent of Impacted Soils:

Significant levels of COCs are still present in soils at the site (below 5 feet in depth) despite the remedial actions undertaken in accordance with the 1991 ROD. During the 2008 limited subsurface investigation, elevated levels of toluene, xylenes (total), ethylbenzene and benzene were detected in on-site soils at 1,900 parts per million (ppm), 230 ppm, 37 ppm and 0.430 ppm, respectively. These concentrations exceed the Department's protection of groundwater soil cleanup objectives (SCOs) of 0.7ppm, 1.6 ppm, 1 ppm and 0.06 ppm, respectively.

A new Remedial Investigation (RI) was conducted between 2011 and 2012 to further delineate the levels remaining in the soil. Toluene was detected from 0.79 ppm to 1,500 ppm in 16 soil borings; xylenes were detected from 4.8 ppm to 350 ppm in 11 soil borings; ethylbenzene was detected from 1.4 ppm to 65 ppm in 8 soil borings; and MEK was detected from 0.430 ppm to 170 ppm in 3 soil borings.

The investigation identified an area of soil contamination located off-site between the northern property line and The Place.

Nature and Extent of Impacted Groundwater:

Significant levels of COCs are also still present in groundwater. The 2008 limited subsurface investigation identified elevated levels of toluene, total xylenes and ethylbenzene in the groundwater at 520,000 parts per billion (ppb), 12,000 ppb and 2,600 ppb, respectively. These concentrations exceed the Department's Ambient Water Quality Standards and Guidance values (Standards, Criteria and Guidance: SCGs) of 5 ppb.

Results of groundwater samples collected during the RI (2011-2012) also indicated elevated levels of toluene, xylenes, benzene and ethylbenzene. Toluene was detected from 10 ppb to 320,000 ppb at 8 locations; total xylenes were detected from 12 ppb to 22,000 ppb at 7 locations; ethybenzene was detected from 5.6 ppb to 4,700 ppb at 7 locations, respectively. Benzene was detected from 1.5 ppb to 36 ppb at 6 locations, exceeding the SCG of 1 ppb.

Naphthalene was detected at a maximum concentration of 210 ppb, exceeding the SCG of 10 ppb.

The groundwater samples also detected several metals including arsenic, chromium, lead, and mercury. Arsenic, chromium, lead and mercury were detected at maximum concentrations of 205 ppb, 1,310 ppb, 643 ppb and 12.9 ppb, exceeding respective SCGs of 25 ppb, 50 ppb, 25 ppb and 0.7 ppb.

Concentrations of xylenes and ethylbenzene were detected in one off-site monitoring well located immediately north of the site at 2,200 ppb, and 310 ppb, respectively, indicating a localized area of impacted groundwater in the perched zone immediately north of the site, beneath the grassed shoulder south of The Place.

Results from a downgradient monitoring well (MW-101) screened in the deeper flow zone indicated that there is no downgradient migration of VOCs in groundwater from the source area.

Based on the soil and groundwater analytical results, soil and groundwater source areas have been identified. These are presented on Figure 3.

Nature and Extent of Impacted Soil Vapor:

In 2005, a soil gas survey was conducted on-site. The VOC’s detected in groundwater were also present in the soil gas samples. Levels of VOCs decreased significantly from the source area to the perimeter soil gas locations. The highest concentration of total VOCs (7,316 ug/m3) was detected in soil gas sample SG-06. The soil gas samples collected within the source area also revealed the presence of low levels of chlorinated VOC’s, predominantly perchloroethylene (PCE), trichloroethylene (TCE) and vinyl chloride (VC), at concentrations between 6 ug/m3 and 121 ug/m3.

In 2007, a soil vapor intrusion (SVI) investigation was conducted at seven residences located on the north side of The Place. Toluene was detected from 1.1 ug/m3 to 8.8 ug/m3 range in all seven sub-slab soil vapor samples. The benzene, toluene, ethylbenzene and xylene (BTEX) concentrations in sub-slab vapor ranged from 2.21 ug/m3 to 18.97 ug/m3. Acetone concentrations in sub-slab vapor ranged from non-detect to 1,100 ug/m3. MEK concentrations in sub-slab vapor ranged from non-detect to 150 ug/m3.

A total of 14 indoor air samples were collected from the seven residential properties. The indoor air sampling results showed all samples contained low concentrations of toluene in basement indoor air, ranging from 2.03 ug/m3 to 37.9 ug/m3; and first floor indoor air ranging from 2.72 ug/m3 to 37.9 ug/m3. The BTEX concentrations in basement indoor air ranged from 4.21 ug/m3 to 73.19 ug/m3. The BTEX concentrations in the first floor indoor air ranged from 6.34 ug/m3 to 68.16 ug/m3. MEK concentrations in basement and first floor ranged from non-detect to 39.6 ug/m3 and non-detect to 26.1 ug/m3, respectively. Acetone concentrations in basement and first floor air ranged from non-detect to 45.4 ug/m3, and non-detect to 72 ug/m3, respectively.

In 2008, SVI samples were collected from one additional residence. Acetone and MEK were detected at 690 ug/m3 and 22 ug/m3, respectively in sub-slab vapor. MEK was detected in basement and first floor indoor air at a concentration of 1.68 ug/m3 and 1.89 ug/m3, respectively. MEK was present in outdoor air at 1.23 ug/m3. Acetone was detected in basement and first floor air at a concentration of 22.7 ug/m3 and 25.4 ug/m3. Acetone was also present in outdoor air sample at 16.2 ug/m3.

Overall, off-site soil vapor, sub-slab vapor and indoor air results indicate the presence of site-related contaminants, but not at levels where actions are needed to address exposures related to soil vapor intrusion.

2.4 Original Remedy

The major elements of the original, ROD-selected remedy can be summarized as follows:

- Perform a pilot scale test at the site for a dual phase groundwater/soil vapor vacuum extraction and treatment system to refine the estimates for a full scale treatment system. A full scale system will be designed and constructed based upon the results of the pilot test.
- Groundwater will be extracted using vacuum lift and/or pumping from recovery wells. Activated carbon will be used to treat contaminated groundwater. Treated groundwater will be discharged to the Glen Cove Creek or to the local Publicly Owned Treatment Works.
- Contaminated soil will be treated in-situ by air sparging and soil vapor extraction. Soil vapor laden with contaminants from the soil will be treated by either activated carbon, catalytic oxidation, vapor incineration, or a combination of these depending upon the results of the pilot test.
- Spent activated carbon will be regenerated rather than disposed, to the extent practicable.

3.0 DESCRIPTION OF CHANGES

3.1 New Information

Based on the results of investigations conducted after shutdown of the 1991 ROD remedy, contamination is still present at elevated levels. Thus, the remedial system was not successful in remediating the site. It is believed that the heterogeneous nature of site soils contributed to this lack of success.

Soil sampling results have indicated that the VOC impacted soils ("source material") are still present below the water table in discrete locations. The residual pockets of VOC contamination in many cases are present in fine-grained material, including silt and clay. The VOCs are tightly bound in the fine-grained matrix, as evidenced by the inability of a pump and treat system and air sparge/soil vapor extraction (AS/SVE) system to adequately remove the VOCs from the impacted media.

Based on these findings, additional remedial activities are required as discussed below.

3.2 Changed Elements

1. Excavation and off-site disposal of approximately 10,000 cubic yards (16,000 tons) of contaminated subsurface soils exceeding the 6NYCRR375-6 protection of groundwater or the restricted residential soil cleanup objectives (SCOs). Dewatering of contaminated groundwater to facilitate excavation is necessary due to the shallow depth of groundwater and is expected to remove most of the more significantly contaminated groundwater. Extracted groundwater will be treated to meet appropriate discharge requirements prior to disposal.

2. In-situ chemical oxidation (ISCO) of the remaining contaminated groundwater using RegenOx or other in-situ chemical oxidation technology after the soil excavations are backfilled with clean fill that meets the requirements of Part 375-6.7(d). RegenOx is an advanced in-situ chemical oxidation technology designed to treat organic contaminants.

3. Application of ISCO to the area of impacted soils located off-site between the northern perimeter of the excavation and "The Place" since it is infeasible to excavate due to the overhead power lines and gas line in the vicinity.

4. Site Management Plan

   A site management plan is required, which includes the following:
   a. monitoring of the groundwater to assess the performance and effectiveness of the remedy; and
   b. evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including a provision for implementing actions recommended to address exposures related to soil vapor intrusion.

5. Imposition of an institutional control in the form of an environmental easement that will:
   a. require compliance with the approved site management plan;
   b. restrict use of groundwater as a source of potable or process water or irrigation, without necessary water quality treatment; and
   c. allows the use and development of the controlled property for restricted residential use (commercial and industrial uses allowed) as defined by Part 375-1.8(g), although land use is subject to local zoning laws.

4.0 EVALUATION OF CHANGES

4.1 Remedial Goals

The goals established in the original ROD for this site were:

- treatment of groundwater such that, to the extent technically feasible, the concentration of contaminants is reduced to within promulgated standards;

- ensure that remedial activities do not increase the potential for the migration of contaminated groundwater by damaging the naturally occurring confining unit; and
- treat soil to prevent the recontamination of groundwater by the leaching of chemicals out of the soil mass.

The remedial goals have been updated/modified as follows:

The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

4.2 Evaluation Criteria

The criteria used to compare the remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6 NYCRR Part 375). For each criterion, a brief description is provided. A detailed discussion of the evaluation criteria and comparative analysis is contained in the original Feasibility Study.

The first two evaluation criteria are called threshold criteria and must be satisfied in order for an alternative to be considered for selection.

1. Protection of Public Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

The selected alternative remedy would satisfy this criterion by removing contaminated soils, restricting the use of contaminated groundwater, implementing appropriate actions to evaluate and address exposures related to soil vapor intrusion and treating the groundwater and therefore the selected remedy is protective of human health and the environment. The need to manage future exposures to on-site VOC impacted soil would be removed by implementing this selected remedy. The remedial activities completed thus far have not yet achieved this goal.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

The selected alternative remedy is expected to meet SCGs throughout most of the site by soil excavation and treatment of groundwater by ISCO and off-site discharge of treated groundwater collected during the dewatering process, and the implementation of appropriate actions to evaluate and address exposures related to soil vapor intrusion. The remedial activities completed thus far have not yet achieved this goal.

Specifically, the selected alternative remedy will comply with the following key SCGs:

- 6 NYCRR Part 375-6 Remedial Program Soil Cleanup Objectives for the lower of the protection of groundwater or residential use objectives.
- Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).
- "Guidance for evaluating Soil Vapor Intrusion in the State of New York," dated October 2006.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies. However since the originally selected remedy did not meet the threshold criteria, no further comparison will be made to it but the selected alternative's ability to meet the balancing criteria have been assessed.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

The selected alternative remedy involves intrusive work which could cause releases of contamination and exposure during soil excavation and transportation of soils for disposal. The implementation of a Health and Safety Plan and a Community Air Monitoring Plan at the site would limit the potential for exposure through engineering controls, monitoring, and personal protective equipments. Trucks hauling soils for off-site disposal would be secured via tarping prior to exiting the site to prevent release of contamination.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

The selected alternative remedy provides long-term effectiveness through the permanent removal of contaminated soil, the restriction on the use of contaminated groundwater, the implementation of appropriate actions to evaluate and address exposures related to soil vapor intrusion and the treatment of residual contaminated groundwater. This alternative remedy is considered to be a preferred and reliable and permanent approach for the remediation of soil and groundwater, and consequently soil vapor.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

The soil excavation would reduce the toxicity, mobility, and volume of soil exceeding the SCOs at the site. Dewatering and treatment of groundwater during soil excavation and in situ chemical oxidation of contaminated groundwater after soil excavations are backfilled would also reduce the toxicity, mobility and volume of groundwater. The selected alternative will achieve better destruction or breakdown of contaminants into non-toxic products than a groundwater pump and treat system.

6. Implementability. The technical feasibility and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

This alternative remedy can be implemented within a reasonable timeframe with standard methods. However, there is a potential to expand the expected size of the excavation based upon post-excavation confirmatory sample results or subsurface findings encountered in the excavation area. The volume of groundwater removed and treated during the dewatering operation can vary.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

The selected alternative is a presumptive remedy which by definition is cost effective unless there are extenuating site-specific factors. The cost of this alternative could increase if the areal extent or depth of excavation increases or if there is an increase in the volume of water removed and treated during the dewatering operation.

This final criterion is considered a modifying criterion and is considered after evaluating those above. It is focused upon the public comments that were received on the proposed AROD.

8. Community Acceptance. Comments and concerns received from the community regarding the proposed changes were evaluated. A responsiveness summary has been be prepared that describes public comments received and the manner in which the Department has addressed the comments and concerns raised. The final remedy does not differ significantly from the proposed remedy.

5.0 SUMMARY OF THE CHANGES

The amended remedial elements are listed below.

The estimated present worth cost to carry out the amended remedy is $5,504,900. The estimated present worth to complete the original remedy was $4,000,000. The cost to construct the amended remedy is estimated to be $5,084,000 and the estimated average annual cost for two years is $160,400.

The elements of the amended remedy are as follows:

1. A remedial design program to verify the components of the conceptual design and provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:
    - Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
    - Reducing direct and indirect greenhouse gas and other emissions;
    - Increasing energy efficiency and minimizing use of non-renewable energy;
    - Conserving and efficiently managing resources and materials;
    - Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
    - Maximizing habitat value and creating habitat when possible;
    - Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
    - Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation and off-site disposal of contaminated subsurface soils exceeding the lower of the Department's protection of groundwater soil cleanup objectives (SCOs) or restricted residential use SCOs. Excavations will be backfilled with clean fill. The first five feet of soil below grade will be excavated and will be tested for reuse as backfill. The remaining soil will be excavated for off-site disposal. It is estimated that approximately 21,000 tons of soil will be excavated, of which 5,000 tons from the upper five feet may be re-used as backfill. Construction water removed to facilitate excavation will be treated to meet effluent requirements prior to disposal.

3. In-situ chemical oxidation (ISCO) of residual contaminated groundwater remaining after excavations are backfilled with clean fill. ISCO is a technology used to treat volatile organic compounds in the soil and groundwater. The process injects a chemical oxidant into the subsurface via injection wells or an infiltration gallery. The method of injection and depth of injection is determined by location of the contamination. As the chemical oxidant comes into contact with the contaminant, an oxidation reaction occurs that breaks down the contaminant into relatively benign compounds such as carbon dioxide and water. An oxidant such as RegenOx or equivalent chemical oxidant will be used.

4. Application of RegenOx or equivalent chemical oxidant to residual, impacted off-site soil and groundwater, where excavation is not feasible due to presence overhead power lines and gas lines in the vicinity of the north side boundary.

5. A site cover currently exists and will be maintained to allow for restricted residential use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, sidewalks comprising the site development

or a soil cover in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for restricted residential use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

6. Imposition of an institutional control in the form of an environmental easement for the controlled property that:
    - requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
    - allows the use and development of the controlled property for restricted residential use (commercial and industrial uses allowed) as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
    - restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
    - requires compliance with the Department-approved Site Management Plan.

7. A Site Management Plan is required, which includes the following:
    - an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional controls remain in place and effective:

    Institutional Controls: The Environmental Easement discussed above.
    Engineering Controls: The cover system and monitoring network discussed herein.

    This plan includes, but may not be limited to:
    - descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
    - a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including a provision for implementing actions recommended to address exposures related to soil vapor intrusion;
    - provisions for the management and inspection of the identified engineering controls;
    - maintaining site access controls and Department notification;
    - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls;
    - a monitoring plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
        - installation of new monitoring wells in the backfilled excavation area;
        - monitoring of groundwater to assess the baseline sampling and performance and effectiveness of the remedy;
        - monitoring for soil vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above; and
        - a schedule of monitoring and frequency of submittals to the Department.

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Powers Chemco Site
State Superfund Project
City of Glen Cove, Nassau County, New York
Site No. 130028

The Proposed Amendment to the Record of Decision (PAROD) for the Powers Chemco site was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on January 17, 2014. The PAROD outlined the remedial measure proposed for the contaminated soil and groundwater at the Powers Chemco site.

The release of the PAROD was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A first public meeting was held on January 30, 2014 and a second public meeting was held on February 20, 2014, which included a presentation of the remedial investigation, feasibility study (RI/FS) for the Powers Chemco site as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PAROD ended on February 17, 2014. The public comment period was to have ended on February 17, 2014, however it was extended to February 24, 2014, at the request of the public.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received at the public meeting, with the Department's responses:

COMMENT 1: When you remove the soils will there still be a perched groundwater table?

RESPONSE 1: Yes.

COMMENT 2: How and where is this groundwater going to be treated for this cleanup operation? How will this water be disposed of?

RESPONSE 2: The groundwater will be treated on-site by a treatment system most likely comprised of bag filters and carbon. Treated water will either be discharged to the Glen Cove Creek (under the equivalent of a discharge permit) or to the municipal system

COMMENT 3: Where is the contaminated soil going to be shipped?

RESPONSE 3: It has not yet been determined where the contaminated soil will be disposed. The disposal location will be an appropriately permitted facility and will be identified in the remedial action work plan and must be approved by the Department before remediation begins.

COMMENT 4: What will be the nature of the post remedy cover material? What kind of backfill will be used and where will the backfill come from? How do you know the backfill is clean? You are not replacing toxic dirt with less toxic dirt?

RESPONSE 4: The soil cover and backfill for this site must use the lower of the protection of groundwater or the protection of public health SCOs for restricted residential use, as required by 6NYCRR Part 375-6.7(d). The source will be approved by the Department prior to work beginning.

COMMENT 5: What are the restricted uses for this site?

RESPONSE 5: The remedy allows for the use and development of the controlled property for restricted residential use (commercial and industrial uses allowed) as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

COMMENT 6: If somebody wants to grow vegetables at this site post-remedy will they be able to do that?

RESPONSE 6: Since the environmental easement will restrict the future site use to restricted residential, commercial or industrial use(s), vegetable gardening would be prohibited, although community vegetable gardens may be considered with the Department's approval.

COMMENT 7: Will pumping groundwater in the perched zone draw in groundwater from other areas?

RESPONSE 7: No. The pumping in the perched zone will only pull in water from the perched zone, and not from the regional Upper Glacial aquifer.

COMMENT 8: My objection is based on the point of view of democracy. I do not see any people from the neighborhood here at this meeting. This area is one of the most economically distressed areas in Glen Cove. I think the comment period should be extended another 30 days and that a meeting should be held in the community where this work is going to take place. Also, suggestions were made by other meeting attendees to hold the next meeting in the Glen Cove Firehouse or Glen Cove City Hall?

RESPONSE 8: As requested, a second meeting was held in the Glen Cove City Hall on February 20, 2014. Also, the 30-day comment period was extended for one additional week to February 24, 2014.

COMMENT 9: Wouldn't you have to do a study to see what the chemical would be the best to use for the chemical oxidation? What chemical is going to be used as part of the chemical oxidation?

RESPONSE 9: As noted in the remedy description, an oxidant such as RegenOx or equivalent chemical oxidant will be used. During the design, options will be evaluated and bench scale or field testing implemented, as necessary.

COMMENT 10: I don't believe that you will only have 50 gallons of water per minute entering this site when you do the excavation work.

RESPONSE 10: A review of hydrogeologic data obtained during the RI indicates that the expected withdrawal rate should be 25 to 50 gallons per minute. However, a contingency plan will be in place in the event that a higher rate of pumping is required to de-water the excavation.

COMMENT 11: How is this cleanup being paid for? Why isn't Columbia paying for the cleanup of this site?

RESPONSE 11: The current owner and remedial party for this site is Konica Minolta Holdings, USA Inc. The remedial party has signed an Order on Consent to fund and implement the remedial program for this site. The former owner of the site, Columbia Ribbon and Carbon Manufacturing Company, became bankrupt and insolvent.

COMMENT 12: We should post signs on the property saying where the next meeting on this site will be held.

RESPONSE 12: As requested, the Department did post signs on the fence around the property indicating the date/location/time of the second meeting and the extension of the end of the comment period.

COMMENT 13: Would a two story condo or multi-level building be safer for residents? Parking or storage could be on the lower levels. Would a townhouse type of building be allowed at this site? What level of cleanup will be done and can the site be used for residential development?

RESPONSE 13: See Response 5.

COMMENT 14: How do you go about encapsulating this site so that you do not draw chemicals into this site when you are doing the pumping?

RESPONSE 14: The sample results indicate that most site-related contaminants are present in the source areas to be remediated and not in the groundwater outside of those areas. Given the localized nature of the contamination, it is expected that the combined remedial elements will effectively address the identified contamination and it will not be necessary to encapsulate the site during pumping.

COMMENT 15: Will the responses to comments be posted on a public web site?

RESPONSE 15: Yes, the final Amended Record of Decision, which includes responses to comments, has been posted on the Department's website at http://www.dec.ny.gov/chemical/46268.html

COMMENT 16: Note that water inflow into this site may be higher than we expect and that a Venetian Drain may be able to control some of the water flowing into this site during excavation.

RESPONSE 16: The evaluation conducted by the remedial party indicates that water in the excavation can be managed utilizing traditional means and methods, which include extraction sumps. If additional controls (e.g., the construction of a Venetian Drain) need to be implemented to address higher than expected inflow to the site, the remedial contractor will be prepared to employ those methods, as necessary.

COMMENT 17: Will dust suppression measures be employed during excavation work? What happens to the vapors coming off of the groundwater that is being treated during your work in the area?

RESPONSE 17: Yes. A Community Air Monitoring Plan (CAMP) will be implemented during ground intrusive activities at the site. The CAMP will require the monitoring of dust and volatile organic compounds (VOCs). If levels are observed outside established compliance levels, additional control measures will be utilized to mitigate the dust/particulates or VOCs and corrective actions will be taken.

COMMENT 18: Because of the perched water table, is this site easier to cleanup than other sites?

RESPONSE 18: The perched water has not contaminated groundwater beneath the clay layer and the RI has shown there are only limited groundwater impacts beyond the site boundary. These findings will make the cleanup easier.

COMMENT 19: What are the levels of groundwater contamination at this site?

RESPONSE 19: Results of groundwater sampling are discussed in Section 2 of the Amended Record of Decision. In summary, elevated levels of toluene, xylenes, benzene and ethylbenzene were observed. Also, naphthalene was detected at a maximum concentration of 210 ppb, exceeding the SCG of 10 ppb, and several metals were detected at elevated concentrations including arsenic, chromium, lead, and mercury.

COMMENT 20: Are you assuming that the area outside of the area you tested is clean?

RESPONSE 20: The site contamination was delineated horizontally and vertically by collecting and analyzing samples of soil and groundwater from across the site. Based on the results of the RI, the contaminated areas of the site are targeted for remediation (i.e., other areas have been shown to not require remediation).

COMMENT 21: Who will maintain the site cover over the area? What does this mean? What will happen to the asphalt parking lot cover? Can it be built upon?

RESPONSE 21: A site cover currently exists and will be maintained to allow for restricted residential use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for restricted residential use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

COMMENT 22: What is your estimate on the time needed to complete the work you are doing on this site?

RESPONSE 22: The time frame to complete the soil excavation remedy is approximately three to six months. The groundwater remediation will require an additional six months for injections. We estimate that at least four quarterly groundwater monitoring events will be required. The total estimated time to implement the remedy, including the monitoring program, is two years.

COMMENT 23: Will the work at the site and the removal of soils from the site be timed to not interfere with the local schools and the ball fields in the area? What will be the trucking route and who will insure that it is followed? What will be the trucking route for this material once excavation work starts? Glen Cove Avenue is fairly narrow and a more direct route to the Long Island Expressway should be found.

RESPONSE 23: The remedial contractor intends to use the same truck route that was used during the RCRA phase of work (i.e., that on the balance of the 13.6 acre adjacent Konica site). This route follows Glen Cove Road to the site entrance on Herb Hill Road. This route was used to export 798 truckloads of soil from the site and import 280 loads of backfill under the RCRA remedial program. During the upcoming remedial action of the 1.4 acre Powers Chemco site, the contractor estimates that there will be approximately 836 truckloads of soil leaving the site, and 620 truckloads bringing clean fill to the site. Current plans do not include a provision for timing of trucking around school and ball field schedules. However, the operation of the trucks will be closely monitored, with adjustments made as necessary to keep impacts to the surrounding community as low as possible.

COMMENT 24: Why wasn't this remedy (excavation) done in the first place and how come it took 14 more years to come to this conclusion after you determined that the first remedy didn't work? What happened between 1999 and 2014?

RESPONSE 25: The technology selected in the original Record of Decision has been successfully used on numerous sites. While successful in removing soil contamination above the water table, significant groundwater contamination persisted. After shutdown of the remedial systems in 1999, the site entered into post-shutdown monitoring in accordance with the approved performance analysis and design modification plan and several investigations followed until 2008. When it became apparent that the remedial action goals were not going to be achieved, the site was reclassified from a Class 4 to Class 2 site. Konica and the Department entered into a new Order on Consent in 2011. This Order required Konica to conduct a new Remedial Investigation/Feasibility Study (RI/FS) and implement a remedial program, as necessary. The RI/FS has been completed and has resulted in this Amended Record of Decision. Based on the collective findings of all work completed to date, the Department believes the amended remedy will effectively address the contamination which remains.

COMMENT 25: What is the mechanics involved in doing soil vapor testing. How exactly is it done?

RESPONSE 25: Soil vapor intrusion testing requires collecting air samples from beneath, within and outside a structure to determine whether site related contaminants have the potential to or have impacted the indoor air of the structure. Specifically, a small hole is drilled in the basement slab and tubing is inserting, sealed and connected to a canister to collect a soil vapor sample. Similarly, a canister is placed in the indoor and outdoor environment to collect a sample of air one would breathe. The air collected in the canister is subsequently subject to laboratory analysis.

COMMENT 26: You noted that you saw minimal levels of contaminants in the homes but that they are not related to this site (Powers Chemco). Can you explain this?

RESPONSE 26: The building questionnaires and product inventories that were conducted at each of the residences indicated that there were many products that were used and stored near areas sampled that contain the compounds which were detected in the indoor air samples.

COMMENT 27: I own a house on this site and nobody ever contacted us to get access to our property to test for soil vapor issues.

RESPONSE 27: The property in question is not located on the Powers Chemco site or Konica Minolta property. It is located to the southeast of the larger 15 acre Konica Minolta property and is outside of the study area of the 1.4 acre Powers Chemco site. This property was not selected for a soil vapor intrusion evaluation because it is not in close proximity to either site related soil or groundwater contamination.

COMMENT 28: How many homes were sampled for soil vapors?

RESPONSE 28: There were a total of seven residences that were sampled for soil vapor intrusion. Based on the findings, DEC in consultation with the NYSDOH, determined that no actions were needed to address soil vapor intrusion at the residences.

APPENDIX B

Administrative Record

Administrative Record

Powers Chemco Site
State Superfund Project
City of Glen Cove, Nassau County, New York
Site No. 130028

1. Proposed Record of Decision Amendment for the Powers Chemco site, dated January 2014, prepared by the Department.

2. Order on Consent, Index No. AI-Q653-11-10 Site # 130028, between the Department and Konica Minolta Holdings U.S.A., Inc., executed on August 24, 2011.

3. "Request for Permanent Shutdown", September 19, 2000, prepared by Environmental Resources Management, Inc.

4. "North Lot Sampling Data Report", dated March 10, 2005, prepared by Environmental Resources Management.

5. "Additional Pre-design Investigation Activities", dated June 26, 2006, prepared by Environmental Resources Management.

6. "Indoor Air Sampling Summary and Results", dated May 14, 2007, prepared by Environmental Resources Management.

7. "Final Work Plan - Limited Subsurface and Groundwater Study of the Powers Chemco Site", dated November 07, 2008, prepared by URS Group, Inc.

8. "Results of Indoor Air Sampling at a residence", dated April 28, 2008, prepared by Environmental Resources Management.

9. "Limited Subsurface Investigation Results-Phase I", March 24, 2009, prepared by URS Corporation.

10. "Pre-design Investigation Work Plan", dated January 14, 2010, prepared by Roux Associates, Inc.

11. "Pre-design Remedial Investigation Summary Report", dated June 20, 2012, prepared by Roux Associates, Inc.

12. "Remedial Investigation Amendment Work Plan", dated September 5, 2012, prepared by Roux Associates, Inc.

13. "Revised Remedial Investigation Amendment Summary Report", dated June 10, 2013, prepared by Roux Associates, Inc.

14. "Feasibility Study" dated November 19, 2013, prepared by Remedial Engineering, P.C. and Roux Associates, Inc.

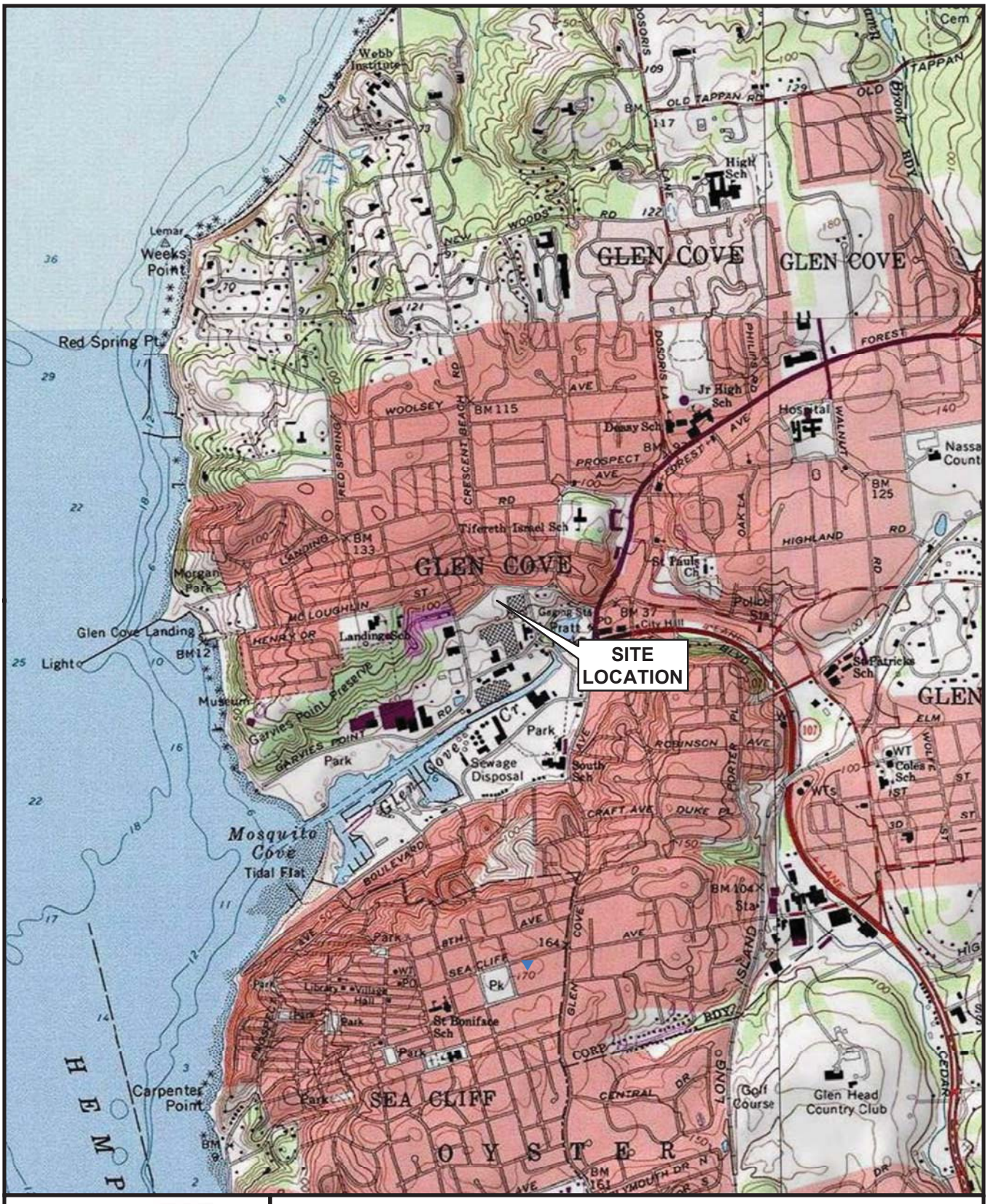


Figure 1

Site Location Map

Powers Chemco

City of Glen Cove, Nassau County

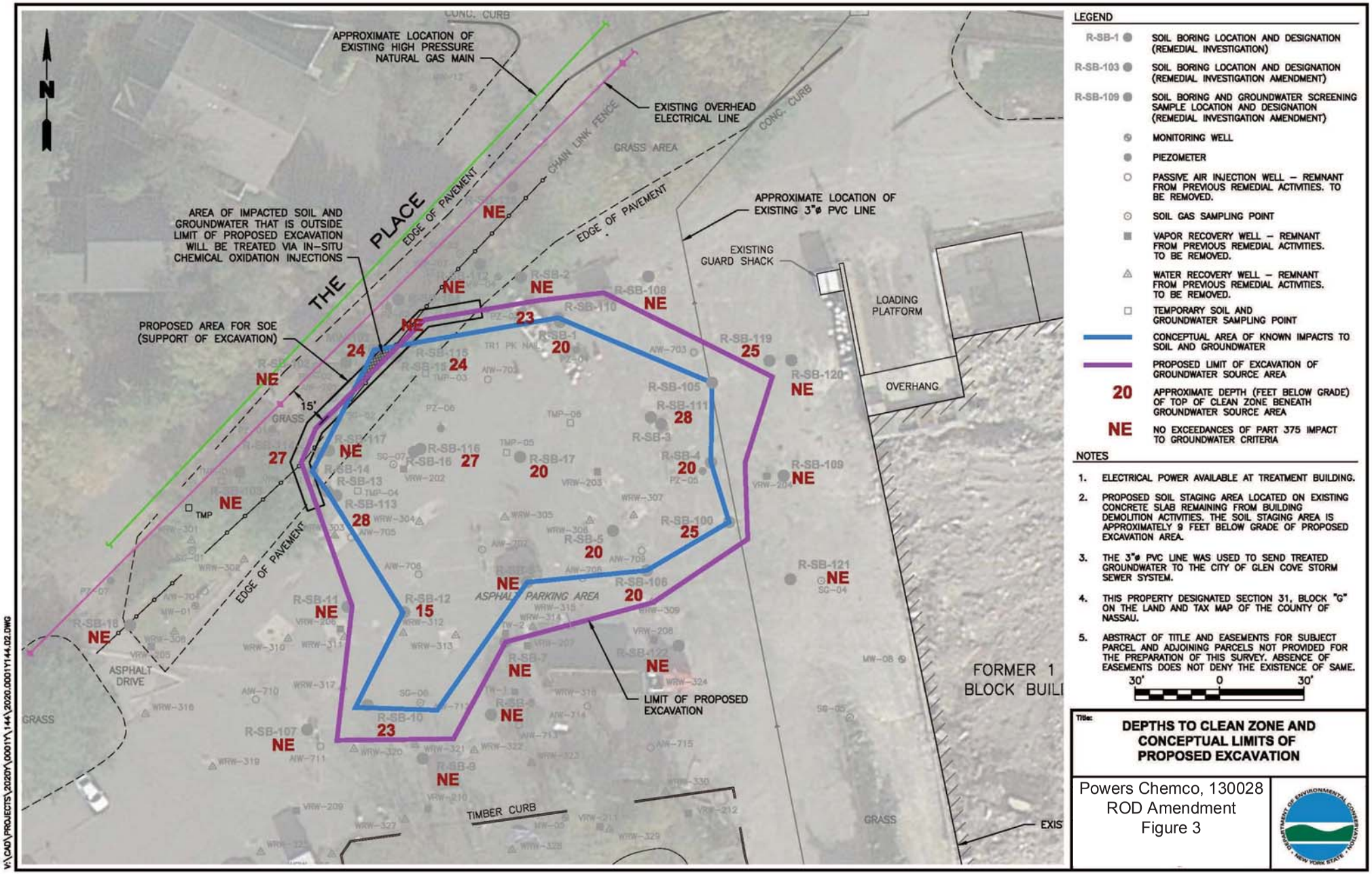
Site No. 130028

DEPARTMENT OF ENVIRONMENTAL CONSERVATION • NEW YORK STATE •

Figure 2
Site Map

Powers Chemco
Ciy of Glen Cove, Nassau County
Site No. 130028

DEPARTMENT OF ENVIRONMENTAL CONSERVATION • NEW YORK STATE •



LEGEND

- R-SB-1 — SOIL BORING LOCATION AND DESIGNATION (REMEDIAL INVESTIGATION)
- R-SB-103 — SOIL BORING LOCATION AND DESIGNATION (REMEDIAL INVESTIGATION AMENDMENT)
- R-SB-109 — SOIL BORING AND GROUNDWATER SCREENING SAMPLE LOCATION AND DESIGNATION (REMEDIAL INVESTIGATION AMENDMENT)
- MONITORING WELL
- PIEZOMETER
- PASSIVE AIR INJECTION WELL – REMNANT FROM PREVIOUS REMEDIAL ACTIVITIES. TO BE REMOVED.
- SOIL GAS SAMPLING POINT
- VAPOR RECOVERY WELL – REMNANT FROM PREVIOUS REMEDIAL ACTIVITIES. TO BE REMOVED.
- WATER RECOVERY WELL – REMNANT FROM PREVIOUS REMEDIAL ACTIVITIES. TO BE REMOVED.
- TEMPORARY SOIL AND GROUNDWATER SAMPLING POINT
- CONCEPTUAL AREA OF KNOWN IMPACTS TO SOIL AND GROUNDWATER
- PROPOSED LIMIT OF EXCAVATION OF GROUNDWATER SOURCE AREA
- 20 — APPROXIMATE DEPTH (FEET BELOW GRADE) OF TOP OF CLEAN ZONE BENEATH GROUNDWATER SOURCE AREA
- NE — NO EXCEEDANCES OF PART 375 IMPACT TO GROUNDWATER CRITERIA

NOTES

1. ELECTRICAL POWER AVAILABLE AT TREATMENT BUILDING.
2. PROPOSED SOIL STAGING AREA LOCATED ON EXISTING CONCRETE SLAB REMAINING FROM BUILDING DEMOLITION ACTIVITIES. THE SOIL STAGING AREA IS APPROXIMATELY 9 FEET BELOW GRADE OF PROPOSED EXCAVATION AREA.
3. THE 3"ø PVC LINE WAS USED TO SEND TREATED GROUNDWATER TO THE CITY OF GLEN COVE STORM SEWER SYSTEM.
4. THIS PROPERTY DESIGNATED SECTION 31, BLOCK "G" ON THE LAND AND TAX MAP OF THE COUNTY OF NASSAU.
5. ABSTRACT OF TITLE AND EASEMENTS FOR SUBJECT PARCEL AND ADJOINING PARCELS NOT PROVIDED FOR THE PREPARATION OF THIS SURVEY. ABSENCE OF EASEMENTS DOES NOT DENY THE EXISTENCE OF SAME.

30' 0 30'

Title:

DEPTHS TO CLEAN ZONE AND CONCEPTUAL LIMITS OF PROPOSED EXCAVATION

Powers Chemco, 130028
ROD Amendment
Figure 3

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