DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

Proposed Automobile Storage Facility at Yaphank

Town of Brookhaven
Suffolk County

PREPARED FOR

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April 2020
Revised June 2020

DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

PROPOSED AUTOMOBILE STORAGE FACILITY AT YAPHANK
422 SILLS ROAD (CR 101)
HAMLET OF YAPHANK, TOWN OF BROOKHAVEN
SUFFOLK COUNTY, NEW YORK

PROJECT LOCATION:

35.7±-acre parcel located at 422 Sills Road (CR 101),
Hamlet of Yaphank, Town of Brookhaven,
Suffolk County, New York
Suffolk County Tax Map: District 200, Section 739, Block 1, Lots 1.2 and 1.4 and Block 3, Lot 1

APPLICANT:

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DATE OF ACCEPTANCE: [DATE]

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Executive Summary

This document is a Draft Supplemental Environmental Impact Statement (DSEIS) prepared in accordance with the State Environmental Quality Review Act (SEQRA) and its implementing regulations at 6 NYCRR Part 617 for the action contemplated herein and is based upon the Positive Declaration (the "Positive Declaration") issued January 27, 2020 by the Planning Board of the Town of Brookhaven (the "Planning Board") as the Lead Agency. This DSEIS evaluates potential adverse impacts associated with the proposed action, which consists of constructing a 20.4±-acre automobile storage facility on a 35.7±-acre wooded property located at 422 Sills Road (County Road [CR] 101) in the hamlet of Yaphank, Suffolk County, New York (the "subject property").

This document supplements the previously prepared Draft Environmental Impact Statement (DEIS) for the proposed action, which was accepted by the Planning Board on October 7, 2019 (hereinafter the "2019 DEIS"). A public hearing was scheduled for November 18, 2019 to consider the accepted DEIS and the proposed site plan application for the project. However, due to comments from the Suffolk County Water Authority (SCWA), on November 8, 2019, as discussed herein, the Applicant requested to adjourn the public hearing to a later date. According to the Positive Declaration, the SCWA's November 8, 2019 comments constituted new information, not previously available, that require further analysis with regard to potential adverse impacts to the adjacent SCWA well field to ensure the protection of groundwater in the area of the proposed action.

The DSEIS evaluates the following issues based on the "Reasons Supporting this Determination" specified in the Positive Declaration:

- Concerns that on-site operations under the proposed action could adversely impact the SCWA's Patchogue-Yaphank Road well field;
- Concerns regarding maintenance of the proposed facility;
- Concerns related to both the potential release of petroleum products in traditional automobiles and batteries in electric and hybrid vehicles;
- Concerns that the proposed recharge basin will serve as a direct conduit for contaminants to enter the aquifer;
- Concerns about the response to a possible fire emergency and the availability of adequate access in the event of a fire onsite;
- Concerns regarding the effectiveness of the proposed stormwater management and treatment system; and
- Concerns about the cumulative impacts on area drinking water fields due to combined effect of the proposed action and multiple existing and proposed automobile storage facilities within one-quarter mile of the project area.

This Executive Summary is designed solely to provide an overview of the proposed action, a brief summary of the potential adverse impacts identified in the Positive Declaration and proposed mitigation measures. Review of the Executive Summary is not a substitute for the full evaluation of the proposed project performed in Sections 2 and 3 of this DSEIS.

The subject property is a wooded, 35.7±-acre lot bounded by Bellport Avenue to the west, vacant wooded land to the south, Sills Road to the east, and the LIRR to the north. The site – also known on the Suffolk County Tax Map as District 0200, Section 739, Block 1, Lots 1.2 and 1.4 and Block 3, Lot 1, is primarily wooded and undeveloped, but also includes the former Fishers of Men church (currently vacant, adjacent to the southeast, at the entrance to the subject property).

The proposed action consists of the development of 20.4± acres of paved surface on the 35.7±-acre subject property as an automobile storage facility for NMF Holdings, LLC (the "Applicant"). Storage areas are expected to be able to accommodate up to approximately 160 vehicles per acre within storage areas, excluding buffers, driveways, auxiliary facilities, etc., up to approximately 2,400 vehicles at the overall facility. Repossessed and insurance salvage cars would be delivered to the subject property after generally being held off-site for a minimum of four days and upwards of 30 days (e.g., during insurance adjustment, etc.). If any vehicle is experiencing a leak of automotive fluids following an accident, etc., the fluids would likely have already drained from the vehicle before reaching the subject property. It is noted that the proposed action does not include the bulk storage of petroleum products or hazardous materials.

Vehicles to be stored at the proposed facility will arrive over the course of a typical business day on three to four flat-bed type car-carriers and will access the site via the proposed Sills Road driveway. No access is proposed from Bellport Avenue, where a buffer of existing dense natural vegetation will be maintained throughout. These vehicles would be stored for

approximately 60-to-90 days until they are auctioned online – no live auctions would occur at the proposed facility.

Creating the proposed storage lot would involve clearing 22.7± acres of wooded area to be replaced with asphalt paved parking and driveways, as well as an associated lined stormwater basin, a concrete equipment pad and landscaped areas.

Modified Project Plan

Since the 2019 DEIS, the proposed preliminary site plan has been revised, specifically concerning the stormwater runoff management system and treatment process, to provide enhanced stormwater treatment for the removal of a broad range of potential contaminants. The stormwater management system would continue to collect runoff via catch basins but this discharge would no longer be directed to the originally proposed recharge basin. Instead, stormwater runoff would be held in a lined basin in the same area as the previously proposed recharge basin. It is proposed that stormwater be first treated by the originally proposed hydrodynamic separator system, with additional second and third levels of treatment (to be described below). After stormwater has been treated, it would be discharged to the ground (and ultimately to groundwater) via a leaching system.

Under the modified preliminary site plan, the proposed development would retain the same buffers of natural vegetation at the site perimeter. The modified preliminary site plan, which retains the originally proposed buffers, landscaping and overall site layout, meets the bulk and dimensional requirements of the L Industrial 1 zoning district. The site layout exceeds the minimum buffer requirements in areas where it will provide the maximum benefit to surrounding land uses.

Overall, the site coverage data for the modified project remains approximately the same as in the 2019 DEIS, with one exception – in order to address a concern expressed in the Positive Declaration regarding the potential for the recharge basin to serve as "a direct conduit for contaminants to enter the aquifer," the former proposed recharge basin has been modified to a proposed lined basin. The plan changes have resulted in a net increase of 1.7± acres in the total area of impervious surfaces, but the proposed plan remains in compliance with all special permit criteria and requirements. The second- and third-level stormwater treatment facilities would be located to the west of the proposed lined basin in an area already proposed for impervious surface.

Proposed Stormwater Treatment System

The proposed stormwater treatment system (STS) has been enhanced since the 2019 DEIS to add multiple additional treatment technologies. The overall STS includes a comprehensive system with multiple rounds of treatment to address concerns regarding the potential for groundwater contamination and is designed to go above and beyond current water quality standards for drinking water.

As with the system described in the 2019 DEIS, the current proposed system will continue to utilize hydrodynamic separators (primary treatment) in line with the proposed conveyance system, but will now be directed to the proposed STS instead of being directed to the previously proposed recharge basin. The proposed STS presented in this DSEIS provides for

second and third levels of stormwater runoff treatment and includes the following major components: an oil-water separator (OWS), a pretreatment stage of granular activated carbon (GAC), lead and lag primary GAC, an ultraviolet (UV)/Oxidation stage, and leaching fields for ultimate recharge to groundwater. The goal of the overall system is to remove pollutants including, but not limited to, hydrocarbons, per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane, as well as other potential contaminants, from the stormwater prior to its recharge.

After stormwater runoff passes through the hydrodynamic separator systems, it would be diverted (via the lined basin) to the proposed STS into the OWS to remove hydrocarbons, hydraulic fluids, other potential constituents not captured by the hydrodynamic separator systems. From here, the stormwater would be pumped into two system feed pumps to the pretreatment (PT) granular activated carbon (GAC) vessels to filter out any remaining large particulates and hydrocarbons not captured by the OWS and act as an initial filtration step for PFAS and other dissolved contaminants. After the PT GAC vessel, the water would flow through a bag filter housing containing multiple polypropylene filter bags to filter out fine particulates in the stormwater stream.

The stormwater would then be pumped to the two main treatment trains where the second and third levels of treatment would take place. The second-level treatment is the lead and lag GAC stage which would remove remaining hydrocarbons, PFAS and other potential contaminants in the stormwater. This treatment technology is utilized by SCWA to treat similar compounds at select wells in its drinking water supply systems.

The final and third stage of the treatment process is the UV/Oxidation stage, in which hydrogen peroxide would be metered into the process stream and the water would be exposed to UV radiation. This technology is also utilized by SCWA at select wells to treat similar compounds. The UV radiation encourages the formation of free radicals, which oxidize 1,4-dioxane and other potential remaining organic compounds in the water. The treated water would then be discharged into a proposed system of shallow subsurface leaching structures for ultimate recharge to groundwater.

Purpose, Need and Benefit

As described in Section 2.4 of the 2019 DEIS, the purpose of the proposed action is to provide the Applicant with a short-term automobile storage facility in support of auction activities that generally occur online over the internet – no live auctions would occur at the proposed facility. Implementing the proposed action would develop a vacant property within an industrially-zoned, predominately industrially-developed area in the Town of Brookhaven. The surrounding uses, which include numerous industrial uses, and which also include some non-industrial land uses interspersed (e.g., the Baseball Heaven ballfields and SCWA well field), already include multiple automobile storage facilities of various types, such that the Applicant can achieve its objectives of establishing a needed automobile storage facility in a manner that is consistent and compatible with the existing character and pattern of land use in the area.

In addition to the expected benefits to the Applicant, it is expected the Town would experience economic benefits from the proposed action as the parcel would generate

additional property tax revenues from the site improvements upon development of the vacant subject property with an automobile storage facility, whereas existing property taxes are approximately $38,000 per year, and future property taxes are projected to range between $250,000 to $300,000 per year. Also, visits to the subject property and the overall increase in local business activity resulting from the proposed facility are expected to provide an additional economic benefit due to spending by these individuals in the local community.

With further respect to the benefits of the proposed action, the proposed project has been modified to incorporate multiple additional rounds of stormwater treatment into the proposed stormwater management system. The STS is designed to be protective of groundwater by removing potential contaminants (e.g., hydrocarbons, VOCs, BTEX and related compounds, emerging contaminants of PFAS and 1,4-dioxane) from stormwater runoff prior to its discharge to the proposed leaching system and ultimately to groundwater. These additional measures would protect groundwater in the vicinity of the project area as well as protect the SCWA water supply wells southeast of the subject property, such that the benefits of the proposed action would be achieved in a manner that is especially responsible with respect to potential impacts upon water quality.

Prior DEIS Analysis

The 2019 DEIS analyzed the proposed development's impacts on water resources, land use and zoning, ecological resources, traffic, aesthetics and visual resources, cultural resources, noise and vibration, public health and safety, and climate change. Since the time of the 2019 DEIS, modifications have been made to the proposed project to incorporate an enhanced stormwater treatment system. The analyses of the 2019 DEIS are unaffected by the modified preliminary site plan changes with respect to land use and zoning, traffic, aesthetics and visual resources, public health and safety and climate change. The specific details are slightly modified but the conclusions are unaffected with respect to ecological resources, cultural resources and noise and vibration. Only the water resources analysis is substantively modified by the project site plan changes, such that additional mitigation for potential impacts is now incorporated into the proposed action.

In response to the November 8, 2019 SCWA letter, an enhanced stormwater filtration system is being proposed as part of this DSEIS. The previously proposed preliminary site plan included a recharge basin for treated stormwater to infiltrate into the underlying soils and recharge to groundwater. Instead, the modified preliminary site plan includes a 97,432±-SF lined basin in which stormwater runoff would be contained before being further treated prior to and recharge to groundwater.

Probable Impacts of the Proposed Action and Proposed Mitigation

Water Quality

The Positive Declaration identifies water quality from on-site operations, the originally proposed stormwater treatment system and its associated maintenance as potential significant adverse impacts warranting evaluation within a DSEIS.

The Positive Declaration and this DSEIS were prompted by written comments from SCWA in its correspondence dated November 8, 2019, which cited water quality impact concerns surrounding a perceived potential discharge of various chemical compounds (i.e., various Volatile Organic Compounds [VOCs], including Benzene, Toluene Ethylbenzene and Xylene [BTEX], related compounds and hydraulic fluids) and the proposed use of a pervious recycled concrete aggregate (RCA) parking surface. Additionally, the SCWA mentions a heightened awareness and discovery of trace levels (i.e., in many of its wells) of emerging contaminants. By emerging contaminants, it is understood that the SCWA is specifically focused on PFOS, PFOA and 1,4 dioxane, as noted in its most recent annual 2019 Drinking Water Quality Report.

The previously proposed stormwater management system and a newly proposed STS are designed to address the water quality concerns raised by SCWA and the requirements of the Positive Declaration, as described below.

Emerging Contaminants

According to the United States Environmental Protection Agency (EPA), emerging contaminants are chemicals or materials that are perceived as potential or real threats to human health.

PFAS are a group of man-made chemicals that are widely used in industrial processes and in consumer products and have been identified by the EPA and other regulatory agencies and public water suppliers as potential contaminants of concern, especially the emerging contaminants of perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). These compounds are commonly used in industrial applications such as the aerospace, automotive, building/construction, chemical processing, electronics, semiconductors, and textile industries as well as commercial processes, including as a surfactant for fire-fighting foam.

1,4-dioxane is an industrial synthetic chemical that was previously used as a stabilizer in certain chlorinated solvents (i.e., paint strippers, greases, dyes, antifreeze, waxes, and aircraft deicing fluids) used in consumer products (i.e., deodorants, shampoos and cosmetics) and used as a purifying agent in the manufacture of pharmaceuticals. It is typically found at solvent release sites and polyethylene terephthalate (PET) plastic manufacturing facilities.

<u>Relevant Water Quality Thresholds</u>

The New York State Drinking Water Quality Council (hereinafter "the Drinking Water Council") was enacted to identify strategies for the protection of drinking water in New York. Specifically, the Drinking Water Council was formed to address emerging contaminants in drinking water (i.e., PFOA, PFOS and 1,4-dioxane) and to develop recommendations as to the maximum contaminant level (MCL) for public drinking water. The Drinking Water Council recommended MCLs of 10 parts per trillion (ppt) for both PFOA and PFOS and an MCL of 1 ppb for 1,4-dioxane.

While PFOA and PFOS are not regulated by the EPA in drinking water standards, the EPA established health advisories in levels of 70 parts per trillion (ppt). For the purposes of the proposed STS, the system is designed to treat these emerging contaminants to a level below

what is required by the Drinking Water Council (i.e., 10 ppt for PFAS and 1 ppb for 1,4-dioxane).

SCWA's annual 2019 Drinking Water Quality Report notes the specific types of treatment that have been approved by New York State for removing these contaminants of concern from water supplies. Through the State Superfund program, New York State has invested in installing GAC systems that are successful in removing PFOA and PFOS from impacted water supplies. To address 1,4-dioxane, New York State approved a treatment technology called Advanced Oxidation Process (AOP) that is currently being utilized by SCWA to address water quality on Long Island.

Proposed Stormwater Management System

The proposed action has been modified to incorporate multiple additional rounds of stormwater treatment to the proposed stormwater management system designed to be protective of groundwater by removing potential contaminants e.g., hydrocarbons, VOCs, BTEX and related compounds, emerging contaminants of PFAS and 1,4-dioxane) from stormwater runoff prior to its discharge to the proposed leaching system and ultimately to groundwater.

It should be noted that groundwater pumped by SCWA receives additional treatment prior to its distribution through the local community water supply system. Several pump stations use the same and similar technologies as those proposed as part of the proposed STS to achieve safe drinking water levels.

There are various case studies that demonstrate the effectiveness of the proposed stormwater treatment technologies for addressing the contaminants raised by SCWA and the Planning Board.

Calgon Carbon Corporation (hereinafter "Calgon") has designed a GAC model that has been used successfully in removing a broad range of pollutants from drinking water for over 40 years, and specifically has treated PFAS for over 15 years. The proposed STS would utilize Calgon's Filtrasorb 400-M (F-400-M) GAC medium (or equivalent) to treat stormwater runoff from the proposed facility and reduce the level of hydrocarbons, PFAS, BTEX and related compounds. Calgon has used their GAC technology in many applications across the United States to treat hydrocarbons and PFAS in municipal drinking water and has demonstrated the system's ability to remove PFAS to levels under the Drinking Water Council's recommended standard of 10 ppt.

TrojanUV, a technology manufacturer, has installed UV disinfection technologies around the world that have been used in multiple applications relating to water quality and supply, including municipal drinking water. The proposed STS would utilize the TrojanUVPhox (UV-photolysis and UV-oxidation) (or an equivalent model using these technologies) to treat 1,4-dioxane from stormwater runoff at the subject property, which is a type of AOP. In their applications, TrojanUV has demonstrated the system's ability to remove 1,4-dioxane to levels below the Drinking Water Council's recommended standard of 1 ppb.

It should be noted SCWA received approval from the New York State Department of Health (NYSDOH) to construct the first AOP treatment system for drinking water in all of New York

State. In 2017, this treatment system was implemented at SCWA's Commercial Boulevard, Central Islip pump station with the same technology that is proposed for the subject property and was given an award in 2018 for the successful treatment of 1,4-dioxane in municipal drinking water.

Overall, the proposed STS allows for the flexibility of stormwater treatment, capable of reducing the levels of hydrocarbons, PFAS, 1,4-dioxane and BTEX to meet existing and recommended New York State drinking water standards. The proposed STS is currently designed to reduce the concentrations of pollutants leaving the treatment facility below what is required by the Drinking Water Council's recommended standards for New York State (i.e., 10 ppt for PFAS and 1 ppb for 1,4-dioxane). As the stormwater discharged at the subject property would be of a high quality meeting or exceeding the rigorous recommended standards of the New York State Drinking Water Quality Council, it would not be reasonable to expect that the infiltration of treated stormwater runoff into the ground at the proposed facility would have a significant adverse effect on groundwater quality at the nearby SCWA well field.

System Maintenance

With respect to maintenance, the proposed hydrodynamic separators will be inspected twice annually and cleaned as needed (i.e., at 75 percent capacity), per the manufacturers' guidance. The proposed STS will be fitted with various sensors (e.g., pressure monitors, leak detection, etc.) allowing performance to be remotely monitored by the operator. Media changeouts for the lead GAC vessels will be performed routinely, which are expected to be needed once per year (e.g., at the lead primary GAC vessel) or less frequently, to be refined by performing periodic water quality sampling and analysis, per the manufacturers' guidance. The operator will be an employee of NMF Properties and will be onsite 20 to 40 hours per week, as recommended by ECT2, and on call 24 hours per day, 7 days per week. The operator will be responsible to inspect, clean, maintain, sample water and keep records. Portable stand-by diesel generator(s) (with a combined diesel storage capacity of less than 1,100 gallons) are proposed to be stationed at the subject property, which will be used for intermittent stationary backup power to operate critical systems, including STS pumps, leak detection and security/monitoring systems. The Applicant understands and accepts the maintenance needs of the proposed STS and is committed to maintaining all components of the STS in good working order.

Conclusions

Based on the analyses above, and the capabilities of the proposed stormwater management system and STS, the following conclusions are made with regard to water quality:

- Various additional measures – in addition to those previously added to the proposed project based on input from SCWA – have now been incorporated into the proposed action to comprehensively address potential contamination concerns (i.e., PFAS and 1,4-dioxane) raised by SCWA in their most recent (November 8, 2019) correspondence.

- The proposed STS would capture and treat all stormwater runoff on-site prior to its discharge to the subsurface and recharge to groundwater. Stormwater would not be permitted to run overland onto adjoining properties.
- The proposed STS provides multiple levels of treatment for stormwater runoff, including the Contech hydrodynamic separator systems to remove sediment, floatable trash and hydrocarbons; an oil water separator to further remove immiscible hydrocarbons; two pretreatment GAC vessels to filter out any remaining large particulates and hydrocarbons not removed by the OWS; two bag filters to remove fine particulates; two lead-lag GAC vessels to remove PFAS and various other potential contaminants; and the UV/Oxidation stage to remove 1,4-dioxane.
- The proposed STS treatment technologies (i.e., GAC and UV/Oxidation) have been recognized by both New York State and SCWA and proven effective.
- The GAC and UV/Oxidation treatments proposed as part of the proposed STS are the same technologies currently utilized by SCWA where needed for the treatment of drinking water, as noted in their annual 2019 Drinking Water Quality Report.
- Minimal maintenance of the proposed STS would be required, and the system is equipped with leak detection and other emergency features. The Applicant is committed to performing the necessary maintenance to operate the system.

Overall, given the extensive level of treatment that would be implemented for all stormwater runoff generated at the proposed facility, no significant adverse impacts to groundwater quality or the nearby SCWA public water supply wells are anticipated.

Fire Protection

The Positive Declaration identifies concerns regarding the possibility of a fire emergency related to the storage of electric vehicles, and site access in the event of a fire. Various measures have been incorporated into the design of the proposed action, beyond the minimum or typical facility measures, which are expected to provide a greater level of protection and therefore minimize associated potential adverse impacts.

As a safety measure with regards to fire emergencies that was identified in the 2019 DEIS, it is the Applicant's intention to install an infrared camera security system for early fire detection and thermal monitoring with alarm notifications for quick and reliable incident detection. An additional emergency response measure, the proposed STS has a leak detection switch that, if triggered, would shut down the system automatically and alert the operator. The STS also has a manual emergency shut off switch for first responders. This is important to fire protection, to the extent that there may ever be a fire related to the STS or its components, or to the extent that runoff from the proposed automobile storage yard may enter the lined stormwater basin following an emergency or spill. The system could readily be shut down under such circumstances, and the runoff could be addressed systematically and independently without the risk of related impacts to the subsurface or groundwater resources.

With further regard to emergency access and response, the intended tenant will maintain and implement an Emergency Action Plan, addressing a wide range of potential emergency conditions that may arise.

With specific regard to electric and hybrid vehicles, manufacturers are actively offering fire safety information related to their products. Further, The National Fire Protection Association (NFPA) maintains a library of similar guides for electric and hybrid vehicles, and offers first and second responders a safety training program for dealing with alternative fuel vehicles. Relevant sources consistently indicate that the use of water is the recommended firefighting practice for a battery fire (i.e., for electric and hybrid vehicle batteries), and various resources are available to local fire departments, such as the Yaphank Fire Department (YFD), for their use in addressing emergencies related to alternative fuel vehicles, including electric and hybrid vehicles.

Consultations were undertaken with the YFD informing the fire department about the proposed action and requesting information relative to fire protection services for the subject property. In the event of a vehicle fire, the YFD will respond according to department protocols to extinguish the fire using water. However, if water does not suffice, then Fire-Brake Foam Concentrate will be used to extinguish the fire. This specific foam solution is biodegradable that does not contain any PFAS ingredients that are found in other foam concentrates and complies with the National Fire Protection Association (NFPA) standards. If an electric vehicle is involved in a fire, the YFD would comply with standard operating procedures using copious amounts of water to extinguish the fire. At the request of the YFD all electric and hybrid vehicles will be located together in a labeled area within 500 feet of a fire hydrant. The YFD has also requested that the subject property include three additional fire hydrants in the event of a fire emergency, and the Applicant has agreed to install the three additional fire hydrants at the requested locations on-site.

The current plan will be reviewed and approved by the Town Fire Marshal prior to implementation of the proposed action as part of the Town's standard Site Plan review process. The Applicant has incorporated various fire safety measures, including those specified by the YFD, and the operator will implement an Emergency Action Plan, as revised to reflect any input that may be provided by the Fire Marshal and YFD. Implementation of the proposed action is not expected to present any unique service demands compared to the several existing similar automobile storage facilities in this portion of the Town.

Overall, no significant adverse impacts are expected with respect to fire protection.

Cumulative Impacts

The 2019 DEIS analyzed cumulative impacts of the proposed development with other developments in the vicinity of the project area with respect to land use and zoning, aesthetics and neighborhood character, among others which confirmed that no significant adverse cumulative impacts were anticipated. The Positive Declaration which prompted the preparation of this DSEIS indicates that potential cumulative impacts upon the drinking water well fields must be further evaluated.

Consultations with the Town Department of Planning, Environment and Land Management confirmed the two facilities in the vicinity of those two area automobile storage facilities

from the 2019 DEIS (i.e., one located at 425 Patchogue-Yaphank Road and the other at Rice Court), plus a third such facility at the northeast corner of Horseblock Road and Patchogue-Yaphank Road, are to be analyzed herein. Therefore, this DSEIS evaluates the relevant cumulative impacts of the proposed action with these three other developments.

Based on a groundwater contributing map provided by SCWA, the majority of the overall subject property is mapped within the 2-year contributing area, with a portion to the west located within the 5-year contributing area for the Patchogue-Yaphank Road Well Field. The eastern and central portions comprising the majority of the automobile storage facility located at 21 Rice Court are mapped within the 5 and 25-year contributing areas of the Patchogue-Yaphank Road Well Field. Only a small portion on the western side of the overall facility at 425 Patchogue-Yaphank Road is within the capture zone and the northeast corner of Horseblock Road and Patchogue-Yaphank Road is located outside the capture zone, such that the potential for discharges at those facilities to result in a cumulative impact with any potential discharges at the subject property is minor. It should be noted that the existing facilities, specifically located at 425 Patchogue-Yaphank Road and the northeast corner of Horseblock Road and Patchogue-Yaphank Road have their own responsibility to address any site-specific impacts from their operations.

The third automobile storage facility at 21 Rice Court is currently undergoing its own, separate SEQRA process and received a Positive Declaration from the Town Planning Board related to the similar perceived potential for significant impacts on SCWA water supply wells in the vicinity of the subject property. As such, the impacts to groundwater and the SCWA well fields from the Rice Court property must be fully analyzed under a separate SEQRA process. It is expected that the Rice Court automobile storage facility would be held to the same standards and requirements for the protection of groundwater within the contributing area of the SCWA well fields as this proposed action.

It has been demonstrated within this DSEIS that the proposed action incorporates appropriate and effective measures to minimize or eliminate potential adverse impacts through the use of multiple stormwater treatment and public water supply industry-recognized technologies and treatment processes to mitigate potential stormwater impacts. The impacts of the other existing facilities would not be relevant to the evaluation of the proposed action, as the proposed action would not be adding significantly to the loading of pollutants to the Patchogue-Yaphank Road well field. However, the specific measures or processes to be implemented at the Rice Court project site are not known at this time and would operate entirely separate from the proposed action.

As no significant adverse groundwater quality impacts are anticipated under the proposed action due to the mitigation measures to be employed, it can further be concluded that the proposed action would not contribute to significant cumulative impacts when considered in combination with the existing automobile storage facilities near the subject property. Overall, as noted in the 2019 DEIS, the Applicant is not aware of other actions, nor were any past, present or reasonably foreseeable future actions identified by Town of Brookhaven, relevant to potential cumulative impacts. This conclusion still remains valid, as expanded upon in this DSEIS and, as such, no adverse cumulative environmental impacts are expected.

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Description of the Proposed Action

2.1 Introduction

This document is a Draft Supplemental Environmental Impact Statement (DSEIS) prepared in accordance with the State Environmental Quality Review Act (SEQRA) and its implementing regulations at 6 NYCRR Part 617 for the action contemplated herein and is based upon the Positive Declaration (the "Positive Declaration") issued January 27, 2020 by the Planning Board of the Town of Brookhaven (the "Planning Board") as the Lead Agency (see Appendix A of this DSEIS).

This DSEIS evaluates potential adverse impacts associated with the proposed action, which consists of constructing a 20.4±-acre automobile storage facility (also the "project") on a 35.7±-acre wooded property bounded by Bellport Avenue to the west, the Long Island Rail Road (LIRR) to the north, Sills Road and ballfields to the east, and undeveloped land and a public water supply well field to the south, in the Hamlet of Yaphank, Suffolk County, New York (the "subject property") (see Figure 1).

This document supplements the previously prepared DEIS for the proposed action, which was accepted by the Planning Board on October 7, 2019 (hereinafter the "2019 DEIS"). A public hearing was scheduled for November 18, 2019 to consider the accepted DEIS and the proposed site plan application for the project. However, due to comments from the Suffolk County Water Authority (SCWA), on November 8, 2019, as discussed herein, the Applicant

FIGURE 1

\\vhb\gis\proj\Hauppauge\26662.00 Yaphank Auto Auction\Project\Figure 1 - Site Location.mxd

0 450 900 1800 Feet

Subject Property

Proposed Automobile Storage Facility at Yaphank | Yaphank, NY

Site Location

Sills Road

hamlet of Yaphank, Town of Brookhaven

Suffolk County

Sources: NYS Ortho Imagery (2016);
NYS Civil Boundaries, NYS Office of Information Technology Services GIS Program Office (GPO)

requested to adjourn the public hearing to a later date. According to the Positive Declaration, the SCWA's November 8, 2019 comments constituted new information, not previously available, that require further analysis with regard to potential adverse impacts to the adjacent SCWA well field to ensure the protection of groundwater in the area of the proposed action (see Appendix B of this DSEIS).

The DSEIS evaluates the following issues based on the "Reasons Supporting this Determination" specified in the Positive Declaration:

- Concerns that on-site operations under the proposed action (i.e., "the storage of a yet to be determined number of automobiles, the storage of other items that typically find their way into these yards...") could adversely impact the SCWA's Patchogue-Yaphank Road well field;
- Concerns regarding the maintenance of the proposed facility;
- Concerns related to both the potential release of both petroleum products in traditional automobiles and batteries in electric and hybrid vehicles;
- Concerns that the proposed recharge basin will serve as a direct conduit for contaminants to enter the aquifer;
- Concerns about the response to a possible fire emergency and the availability of adequate access in the event of a fire onsite;
- Concerns regarding the effectiveness of the proposed stormwater management and treatment system; and
- Concerns about the cumulative impacts on area drinking water fields due to combined effect of the proposed action and multiple existing and proposed automobile storage facilities within one-quarter mile of the project area.

This DSEIS is divided in four sections, the first of which is the Executive Summary. This section, Section 2, provides an overview of the proposed project, and a description of the current proposed preliminary site plan and the modifications made to the plan since the acceptance of the 2019 DEIS. A detailed description of the proposed stormwater treatment system, which has been added to the proposed project since the time of the 2019 DEIS, is also included. To provide a complete understanding of the potential environmental impacts of the proposed action, a discussion is included to describe the ways in which this revised plan would alter, or be consistent with, the conclusions of the 2019 DEIS, adopted by the Planning Board on October 7, 2019, which remains out for public comment.

Section 3 of this DSEIS provides a discussion of the environmental issues that were identified in the Positive Declaration. Specifically, this section addresses the proposed technology and level of treatment to effectively mitigate potential groundwater contamination from the proposed action; fire protection; and cumulative impacts of the proposed action and similar existing and proposed automobile storage facilities in the vicinity of the project area in relation to the SCWA drinking water well fields.

Section 4 of this DSEIS addresses growth-inducing impacts, irreversible and irretrievable commitment of resources, use and conservation of energy and alternatives to the proposed action, respectively. References are included in Section 5 of this DSEIS.

2.2 Project Description

Project Overview

The subject property is a wooded, 35.7±-acre lot bounded by Bellport Avenue to the west, vacant wooded land and an SCWA well field to the south, Sills Road and ballfields to the east, and LIRR tracks to the north. The site – also known on the Suffolk County Tax Map as District 0200, Section 739, Block 1, Lots 1.2 and 1.4 and Block 3, Lot 1, is primarily wooded and undeveloped, but also includes the former Fishers of Men church (currently vacant, adjacent to the southeast, at the entrance to the subject property).

The proposed action consists of the development of 20.4± acres of paved surface on the 35.7±-acre subject property as an automobile storage facility for NMF Holdings, LLC (the "Applicant") (see Preliminary Site Plan – Layout and Materials Plan in Appendix C of this DSEIS). Repossessed and insurance salvage vehicles would be delivered to the subject property, generally from towing companies, body shops, garages, car dealers, and residences in the five boroughs of New York City and Nassau and Suffolk Counties. Storage areas are expected to be able to accommodate approximately 160 vehicles per acre within storage areas, excluding buffers, driveways, auxiliary facilities, etc., up to approximately 2,400 vehicles at the overall facility. Vehicles would generally have been held off-site for a minimum of four days and upwards of 30 days (e.g., during insurance adjustment, etc.), before reaching the subject property, such that if the vehicle is experiencing a leak of automotive fluids following an accident, etc., the fluids would likely have already drained from the vehicle. It is noted that the proposed action does not include the bulk storage of petroleum products or hazardous materials.

Vehicles to be stored at the proposed facility will arrive over the course of a typical business day on three to four flat-bed type car-carriers. These deliveries will typically arrive via the Long Island Expressway (LIE) and southbound Sills Road. No access is proposed from Bellport Avenue, where a buffer of existing dense natural vegetation will be maintained throughout. These vehicles would be stored (approximately 60-to-90 days) until they are auctioned online – no live auctions would occur at the proposed facility.

Creating the proposed storage lot would involve clearing 22.7± acres of wooded area to be replaced with asphalt paved parking and driveways, as well as an associated lined stormwater basin, a concrete equipment pad and landscaped areas. Previously, the use of recycled concrete aggregate (RCA) had been considered as a surface material for the automobile storage area. However, that design concept was abandoned due to concerns regarding the protection of groundwater quality. Asphalt is proposed to be used, as noted in the 2019 DEIS.

Modified Project Plan

Since the 2019 DEIS, the proposed preliminary site plan has been revised, specifically concerning the stormwater runoff management system and treatment process. The stormwater management system would continue to collect runoff via catch basins but this discharge would no longer be directed to the originally proposed recharge basin. Instead, stormwater runoff would be held in a lined basin in the same area as the previously proposed recharge basin. The proposed lined basin is preliminarily designed to be sloped down to a suction pipe with headwalls. It is proposed that stormwater be first treated by the originally proposed hydrodynamic separator system, with additional second and third levels of treatment (to be described below). After stormwater has been treated, it would be discharged to groundwater via a leaching system.

Under the modified preliminary site plan, the proposed development would retain the same buffers of natural vegetation at the site perimeter. The perimeters of the storage facility (i.e., at the inner limits of the proposed buffers) and the lined basin would be enclosed by eight-foot-high chain link fence with barbed wire. As also shown in the previous site plan, all proposed automobile storage areas would continue to be substantially set back from the nearest roadways. It is respectfully submitted that the modified preliminary site plan, which retains the originally proposed buffers, landscaping and overall site layout, meets the bulk and dimensional requirements of the L Industrial 1 zoning district. The site layout exceeds the minimum buffer requirements in the areas where it will provide the maximum benefit to surrounding land uses.

Overall, the site coverage data for the modified project remains approximately the same as in the 2019 DEIS, with one exception – in order to address a concern expressed in the Positive Declaration regarding the potential for the recharge basin to serve as "a direct conduit for contaminants to enter the aquifer," the previous proposed recharge basin has been replaced with a proposed lined basin. The plan changes have resulted in an increase in the total area of impervious surfaces, but the plan would remain in compliance with all special permit criteria and requirements. The second and third-level stormwater treatment facilities would be located to the west of the proposed lined basin in an area already proposed for impervious surface.

Upon implementation of the current proposed action, site coverages would be modified as follows:

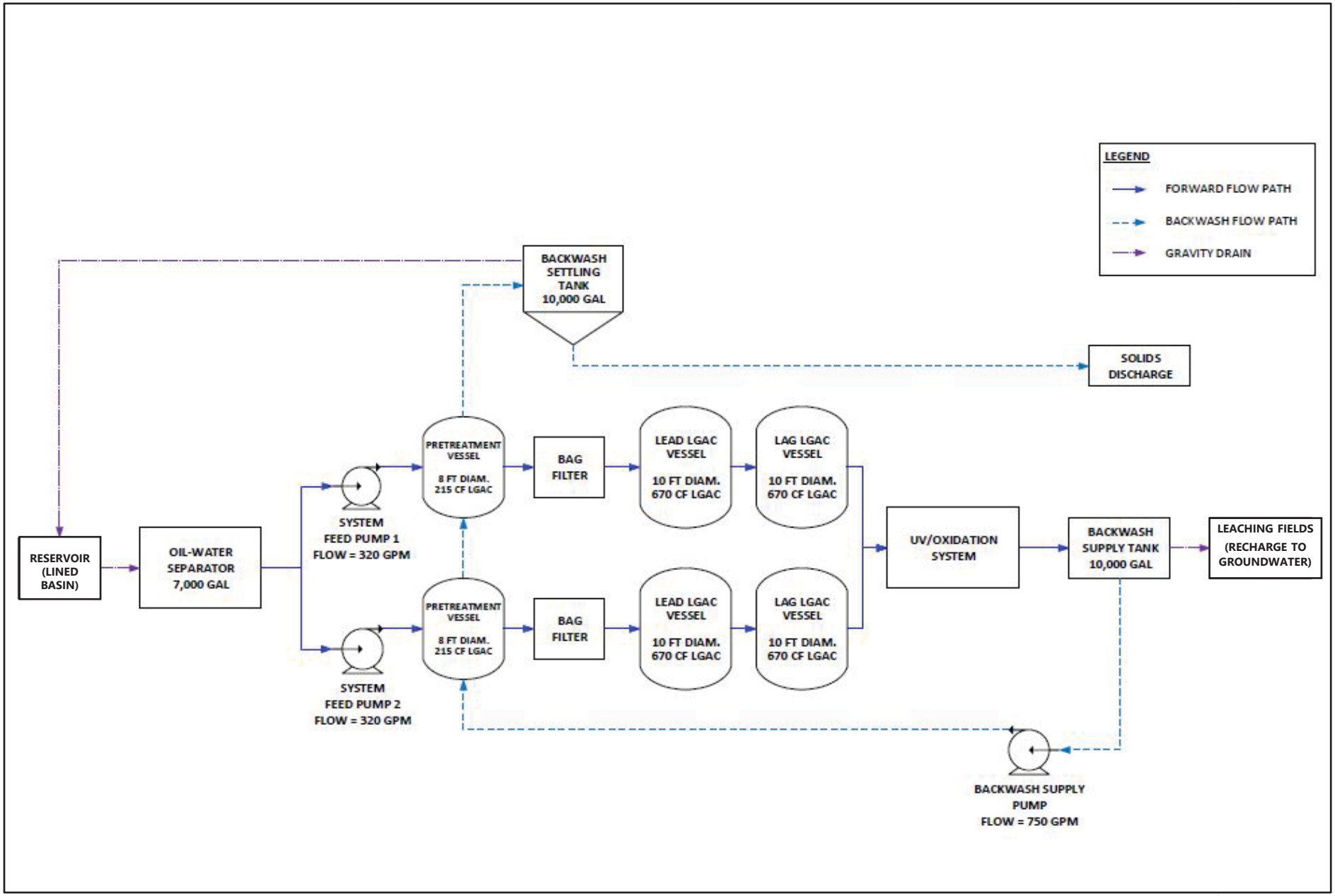
Table 1 Existing and Proposed Site Coverage

Coverage Type	Existing Coverage	Proposed Coverage
Roads, Buildings and Other Paved Surfaces	0.6± Acre (1.6%)	23.2± Acres (65.0%)
Wooded	32.8± Acres (92.0%)	10.1± Acres (28.3%)
Unvegetated (Bare rock, earth or fill)	<0.01 Acre (0.03%)	0.0± Acres (0%)
Lawn and Landscaping	2.3± Acres (6.3%)	2.4± Acres (6.7%)
TOTAL	**35.7± Acres**	**35.7± Acres**

Proposed Stormwater Treatment System

The proposed project is designed to collect, retain and treat stormwater runoff from the paved automobile storage areas through multiple integrated drainage and filtration systems. Stormwater runoff would be collected via a system of catch basins and underground piping and conveyed to in-line Contech Engineered Solutions hydrodynamic separator systems in an equivalent manner as discussed in the 2019 DEIS. This type of device would be protective of groundwater by removing sediment, floatable trash and hydrocarbons from the stormwater flow. Once the stormwater runoff passes through these hydrodynamic separator systems, it would be diverted into a 97,432 SF lined stormwater basin with a storage capacity of 702,460 cubic feet (CF), meeting the Town's required standard of eight inches of storage. The lined basin will act as a reservoir that is sized to accommodate large volumes of stormwater (i.e., an eight-inch rainfall event), from which the collected stormwater can be pumped at a controlled, prescribed rate that the STS has been designed to treat (i.e., 640 gallons per minute [gpm]). The proposed on-site lined basin replaces what was proposed as a recharge basin on the site plan presented and analyzed within the 2019 DEIS, wherein the flow from the hydrodynamic separator systems would have been recharged through the bottom of the basin. The modified preliminary site plan presented in this DSEIS instead provides for second and third levels of stormwater runoff treatment, whereby two pumps would be installed at the lined basin (on a concrete pad[s]) to pump and divert water into a stormwater treatment system (STS), prior to its ultimate recharge to groundwater via shallow subsurface leaching galleys.

The technologies to be used for the second and third levels of stormwater treatment, designed by Emerging Compounds Treatment Technologies (ECT2, the Applicant's water quality engineer), consists of four stages of treatment in two treatment trains. This technology, as noted above, is designed to accommodate 640 gpm of stormwater runoff from the proposed paved automobile storage areas. After treatment, stormwater would be discharged to a system of leaching chambers for recharge to groundwater. The goal of the overall system is to remove potential pollutants including, but not limited to, hydrocarbons, per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane, from the stormwater – should any such pollutants be present in the stormwater runoff – prior to its recharge. The proposed system is expected to address concerns regarding the potential for groundwater contamination and is designed to go above and beyond current water quality standards for drinking water. See Figure 2 for a depiction of the process flow chart diagram of the proposed STS.



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Proposed Automobile Storage Facility at Yaphank | Yaphank, NY

Proposed Stormwater Treatment System Process Flow Diagram

Sills Road

Hamlet of Yaphank, Town of Brookhaven

Suffolk County

Source: Emerging Compounds Treatment Technologies (ECT2)

The proposed STS would also include an oil-water separator (OWS) that would remove immiscible hydrocarbons, hydraulic fluids, and other potential constituents from the stormwater runoff and would allow large solids to settle before the water is pumped to the main treatment trains.

The outlet from the OWS is joined to two system feed pumps that each can handle 320 gpm. These pumps feed water to the pretreatment (PT) granular activated carbon (GAC) vessels which contain 215 cubic feet (CF) each of GAC. The purpose of these second-level treatment vessels is to filter out remaining large particulates and hydrocarbons that were not removed by the OWS, as well as to act as an initial filtration step for PFAS and other dissolved contaminants. After the PT GAC vessel, the water flows through a bag filter housing containing multiple polypropylene filter bags which filter out the fine particulates in the stormwater stream.

The next stage of the second-level treatment consists of two vessels per train in a lead-lag configuration, each vessel containing 670 CF of GAC. The purpose of this GAC is to remove the remaining hydrocarbons, PFAS and other potential contaminants in the stormwater. This type of treatment technology is utilized by SCWA to treat similar compounds at select wells in its drinking water supply systems. The final (third) stage of the treatment process is the Ultraviolet (UV)/Oxidation stage, in which hydrogen peroxide is metered into the process stream and the water is exposed to UV radiation. This technology is also utilized by SCWA at select wells to treat similar compounds. The UV radiation encourages the formation of free radicals, which oxidize 1,4-dioxane and other remaining organic compounds in the water. The treated water is then discharged into the proposed leaching structures.

Backwash water (used to flush and maintain system components) is supplied to the PT GAC vessel once the pressure drop across this vessel reaches a pre-determined level in order to remove particulates from the media and free up the GAC for further forward-flow filtration. Backwash water is supplied from the backwash supply tank via a backwash supply pump, which pumps water at 750 gpm up through the PT vessel and into a cone-bottom backwash settling tank. Solids in the backwash water settle in the backwash settling tank and are removed from the bottom of the cone and discarded. Clarified water is decanted from the tank via one of multiple ports located at different elevations on the tank sidewall and returned to the system.

The overall treatment system, including the hydrodynamic separators, oil water separator, GAC and UV/Oxidation components, has been designed to be capable of achieving applicable drinking water standards. For the emerging contaminants PFAS and 1,4-dioxane, for which no drinking water standard has been established in New York State, the system is designed to meet the rigorous recommended standards of the New York State Drinking Water Quality Council. A typical automobile storage facility would normally be expected to have a pervious land surface (e.g., RCA, gravel, etc.) and little to no formal stormwater management infrastructure or would rely upon standard drywell or recharge basin systems. Uniquely, the proposed facility would provide for collection of all runoff and primary treatment by hydrodynamic separators, as well as secondary and tertiary treatment of stormwater runoff using proven technologies that are expected to effectively address water quality concerns, designed to go above and beyond current water quality standards for

drinking water. See Section 3.1 for a complete discussion of the technical information and analysis of the proposed stormwater management and treatment system proposed to be utilized to protect groundwater and, more specifically, the adjacent SCWA public water supply wells.

2.3 Purpose, Needs and Benefits

As described in Section 2.4 of the 2019 DEIS, the purpose of the proposed action is to provide the Applicant with a short-term automobile storage facility in support of auction activities that generally occur online over the internet – no live auctions would occur at the proposed facility. Implementing the proposed action would develop a vacant property within an industrially-zoned, predominately industrially-developed area in the Town of Brookhaven. The surrounding uses, which include numerous industrial uses, and which also include some non-industrial land uses interspersed (e.g., the Baseball Heaven ballfields and SCWA well field), already include multiple automobile storage facilities of various types, such that the Applicant can achieve its objectives of establishing a needed automobile storage facility in a manner that is consistent and compatible with the existing character and pattern of land use in the area.

In addition to the expected benefits to the Applicant, it is expected the Town would experience economic benefits from the proposed action as the parcel would generate additional property tax revenues from the site improvements upon development of the vacant subject property with an automobile storage facility, whereas existing property taxes are approximately $38,000 per year, and future property taxes are projected to range between $250,000 to $300,000 per year`. Also, visits to the subject property and the overall increase in local business activity resulting from the proposed facility are expected to provide an additional economic benefit due to spending by these individuals in the local community.

With respect to the benefits of the proposed action, the modifications to the proposed project to incorporate multiple additional rounds of stormwater treatment into the proposed stormwater management system. The STS is designed to be protective of groundwater by removing potential contaminants (e.g., hydrocarbons, VOCs, BTEX and related compounds, emerging contaminants of PFAS and 1,4-dioxane) from stormwater runoff prior to its discharge to the proposed leaching system and ultimately to groundwater. These additional measures would protect groundwater in the vicinity of the project area as well as protect the SCWA water supply wells southeast of the subject property, such that the benefits of the proposed action would be achieved in a manner that is especially responsible with respect to potential impacts upon water quality.

2.4 Prior DEIS Analysis

The 2019 DEIS analyzed the proposed development's impacts on water resources, land use and zoning, ecological resources, traffic, aesthetics and visual resources, cultural resources, noise and vibration, public health and safety, and climate change. As explained in Section 2.2 above, since the time of the 2019 DEIS, modifications have been made to the proposed

project to incorporate an enhanced stormwater treatment system. With respect to most of the environmental topics analyzed, this change would not affect the conclusions of the 2019 DEIS, as further detailed below. Where the conclusions are modified by the project change, the following identifies and summarizes the effects that the modified preliminary site plan would have with respect to those impact issues.

Water Resources

The modified preliminary site plan is consistent with the conclusions made in the 2019 DEIS pertaining to sanitary waste, bulk storage of hazardous materials and flooding-related impacts. The preliminary site plan changes would have no effect on the results of the 2019 DEIS analyses, and no significant adverse impacts are anticipated with respect to same. The proposed action does not include the bulk storage of petroleum products or hazardous materials.

In response to the November 8, 2019 SCWA letter, an enhanced stormwater filtration system is being proposed as part of this DSEIS. The previously proposed preliminary site plan included a recharge basin for treated stormwater to infiltrate into the underlying soils and recharge to groundwater. Instead, the modified preliminary site plan includes a 97,432 SF lined basin in which stormwater runoff would be contained before being further treated prior to recharge to groundwater. See Section 3.1 for an in-depth discussion of the technology and treatment system proposed to be utilized to protect groundwater and, additionally, its relevance to the local SCWA public water supply wells.

Land Use and Zoning

The modified preliminary site plan demonstrates that the proposed action would be in compliance with the relevant bulk and dimensional requirements of the Town of Brookhaven zoning ordinance. Additionally, the proposed plan complies with all special permit requirements (see Section 3.2 of the 2019 DEIS). Relief would still be required for the 50 percent minimum natural/landscaped area within the front yard (the plan provides approximately 24.3 percent) as noted in the 2019 DEIS. This requirement is a Town land development standard which is expected to be reviewed and considered by the Town of Brookhaven during its formal Site Plan review. The modified preliminary site plan is consistent with the conclusions of the 2019 DEIS with respect to land use and zoning. The proposed action would remain compatible with the predominantly industrial nature of nearby development and consistent with the relevant considerations of the Town of Brookhaven Comprehensive Land Use Plan and the Suffolk County Master Plan.

Ecological Resources

The modified preliminary site plan shows that the originally proposed recharge basin is now proposed to be lined so as not to percolate stormwater directly into the underlying soils and eventually into groundwater. As discussed in the 2019 DEIS, vegetation would be planted around the perimeter of the basin, which would still occur under the revised preliminary site plan. The perimeter and interior of the lined basin is not proposed to contain vegetation, and therefore would not be expected to provide ecological habitat. Overall, the modified preliminary site plan does not change the conclusions made in the 2019 DEIS with respect to

ecological resources, whereas the site would continue to support extensive areas of existing natural vegetation to remain.

Traffic

The modified preliminary site plan is consistent with the conclusions made in the 2019 DEIS (and the TIS contained therein). Overall, the operation of the automobile storage yard, as proposed, is not anticipated to result in any significant adverse traffic impacts in the vicinity of the site.

Aesthetics and Visuals

The modified preliminary site plan is consistent with the 2019 DEIS conclusions made regarding aesthetics and visuals. The extensive buffers of existing natural vegetation would continue to be retained under the current proposed preliminary site plan. Overall, no significant adverse aesthetic or visual resources impacts are anticipated from implementation of the proposed action.

Cultural Resources

The modified preliminary site plan does not change the conclusions made concerning cultural resources. The portion of the subject property in which of the newly proposed STS would be placed was already contemplated for disturbance under the prior plan. The Phase I Archaeological Assessment tested the area in which the proposed STS would be installed and did not find any cultural resources. On November 13, 2019, VHB submitted the Phase I Archaeological Assessment to the New York State Historic Preservation Office (SHPO) and the New York State Office of Parks, Recreation, Historic Preservation (OPRHP). A letter was issued by OPRHP on November 26, 2019 stating concurrence with the Phase I Archaeological Assessment. No properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Register of Historic Places would be impacted by implementation of the proposed project (see Appendix D of this DSEIS). The modified preliminary site plan does not affect these conclusions made in the 2019 DEIS with respect to cultural resources, thus these prior conclusions remain valid.

Noise and Vibration

The modified preliminary site plan is consistent with the conclusions of the 2019 DEIS regarding noise and vibration impacts as the proposed operations and construction schedule are not expected to change. The proposed STS facility includes two electric pumps located on a concrete pad contained within a pump enclosure to the west side of the proposed lined basin, thereby limiting potential noise and vibration impacts. Electric pumps associated with the proposed STS facility would be specified to meet Chapter 50, *Noise Control*, of the Town Code. As such, no significant adverse noise or vibration impacts are anticipated.

Public Health and Safety

The modified preliminary site plan remains consistent with conclusions made in the 2019 DEIS regarding public health and safety impacts from the proposed action. Regarding the January 27, 2020 Positive Declaration, and the concerns expressed therein about the

possibility of fire emergency and access in the event of a fire onsite, Section 3.2 of this DSEIS addresses these potential impacts.

Climate Change

The modified preliminary site plan is consistent with the conclusions of the 2019 DEIS with respect to climate change impacts: i.e., that the proposed action would not result in significant adverse impacts associated with sea level rise, flooding or greenhouse gases.

3

Probable Impacts of the Proposed Action and Proposed Mitigation

This section evaluates the potential significant adverse impacts identified within the Planning Board's Positive Declaration, including water quality impacts and maintenance of the stormwater treatment system, fire emergency and access in the event of a fire on-site, and cumulative impacts of multiple automobile storage facilities in the vicinity of the project area.

3.1 Water Quality

The Planning Board's Positive Declaration identifies water quality from on-site operations, the originally proposed stormwater treatment system and its associated maintenance as potential significant adverse impacts warranting evaluation within a DSEIS. The impact issues identified pertaining to water quality rely upon correspondence and comments by the local water supplier, SCWA. As such, the history of correspondence from the SCWA is relevant to this analysis. Copies of all referenced correspondence are included in Appendix B of this DSEIS.

Suffolk County Water Authority Correspondence

The SCWA was provided a copy of the November 15, 2018 Land Use Application for the proposed action, along with an accompanying Part 1 – Environmental Assessment Form (EAF), as part of lead agency coordination by the Town of Brookhaven. In response, the SCWA issued a letter dated December 13, 2018 indicating no objection to the Planning

Board serving as lead agency and requesting that monitoring wells be placed on the subject property to serve as early warning to the potential presence of contaminants (see Appendix B of 2019 DEIS). SCWA's comments related to the proposed action's proximity to three active SCWA public water supply wells located southeast of the subject property, within the Patchogue-Yaphank Road well field (as acknowledged and addressed as part of the 2019 DEIS - see Section 3.1.1 and Appendix B of the 2019 DEIS). Approximately two months later, by correspondence dated January 25, 2019, the SCWA issued additional comments on the proposed action, requesting that the Town of Brookhaven deny the application citing concerns surrounding a perceived potential discharge of various chemical compounds (i.e., various Volatile Organic Compounds [VOCs], including Benzene, Toluene Ethylbenzene and Xylene [BTEX], related compounds and hydraulic fluids) and the proposed use of a pervious recycled concrete aggregate (RCA) parking surface.

In response to the comments raised by SCWA in these two letters, the Applicant retained the services of a water resource engineer, H2M, to review the condition of the subject property and recommend viable treatment options, and undertake a redesign of the proposed action to incorporate an asphalt-paved parking surface, stormwater treatment measures, etc., as developed in consultation with the SCWA.

Specifically, the proposed action was modified before submission of the 2019 DEIS to incorporate measures that are protective of these resources. The site was proposed to be paved in asphalt, providing an impervious surface beneath the proposed parking areas (whereas recycled concrete aggregate [RCA], a permeable surface, was previously proposed, but was abandoned due to concerns regarding the protection of groundwater quality). A stormwater treatment system (i.e., hydrodynamic separator system) was added to provide treatment of stormwater runoff prior to its discharge to the proposed recharge basin. Additionally, the Applicant agreed to install a four-inch monitoring well at the subject property with a depth of 10 feet below the water table in accordance with the SCWA recommendations.

In correspondence dated May 21, 2019 (see Appendix B of this DSEIS; see also Appendix B of the 2019 DEIS), the SCWA confirmed that the proposed measures would satisfactorily address its concerns with respect to potential contamination by the aforementioned compounds, stating:

> *"After several meetings with the project engineers at H2M Architects and Engineers, we are satisfied with the plan to pave the entire site and to utilize the technology proposed to mitigate the impacts to both the aquifer and the nearby SCWA wellfield. Based on the information supplied, the Contech Hydrodynamic Separation system appears to be effective at in-situ removal of hydrocarbons from stormwater runoff … Provided the developer meets its obligation to routinely maintain the system, SCWA approves both the conceptual site plan for 422 Sill Road* [sic] *dated 4/30/19 and the Contech Engineered Solutions Hydrodynamic Separation System."* (SCWA, May 2019)

The Applicant prepared a DEIS based on this input from the SCWA, as well as comments from the Town of Brookhaven Department of Planning Environment and Land Management (on behalf of the lead agency), and the 2019 DEIS was then accepted as complete and adequate for public review on October 7, 2019.

By correspondence dated November 8, 2019, the SCWA issued additional comments during the public review period for the accepted 2019 DEIS, and asserted that the submitted DEIS failed to address some of the issues identified in the SCWA's January 25, 2019 letter (which pre-dated the SCWA's May 2019 approval of the project). Specifically, the November 8, 2019 SCWA letter expressed concern regarding adverse impacts to the adjacent SCWA well field, listing the same potential contaminants as in the January 25, 2019 letter (i.e., various VOCs, including BTEX, related compounds and hydraulic fluids), plus battery acid. The letter expresses a revised opinion that the hydrodynamic separator system would not provide the level of filtration needed to ensure there would be no impact to SCWA's water supply wells and cites maintenance concerns. Additionally, the SCWA mentions a heightened awareness and discovery of trace levels (i.e., in many of its wells) of emerging contaminants. By emerging contaminants, it is understood that the SCWA is specifically focused on PFOS, PFOA and 1,4 dioxane, as noted in its most recent annual 2019 Drinking Water Quality Report[1], to wit:

> *As you'll see in the report, the Suffolk County Water Authority has made substantial proactive efforts to protect your drinking water from contamination by emerging, unregulated contaminants, particularly 1,4-dioxane and PFOS/PFOA.* (SCWA, 2019)

The November 8, 2019 SCWA letter prompted the Town of Brookhaven Planning Board, as lead agency, to issue a new SEQRA Positive Declaration, requiring the preparation of this DSEIS to further address the concerns surrounding the protection of groundwater.

Since the time of the January 27, 2020 Positive Declaration, various additional measures – beyond those previously incorporated into the proposed project based on previous input from the SCWA – have now been incorporated into the proposed action to comprehensively address the potential contamination concerns expressed by SCWA in their most recent letter (November 8, 2019), as detailed and analyzed below. With respect to the aforementioned monitoring well, which is shown on the proposed project plan (see Appendix C), given the level of stormwater treatment that will occur, which itself will be monitored, the Applicant respectfully requests that the SCWA reconsider the need for such a well at the subject property.

Emerging Contaminants

According to the United States Environmental Protection Agency (EPA), emerging contaminants[2] are chemicals or materials that are perceived as potential or real threats to human health.[3] As noted above, the emerging contaminants identified by the SCWA include PFAS and 1,4-dioxane.

[1] Suffolk County Water Authority. *2019 Drinking Water Quality Report.* Available online at: http://s1091480.instanturl.net/dwqr2019/AWQR2019_FINAL51319.pdf. Accessed March 2020.

[2] Referred to by the US EPA as "Contaminants of Emerging Concern" or "CEC."

[3] United States Environmental Protection Agency. *Emerging Contaminants-Nanomaterials.* December 2010. Available online at: https://archive.epa.gov/region9/mediacenter/web/pdf/emerging_contaminant_nanomaterials.pdf. Accessed March 2020.

PFAS Background Information

PFAS are a group of man-made chemicals that are widely used in industrial processes and in consumer products.[4] There are approximately 5,000 to 10,000 known PFAS chemicals.[5] Chemicals in this group have been identified by the EPA and other regulatory agencies and public water suppliers as potential contaminants of concern, especially the emerging contaminants of perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). PFOA and PFOS do not break down in the environment, can move through soils into drinking water supplies, and can bioaccumulate in aquatic life and other wildlife.[6] PFAS have been found in rivers and lakes and in many types of land and aquatic animals.[7]

PFOA is a synthetic chemical that is used to create fluoropolymers. Fluoropolymers are used in industrial applications such as the aerospace, automotive, building/construction, chemical processing, electronics, semiconductors, and textile industries due to their valuable properties of fire resistance and repellency of oil, stain, grease, and water.[8] PFOA is a byproduct of fluoropolymer decomposition as opposed to being part of the fluoropolymer end-product and, according to the EPA, there are no known consumer products that specifically pose a concern to human health related to PFOA.[9]

PFOS is a synthetic perfluorinated compound (PFC) that is used in industrial and commercial processes, including as a surfactant for fire-fighting foam, a mist suppressant for metal-plating baths, and providing grease and water resistance to materials such as textiles, carpets, and paper.[10]

1,4-Dioxane Background Information

1,4-dioxane is an industrial synthetic chemical that was previously used as a stabilizer in certain chlorinated solvents (i.e., paint strippers, greases, dyes, antifreeze, waxes, and aircraft deicing fluids) was used in consumer products (i.e., deodorants, shampoos and cosmetics) and used as a purifying agent in the manufacture of pharmaceuticals. 1,4-dioxane is highly mobile, does not break down or bioaccumulate in the environment. It is typically found at solvent release sites and polyethylene terephthalate (PET) plastic manufacturing facilities. 1,4-dioxane is not regulated by the EPA in drinking water standards.[11]

[4] United States Environmental Protection Agency. Combined Presentations – *US EPA PFAS Research and Development* (page 2). August 2018. Available online at: https://www.epa.gov/sites/production/files/2018-08/documents/r4_combined_presentations_.pdf. Accessed March 2020.

[5] *Ibid.*

[6] United States Environmental Protection Agency. *Drinking Water Treatability Database – Perfluorooctanoic Acid*. 2018. Available online at: https://oaspub.epa.gov/tdb/pages/contaminant/contaminantOverview.do?contaminantId=10520. Accessed March 2020.

[7] *Ibid.*

[8] *Ibid*.

[9] *Ibid.*

[10] United States Environmental Protection Agency. *Drinking Water Treatability Database – Perfluorooctane Sulfonate*. 2018. Available online at: https://oaspub.epa.gov/tdb/pages/contaminant/contaminantOverview.do?contaminantId=10940. Accessed March 2020.

[11] United States Environmental Protection Agency. *Technical Fact Sheet – 1,4-Dioxane*. November 2017. Available online at: https://www.epa.gov/sites/production/files/2014-03/documents/ffrro_factsheet_contaminant_14-dioxane_january2014_final.pdf. Accessed March 2020.

Relevant Water Quality Thresholds

The New York State Drinking Water Quality Council (hereinafter "the Drinking Water Council") was enacted to identify strategies for the protection of drinking water in New York. Specifically, the Drinking Water Council was formed to address emerging contaminants in drinking water (i.e., PFOA, PFOS and 1,4-dioxane) and develop recommendations as to the maximum contaminant level (MCL) for public drinking water. Once these MCLs are established, they create "legally enforceable standards that requires water systems to monitor, report findings and keep the contaminant below the level set." The Drinking Water Council recommended MCLs of 10 parts per trillion (ppt) for both PFOA and PFOS and an MCL of 1 ppb for 1,4-dioxane.[12]

While PFOA and PFOS are not regulated by the EPA in drinking water standards, the EPA established health advisories in levels of 70 parts per trillion (ppt) to provide Americans, including the most sensitive populations, with a margin of protection from a lifetime of exposure to PFOA and PFOS from drinking water. When both PFOA and PFOS are found in drinking water, the combined concentrations of PFOA and PFOS should be compared with the 70 ppt health advisory level.[13] For the purposes of the proposed STS, the system is designed to treat these emerging contaminants to a level below the recommended standard by the Drinking Water Council (i.e., 10 ppt for PFAS and 1 ppb for 1,4-dioxane).

SCWA's annual 2019 Drinking Water Quality Report[14] notes the specific types of treatment that have been approved by New York State for removing these contaminants of concern from water supplies (see Appendix E of this DSEIS). Through the State Superfund program, New York State has invested in installing GAC systems that are successful in removing PFOA and PFOS from impacted water supplies.[15] To address 1,4-dioxane, New York State approved a treatment technology called Advanced Oxidation Process (AOP) that is currently being utilized by SCWA to address water quality on Long Island.[16]

Proposed Stormwater Management System

As described above in Section 2.2, the proposed action has been modified to incorporate multiple additional rounds of stormwater treatment to the proposed stormwater management system designed to be protective of groundwater by removing potential contaminants e.g., hydrocarbons, VOCs, BTEX and related compounds, emerging contaminants of PFAS and 1,4-dioxane) from stormwater runoff prior to its discharge to the proposed leaching system and ultimately to groundwater.

[12] New York State Department of Health. *Drinking Water Quality Recommends Nation's Most Protective Maximum Contaminant Levels for Three Unregulated Contaminants in Drinking Water.* December 2018. Available online at: https://www.health.ny.gov/press/releases/2018/2018-12-18_drinking_water_quality_council_recommendations.htm. Accessed March 2020.

[13] United States Environmental Protection Agency. *Drinking Water Treatability Database – Perfluorooctane Sulfonate*. 2018. Available online at: https://oaspub.epa.gov/tdb/pages/contaminant/contaminantOverview.do?contaminantId=10940. Accessed March 2020.

[14] Suffolk County Water Authority. *2019 Drinking Water Quality Report.* Available online at: http://s1091480.instanturl.net/dwqr2019/AWQR2019_FINAL51319.pdf. Accessed March 2020.

[15] *Ibid.*

[16] *Ibid.*

The overall stormwater management system is designed such that stormwater would be collected at a system of catch basins located throughout the proposed paved parking area; directed via subsurface piping to Contech hydrodynamic separator systems (which remove various materials and substances from the stormwater, including hydrocarbons and hydraulic fluids, as explained in detail in the 2019 DEIS – see Sections 3.1.2.1 and 3.1.2.4 and Appendices H through J of the 2019 DEIS); and then to a lined basin, before being pumped through a newly proposed STS for filtration by GAC and UV/Oxidation treatment. The lined basin will act as a reservoir that is sized to accommodate large volumes of stormwater (i.e., up to an eight-inch rainfall event), from which the collected stormwater can be pumped at a controlled, prescribed rate that the STS has been designed to accommodate (i.e., 640 gpm). The STS treatment technologies are proposed to provide high-quality water that will then be recharged and filtered through the soils beneath the ground prior to reaching groundwater, and are the same technologies relied upon by SCWA to treat similar compounds (at select wells) in its drinking water supply systems.

It should be noted that groundwater pumped by SCWA receives additional treatment prior to its distribution through the local community water supply system. All water pumped within the pump stations is treated to increase the pH and chlorinated to maintain disinfection throughout the distribution system.[17] Several pump stations use the same and similar technologies as those proposed as part of the proposed STS to achieve safe drinking water levels.[18] The specific levels of treatment that would normally be provided at the SCWA well field adjoining the subject property are not known to the Applicant.

Stormwater Treatment System Details

The proposed STS consists of four stages of treatment in two treatment trains (see Section 2.2 and Figure 2 on Page 7 of this DSEIS) . The treatment system is designed to accommodate 640 gpm of stormwater runoff from the proposed paved automobile storage areas. The overall goal of the STS is to remove potential pollutants – including hydraulic fluids, VOCs and hydrocarbons such as BTEX, and the emerging contaminants of concern referred to by SCWA (i.e., PFAS and 1,4-dioxane) – from the stormwater leaving the auto storage facility, should any such compounds in fact be present in the runoff. The STS is designed to treat these contaminants to concentrations below what is required by the Drinking Water Council.

As described in Section 2.2, the lined basin has been designed to accommodate up to approximately 5,254,765.71 gallons of stormwater (i.e., an eight-inch rainfall event). The STS is designed to accommodate 640 gpm of stormwater runoff, such that the stormwater collected would not remain in the lined basin for an extended period of time. Even following an extreme storm that completely fills the basin (i.e., an eight-inch rainfall event), it would take only 137 hours, or 5.7 days, for the STS to empty the lined basin and treat all stormwater prior to its discharge to the ground. In the case of a 100-year storm (which is equal to nine-inches of rainfall), an additional one-inch of storage would be accommodated

[17] Suffolk County Water Authority. *2019 Drinking Water Quality Report.* Available online at: http://s1091480.instanturl.net/dwqr2019/AWQR2019_FINAL51319.pdf. Page 6. Accessed March 2020.

[18] *Ibid.* Page 9.

by the upstream drainage piping and structures. This means that as the basin empties, an additional inch of flow would enter the basin. In this case, it would take an additional 0.7 days (i.e., 17 hours) for the lined basin to empty. For common rainfall events where lesser volumes would collect in the lined basin – Long Island receives on average only 48± inches of precipitation per year[19] – the STS pumps would empty the basin in an even shorter time period.

Relevant Case Studies

To the Applicant's knowledge, a similar system to that proposed has not been the subject of a case study at a similar facility, as it is unusual for such a level of treatment of stormwater runoff to be provided for an automobile storage facility for the temporary storage of auction vehicles; the proposed action goes far above and beyond what might be recognized as a typical level of stormwater management, in order to promote the protection of groundwater resources and address the comments raised by interested parties. No such system is known to be used for the multiple existing automobile storage facilities in the area or elsewhere in the Town of Brookhaven. The Applicant, nonetheless, is willing to install the proposed STS to minimize or eliminate potential adverse impacts of the proposed facility with respect to water quality, understands and accepts the maintenance needs of the proposed STS and other water quality measures that have been incorporated into the proposed action, and is committed to performing the necessary maintenance to operate the system and thereby effectively remove the relevant contaminants which may or may not be present in the stormwater runoff from the site prior to its recharge.

There are, however, various case studies that demonstrate the effectiveness of the proposed stormwater treatment technologies for addressing the contaminants raised by SCWA and the Planning Board. The comments raised require the evaluation of potential impacts to drinking water due to stormwater discharges from the proposed facility. The case studies presented below describe that the same technologies proposed have been successfully used to treat the potential contaminants of concern. As noted by the records sourced in the discussion below, the technologies proposed for the STS have been used in a wide range of applications, including the treatment of drinking water supplies, remediation of impacted groundwater, treatment of industrial wastewater, and various others. Whether for these applications, or for the treatment of stormwater as proposed, the technologies are the same, and the effects are the same – they have been demonstrated to effectively remove the contaminants of concern, and therefore have been selected by the Applicant's water quality engineers for the proposed application. Accordingly, it is respectfully submitted that the comments regarding potential groundwater contamination are directly responded to by these case studies.

<u>GAC Filtration</u>

The proposed STS would utilize GAC to treat many of the compounds identified by SCWA, including PFAS. The EPA conducted studies to determine the effectiveness of GAC in

[19] United States Geological Survey New York Water Science Center – *Long Island Precipitation.* Available online at: https://www.usgs.gov/centers/ny-water/science/long-island-precipitation?qt-science_center_objects=0#qt-science_center_objects. Accessed May 2020.

removing PFAS, which found that this type of technology is capable of removing these contaminants.[20] The Applicant's water quality engineer, ECT2, has treated over 800 million gallons of different water types for the reduction of PFAS. The city of Greensboro, in North Carolina, conducted a pilot test for using GAC as a means of treatment for PFAS in its municipal drinking water distribution system. The treatment was found to be effective in removing PFOS and PFOA.[21] Products other than GAC are available, such as ion exchange resin (IX resin), with which ECT2 is familiar. However, according to ECT2, GAC is a more suitable type of treatment for this particular application given its ability to address potential PFAS as well as a wide array of other potential contaminants, including hydrocarbons/BTEX, and others, in an effective manner. The proposed STS is designed such that the total contact time throughout the entire system running at 640 gpm would be approximately 18 minutes. According to ECT2, the 18-minute contact time for the proposed system is a conservative estimate and would provide adequate time for treatment. The 18-minute contact time would allow the lengthening of the media run time and would reduce the number of changeouts needed.

Calgon Carbon Corporation (hereinafter "Calgon") has designed a GAC model that has been used successfully in removing a broad range of pollutants from drinking water for over 40 years, and specifically has treated PFAS for over 15 years.[22]The proposed STS would utilize Calgon's Filtrasorb 400-M (F-400-M) GAC medium (or equivalent) to treat stormwater runoff from the proposed facility and reduce the level of hydrocarbons, PFAS, BTEX and related compounds. Made from select grades of bituminous coal, this model is capable of withstanding the abrasion associated with repeated backwashing, hydraulic transport and reactivation.[23] This model is designed to comply with all applicable provisions of the American Water Works Association (AWWA) standard for GAC, as well as a wide range of industry standards (e.g., B604 latest edition, the stringent extractable requirements of NSF/ANSI 61, and the Food Chemical Codex latest edition). The AWWA is a recognized international, scientific and educational association dedicated to improving water quality and supply.[24] Calgon has used their GAC technology in many applications across the United States to treat hydrocarbons and PFAS in municipal drinking water, as described below.

- In 2015, a small village in upstate New York tested positive for PFOA in their municipal drinking water. Calgon's GAC filtration system was used to remove PFOA from the Village's drinking water to a non-detectable level under 3 ppt below the EPA's health advisory standard as well as the Drinking Water Council's recommended standard (see Appendix F of this DSEIS for the full case study).
- The Town of Blades in Delaware found PFAS in their municipal drinking water in 2018. Calgon's Filtrasorb 400 model was used to remove the PFAS and the system

[20] United States Environmental Protection Agency. Combined Presentations – *Removing PFAS from Drinking Water* (page 69). August 2018. Available online at: https://www.epa.gov/sites/production/files/2018-08/documents/r4_combined_presentations_.pdf. Accessed March 2020.

[21] *Ibid.* Page 80.

[22] Calgon Carbon Corporation. *Data Sheet.* 2019. Available online at: https://www.calgoncarbon.com/app/uploads/DS-FILTRA400M19-EIN-E1.pdf. Accessed March 2020.

[23] *Ibid.*

[24] American Water Works Association. *About Us.* Available online at: https://www.awwa.org/About-Us. Accessed March 2020.

reduced the concentration of PFAS to 3.4 ppt, which is well under the 70 ppt of the EPA's health advisory standards and the 10 ppt of the Drinking Water Council's recommended standard (see Appendix F of this DSEIS for the full case study).

- Another location that used Calgon's Filtrasorb 400 model to remove PFAS from drinking water was in 2016 at the Eielson Air Force Base in Alaska. In this application, this GAC model worked well and the levels of PFAS had been undetectable on all vessels below the EPA health advisory standards. Additionally, this model was able to function in negative 30 degrees Fahrenheit, able to withstand extremely harsh conditions (see Appendix F of this DSEIS for the full case study).

As noted above, ECT2 has designed the overall system to treat the emerging contaminants of PFAS below the Drinking Water Council's 10 ppt municipal drinking water standard. ECT2 anticipates that the proposed GAC treatment system will last for multiple years before needing a media changeout. However, more frequent media changeouts would be provided if warranted.

UV/Oxidation Treatment

As per ECT2, little if any 1,4-dioxane is anticipated to be present in the stormwater leaving the paved parking lot areas for the proposed facility. The proposed UV/Oxidation stage of the treatment process is a proven and effective technology to treat 1,4-dioxane as well as BTEX in this application. The EPA *Technical Fact Sheet – 1,4-Dioxane*, identifies the types of technologies used to treat 1,4-dioxane, including an AOP, that uses hydrogen peroxide with ultraviolet light, which is the final stage of the proposed STS.[25] Furthermore, the EPA *Treatment Technologies for 1,4-Dioxane: Fundamentals and Field Application*, describes the two commonly used AOPs, including the proposed STS UV/Oxidation stage.[26] TrojanUV, a technology manufacturer, has installed UV disinfection technologies around the world that have been used in multiple applications relating to water quality and supply, including municipal drinking water.[27] The proposed STS would utilize the TrojanUVPhox (UV-photolysis and UV-oxidation) (or an equivalent model using these technologies), which is a type of AOP, to treat 1,4-dioxane from stormwater runoff at the subject property, as described below.

- TrojanUV treated 1,4-dioxane at the Tucson International Airport Area (TIAA) Superfund Site in Tucson, Arizona in 2014. This case study proved the effectiveness of removing 1,4-dioxane from impacted groundwater through the AOP using UV/Oxidation (see Appendix F of this DSEIS for the full case study).
- TrojanUVPhox model was used to treat municipal drinking water in Stockton, California where levels of 1,4-dioxane were at 110 ppb. This system treated 110 ppb of 1,4-dioxane influent levels to effluent levels below 1 ppb, which is less than the

[25] United States Environmental Protection Agency. *Technical Fact Sheet – 1,4-Dioxane*. November 2017. p. 5. Available online at: https://www.epa.gov/sites/production/files/2014-03/documents/ffrro_factsheet_contaminant_14-dioxane_january2014_final.pdf. Accessed March 2020.

[26] United States Environmental Protection Agency. *Treatment Technologies for 1,4-Dioxane: Fundamentals and Filed Application,* pp. 2-1 to 2-3. December 2006. Available online at: https://clu-in.org/download/remed/542r06009.pdf. Accessed March 2020.

[27] TrojanUV. *About TrojanUV.* Available online at: https://www.trojanuv.com/about. Accessed March 2020.

Drinking Water Council's drinking water standards for New York (see Appendix F of this DSEIS for the full case study)

- TrojanUVPhox model was used in San Gabriel Valley, California to treat 1,4-dioxane in the San Gabriel Valley aquifer. This technology reduced the amount of 1,4-dioxane to less than 0.5 ppb, which is under the Drinking Water Council's drinking water standards for New York (see Appendix F of this DSEIS for the full case study)

It should be noted SCWA received approval from the New York State Department of Health (NYSDOH) to construct the first AOP treatment system for drinking water in all of New York State.[28] In 2017, this treatment system was implemented at SCWA's Commercial Boulevard, Central Islip pump station with the same technology that is proposed for the subject property. A 2018 award for this treatment system was given by the Water and Wastes Digest (WWD) and Industrial Water and Wastes Digest (IWWD) to SCWA, TrojanUV and others for the successful treatment of 1,4-dioxane in municipal drinking water.[29]

Overall, the proposed STS allows for the flexibility of stormwater treatment, capable of reducing the levels of hydrocarbons, PFAS, 1,4-dioxane and BTEX to meet the New York State's rigorous drinking water standards. The proposed STS is currently designed to reduce the concentrations of pollutants leaving the treatment facility below what is required by the Drinking Water Council's recommended standards for New York State (i.e., 10 ppt for PFAS and 1 ppb for 1,4-dioxane). Accordingly, it would not be reasonable to expect that the infiltration of treated stormwater runoff into the ground at the proposed facility would have a significant adverse effect on groundwater quality at the nearby SCWA well field.

As described above (see Section 3.1), the current project plan provides for the installation of a monitoring well at the subject property near the adjacent SCWA well field, in response to a request for same by the SCWA on a previous version of the proposed project. The Applicant respectfully requests that, given the extensive level of stormwater treatment that will be implemented, which will be monitored, that the SCWA reconsider the need for such a well.

System Operation and Maintenance

The proposed STS would be fully automated and capable of being remotely operated. It is designed to be operated continuously and without an operator present at all times. Flow through the system is controlled via variable frequency drives on the system feed pumps based on the water level in the OWS. The differential pressure across each pretreatment vessel and bag filter is remotely monitored to assess whether a bag filter change-out or backwash is required.

[28] Suffolk County Water Authority. *SCWA 1,4-Dioxane Treatment System Approved By New York State.* Available online at: https://www.scwa.com/14-dioxane_treatment_system_approved/. Accessed March 2020.

[29] D&B Engineers and Architects, P.C. *D&B Engineers and Architects, P.C. and Partners Receive Award From Water & Wastes Digest at the 2018 WWD & IWWD Awards.* Available online at: https://www.db-eng.com/db-engineers-and-architects-p-c-and-partners-receive-award-from-water-wastes-digest-at-the-2018-wwd-iwwd-awards/. Accessed March 2020.

As described in the 2019 DEIS, the in-line hydrodynamic separators would be inspected, by the intended operator at least twice per year and cleaned as needed (i.e., at 75 percent capacity) as part of the routine site maintenance activities.

Regarding the proposed STS, it is anticipated that a change-out of the GAC in the primary treatment lead vessels will be required on the order of once per year (or less) as part of routine maintenance. This change-out frequency estimation will be refined by performing periodic water quality sampling and analysis, as well as monitoring the pressure drop across the vessels.

Maintenance is required on the system intermittently in order to ensure that the STS remains in optimal working order. A leak detection switch inside the pump house container alerts the operator to any leaks of the pumps or process piping around the pumps. Any significant leak detected by this switch triggers the system to shut down and alerts the operator that attention in this area is required. Further to the leak detection switch, the infrared cameras placed on the auto lot grounds will trigger the system to shut down automatically as well as notify the operator on-call that there has been an incident. There is also a manual emergency shut off switch located outside of the pump house container that allows the operator, or first responders, to manually shut down the system in case of emergency.

The operator of the proposed facility will maintain and monitor these systems as a basic function of its operations, not as an optional subscription service. The cameras have a call center that sends notifications to the site manager and the YFD by the tenant. The cameras will also notify the operator on call of any occurrence. If there is an occurrence within the treatment center, the STS will notify the operator via an app provided by ECT2. The operator will live within 30 minutes of facility and will be an employee of N.M.F Properties. As recommended by ECT2, he will be onsite 20 to 40 hours per week and on call 24 hours per day, 7 days per week. He will be responsible to inspect, clean, maintain, sample water and keep records. Yearly maintenance will be done by manufactures as recommended.

Portable stand-by diesel generator(s) (combined diesel storage capacity of less than 1,100 gallons) are proposed to be stationed at the subject property, which will be used for intermittent stationary backup power to operate critical systems, including STS pumps, leak detection and security/monitoring systems.

The Applicant understands and accepts the maintenance needs of the proposed STS and other water quality measures that have been incorporated into the proposed action, and is committed to performing the necessary maintenance to operate the system and thereby effectively remove the relevant contaminants from stormwater runoff from the site prior to recharge.

Summary and Conclusions

Based on the analysis above, and the capabilities of the proposed stormwater management system and STS, the following conclusions are made with regard to water quality:

- Various additional measures – in addition to those previously added to the proposed project based on input from SCWA – have now been incorporated into the proposed action to comprehensively address potential contamination concerns (i.e.,

PFAS and 1,4-dioxane) raised by SCWA in their most recent (November 8, 2019) correspondence.

- The proposed STS would capture and treat all stormwater runoff on-site prior to its discharge to the subsurface and recharge to groundwater. Stormwater would not be permitted to run overland onto adjoining properties.
- The proposed STS provides multiple levels of treatment for stormwater runoff, including the Contech hydrodynamic separator systems to remove sediment, floatable trash and hydrocarbons; an oil water separator to further remove immiscible hydrocarbons; two pretreatment GAC vessels to filter out the remaining large particulates and hydrocarbons not removed by the OWS; two bag filters to remove fine particulates; two lead-lag GAC vessels to remove PFAS and various other potential contaminants; and the UV/Oxidation stage to remove 1,4-dioxane.
- The proposed STS treatment technologies (i.e., GAC and UV/Oxidation) have been recognized by both New York State and SCWA and proven effective.
- The GAC and UV/Oxidation treatments proposed as part of the proposed STS are the same technologies currently utilized by SCWA where needed for the treatment of drinking water, as noted in their annual 2019 Drinking Water Quality Report.
- Minimal maintenance of the proposed STS would be required, and the system is equipped with leak detection and other emergency features. The Applicant is committed to performing the necessary maintenance to operate the system. The operator of the proposed facility will maintain and monitor these systems as a basic function of its operations, not as an optional subscription service, would be on-site 20 to 40 hours per week and on-call 24 hours per day 7 days per week.

Overall, given the extensive level of treatment that would be implemented for all stormwater runoff generated at the proposed facility, no significant adverse impacts to groundwater quality or the nearby SCWA public water supply wells are anticipated.

3.2 Fire Protection

The Positive Declaration identifies concerns regarding the possibility of a fire emergency related to the storage of electric vehicles, and site access in the event of a fire.

As noted in the 2019 DEIS, the preliminary site plan for the proposed action was submitted to the Town of Brookhaven Division of Fire Prevention for review. The Town Fire Marshal issued a letter dated November 30, 2018 stating the site plan was approved as submitted (see Appendix O of the 2019 DEIS), which indicates that no significant adverse fire protection conditions were identified as part of that review. The Applicant is committed integrating into the proposed action any additional requirements of the Fire Marshal that may arise through the site plan review and approval process that will be undertaken for the current proposed plan (i.e., in addition to the protection measures already proposed, as discussed further below).

The Applicant is proposing various measures relevant to fire protection, as detailed in the 2019 DEIS (see Section 3.8). These measures would be implemented if desirable to the Yaphank Fire Department (YFD) or the Town Fire Marshal:

- A portion of the paved area could be designated for the storage of electric and hybrid vehicles, with appropriate signage and labeling.
- A key lock box could be maintained at the access gate for YFD access.
- Contact information for the site operator can be kept on file with the YFD.

As a safety measure with regards to fire emergencies that was identified in the 2019 DEIS, it is the Applicant's intention to install an infrared camera security system. The proposed infrared camera system includes a thermal analytic camera (i.e., FC-Series R created by FLIR or equivalent) which features non-contact temperature measurement capability for early fire detection and thermal monitoring with alarm notifications for quick and reliable incident detection (see Appendix G of this DSEIS). The proposed thermal analytic camera would have flexible integration tools that allow temperature data and alarms to be integrated into a wide variety of external monitoring and control systems. This camera can also operate between -58 degrees and 158 degrees Fahrenheit, allowing for continuous monitoring during extreme temperature and weather conditions.

An additional emergency response measure (see discussion in Section 3.1 above), the proposed STS has a leak detection switch that, if triggered, would shut down the system automatically and alert the operator. The STS also includes cameras to detect leaks and will trigger the STS to shut down automatically as well as notify the operator that there has been an incident. In the event of an emergency, a manual emergency shut off switch is located on the outside of the pump containment allowing the operator or first responders to shut down the system. This is important to fire protection, to the extent that there may ever be a fire related to the STS or its components, or to the extent that runoff from the proposed automobile storage yard may enter the lined stormwater basin following an emergency or spill. The system could readily be shut down under such circumstances, and the runoff could be addressed systematically and independently without the risk of related impacts to the subsurface or groundwater resources.

With further regard to emergency access and response, the intended tenant will maintain and implement an Emergency Action Plan, addressing a wide range of potential emergency conditions that may arise. A sample plan is included in Appendix H of this DSEIS. The Emergency Action Plan will include important contact information, and detailed protocols for evacuation, emergency drills (including fire drills), and for addressing yard fires.

It is expected that operations at the proposed facility would be comparable to those at the several existing automobile storage, auction and outdoor storage facilities that are present throughout this portion of the Town. Accordingly, the proposed action would not present a unique service demand, with respect to fire emergencies. Nonetheless, as described above, various measures have been incorporated into the design of the proposed action, beyond the minimum or typical facility measures, which are expected to provide a greater level of protection and therefore minimize associated potential adverse impacts.

With specific regard to electric and hybrid vehicles, manufacturers are actively offering fire safety information related to their products. A prominent example, Tesla, which dedicates a portion of its website to providing educational materials to first responders,[30] offers Emergency Response Guides for each of its models and chargers. These guides provide a wealth of information, most of which is dedicated to protecting the first responder, but also provides instructions for firefighting. As an example, for Tesla Model 3,[31] it is clearly stated that firefighters should "USE WATER TO FIGHT A HIGH VOLTAGE BATTERY FIRE" (see Page 21 of the guide). The use of water as the recommended firefighting practice for a battery fire is also recognized by FireRescue1, a website that publishes content, policy and training materials for public safety and local governments for fire service.[32]

The National Fire Protection Association (NFPA) maintains a library of similar guides for electric and hybrid vehicles, and offers first and second responders a safety training program for dealing with alternative fuel vehicles.[33] The training program offers online training, videos, animations, simulations, data review questions, scenario rooms, 3D interactive environments and quick reference materials.[34] The NFPA also offers an Emergency Field Guide that provides the latest facts on safety measures and responses to alternative-fuel vehicle (i.e., trucks, buses, commercial fleet and passenger vehicles) incidents involving damaged high-voltage batteries and gaseous fuel systems, fire events, delayed ignition, extrication challenges, submersion, and charging stations and refueling stations.[35] These are examples of the various resources available to local fire departments, such as the YFD, for their use in addressing emergencies related to alternative fuel vehicles, including electric and hybrid vehicles. This is a common topic of concern that is not unique to the proposed action.

Consultations were undertaken with the YFD in connection with the proposed action. Correspondence was forwarded to Matthew Quinn, the District Manager for YFD, on March 5, 2020 informing the YFD about the proposed action and requesting information relative to fire protection services for the subject property (see Appendix I of this DSEIS). Specifically, the letter asked the YFD to answer the following questions:

1. What specialized protocols/procedures for providing fire protection services does the YFD apply to facilities of this nature (i.e., automobile storage facilities)?
2. What, if any, specific techniques, materials or substances, etc., are used by the YFD for fire suppression in the event of a fire incident at an automobile storage facility?
3. Please also describe any specialized techniques, materials or substances used when electric vehicles are involved (i.e., in a fire).

[30] Tesla Inc., *First Responders Information.* Available online at: https://www.tesla.com/firstresponders.Accessed March 2020.

[31] Tesla Inc., *Model 3 Emergency Response Guide.* Available online at: https://www.tesla.com/sites/default/files/downloads/Model_3_Emergency_Response_Guide_en.pdf, accessed March 2020.

[32] FireRescue1. *What Firefighters Need to Know About Electric Car Batteries.* Available online at: https://www.firerescue1.com/firefighter-training/articles/what-firefighters-need-to-know-about-electric-car-batteries-omiDv8vd87oZ9ZKs/. Accessed March 2020.

[33] National Fire Protection Association. *NFPA's Alternative Fuel Vehicles Safety Training.* Available online at: https://www.nfpa.org/Training-and-Events/By-topic/Alternative-Fuel-Vehicle-Safety-Training, accessed March 2020.

[34] *Ibid.*

[35] National Fire Protection Association. *Emergency Field Guide.* Available online at: https://catalog.nfpa.org/Emergency-Field-Guide-2015-Edition-P13872.aspx?icid=D762. Accessed March 2020.

4. The subject property is adjacent to a public water supply wellfield of the Suffolk County Water Authority. Does the YFD implement any special practices or precautions related to groundwater protection in the event of a fire emergency near a public water supply well?

A follow-up letter was sent to the YFD on March 24, 2020. A response was received from the YFD by letter dated April 24, 2020 (see Appendix I of this DSEIS). The letter issued by the Yaphank Fire Department Chief's office states that in the event of a vehicle fire on the subject property, the YFD "will respond according to department protocols to extinguish the fire using water." However, if water does not suffice, then *Fire-Brake Foam Concentrate,* a biodegradable foam that complies with the NFPA standards, will be used to extinguish the fire. If an electric vehicle is involved in a fire, the YFD would comply with standard operating procedures using copious amounts of water to extinguish the fire.

Fire-Brake Foam Concentrate is manufactured by SOLBERG, a leading manufacturer in the fire protection and firefighting industry,[36] which describes that the foam concentrate is environmentally sustainable as it is biodegradable and is non-toxic to the environment. Furthermore, this foam concentrate does not contain any PFAS ingredients that are found in other foam concentrates.[37] As such, it is expected that the use of this specific foam solution would not have significant adverse impacts related to groundwater quality.

The YFD has requested that all electric and hybrid vehicles be located together in a labeled area within 500 feet of a fire hydrant. The Applicant has agreed to dedicating a portion of the paved area for the storage of electric and hybrid vehicles, with appropriate signage and labeling within 500 feet of a fire hydrant, consistent with the YFD's request (see Appendix C). The YFD has also requested that the subject property include three additional fire hydrants in the event of a fire emergency, to be located at the mid-south end of the property, the mid-north end of the property and the east side of the property. The Applicant has agreed to install the three additional fire hydrants at the requested locations on-site (see Appendix C).

Based on the above analysis, the proposed action is not expected to have potential significant impacts on fire protection. As noted above, the previous site plan in the 2019 DEIS was approved by the Town Fire Marshal, and the current plan will also be reviewed and approved prior to implementation of the proposed action as part of the Town's standard Site Plan review process. The Applicant has incorporated various fire safety measures and the operator will implement an Emergency Action Plan, similar to the sample plan provided in Appendix H of this DSEIS, as revised to reflect any input that may be provided by the Fire Marshal and YFD. Implementation of the proposed action is not expected to present any unique service demands compared to the several existing similar automobile storage facilities in this portion of the Town. Moreover, the proposed action will incorporate the measures requested by the YFD with respect to the provision of fire hydrants and the

[36] SOLBERG. *About Us.* Available online at: https://www.solbergfoam.com/About-Solberg.aspx. Accessed April 2020.

[37] SOLBERG. *Fire-Brake FB-CAF Foam Concentrate.* Available online at: https://www.solbergfoam.com/Technical-Documentation/Foam-Concentrate-Data-Sheets/Fire-Brake-Foam/Brochures/FIRE-BRAKE-Foam-2017006-1.aspx. Accessed April 2020.

maintenance of a dedicated area for the storage of electric and hybrid vehicles. Therefore, no significant adverse impacts are expected with respect to fire protection.

3.3 Cumulative Impacts

The 2019 DEIS analyzed cumulative impacts of the proposed development with other developments in the vicinity of the project area. Specifically, relevant to the 2019 DEIS, the Town Department of Planning, Environment and Land Management identified two existing automobile storage facilities similar in use to the proposed action that are located within approximately one-half mile of the subject property (i.e., one located at 425 Patchogue-Yaphank Road and the other at Rice Court). These other facilities were reviewed within the 2019 DEIS with respect to a range of potential cumulative impacts, including land use and zoning, aesthetics and neighborhood character, among others, which confirmed that no significant adverse cumulative impacts were anticipated.

The Positive Declaration which prompted the preparation of this DSEIS indicates that potential cumulative impacts upon the drinking water well fields must be further evaluated, to wit:

> *There are similar existing and proposed automobile storage facilities within ½- mile of the proposed project. Cumulative impacts of this and other nearby projects to the area drinking water well fields will be analyzed.*

Consultations with the Town Department of Planning, Environment and Land Management confirmed the two facilities in the vicinity of those two area automobile storage facilities noted above (from the 2019 DEIS), plus a third facility at the northeast corner of Horseblock Road and Patchogue-Yaphank Road, are to be analyzed herein. Therefore, this DSEIS evaluates the relevant cumulative impacts of the proposed action with the following three other developments (see Figure 3):

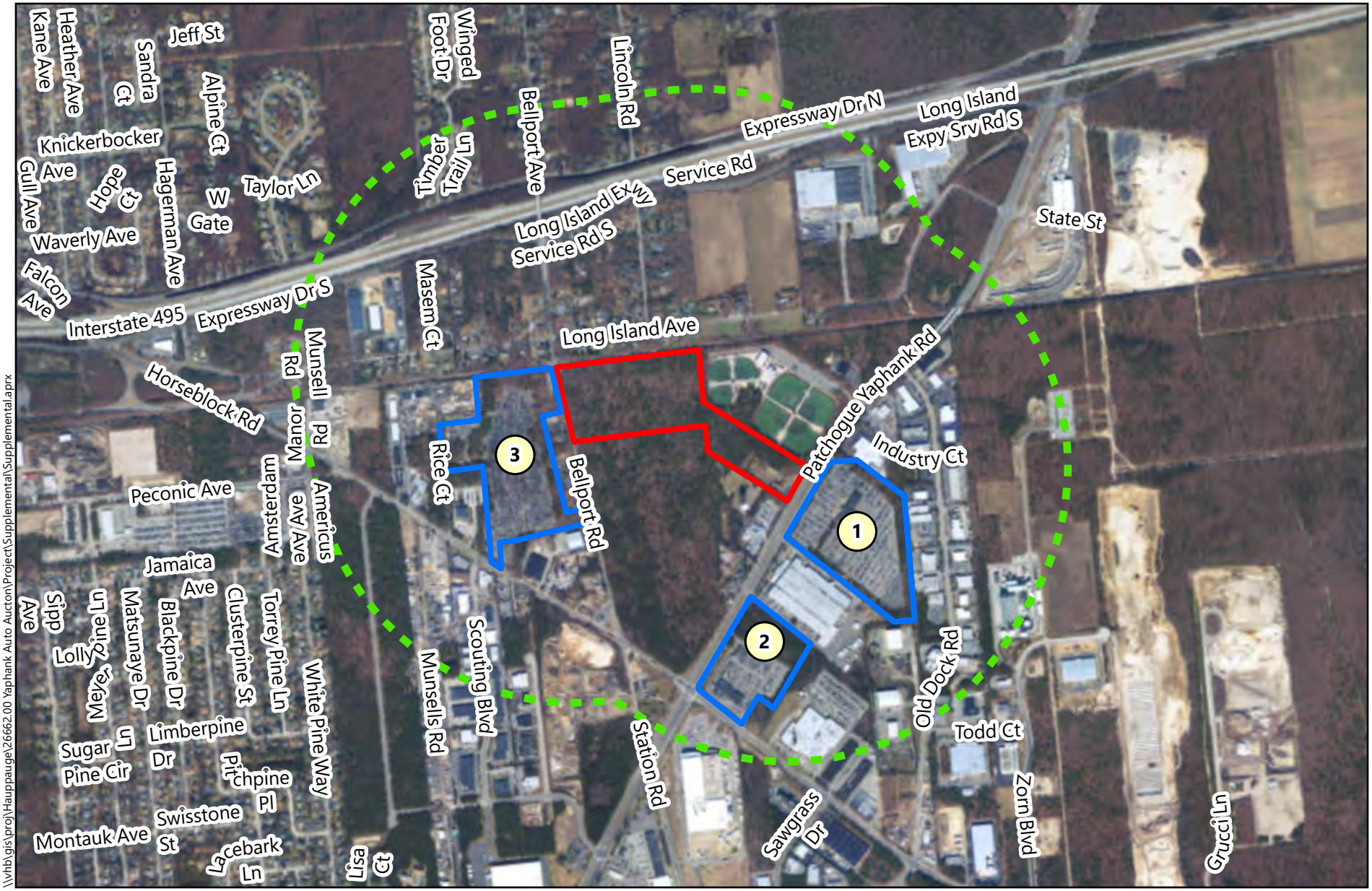
425 Patchogue-Yaphank Road – This facility is operated with an automobile auction use and contains expansive asphalt parking areas for automobile storage, a 34,180±-SF building used for a mechanical/detail shop and other uses associated with automobile auction. This facility is on a 29.7±-acre site located approximately 200 feet to the east of the subject property, on the opposite side of Patchogue-Yaphank Road.[38]

Northeast corner of Horseblock Road and Patchogue-Yaphank Road – This facility is operated in conjunction with the 425 Patchogue-Yaphank Road automobile auction facility and consists of automobile storage areas located approximately 1,500 feet southeast of the subject property. There is a 33,592±-SF building associated with the automobile auction and automobile storage uses on this 17.5±-acre property.

21 Rice Court – This 37.8±-acre facility contains automobile storage areas located east of Rice Court and north of Horseblock Road, approximately 350 feet west of the subject property. This facility currently exists, and appears to have been developed over time (beginning circa 2012 based on a review of aerial photography), but is currently seeking

[38] Adesa. *ADESA Long Island.* Available online at: https://www.adesa.com/auction_location/adesa-long-island/. Accessed March 2020.

vhb | **FIGURE 3**



\\vhb\gis\proj\Hauppauge\26662.00 Yaphank Auto Aucton\Project\Supplemental\Supplemental.aprx

0 500 1000 2000 Feet

Subject Property

Half-Mile Radius

Other Existing Developments

1 - 425 Patchogue-Yaphank Road

2 - Northeast Corner of Horseblock Road and Patchogue-Yaphank Road

3 - 21 Rice Court

Proposed Automobile Storage Facility at Yaphank | Yaphank, NY

Existing and Proposed Automobile Storage Facilities Near Subject Property

Hamlet of Yaphank, Town of Brookhaven

Suffolk County

Sources: ESRI; NYS Ortho Imagery (2016);
Town of Brookhaven Department of Planning, Environmental and Land Management

Site Plan and Special Permit approvals from the Town of Brookhaven for which the Planning Board recently issued a Positive Declaration requiring the preparation of a DEIS. The Environmental Notice Bulletin (ENB) notice for the Positive Declaration published on February 19, 2020[39] provides the following information for this application:

> *"The action involves a site plan and special permit approval for an existing parking facility with storage of new and used vehicles at the 37.8 ± acre subject property. The requested special permit approval seeks to legalize all existing uses currently operating on a 23.83 ± acre portion of cleared land/gravel area located throughout the central portions of the site. All existing gravel areas currently utilized as vehicle storage areas will be removed and replaced with pavement. A recharge basin will be constructed on the northern portion of the subject property and new drainage systems will be installed throughout the property to direct stormwater to the proposed recharge basin. Grit separators will be installed within the proposed piping system to filter stormwater prior to discharge into the recharge basin and monitoring wells will be installed on each side of the recharge basin to detect potential oil and fuel contamination. A security building will be installed at the entrance of the subject property and all existing trailers will remain on-site"* (ENB, February 19, 2020).

The proposed facility and the three identified in consultation with the Town are located within an expansive industrial zoning district which contains numerous industrial uses of varying type, such that the proposed facility, together with the other three, would not create undue concentration of such uses in this area.

With respect to cumulative groundwater impacts, a groundwater contributing map, provided by SCWA, was analyzed (see Appendix F of the 2019 DEIS, copy provided as Appendix J of this DSEIS). This map was used to evaluate the groundwater contribution areas of the Patchogue-Yaphank Road Well Field, depicting land surface areas within the 2, 5, 25, 50, 75 and 100-year contributing areas (i.e., based on the time it takes groundwater to travel from the source on the land surface into the wells of the Patchogue-Yaphank Road Well Field). The majority of the overall subject property is mapped within the 2-year contributing area, with a portion to the west located within the 5-year contributing area for the Patchogue-Yaphank Road Well Field.

The western portion of the automobile storage facility located at 425 Patchogue-Yaphank Road is mapped within the 2, 5 and 25-year contributing areas for the Patchogue-Yaphank Road Well Field, while the majority of that facility is not located within any groundwater contributing area of an SCWA well field. The automobile storage facility located on the northeast corner of Horseblock Road and Patchogue-Yaphank Road is not located within any of the mapped groundwater contributing areas. The eastern and central portions comprising the majority of the automobile storage facility located at 21 Rice Court are mapped within the 5- and 25-year contributing areas of the Patchogue-Yaphank Road Well Field.

Only a small portion of the overall facility at 425 Patchogue-Yaphank Road is within the capture zone and the northeast corner of Horseblock Road and Patchogue-Yaphank Road is located outside the capture zone, such that the potential for discharges at those facilities to

[39] New York State Department of Environmental Conservation. *ENB Region 1 Notices 2/19/2020.* Available online at: https://www.dec.ny.gov/enb/20200219_not1.html. Accessed March 2020.

result in a cumulative impact with any potential discharges at the subject property is minor. Moreover, and more importantly, as evaluated in detail in Section 3.1 of this DSEIS, above, the proposed action would provide a high level of treatment and recharge high-quality water meeting stringent New York drinking water standards, including the Drinking Water Council's recommended standards for emerging contaminants (i.e., PFAS and 1,4-dioxane). The impacts of the other existing facilities would not be relevant to the evaluation of the proposed action, as the proposed action would not be adding significantly to the loading of pollutants to the Patchogue-Yaphank Road well field. More specifically, the proposed STS would remove pollutants, mainly hydrocarbons, PFAS, and 1,4-dioxane, from the stormwater leaving the auto facility. It should be noted that the other two existing facilities have their own responsibility to address any site-specific impacts from their operations.

The third automobile storage facility included in this cumulative impact analysis, at 21 Rice Court, is currently undergoing its own, separate SEQRA process and received a Positive Declaration from the Town Planning Board. That Positive Declaration is related to the similar perceived potential for significant impacts on SCWA water supply wells in the vicinity of the subject property. As such, the impacts to groundwater and the SCWA well fields from the Rice Court property must be fully analyzed under a separate SEQRA process. It is expected that the Rice Court automobile storage facility would be held to the same standards and requirements for the protection of groundwater within the contributing area of the SCWA well fields as this proposed action.

It has been demonstrated herein that the proposed action incorporates appropriate and effective measures to minimize or eliminate potential adverse impacts through the use of multiple stormwater treatment and public water supply industry-recognized technologies and treatment processes to mitigate potential stormwater impacts. However, the specific measures or processes to be implemented at the Rice Court project site are not known at this time, and would operate entirely separate from the proposed action. Thus, it is respectfully submitted that no further analysis of the Rice Court project is warranted within this DSEIS.

As no significant adverse groundwater quality impacts are anticipated under the proposed action due to the mitigation measures to be employed, it can further be concluded that the proposed action would not contribute to significant cumulative impacts when considered in combination with the existing automobile storage facilities near the subject property. Overall, as noted in the 2019 DEIS, the Applicant is not aware of other actions, nor were any past, present or reasonably foreseeable future actions identified by Town of Brookhaven, relevant to potential cumulative impacts. This conclusion still remains valid, as expanded upon in this DSEIS and, as such, no adverse cumulative environmental impacts are expected.

4

Other Considerations

With respect to the proposed action and the modified site plan, the following addresses growth-inducing impacts, irreversible and irretrievable commitment of resources, use and conservation of energy, and alternatives to the proposed action, respectively.

The 2019 DEIS analyzed the proposed development's impacts on same. As explained in Section 2.2 above, since the time of the 2019 DEIS, modifications have been made to the proposed project to incorporate an enhanced stormwater treatment system. With respect to growth-inducing impacts and alternatives to the proposed action, this change would not affect the conclusions of the 2019 DEIS, as further detailed below. The specific details are slightly modified but the conclusions are unaffected with respect to irreversible and irretrievable commitment of resources and use and conservation of energy.

Growth-Inducing Impacts

The 2019 DEIS analyzed growth-inducing aspects which are the long-term secondary effects of the proposed action. As the proposed facility would be unmanned or minimally staffed, and the subject property is in a well-established industrial area with other automobile storage facilities and outdoor storage uses throughout the surrounding area, the proposed action is not likely to induce growth in the area, and no associated adverse impacts would be anticipated. Thus, the conclusion of the 2019 DEIS remains valid with respect to growth-inducing impacts.

Irreversible and Irretrievable Commitment of Resources

The 2019 DEIS discussed natural and man-made resources that would be irretrievably committed during construction and/or operation of the proposed project, which would be unavailable for future use. More specifically, the irreversible or irretrievable commitment of resources refers to impacts on or losses to resources that cannot be recovered or reversed.

According to the 2019 DEIS, the proposed action would require a commitment of natural and manmade resources (i.e., land, energy and construction materials), as well as human effort (i.e., time and labor). Under the modified site plan, it is expected that the proposed action would still require a commitment of the resources identified in the 2019 DEIS to a similar extent, plus those additional resources related to the proposed lined basin and other STS components. During the operational phase of the proposed development, electricity would be irretrievably committed for the lifespan of this project as noted in the 2019 DEIS. It is expected that nominal additional electricity would be needed to operate the pumps associated with the STS following a storm event. With respect to energy resources, security system equipment and appliances will be selected to meet or exceed the requirements of the New York State Building and Energy Code at the time of Building Permit approval.

Based on the foregoing, none of the irretrievable or irreversible commitment of resources is anticipated to result in significant adverse impacts.

Use and Conservation of Energy

As noted in the 2019 DEIS, the subject property is currently forested and vacant, there are no energy services provided at this time. It is expected the proposed action would generate a nominal demand for electricity, which would power the on-site security camera system as well as the pumps associated with the STS following a storm event. Electricity would be provided by PSEG Long Island via existing infrastructure in the surrounding area. There would be no demand for natural gas or other fuel supplies, such as for heating or hot water, such that there would be no associated energy use. Overall, no significant adverse impacts associated with energy use are anticipated, consistent with the conclusions of the 2019 DEIS.

Alternatives to the Proposed Action

The 2019 DEIS evaluated two alternatives to the proposed action (i.e., the No Action Alternative and the Alternative Development in Accordance with Prevailing L1 Zoning Without the Need for a Special Permit [As-of-Right]). The second alternative analyzed, evaluated Sections 2.1 through 2.9 of the DEIS. The January 27, 2020 Positive Declaration did not require any additional alternatives to be analyzed. It is noted, however, that the current proposed action (i.e., the modified project plan) represents a superior alternative to the original proposed action, which further mitigates against potential water quality concerns. Thus, it is respectfully submitted that no further analyses of alternatives to the proposed action are warranted or required.

5

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Appendix A

Description

Positive Declaration (adopted January 27, 2020)

STATE ENVIRONMENTAL QUALITY REVIEW (SEQR)
POSITIVE DECLARATION
Notice of Intent to Prepare a Draft Supplemental Environmental Impact Statement
Determination of Significance

LEAD AGENCY: **Town of Brookhaven Planning Board**
One Independence Hill
Farmingville, NY 11738

TITLE OF ACTION: **Yaphank Automobile Storage Facility at Yaphank**

APPLICANT: NMF Holdings, LLC
35 Ixora Way
Ocean Ridge, FL 33435

SEQR STATUS: **Type I**

FILE #: **18SP0078**

DESCRIPTION OF ACTION: The proposed action involves the clearing and grading of approximately 22-acres of naturally vegetated areas of a three (3) parcel site, totaling approximately 36-acres in size, to accommodate an automobile storage facility. The proposed facility would include approximately 21.43-acres of asphalt paved surface areas that would be created for the storage of vehicles. The proposed lot will be surrounded by naturally vegetated buffer areas and a proposed 47,000 square-foot recharge basin to be created within the northern portion of the subject property for the purposes of stormwater collection and recharge.

LOCATION: N/s of Sills Road (CR 101), E/o Bellport Avenue, Yaphank

S.C.T.M. #: 0200 73900 0300 001000, 0200 73900 0100 001002 and 001004 (approx. 36-acres)

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to and has been prepared in accordance with Article 8 (State Environmental Quality Review Act) of the Environmental Conservation Law (ECL).

The Planning Board of the Town of Brookhaven, as the SEQR Lead Agency, has determined that the proposed action described above may have a significant impact on the environment and a Draft Environmental Impact Statement (DEIS) was prepared and accepted as complete on Monday October 7, 2019. A public hearing was set for Monday, November 18th at 4:00 PM to consider the DEIS and the proposed site plan application for the Yaphank Automobile Storage Facility at Yaphank.

Due to comments, dated November 8, 2019, from the Suffolk County Water Authority (SCWA) during the DEIS comment period and prior to the public hearing, the applicant requested to adjourn the public hearing to a later date. The letter from the SCWA expressed that the proposed action will adversely impact their Patchogue/Yaphank well field and requested denial of the application. This letter directly contradicts a previous letter provided by the applicant and included in the DEIS as Appendix G, dated May 21, 2019, from the SCWA to Joseph F. Cline, PE, Practice Leader, H2M Architects and Engineers, which indicated that, "Provided that the developer meets their obligation to routinely maintain the system SCWA approves both the conceptual site plan for 422 Sill Road, dated 4/30/19 and the Contech Engineered Solutions Hydrodynamic Separation System."

The determination by the SCWA was critical in the evaluation of mitigation by the Lead Agency and the determination that the DEIS was acceptable for public review and the setting of a public hearing to discuss the document. As the content of the DEIS was primarily based on the utilization of the Contech Engineered Solutions Hydrodynamic Separation System, which is now considered unacceptable by the SCWA, mitigation of significant impacts to groundwater must be determined and evaluated.

The written comments from the SCWA constitutes new information, not previously available, concerning significant adverse impacts and a change in circumstances which may result in significant adverse environmental impacts. The Planning Board of the Town of Brookhaven, as the SEQRA Lead Agency, has determined that, pursuant to Part 617.9(a)(7) a Draft Supplemental Environmental Impact Statement (DSEIS) should be prepared to further analyze the impacts to the adjacent SCWA well field and attempt to determine mitigation measures that will insure the protection of the area groundwater.

REASONS SUPPORTING THIS DETERMINATION:

The Planning Board, as Lead Agency, had accepted the above-mentioned DEIS, which included a letter dated May 21, 2019 from the SCWA to Joseph F. Cline, PE, Practice Leader, H2M Architects and Engineers, which indicated that, "Provided that the developer meets their obligation to routinely maintain the system SCWA approves both the conceptual site plan for 422 Sill Road, dated 4/30/19 and the Contech Engineered Solutions Hydrodynamic Separation System." In a subsequent letter to the Town of Brookhaven Planning Board, dated November 8, 2019, from the Suffolk County Water Authority (SCWA), during the DEIS comment period and prior to the public hearing, it was expressed that the proposed action will adversely impact their Patchogue/Yaphank well field and stated that, "it is SCWA's position that this project should be denied as it will likely contaminate the water in SCWA's public supply wells."

The SCWA has sent similar letters expressing their concerns to the Town of Brookhaven on January 25, 2019, December 13, 2018, and December 3, 2012. The Town of Brookhaven seriously considers the comments and suggestions of the interested and involved agencies and routinely utilize their expertise in the course of environmental review in their respective areas of expertise. The SCWA is the local expert concerning groundwater in Suffolk County and as Lead Agency the Planning Board must insure that all information is gathered for decision making purposes. In consideration of their November 8, 2019 letter, further analysis is warranted to study the impacts to the adjacent public water supply wells due to the storage of a yet determined number of automobiles, the storage of other items that typically find their way into these yards, a vague maintenance plan, and the lack of ability to enforce illicit storage operations.

The project site is above the Nassau-Suffolk Sole Source Aquifer, within Groundwater Management Zone III as identified by the Long Island 208 Study, and the Town of Brookhaven Hydrogeological Sensitive Zone (HSZ). The project location is adjacent to the Suffolk County Water Authority (SCWA) Patchogue-Yaphank Road Well Field, within the 0-2 year contributing area to the wells and within a Suffolk County Department of Health Services (SCDHS) Water Supply Sensitive Area (WSSA) which is defined in part as: "Areas in close proximity to existing or identified future public water supply wellfields."

The proposed action may have an impact on human health from exposure to new or existing sources of contaminants due to automobile storage operations and may result in the release of contaminated leachate from the project site. In addition to the petroleum product and fluids in traditional automobiles, electric vehicles and hybrids contain large batteries that are an environmental hazard as well as a fire hazard. The proposed automobile storage will result in the bulk storage of petroleum, batteries and other chemical products and may have the potential to introduce contaminants to the sole source aquifer. Additionally, the proposed recharge basin will serve as a direct conduit for contaminants to enter the aquifer. The

impacts due to the potential storage of a yet determined number and types of automobiles will be analyzed in the DSEIS. The volume and types of automobiles will be determined.

Concerns have been raised about the possibility of fire emergency and access in the event of a fire onsite. Over the past year, numerous fires have occurred in various automobile storage facilities throughout the Town of Brookhaven. The DSEIS should provide a description of the actions to be taken by employees in the event of a fire, spill or release of vehicle waste fluids or in the event unauthorized materials are received with a vehicle. This should include who will be responsible for contacting the proper emergency services providers and the initial on-site responses expected prior to the arrival of the Yaphank Fire Department and/or Suffolk County Fire Rescue and Emergency Services should an emergency occur. The methods of extinguishing any fires will be described and will be analyzed for groundwater impacts.

The DSEIS will elaborate on the determination to utilize the Contech CDS-5 hydrodynamic separator and other alternative stormwater management measures recommended by H2M Engineers and Architects (H2M) or the Suffolk County Water Authority (SCWA). It should be explained why the Contech CDS-5 hydrodynamic separator was chosen over other stormwater management measures. Case studies of mitigation used at similar automobile storage facilities will be reviewed for use.

There are similar existing and proposed automobile storage facilities within ½- mile of the proposed project. Cumulative impacts of this and other nearby projects to the area drinking water well fields will be analyzed.

The Board has considered that the purpose of the DSEIS is to inform the public and other public agencies as early as possible that the project may significantly affect the quality of the environment, and to solicit comments which will assist all agencies in determining the environmental consequences of the proposed action.

Scoping of the Draft Supplemental Environmental Impact Statement is not required pursuant to SEQRA Part 617.9(a)(7)(iii).

REVIEW AGENCY: **The Town of Brookhaven Planning Board**
CONTACT PERSON: **Peter E. Fountaine, Division of Environmental Protection**
ADDRESS: **One Independence Hill, Farmingville, NY 11738**
PHONE NO.: **631-451-6455**
EMAIL: pfountaine@brookhavenny.gov

COPIES OF THIS NOTICE SENT TO:
Applicant: NMF Holdings, LLC, 35 Ixora Way, Ocean Ridge, FL 33435
Environmental Notice Bulletin
Involved/Interested Agencies:
Kimberly Kennedy, Suffolk County Water Authority
Gilbert Anderson, Suffolk County, Department of Public Works
James Tomarken, Suffolk County, Department of Health Services
Claire Werner, New York State, Department of Environmental Conservation
Town of Brookhaven:
Donna Lent, Town Clerk and Registrar
Councilperson Michael Loguercio – Council District 4
Vincent E. Pascale, Chairperson, Town of Brookhaven Planning Board
Tullio Bertoli, Commissioner, PELM
Beth Reilly, Asst. Town Attorney, Department of Law (w/o enclosure)
Chip Wiebelt, Sr. Site Plan Reviewer, PELM

Christopher Mehrman, Town of Brookhaven, Division of Fire Prevention
John Lessler, Town of Brookhaven, Open Space Committee
Germaine Ortiz, P.E., Town of Brookhaven, Division of Engineering
Keith Archer, Esq., Harras Bloom & Archer, LLP
David Buttacavoli, Principal, VHB
David M. Wortman, Sr. Environmental Manager, VHB
File

THIS DETERMINATION IS NOT COMPLETE UNTIL AUTHORIZED AS FOLLOWS:
ADOPTED BY RESOLUTION ON:

_____

Date:

Appendix B

Description
Suffolk County Water Authority Correspondence

SUFFOLK COUNTY WATER AUTHORITY
SCWA

Jeffrey W. Szabo
Chief Executive Officer

Administrative Offices: 4060 Sunrise Highway, Oakdale, New York 11769-0901
(631) 563-0353
Fax: (631) 563-0370

RECEIVED
NOV 12 2019
PLANNING DIVISION

November 8, 2019

Craig Tillinghast
Planning Division
Town of Brookhaven
One Independence Hill
Farmingville, NY 11738

Re: NMF Auto Auction Yard
SCTM# 0200-739.00-03.00-001.000, 0200-739.00-01.00-001.002, 001.004

Dear Mr. Tillinghast,

The Suffolk County Water Authority is in receipt of the latest Draft Environmental Impact Statement (DEIS) for the above project. As you know, we have previously provided comments on this project. Most recently, we objected to the location of this project as it was within the 2-year capture zone of our Patchogue/Yaphank well field. As a result of that objection, H2M Architects and Engineers, the engineer for the owner, proposed to construct a storm water management system that utilized a combination of impervious parking surfaces, drainage and Contech hydrodynamic separator systems that would in theory, collect debris and contaminants coming from the autos. After limited treatment, the storm water would then be delivered to an on-site sump where the water would recharge back to groundwater.

After careful review of the latest DEIS and discussion with our engineers and hydro geologists we continue to have very serious concerns regarding this project. The documentation regarding best management practices for a facility of this nature makes it clear that there can and will be releases of contamination from the vehicles stored on this site. As we have previously indicated, this project would release various VOCs (volatile organic compounds), including BETX-related compounds, such as Benzene, Ethylbenzene, Toluene, and Xylenes, and other hazardous hydraulic fluids and battery acids. Given the number of vehicles that can be stored there together with the potential for leakage of a variety of such toxic fluids and other contaminants from these automobiles, we are now of the opinion that this use has no business in such close proximity to one of our well fields. The risks are simply too great.

According to the literature provided, the proposed hydrodynamic separators are effective for removal of trash and floatables, but when exposed routinely to automobile related contaminants, it is our opinion that they will not provide the level of filtration that is needed to ensure that there will be no impact to our wells. Indeed, these separators are designed to remove solids, but they do not remove hydrocarbons and other hazardous materials to levels needed for drinking water suppliers.

In addition, these devices also require routine maintenance by competent personnel and it is our opinion that facility owners are rarely diligent when it comes to attending to these underground and out of sight systems. We also do not believe that covenants and restrictions placed on the property, no matter how stringent, would be sufficient to guarantee that this applicant or future owners of this business will adhere to required maintenance procedures.

SCWA's concerns are amplified by the recent heightened awareness and discovery of trace levels of emerging contaminants in many of our wells that just a few years ago were undetectable. Again, a facility that routinely emits contamination that has the potential to impact our wells should not be permitted within the 2 year capture zone of public supply wells.

For all these reasons, it is SCWA's position that this project should be denied as it will likely contaminate the water in SCWA's public supply wells.

We trust that our position is clear regarding this project. If you have any further questions, please feel free to contact me.

We also note that the applicant's DEIS failed to include SCWA's January 25, 2019 letter that addresses some of these issues and we enclose another copy of same for your consideration.

Sincerely,

Jeffrey W. Szabo

cc: Patrick Halpin, Chairman

SUFFOLK COUNTY
SCWA
WATER AUTHORITY

Jeffrey W. Szabo
Chief Executive Officer

Administrative Offices: 4060 Sunrise Highway, Oakdale, New York 11769-0901
(631) 563-0353
Fax: (631) 563-0370

January 25, 2019

Craig Tillinghast
Planning Division
Town of Brookhaven
One Independence Hill
Farmingville, NY 11738

Re: SEQRA Coordination, Site Plan, NMF, Auto Auction Yard
SCTM# 0200-739.00-03.00-001.000, 0200-739.00-01.00-001.002, 001.004

Dear Mr. Tillinghast:

The Suffolk County Water Authority (SCWA) over time has had opportunities to comment on the captioned project and at each turn have expressed concern about this type of development being located within the 2-year capture zone of SCWA's Patchogue-Yaphank Road well field.

After further consideration it is SCWA's position that this project should be denied as the potential for contamination is likely to SCWA's upper glacial aquifer wells. While monitoring wells were suggested as a means of monitoring the situation, after additional research and discussions with staff hydrogeologists it was determined that if contamination were detected it would likely already have impacted these shallow wells.

This type of development has the opportunity to introduce various VOCs, including BETX related compounds and hydraulic fluids. Additionally, there will be a significant amount of surface area with RCA material that will be pervious to all types of contaminants that can permeate into the aquifer.

Additionally, the proposed drainage basin will also serve as a direct conduit for contaminants to enter this shallow aquifer.

SCWA is confident that the Suffolk County Department of Health Services would agree that the location of this type of development within a 2-year capture zone of upper glacial aquifer wells is ill-advised.

While it is not the Authority's intent to impede economic development opportunities, it is our agency's mission and obligation to provide the customers of the Suffolk County Water Authority with safe and pure water.

Should you have any questions or wish to discuss this project further, I may be reached at 631-563-0353.

Very truly yours,

Jeffrey W. Szabo

cc: Hon. Edward Romaine, Supervisor, Town of Brookhaven
Dr. James Tomarken, Commissioner, Suffolk County Department of Health Services
Patrick Halpin, Chairman, SCWA
Joseph Pokorny, Deputy CEO Operations, SCWA

SCWA

SUFFOLK COUNTY
SCWA
WATER AUTHORITY

Jeffrey W. Szabo
Chief Executive Officer

Administrative Offices: 4060 Sunrise Highway, Oakdale, New York 11769-0901
(631) 563-0353
Fax: (631) 563-0370

May 21, 2019

Joseph F. Cline, PE
Practice Leader
H2M Architects and Engineers
538 Broad Hollow Rd, 4th Floor East
Melville, NY 11747

Re: NMF Holdings- 422 Sills Road, Yaphank
Engineering Controls for Auto Storage next to Patchogue Yaphank Road Wellfield
H2M Project Np. NMFH1901

Dear Mr. Cline,

The Suffolk County Water Authority (SCWA) is in receipt of your documents dated May 1, 2019 concerning the above mentioned project. In a previous letter dated January 25, 2019 the SCWA had requested that the Town of Brookhaven Planning board deny the application, based on the project being located within the 2-year capture zone of the SCWA's Patchogue-Yaphank Road Wellfield. The concerns included the proposed drainage basin serving as a direct conduit for contaminants to enter the shallow aquifer and the development presenting an opportunity to introduce various VOC's, including BTEX related compounds and hydraulic fluids with the groundwater system.

After several meetings with project engineers at H2M Architects and Engineers, we are satisfied with the plan to pave the entire site and to utilize the technology proposed to mitigate the impacts to both the aquifer and the nearby SCWA wellfield. Based on the information supplied, the Contech Hydrodynamic Separation system appears to be effective at in-situ removal of hydrocarbons from stormwater runoff. In order to ensure ongoing maintenance occurs to the system we are requesting a copy of the Covenants and Restrictions when supplied by the Town of Brookhaven. In addition a 4-inch monitoring well shall be constructed to a depth equivalent to ten feet below the water table. The well, to be constructed by the developer's team, shall be accessible to the authority and use 15 feet of screen with 5 feet of screen above the water table and 10 feet below. The location of the monitor well submitted with your documents is acceptable by SCWA staff.

Provided that the developer meets their obligation to routinely maintain the system SCWA approves both the conceptual site plan for 422 Sill Road, dated 4/30/19 and the Contech Engineered Solutions Hydrodynamic Separation System.

Should you have any questions or wish to discuss further, I may be reached at 631-563-0353

Very truly yours,

Jeffrey W. Szabo

Cc: Patrick Halpin, Chairman, SCWA
Joseph Pokorny, Deputy CEO Operations, SCWA
Craig Tillinghast, Planning Division, Town of Brookhaven

SUFFOLK COUNTY WATER AUTHORITY
SCWA

Jeffrey W. Szabo
Chief Executive Officer

Administrative Offices: 4060 Sunrise Highway, Oakdale, New York 11769-0901
(631) 563-0353
Fax: (631) 563-0370

December 13, 2018

Craig Tillinghast
Planning Division
Town of Brookhaven
One Independence Hill
Farmingville, NY 11738

Re: SEQRA Coordination, Site Plan, NMF, Auto Auction Yard
SCTM# 0200-739.00-03.00-001.000, 0200-739.00-01.00-001.002, 001.004

Dear Mr. Tillinghast:

Please be advised that our agency has no objection to the Planning Board of the Town of Brookhaven assuming Lead Agency status for the captioned project. The Suffolk County Water Authority (SCWA) would however like to reiterate its concerns as they relate to this type of project and its location to an SCWA well field.

As was indicated in our comment letter of December 3, 2012 which is enclosed for your convenience, the project site is located in the capture zone of groundwater that is a source for SCWA's Patchogue-Yaphank Road well field. This well field contains two upper glacial aquifer wells that would likely be more susceptible to any form of contamination that could occur on site.

In an effort to protect this valuable resource, the SCWA requests that the applicant install appropriate monitoring wells on the subject property to serve as an early warning to the presence of contaminants.

As assurance of this preventive measure, I have requested that the SCWA Board require as a condition for water service that the developer install the appropriate monitoring wells even if it is not a requirement by the Town of Brookhaven.

As was noted before, SCWA would be willing to make a recommendation in the number, location and the depth of the monitoring wells once the conceptual site layout plan has been finalized.

Should you have any questions or wish to discuss this project further, I may be reached at 631-563-0353.

Very truly yours,

Jeffrey W. Szabo

cc: Patrick Halpin, Chairman, SCWA
Joseph Pokorny, Deputy CEO Operations, SCWA
Keith Archer, Esq. Harras, Bloom and Archer LLP

SUFFOLK COUNTY WATER AUTHORITY

Carrie Meek Gallagher
Chief Sustainability Officer

4060 Sunrise Highway, Oakdale, New York 11769-0901
(631) 563-0218
Fax (631) 563-0370

December 3, 2012

Chip Wiebelt, Senior Site Reviewer
Division of Planning
Town of Brookhaven
Department of Planning, Environment
and Land Management
One Independence Hill
Farmingville, NY 11738

Re: SEQRA Coordination, Site Plan, NMF, Auto Auction Yard
SCTM# 0200-739.00-03.00-001.000

Dear Mr. Wiebelt:

Please be advised that our agency has no objection to the Planning Board of the Town of Brookhaven assuming Lead Agency status for the captioned project. The Suffolk County Water Authority would however like to offer the following comments.

The SCWA has an active well field that is adjacent to the project site. The subject parcel is located in the capture zone of groundwater that is a source for SCWA's Patchogue-Yaphank Road well field. Any contaminant that reaches groundwater under the subject parcel would likely appear in the water provided by the Patchogue-Yaphank Road well field.

Under a best case scenario, the Suffolk County Water Authority would urge the applicant to find a more suitable site for this type of development, one that is not within an existing well field's zone of capture.

At a minimum, SCWA recommends that the developer employ best management practices for pollution prevention on-site and be required to install appropriate monitoring wells on the subject parcel to serve as an early warning to the presence of contaminants. If contamination should occur, the property owner would be required to perform the necessary remediation to remove such contamination.

SCWA would be willing to make a recommendation in the number, location and the depth of the monitoring wells once the conceptual site layout plan has been finalized.

I thank you for the opportunity to comment on this proposal and am available to discuss this matter further. I may be reached at 631-563-0218.

Very truly yours,

Carrie Meek-Gallagher
Chief Sustainability Officer

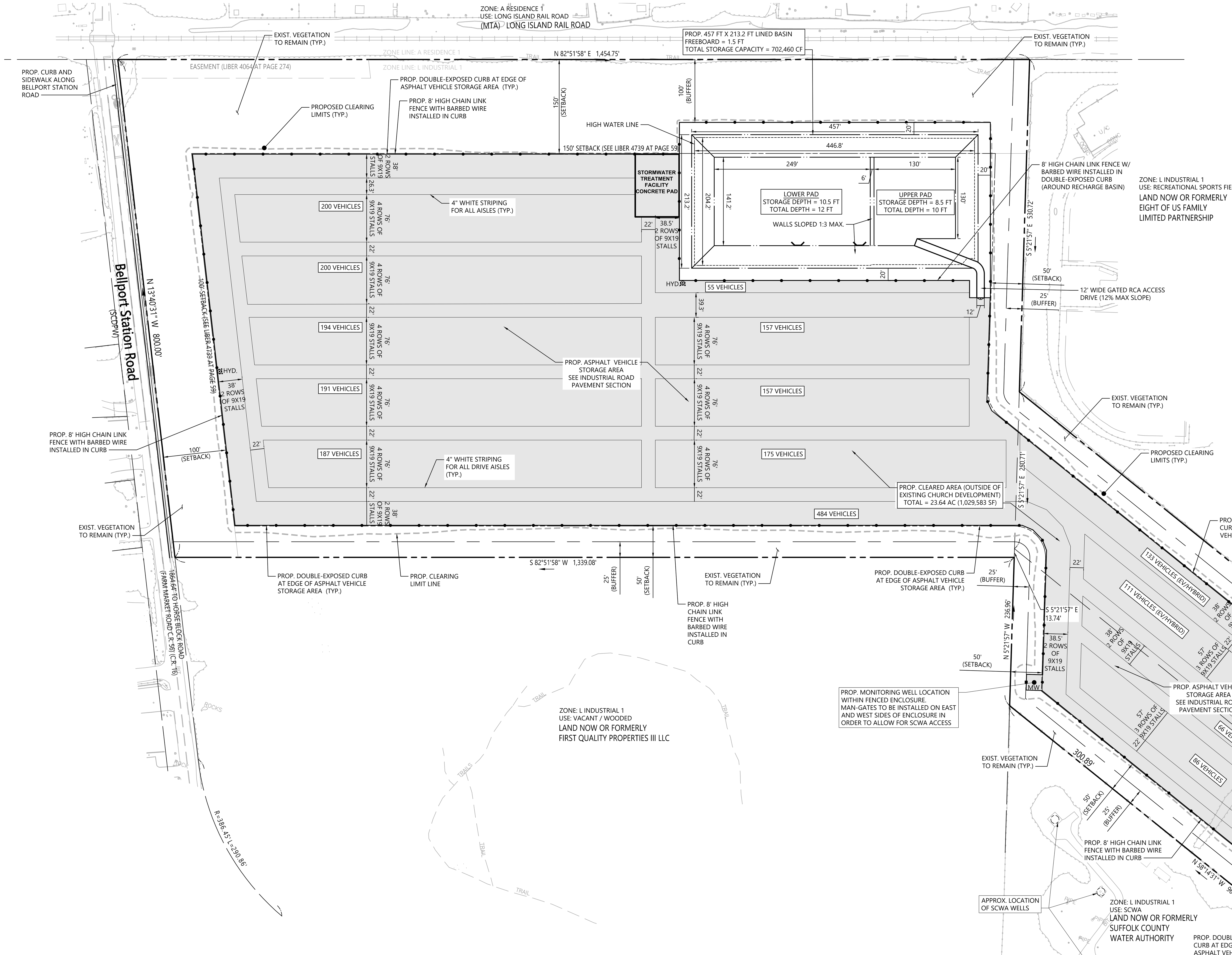
cc: Herman Miller, Deputy CEO, Operations

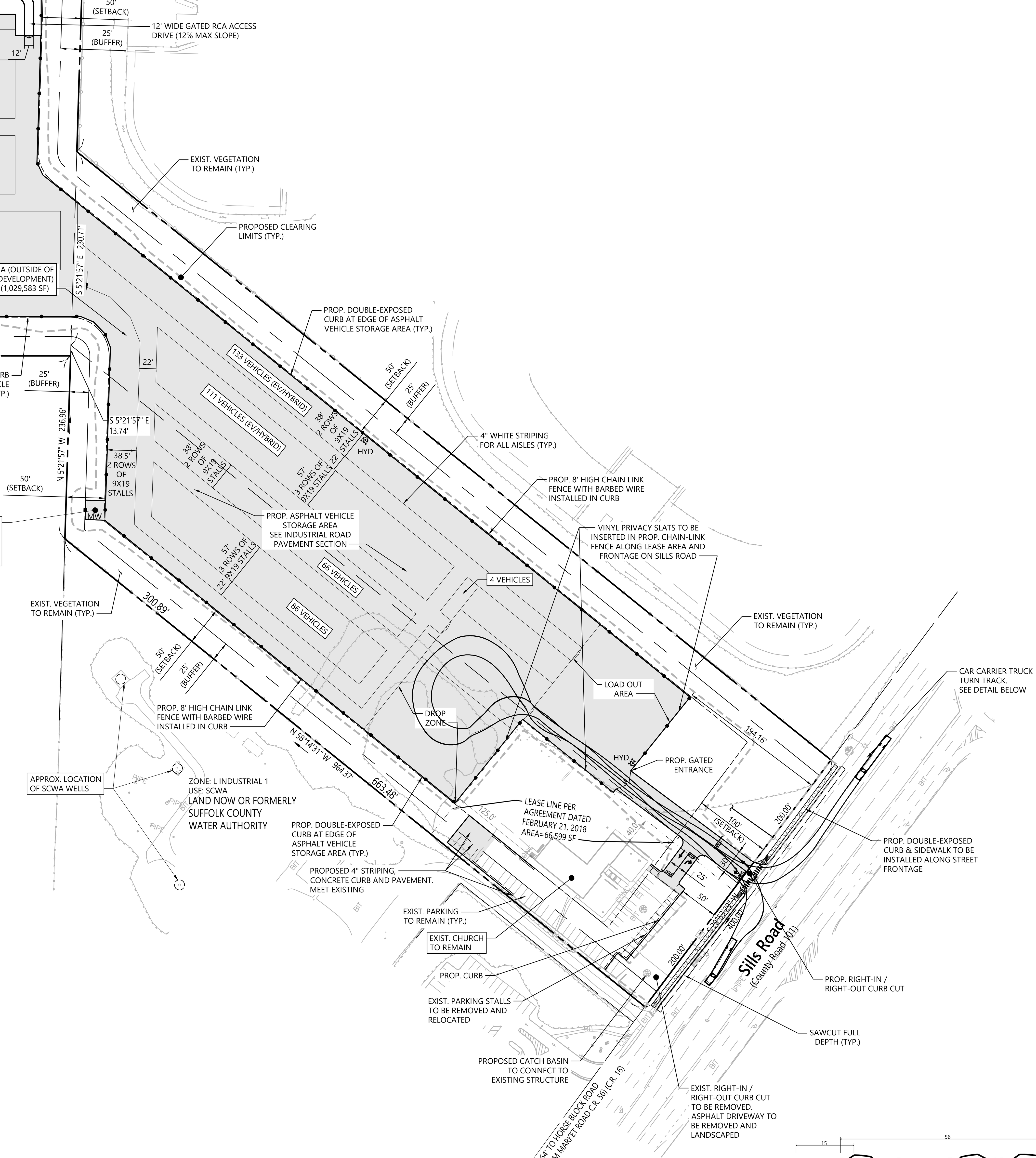
Appendix C

Description

Preliminary Site Plan - Layout and Materials Plan

\\vhb\gbl\proj\Hauppauge\26662.00 Yaphank Auto Auction\cad\ld\Planset\26662.00-LM.dwg





Town Of Brookhaven Notes

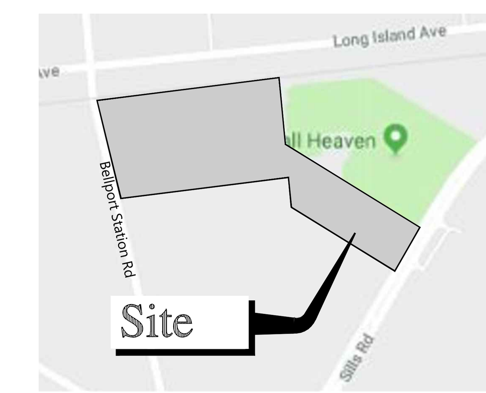
1. ALL CONCRETE CURBING, SIDEWALKS, AND DRAINAGE STRUCTURES SHALL CONFORM TO PLANNING BOARD STANDARD DETAILS AND SPECIFICATIONS.
2. TOWN OF BROOKHAVEN PLANNING BOARD SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF ALL CONSTRUCTION.
3. TOWN OF BROOKHAVEN ENGINEERING INSPECTOR IN THE DEPARTMENT OF PLANNING, ENVIRONMENT AND LAND MANAGEMENT SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF ALL CONSTRUCTION AT 631-451-6400 BETWEEN THE HOURS OF 8:00AM - 4:30 PM MONDAY THROUGH FRIDAY.
4. CONTACT THE DIVISION OF ENGINEERING AT 631-451-6400 TO SCHEDULE A PRE-CONSTRUCTION MEETING AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY AND ALL CONSTRUCTION ACTIVITIES.
5. STOP LINE SIGHT DISTANCE SHALL BE MAINTAINED AT ALL INTERSECTIONS IN ACCORDANCE WITH AASHTO REQUIREMENTS.
6. LOCATION AND GRADES FOR CURBS AND WALKS TO BE VERIFIED WITH THE SCDPW PRIOR TO CONSTRUCTION.
7. ALL TRAFFIC CONTROL DEVICES (i.e., SIGNALS, SIGNS AND PAVEMENT MARKINGS) SHALL BE INSTALLED IN CONFORMANCE WITH THE GUIDELINES OF THE NEW YORK STATE MANUAL OF THE UNIFORM TRAFFIC CONTROL DEVICES AND AS DIRECTED BY THE TOWN OF BROOKHAVEN, DIVISION OF TRAFFIC SAFETY/SCDPW.
8. THE CONTRACTORS PERFORMING ANY AND ALL TRAFFIC CONTROL DEVICE LAYOUTS AND INSTALLATION WORK SHALL NOTIFY THE TOWN OF BROOKHAVEN DIVISION OF TRAFFIC SAFETY 48 HOURS IN ADVANCE OF BEGINNING SUCH WORK ALONG A TOWN ROAD.
9. ALL PAVEMENT MARKINGS REQUIRED SHALL BE THERMOPLASTIC (SUFFOLK COUNTY SPECIFICATIONS) UNLESS OTHERWISE NOTED ON THE PLAN. (IF REQUIRED)
10. PAVEMENT SPECIFICATIONS:
MINIMUM PAVING SPECIFICATIONS OF 6" COMPACTED STABILIZED SUBGRADE, 6" RCA, 3 1/2" DENSE BINDER COURSE WITH 1 1/2" TOP WEARING COURSE.

Estimate Of Quantities (Proposed)

Description	Provided
CONCRETE CURB	7,677 LF
WALKS	1,055 SF
PAVING	887,061 SF
GRAVEL	N/A
CONCRETE PADS	7,000 SF
LINEAR FEET OF CONNECTOR PIPE BETWEEN STORM DRAINS	6,684 LF
CHAIN LINK FENCE	6,945 LF
SCREEN PLANTING	404 QTY
TREES**	13 QTY
SHRUBS	100 QTY
SEEDED AREA	±18,100 SF
DRYWELLS	19
CATCH BASINS	34
MANHOLES	10
SETTLING CHAMBERS	9
LEACHING GALLERY	1540

** IN FRONT YARD ONLY

vhb.com
vhb
Engineering, Surveying, Landscape Architecture and Geology, PC
100 Motor Parkway
Suite 350
Hauppauge, NY 11788
631.787.3400



Location Map
1" = 1000'

Zoning Summary Chart

Existing Zoning District:	L1 Industrial (Light Industrial)
Existing Use:	Vacant
Proposed Use:	Automobile Storage Facility

Land Development Standards

Section	Zoning Regulation	Requirement	Proposed	Variance
§85–843–A–6–A	SUPPLEMENTAL STANDARD: MINIMUM NATURAL/ LANDSCAPED AREA	30% (466,106 SF)	35.0% (543,791 SF)	NO
§85–843–A–2	MINIMUM NATURAL/ LANDSCAPED AREA IN FRONT YARD	50% OF REQUIRED LANDSCAPE AREA (233,053.2 SF)	24.3% (113,428.0 SF)	YES
§85–843–A–3	STREET TREES	4" CALIPER STREET TREES AT 30' ON CENTER ALONG ALL ROAD FRONTAGES	COMPLIES	NO
§85–843–A–4	MINIMUM NATURAL/ LANDSCAPED AREA ALONG STREET FRONTAGE	15 FEET	50 FEET (SILLS ROAD) 100 FEET (BELLPORT STATION ROAD)	NO
§85–843–A–6–C	SUPPLEMENTAL STANDARD: LANDSCAPING ALONG ALL ROAD FRONTAGES	50 FEET	50 FEET (SILLS ROAD) 100 FEET (BELLPORT STATION ROAD)	NO
§85–843–A–7	PARKING AREA SCREENING	ALL PARKING AREAS SHALL BE SCREENED FROM VIEW WITH A HEDGE, BERM AND/OR DECORATIVE WALL OR FENCE	PARKING AREA WILL BE SURROUNDED BY A MINIMUM OF 50 FEET OF NATURAL DENSE VEGETATION *	NO
§85–843–A–8–A	PARKING AREA LANDSCAPING	400 SF OF LANDSCAPING / 25 SPACES	TBD *	
§85–843–A–8–B	LANDSCAPE STRIPS BETWEEN PARALLEL PARKING ROWS	10 FEET MIN. WIDTH	TBD *	
§85–843–A–9	IRRIGATION REQUIRED	ALL LANDSCAPED, BUFFER AND NATURAL AREAS SHALL BE IRRIGATED	TBD *	
§85–843–A–9–A	PARKING LOT TREES	PARKING LOT TREES IN LANDSCAPE STRIPS SHALL BE LOCATED TO AVOID CONFLICT WITH OVERHANGING VEHICLES BY ALIGNING WITH THE LINES BETWEEN SPACES	TBD *	
§85–843–A–10	IRRIGATION REQUIRED	IRRIGATION SYSTEMS SHALL UTILIZE WATER–CONSERVING METHODS	TBD *	
§85–843–A–11	REQUIRED LANDSCAPING	REQUIRED LANDSCAPING SHALL UTILIZE DROUGHT–TOLERANT NATIVE AND ADAPTED SPECIES AND/OR WATER CONSERVING PLANTS AND METHODS, TO REDUCE IRRIGATION DEMANDS	TBD *	
§85–843–A–12	EXISTING TREES	THE PRESERVATION OF EACH EXISTING LARGE TREE (>9–INCH DBH) SHALL RELIEVE THE APPLICANT FROM THE INSTALLATION OF 3 PARKING LOT OR TREES IN THE VICINITY OF THE EXISTING TREE	TBD *	
§85–843–B–2–C	SUPPLEMENTAL STANDARD: MINIMUM PERIMETER RESIDENTIAL BUFFER	75 FEET	150 FEET (100 FEET TO BASIN)	NO

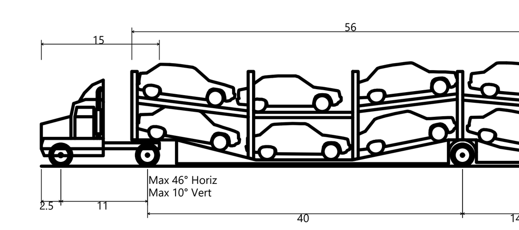
L1 Industrial Dimensional Criteria

Section	Zoning Regulation	Requirement	Proposed	Variance
§85–567–A–3	MINIMUM LOT AREA (HYDROGEOLOGIC SENSITIVE ZONE)	120,000 SF	1,553,688 SF	NO
§85–567–B–3	MINIMUM ROAD FRONTAGE (HYDROGEOLOGIC SENSITIVE ZONE)	200 FEET	400 FEET (SILLS RD) 806 FEET (BELLPORT STATION RD.)	NO
§85–567–C–2	FRONT YARD SETBACK (>5 ACRES) (SILLS ROAD)	100 FEET	100 FEET	NO
§85–567–C–2	FRONT YARD SETBACK (>5 ACRES) (BELLPORT STATION ROAD)	100 FEET	100 FEET	NO
§85–567–D–3	SIDE YARD SETBACK	50 FEET	50 FEET	NO
§85–567–E–3	REAR YARD SETBACK	50 FEET	50 FEET	NO
§85–567–F–2	MAXIMUM F.A.R. (HYDROGEOLOGIC SENSITIVE ZONE)	0.30	N/A	NO
§85–567–G–1	MAXIMUM BUILDING HEIGHT	50 FEET / 3 STORIES	N/A	NO

Special Permit Criteria

Section	Zoning Regulation	Requirement	Proposed	Variance
§85–569–K–1	MINIMUM LOT AREA (HYDROGEOLOGIC SENSITIVE ZONE)	120,000 SF	1,553,688 SF	NO
§85–569–K–3	MINIMUM BUFFER TO ADJOINING RESIDENTIALLY ZONED OR USED PROPERTIES	100 FEET	150 FEET (100 FT TO BASIN)	NO
§85–569–K–4	MINIMUM BUFFER TO ADJOINING INDUSTRIALLY ZONED OR USED PROPERTIES	25 FEET	50 FEET	NO
§85–569–K–5	MAXIMUM COMBINED TOTAL AREA OF PRINCIPAL BUILDINGS/STRUCTURES, IMPERVIOUS AREAS, AND THE OUTDOOR STORAGE AREAS	65% (1,009,897 SF)	65.0% (1,009,897 SF)	NO
§85–569–K–9	THERE SHALL BE NO OUTDOOR STORAGE PERMITTED WITHIN 150 FEET OF FRESHWATER OR TIDAL WETLANDS		COMPLIES	NO
§85–569–K–10	THERE SHALL BE NO OUTDOOR STORAGE PERMITTED WITHIN A DESIGNATED HISTORIC OR HISTORIC TRANSITION DISTRICT		COMPLIES	NO
§85–569–K–11	ALL OUTDOOR STORAGE SHALL BE SCREENED FROM ADJOINING PROPERTY LINES AND ADJOINING ROADWAYS WITH A DOUBLE ROW OF EVERGREEN PLANTINGS SEVEN FEET HIGH AND FIVE FEET ON CENTER AND A SOLID TONGUE–AND–GROOVE FENCE WITH NO GAPS BETWEEN SLATS OR HIGHER QUALITY BARRIER		PARKING AREA WILL BE SURROUNDED BY A MINIMUM OF 50 FEET OF NATURAL DENSE VEGETATION	NO

* PARKING LOT IS INTENDED TO STORE AUTOMOBILES FOR PUBLIC AUCTION. NO STRIPING OF STALLS ARE CURRENTLY IDENTIFIED.



Car Carrier Trailer	
Overall Length	67ft
Overall Width	8.0ft
Overall Body Height	13.109ft
Min Body Ground Clearance	0.333ft
Track Width	8.0ft
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	39.90ft

Reference

EXISTING INFORMATION IS BASED ON LAND TITLE SURVEY PREPARED BY:
VHB ENGINEERING, SURVEY, LANDSCAPE ARCHITECTURE AND GEOLOGY, PC
100 MOTOR PARKWAY
SUITE 350
HAUPPAUGE, NY 11788
DATED: AUGUST 15, 2018

0 40 80 160Feet

Automobile Storage Facility

422 Sills Road
Yaphank, New York 11980

No.	Revision	Date	Appvd.
05	DEIS Comments / Revised Site Layout	08/08/19	SS/DB
06	Preliminary Site Plan Engineering	09/10/19	KPW
07	Town of Brookhaven Planning Comments	10/04/19	KPW
08	Town of Brookhaven Planning Comments	11/08/19	KPW
09	Town of Brookhaven Planning Comments	03/31/2020	KPW
10	Town of Brookhaven Planning Comments	04/21/2020	DB

Designed by SS — Checked by AL

Issued for: Preliminary Site Engineering Plans
Not Approved for Construction
Date: Aug. 15, 2018

Drawing Title: Layout and Materials Plan

STATE OF NEW YORK — KEVIN P. WALSH — 062664 — LICENSED PROFESSIONAL ENGINEER

IT IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER

Drawing Number: C2.00

Sheet 2 of 11

Project Number: 26662.00

Saved Thursday, April 23, 2020 6:04:25 PM SSILVERSTEIN Plotted Wednesday, May 6, 2020 10:15:20 PM Silverstein, Suzy

Appendix D

Description

Concurrence Letter from New York State Office of Parks, Recreation, and Historic Preservation

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

ANDREW M. CUOMO
Governor

ERIK KULLESEID
Commissioner

November 26, 2019

Dr. Allison McGovern
Senior Archaeologist
VHB
100 Motor Parkway
Suite 135
Hauppauge, NY 11788

Re: LIPA
Yaphank Auto Auction
422 Sills Road, Yaphank, NY
19PR02041

Dear Dr. McGovern:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials in accordance with the New York State Historic Preservation Act of 1980 (section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation 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 State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (5NYCRR Part 617).

We reviewed the report entitled "Phase I Archaeological Survey, Proposed Automobile Storage Facility at Yaphank, Town of Brookhaven, Suffolk County, New York (19SR00623), and no archaeological resources were identified. We have no concerns regarding the project's potential to impact historic architectural resources. Therefore, it is the opinion of OPRHP that no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places will be impacted by this project.

If further correspondence is required regarding this project, please refer to the OPRHP Project Review (PR) number noted above. If you have any questions, I can be reached at 518-268-2186.

Sincerely,

Tim Lloyd, Ph.D., RPA
Scientist - Archaeology
timothy.lloyd@parks.ny.gov

via e-mail only

cc: B. Morrow, D. Wortman, P. Fountaine

Appendix E

Description

Suffolk County Water Authority 2019 Drinking Water Quality Report - Select Pages

WATER TREATMENT INFORMATION

As most of our groundwater already meets all state and federal water quality standards, it generally does not receive extensive treatment. Before the water leaves the pump station, minute traces of chlorine are routinely added according to the specifications of the state health department to prevent bacterial growth that could occur in our water mains and tanks. Our bacteriological test results can be found on pages 18 and 19. Information regarding the disinfection byproducts formed from the addition of chlorine can be found on pages 20 through 23.

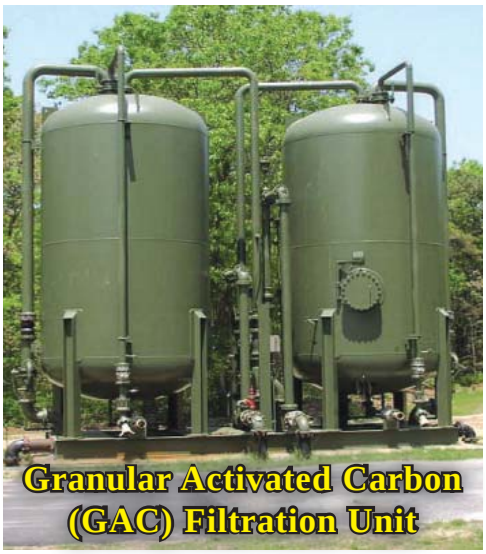
We also adjust the pH level of the water we deliver to you because the water, which we pump from the ground, is naturally acidic (pH can range from 4.5 to 6.8). To prevent corrosion of home plumbing, our water is chemically "buffered" by adding a hydrated lime product to increase the pH level. Soda ash is sometimes used instead of hydrated lime in certain portions of our system. This greatly reduces or eliminates the leaching of lead and copper from customers' interior plumbing. Our test results for lead and copper can be found on page 23.

Typical Pump Station with Elevated Storage Tank

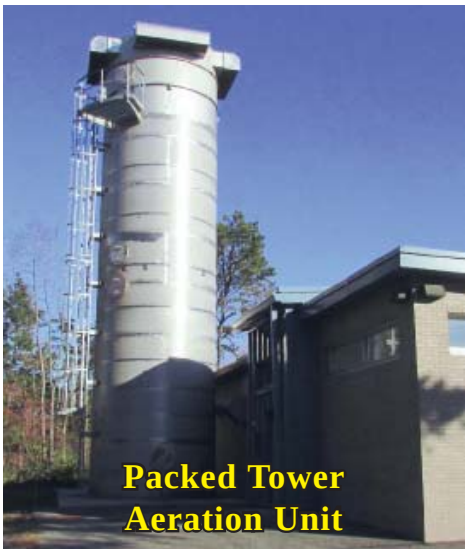
Iron and Manganese Removal Filters

In areas where the groundwater naturally contains iron levels higher than the standard, sequestering agents such as polyphosphates may be added to control the iron and keep it in solution. We also use specialized iron and manganese removal filters, and employ strategies such as systematic flushing of water mains to reduce these naturally occurring metals.

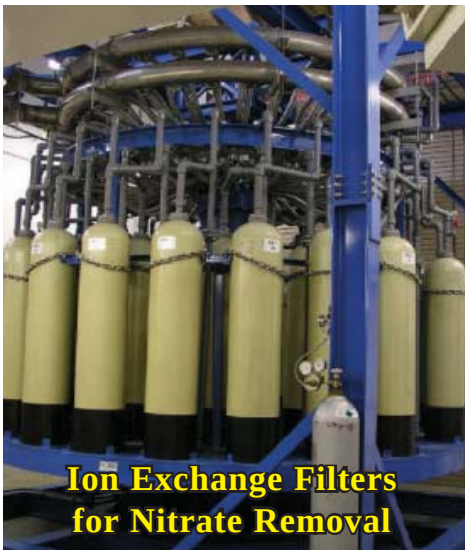
Approximately 27% of our wells receive treatment using granular activated carbon filtration to remove pesticides/herbicides and volatile organic compounds. Packed Tower Aeration (PTA) units also called air strippers, ion exchange, perchlorate resin filters and Advanced Oxidation Process (AOP) are also used as needed. In some cases wells are blended together at the pump station to lower the amount of contaminants, such as nitrate and 1,4-Dioxane, in the water we serve.



Granular Activated Carbon (GAC) Filtration Unit



Packed Tower Aeration Unit



Ion Exchange Filters for Nitrate Removal

Drinking Water Quality Council Recommends Nation's Most Protective Maximum Contaminant Level for Three Unregulated Contaminants in Drinking Water

In 2018 the New York State Departments of Health and Environmental Conservation announced that the New York State Drinking Water Quality Council has recommended that the Department of Health adopt the nation's most protective maximum contaminant levels (MCLs) for PFOA, PFOS, as well as the nation's first MCL for 1,4-dioxane. All three contaminants have been detected in drinking water systems across the country, yet remain unregulated by the federal Environmental Protection Agency, which is responsible for setting regulatory limits under the federal Safe Drinking Water Act.

In the absence of federal leadership, the New York State Drinking Water Quality Council was enacted as part of the FY2018 Budget to identify strategies to protect the quality of New York's drinking water. The 12-member Council is chaired by New York State Health Commissioner Dr. Howard Zucker and includes State Environmental Conservation Commissioner Basil Seggos and 10 other individuals appointed for their expertise in water system operations, risk assessment, toxicology, microbiology, and environmental engineering. The Council was formed to address emerging drinking water contaminants, and initially tasked with recommending MCLs for PFOA, PFOS, and 1,4-dioxane to the Commissioner of Health. An MCL is the maximum level of a contaminant allowed in public drinking water, which, once established, creates a legally enforceable standard that requires water systems to monitor, report findings and keep the contaminant below the level set. Exceedances must be reported to the public and require mitigation once enacted.

Council Recommends Nation's Most Protective MCLs for PFOA/PFOS

The Drinking Water Quality Council recommended that the Department of Health adopt an MCL of 10 parts per trillion (ppt) for PFOA and 10 ppt for PFOS. These levels, which would be the lowest in the nation, take into consideration the national adult population's "body burden," or the fact that all adults already have some level of exposure to these and other related chemicals. PFOA is a chemical that has been used to make non-stick, stain resistant, and water repellant products and PFOS is a chemical that has been used in fire-fighting foam. The State has invested millions through the State Superfund program to install granular activated carbon filtration (GACs) systems that are successfully removing PFOA and PFOS from impacted water supplies. Ultimately, as with any environmental remediation, the State is holding the responsible polluters accountable for expenses incurred at state and local levels.

Council Recommends First in the Nation MCL for 1,4-dioxane

The Drinking Water Quality Council recommended that the Department of Health adopt a first in the nation MCL of 1.0 part per billion (ppb) for 1,4-dioxane. 1,4-dioxane is a chemical that has been used as a stabilizer in solvents, paint strippers, greases and wax. The State approved an effective new treatment technology for 1,4-dioxane called Advanced Oxidation Process (AOP), which is already being utilized by the Suffolk County Water Authority on Long Island.

Regulatory Process, Public Comment and MCL Adoption

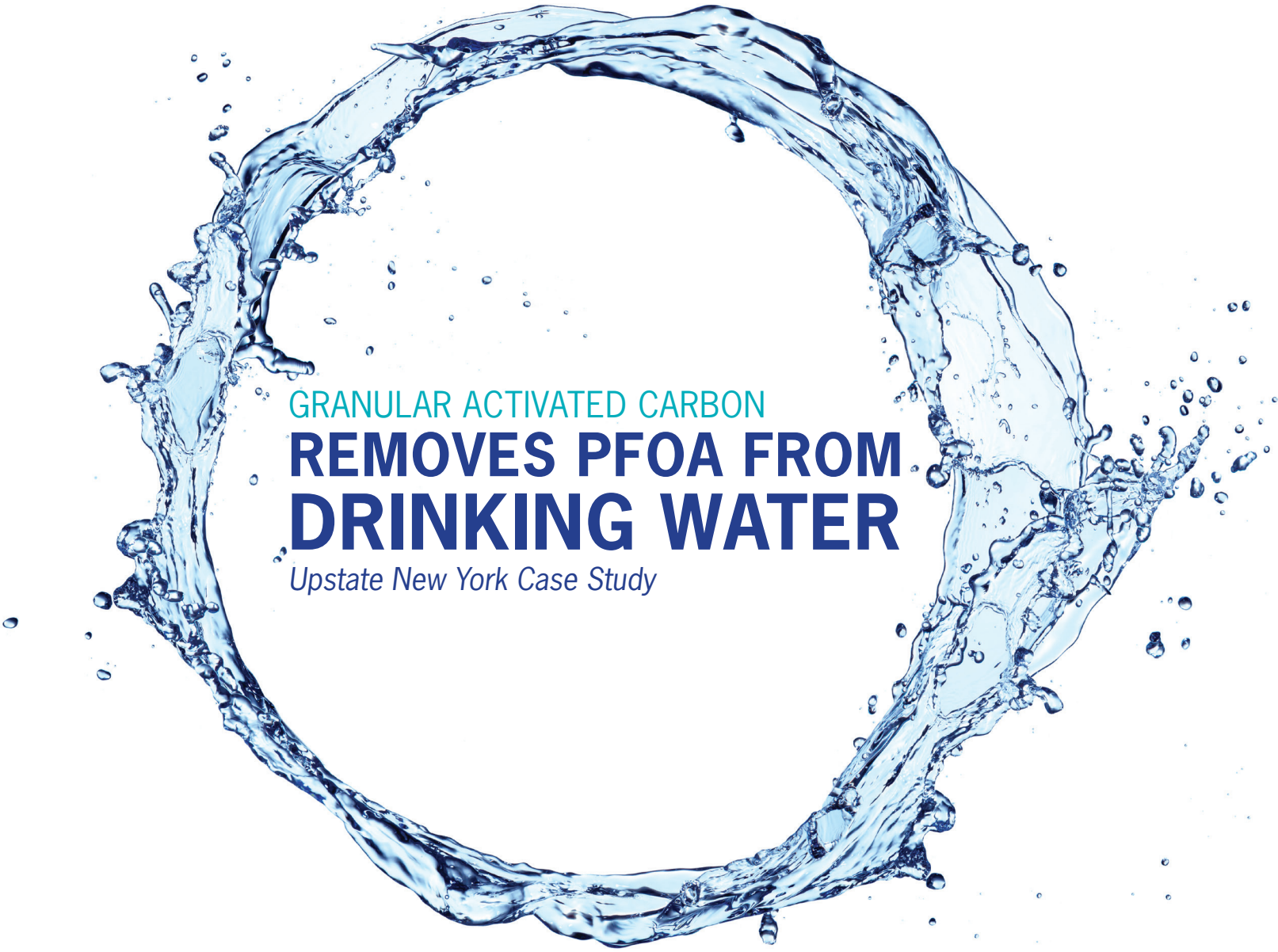
The Drinking Water Quality Council recommendations will now be considered by the Commissioner of Health, who has authority to either accept the recommended MCLs or to propose alternate MCLs, through the notification of a Notice of Proposed Rulemaking in the New York State Register. Publication will be followed by a 60-day public comment period. Following assessment of public comments, the proposed regulation will either be revised or submitted for adoption by the Public Health and Health Planning Council, subject to the approval of the Commissioner of Health. The regulation would go into effect upon publication of a Notice of Adoption in the New York State Register. Once adopted, public water systems of all sizes would need to test their water within the specified time frames in the regulations and comply with the adopted MCLs.

Appendix F

Description

Proposed Stormwater Treatment System Case Studies

Pure Water. Clean Air. Better World.



GRANULAR ACTIVATED CARBON

REMOVES PFOA FROM DRINKING WATER

Upstate New York Case Study

Granular Activated Carbon
Removes PFOA from Drinking Water

Background

Upstate New York

In the fall of 2015, a small village on the border of Vermont in New York State, tested positive for Perfluorinated Compounds (PFCs), specifically Perfluorooctanoic Acid (PFOA), in the town's municipal drinking water. The influent levels of PFOA in the water were above 600 ng/L, and thus considered harmful to village residents. Realizing that PFOA was on the U.S. EPA Contaminant Candidate List, the Village solicited the services of engineering firm CT Male Associates to investigate treatment options and provide a treatment system.

In late 2015, CT Male Associates inquired about Calgon Carbon's granular activated carbon (GAC) filtration systems and the ability to remove PFOA from drinking water. Calgon Carbon has been providing a successful treatment solution for PFCs for 15 years. After the EPA issued a "Do Not Drink" notice to the Village, a temporary Calgon Carbon Model 10 two-vessel pressurized carbon system, designed to contain a total of 40,000 lbs of GAC, was rapidly deployed. Upon start up, the Village drinking water was declared safe for public consumption.

The Solution: Granular Activated Carbon

The Importance of Testing

Accelerated Column Test (ACT)

After the temporary system was deployed, an Accelerated Column Test (ACT) was performed to ensure that the proposed permanent system would be adequately sized to meet the PFC treatment objectives. The Accelerated Column Test (ACT) procedure uses a miniature carbon-filled column to simulate the adsorption breakthrough curve that would be obtained by treating an aqueous stream in a large adsorption system. This technique, developed by Calgon Carbon's Research and Development team, has been shown to be accurate in simulating the carbon treatment of a wide range of waters and wastewaters under various conditions.

The column test was designed to simulate the permanent system; the 12 ft diameter vessel containing 40,000 lbs of GAC, operating at 700 gallons per minute, and providing 13.2 minutes of Empty Bed Contact Time (EBCT). The column test was conducted using Filtrasorb 400 12x40 GAC to determine the bed life for removal of PFCs as well as Total Organic Carbon (TOC). The water sample contained average concentrations of 330 ppt (ng/L) perfluorooctanoic acid (PFOA), 8.8 ppt (perfluoroheptanoic acid (PFHpA), and 7.4 ppt perfluorohexanoic acid (PFHxA). The column test consumed the entire source water sample, simulating 620 days of treatment, and 595 million gallons treated. The graph shows the PFC data on the primary axis and the TOC data on the secondary axis versus simulated days of operation.

What are Emerging Contaminants?

Emerging contaminants are chemicals or materials that have been found in global drinking water supplies and are perceived as real or potential threats to human health. While these contaminants may have always been present in drinking water, advances in technology have only recently made it possible to detect them.

Contaminants are classified as "emerging" if a new source or direct pathway to humans has been determined. Perfluorinated compounds, such as Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA), have been identified as both persistent and mobile in the atmosphere and in aqueous environments, and are therefore considered emerging contaminants of concern.

What are perfluorinated compounds (PFCs)?

Perfluorinated compounds, or PFCs, are manmade fully fluorinated compounds which are not naturally found in the environment and are used in a range of products such as fire fighting foams and coating additives. PFOS and PFOA are the most commonly produced PFCs.

Results and Conclusions:

PFC:

- PFCs in the column effluent were non-detectable for the three PFC compounds detected in the feed. The detection limits for PFHpA, PFHxA, and PFOA in the effluent were 3 ppt.

- With no breakthrough data, the carbon use rate is based on the maximum run time of 620 days. Based on the influent concentrations, the carbon use rate is a maximum of 0.07 lb of GAC per 1000 gallons treated, which corresponds to 620 days or 595 million gallons treated.

TOC:

- TOC achieved 50% breakthrough after ~340 simulated days and ~320 million simulated gallons treated, which equates to a carbon use rate of 0.13 lbs / 1000 gallons treated.

- The column effluent achieved initial breakthrough above detection limit for TOC at 195 simulated days and ~178 million simulated gallons treated, which equates to a carbon use rate of 0.22 lbs / 1000 gallons treated.

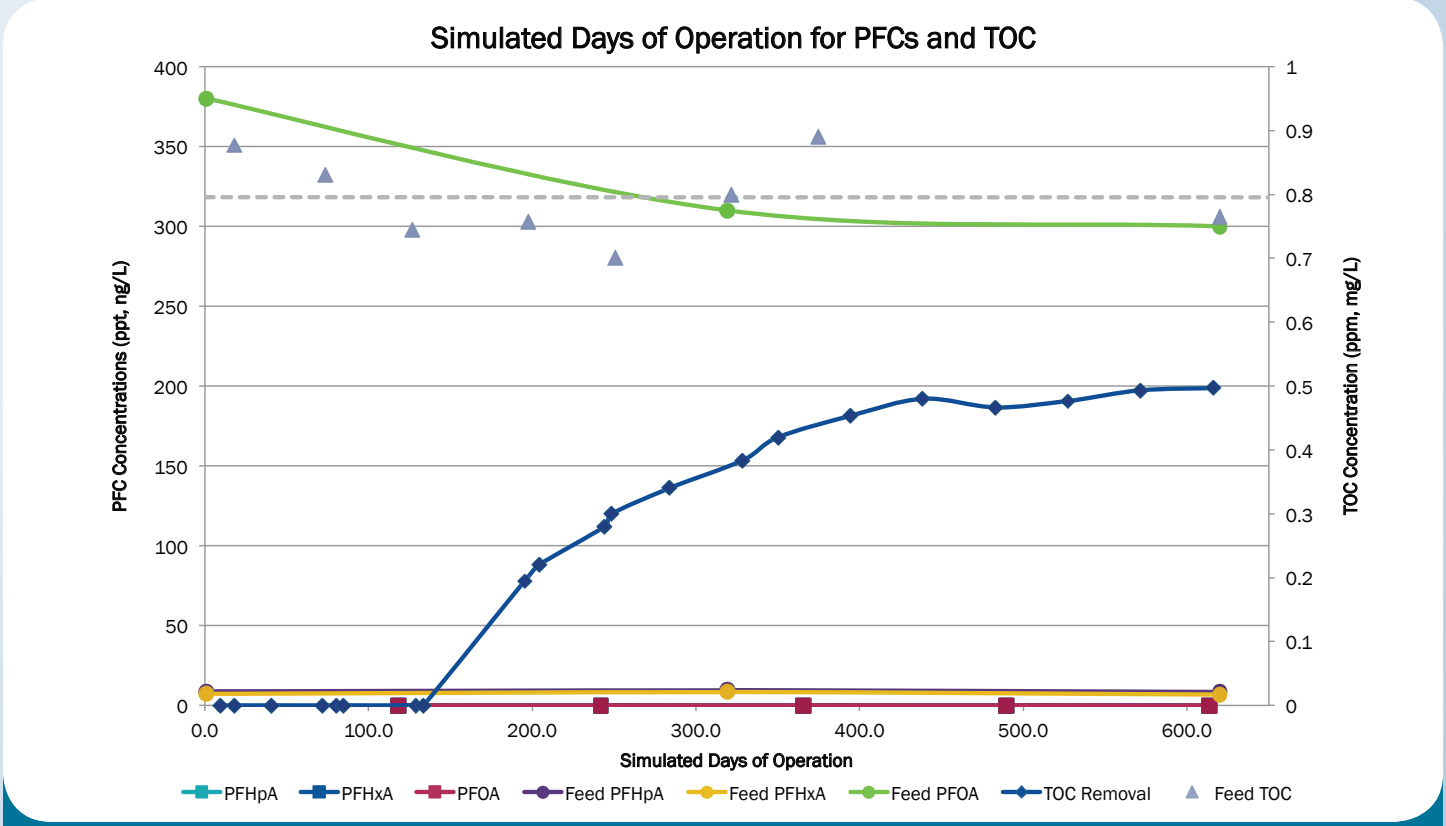
Results

Based off the above results, a Calgon Carbon Model 12-40 vessel was recommended to achieve the treatment objective.

Point of Entry Treatment Systems

In addition to those receiving water from the municipal supplier, more than 500 residents use private well water systems for supply to their home. The Village committed up to $10 million to install point of entry treatment systems (POETS) to both public and private wells to ensure clean drinking water for those without access to the public system.

The New York DEC partnered with Calgon Carbon to ensure GAC systems were properly started up and functional.



Looking Ahead

The Village's drinking water is, and will remain, safe for consumption as long as a functional GAC filtration system remains online. The permanent system was delivered in late 2016.

U.S. *EPA Health Advisory*

On May 19, 2016, the U.S. EPA established Health Advisories for both PFOA and PFOS based on the agency's assessment of the latest peer-reviewed science. The Advisory was created to provide drinking water system operators, as well as state, tribal, and local officials who have the primary responsibility for overseeing these systems, with information on the health risks of these chemicals. To provide U.S. citizens with a margin of protection from a lifetime of exposure to PFOA and PFOS from drinking water, the U.S. EPA has established the Health Advisory levels at 70 parts per trillion.

GAC: *Why it Works*

The adsorption capacity of GAC makes it ideal for removing a variety of contaminants from water, air, liquids and gases. GAC is a hybrid mixture of a wide variety of graphite platelets that are interconnected by non-graphitic carbon bonding.

GAC has shown to be an effective adsorption media for removing contaminants in drinking water, and has the added benefit of removing taste and odor compounds while simultaneously acting as a physical filtration medium.

About Calgon Carbon

Calgon Carbon Corporation (NYSE:CCC) is a global leader in innovative solutions, high quality products and reliable services designed to protect human health and the environment from harmful contaminants in water and air. As a leading manufacturer of activated carbon, with broad capabilities in ultraviolet light disinfection, the Company provides purification solutions for drinking water, wastewater, pollution abatement, and a variety of industrial and commercial manufacturing processes.

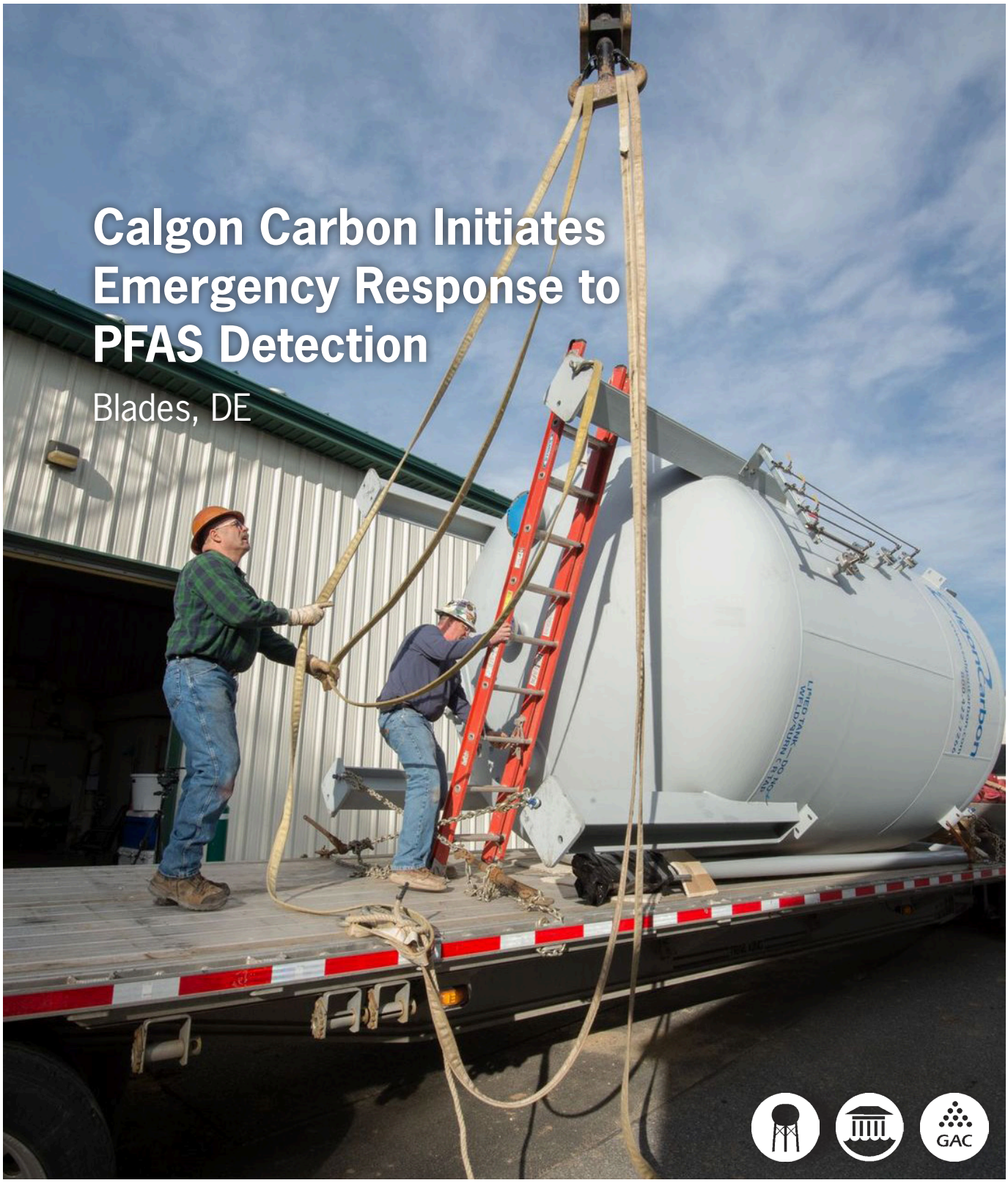
Calgon Carbon is the world's largest producer of granular activated carbon and supplies more than 100 types of activated carbon products – in granular, powdered, pelletized and cloth form – for more than 700 distinct applications. Headquartered in Pittsburgh, Pennsylvania, Calgon Carbon Corporation employs more than 1,100 people at 15 manufacturing, reactivation, and equipment fabrication facilities in the U.S., Asia, and in Europe, where Calgon Carbon is known as Chemviron Carbon. The company also has more than 27 sales and service centers throughout the world.

For more information about Calgon Carbon's leading activated carbon and ultraviolet technology solutions for municipalities and industries, visit **www.calgoncarbon.com**.

Case Study

Calgon Carbon Initiates Emergency Response to PFAS Detection

Blades, DE



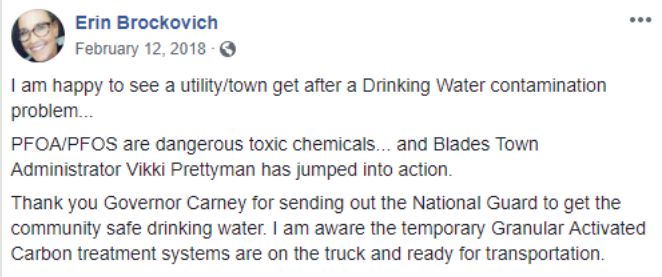
Model 10 pressure vessel and 20,000 lbs of FILTRASORB 400 GAC dispatched in less than 2 weeks

Blades, DE

Blades, Delaware, a small town in Sussex County, provides drinking water to more than 1,300 residential and business locations throughout the community. In 1981, the citizens of Blades voted to improve their water and sewage facilities by establishing a central water supply and tying all properties into the nearby Seaford Sewer System. By February of 1982, the project was complete and since then the town has had a clean and safe municipal water supply.

However, that changed on February 8, 2018 - nearly 36 years later - when Per- and Polyfluoroalkyl Substances (PFAS), specifically PFOA and PFOS were detected in three public wells, impacting more than 1,250 residents and businesses.

"We sampled our wells in coordination with the EPA, because of the town's proximity to potential sources of PFAS from historical industrial processes in the area," said Vikki Prettyman, Town Administrator for Blades. "We received the final results on February 8, 2018 and, out of an abundance of caution, began issuing bottled water to residents on February 9."



Erin Brockovich, consumer advocate and environmental activist, compliments Blades, DE on its immediate response to detecting PFAS in the town's drinking water.

PFAS are man-made compounds that are not naturally found in the environment. For many years, PFAS were used in the manufacture of non-stick cookware, stain-resistant carpet, and in fire fighting foams. PFOA and PFOS fall under a Health Guidance issued by the U.S. EPA, which was announced in May of 2016. The Guidance of 70 parts per trillion (ppt) was set to give consumers a margin of protection from these potentially harmful contaminants. When all three wells

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contained PFAS exceeding levels of 70 ppt, the town of Blades immediately jumped into action, issuing a "Do Not Drink" notice to citizens and looking into treatment options.

Nearby, the city of New Castle, DE was treating its drinking water with granular activated carbon (GAC) for the removal of PFOA and PFOS. After speaking with treatment plant operators from New Castle, Blades officials called Calgon Carbon for help.

"Calgon Carbon has more than 15 years of experience in treating PFAS and I knew we could fix this problem," said Mike Donaway, regional sales manager at Calgon Carbon. "The town of Blades was serious about finding a solution and we were poised to help them as quickly and efficiently as possible."

PRODUCT SELECTION

Before installing, it was important to determine what kind of granular activated carbon would perform optimally with the source water used by Blades. Testing the water first, before selecting the carbon, is important in ensuring the best performance.

FILTRASORB 400, Calgon Carbon's signature bituminous coal-based product, has a proven track record of removing PFAS compounds to non-detect levels and was the best option for the town. Coupled with a Model-10 pressure vessel, Blades was equipped to effectively treat 150 gallons of water per minute.

"We liked the carbon filtration system because it also removes other contaminants that may be regulated in the future."

- Vikki Prettyman, Town Administrator for Blades

IMMEDIATE INSTALLATION

Just weeks after discovering the contamination the city ordered

ABOUT FILTRASORB

Developed for the removal of organic compounds from water, wastewater, and food processing streams, FILTRASORB is a highly active, reagglomerated, durable GAC. Made from select grades of bituminous coal, it is capable of withstanding the abrasion associated with repeated backwashing, hydraulic transport, and reactivation.

Used alone or in tandem with UV disinfection systems or ion exchange technology to help meet regulations and market demands by:

- Removing disinfection byproducts (DBPs), endocrine disrupting compounds (EDCs), emerging contaminants, and dissolved organic materials
- Acting as a dual-purpose media, providing both filtration and adsorption for treating surface water and groundwater sources in the production of drinking water
- Improving taste and odor

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the new Model-10 vessel and FILTRASORB GAC. The Calgon Carbon team worked overtime to get the vessel and GAC prepared for shipping and installation, and within one day, the order was on its way to Blades.

"The coordination on the Calgon Carbon team was unprecedented . . . they pulled together a vessel and 20k pounds of GAC in less than one week." - *Vicki Prettyman*

Twenty-four hours later it was installed, and finally, after connecting and testing the system, it was online and operational within a week.

"The coordination on the Calgon Carbon team was unprecedented," said Prettyman. "Mike was willing to walk us through each step, determining what was best for our system and our community and they pulled together a vessel and 20K pounds of GAC in less than one week."

RESULTS

Initially, the system reduced the concentration of PFAS flowing through public pipes to 3.4 ppt (well under the EPA's Health Advisory Limit of 70 ppt), and a follow-up screening did not detect any contamination.

A little over a year later, Blades is preparing to purchase and install a back-up GAC system from Calgon Carbon to maintain compliance and have continuous filtration during GAC exchanges.

"We're very satisfied with Calgon Carbon's products and customer service," said Prettyman. "They went above and beyond and the results show it's working." ◆

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Case Study

CalgonCarbon
A Kuraray Company

FILTRASORB 400 Provides PFAS solution for Air Force Base in Interior Alaska

Eielson Air Force Base, Alaska

FILTRASORB 400 Provides PFAS solution for Air Force Base in Interior Alaska

Eielson Air Force Base, Alaska

When Eielson Air Force Base, located in the interior of Alaska, found high levels of perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) in their drinking water, they needed a solution that was effective, cost-efficient, and operable in extreme temperatures. Calgon Carbon's Model 10 adsorption system, filled with FILTRASORB 400 granular activated carbon (GAC), was determined to be the best option.

Eielson AFB occupies more than 63,000 acres of land about 26 miles southeast of Fairbanks and about 110 miles south of the Arctic Circle. Eielson Proper has more than 10,000 assigned personnel. The base sources its drinking water from groundwater and uses pressurized greensand filters to remove high levels of iron and manganese.

In 2015, sampling of the base's drinking water revealed levels of PFOA and PFOS that were above the established United States Environmental Protection Agency's (EPA) drinking water health advisory. PFOA and PFOS are fluorinated organic chemicals that have been used to make water, stains, and grease resistant products. Notably for Eielson, PFOA and PFOS are also present in the firefighting foam used at the airfield for accidents and training, which resulted in the compounds migrating into the groundwater.

In May 2016 the EPA reduced its established health advisory levels for PFOA and PFOS from 400 ppt and 200 ppt respectively, to a total of 70 ppt for both, as well as in total between the two compounds. At the time of this change, all of Eielson's wells exceeded the new advisory, said Craig Hollowell, treatment plant operator at Eielson.

With guidance from the EPA to remove PFAS from the water supply, the base began looking for the most effective, cost-efficient technology. After considering different technologies in terms of ease of operation, maintenance, and continued operational costs, Eielson decided to pursue activated carbon.

"(Eielson) really wanted something proven, that was tried and true, and could

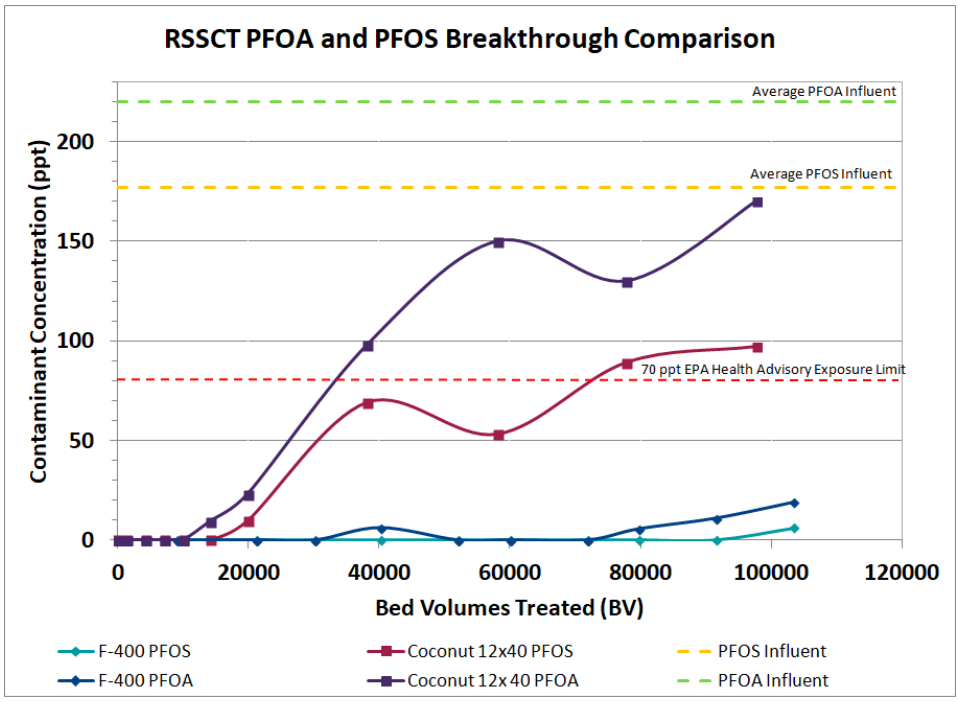


Figure 1 depicts outlet PFOA & PFOS removal using FILTRASORB and coconut shell activated carbons. Outlet PFAS concentrations reported against bed volumes of water treated.

be implemented quickly," said Andrew Nishihara, process engineer at Stantec, a consulting firm brought in to help the Air Force find a solution. "They didn't want to take any chances or risks for their customers or for the people who would be using their water."

TESTING AGAINST COCONUT SHELL-BASED CARBON

After some preliminary testing to roughly determine the efficacy of coconut-based carbon and another coal-based GAC, Eielson decided to install a coconut shell-based carbon for their initial effort to remove the PFOS. However, the coconut-based carbon exhausted quickly after start-up, and had to be replaced every three months. In addition to adding to operating costs, replacing the coconut-based carbon would be "next to impossible to do" during the winter when temperatures on the base reached below minus 30 degrees Fahrenheit, said Vanessa Wike, senior engineer at Bristol Engineering Services, another consulting firm involved in the project.

"Once the coconut started breaking through, it started going fast. It had a pretty steep curve," Wike said.

Stantec originally tested the performance of the coconut-based carbon against another coal-based carbon. However, further testing showed that Calgon Carbon's FILTRASORB 400 would work better than both the coconut-based carbon and the other tested coal-based carbon.

"The FILTRASORB 400 had superior performance compared with the coconut-based carbon," Hollowell said. "Calgon Carbon had the best performance curves I've seen for perfluorinated compound removal, in terms of the ability to last and to remove PFOA and PFOS from water."

Nishihara said Eielson was also considering using ion exchange resins as a solution. For ion exchange, PFAS removal is a single-pass application, meaning once the resin beads are used to remove the contaminants, the exhausted resin is typically disposed of in a landfill. However, Eielson was concerned that contaminants trapped by the resin could be released into the environment if the resin beads were exposed to pH swings, he said.

"(Eielson) wanted a solution that they felt would be both a long-term resolution and limit long-term risk exposure," Nishihara said. GAC used for PFAS removal can be reactivated, thermally destroying the PFAS compounds and eliminating the long-term waste liability.

EQUIPMENT SELECTION

In addition to selecting the optimal GAC for the project, the engineers had to make a decision regarding the design of the adsorption equipment that would contain the GAC. The most important design element to an adsorption system is the underdrain configuration for the vessels. The engineers involved in the project recognized the benefit of the Calgon Carbon Model 10 vessels, which incorporates an internal cone underdrain. The internal cone underdrain is designed to both maximize flow and ensure that the spent carbon is fully removed from the vessels during GAC exchanges, said Ben Goecke, regional sales manager for Calgon Carbon. With one nozzle per square foot of vessel cross section, Calgon Carbon's vessels have superior nozzle distribution and better flow distribution, resulting in optimal utilization of the carbon.

"When you get better utilization, you don't need to change out (the carbon) as much," Goecke said. "Nowhere is that more critical than in a remote place like Eielson. Every additional percentage of bed utilization you can get represents real savings."

INSTALLING IN HARSH CONDITIONS

There were a number of challenges involved with the project. The first was meeting the ambitious delivery schedule after the contract was finalized. Bristol Engineering Services was awarded the contract for the project in early October 2016. Calgon Carbon worked quickly to transport the system so the equipment would arrive in Alaska before temperatures plummeted.

Once on site, the 10,000-gallon vessels needed to be rinsed, disinfected,

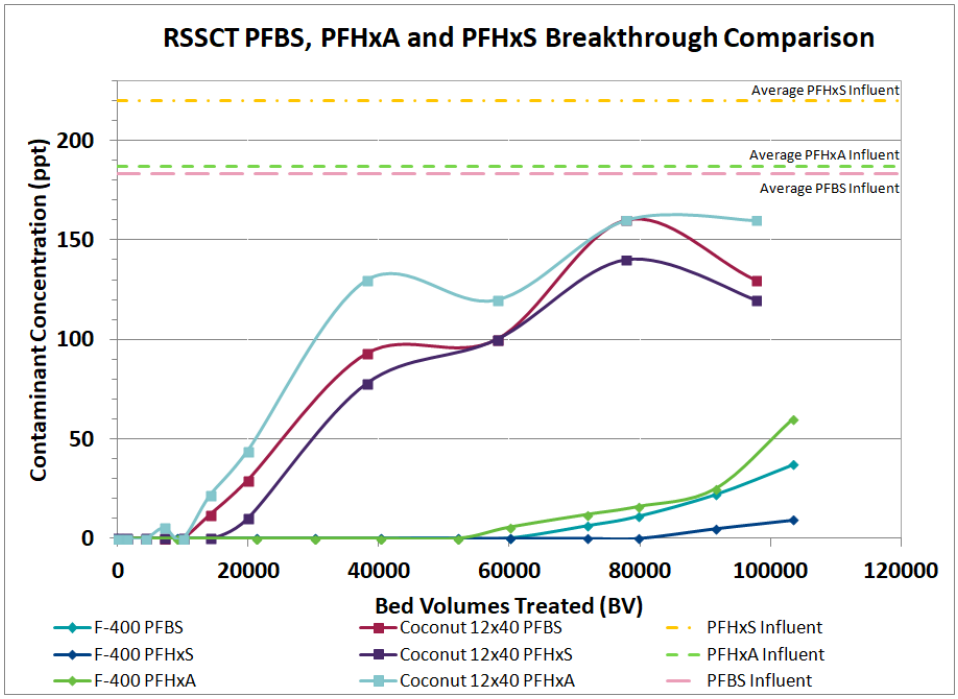


Figure 2 depicts outlet PFHxA, PFHxS, & PFBS removal using FILTRASORB and coconut shell activated carbons. Outlet PFAS concentrations reported against bed volumes of water treated.

and filled. All of these processes require water, which of course freezes at 32 degrees Fahrenheit. However, for this project, these processes had to be completed at a time when the daytime high temperatures were as low as minus 20 degrees Fahrenheit.

"Water is not your friend at 20 below," Wike said. "Water will form glaciers, and you can't leave water in hoses because the hoses will burst. The crew did a lot of surface discharge to rinse the vessels and discharge to areas that were safe." This means preventing icing on roads and walkways, and also preventing ice damage on structures.

In addition to the cold conditions, the limited amount of daylight required crews to use additional lighting on site. "At that time of year, there is maybe four to five hours of daylight, though the sun barely rises above the horizon," Wike said. "It looks like dusk, at best, for four hours, and that's assuming there are no clouds. If it's cloudy, it is even darker."

Finally, the installation site was constrained. "We had a limited available footprint, and Calgon Carbon was able to accommodate that," Wike said. "We couldn't go spatially, and we couldn't go tall because the site is next to an airport runway. We were limited in all three dimensions."

"Calgon Carbon had the best performance curves I've seen for perfluorinated compound removal, in terms of the ability to last and to remove PFOA and PFOS from water."

— Craig Hollowell
Treatment plant operator at Eielson Air Force Base

One temporary Model 10 system, which includes two vessels in a lead-lag configuration, filled with FILTRASORB 400, was installed in December 2016. In 2017, the final design for the project system was approved, and two additional Model 10 systems were installed. Crews installed new carbon into the temporary system vessels and moved that system from its temporary location to its permanent location, along with the two new Model 10 systems. Installation of the permanent system was completed in January 2018.

RESULTS

Wike said the FILTRASORB 400 has worked well in this application. Since the installation of the permanent system, levels of PFOS have been undetectable on all vessels.

Wike said she was also pleased with the customer service she received from Calgon Carbon.

"I don't think there was one time I called (Ben Goecke) that I didn't get a call back within four hours, including when he was on vacation," Wike said.

Hollowell said his experience working with Calgon Carbon was one of the best in his career.

"In my experience of 19.5 years working as a contractor for the Department of Energy and seven years up here, Calgon Carbon is one of the best, easiest, and most competent companies to work with on a contract," Hollowell said.

This was especially so as Calgon Carbon worked in minus 30 degree temperatures, he said.

"They're not used to working in those kinds of conditions," Hollowell said. "They made it happen, even in extremely harsh conditions."

TROJAN UV™

CASE **STUDIES**

Advanced Oxidation Processes

Plant Name: Tucson International Airport Area (TIAA) Superfund Site
Location: Tucson, Arizona
System: TrojanUVPhox™

Advanced Treatment for 1,4-Dioxane – Tucson Removes Contamination Through UV-oxidation

PROJECT BACKGROUND

The Tucson International Airport Area (TIAA) Superfund Site is located in the Tucson Basin in Pima County, Arizona and includes the Tucson International Airport as well as residential areas of the city of Tucson. As early as 1942, metals, chemicals and other wastes were disposed of in the region, leading to aquifer contamination. Volatile organic compounds (VOCs) including trichloroethylene (TCE) and 1,1-dichloroethene (1,1-DCE) have been detected at this site, along with 1,4-dioxane, a chemical stabilizer commonly used in solvents.

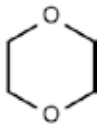
In 1981, the United States Environmental Protection Agency (USEPA) and the City of Tucson sampled the municipal water wells within the TIAA zone. Unsafe levels of TCE were identified, and a total of eleven drinking water wells were shut down. As a result of the contamination, the Tucson Airport Remediation Project (TARP) was established and a groundwater treatment system was commissioned in 1994. However, continued monitoring of the groundwater detected 1,4-dioxane, a contaminant not easily removed through the air-stripping treatment system used at the original treatment plant. As a result, UV-oxidation was incorporated in the Advanced Oxidation Process Water Treatment Facility immediately adjacent to the TARP to remove 1,4-dioxane.

1,4-DIOXANE

1,4-Dioxane is a chemical stabilizer commonly added to chlorinated solvents including TCE and tetrachloroethylene (PCE) to prevent their acidification and breakdown.

Due to its high solubility and limited sorption to soils, natural degradation of 1,4-dioxane in water is limited and as a result, 1,4-dioxane will travel farther and remain in areas of groundwater contamination for longer periods of time than TCE and PCE, the solvents it originally was meant to stabilize.

Further, its low Henry's Law constant makes 1,4-dioxane resistant to air stripping, a treatment method commonly used for the removal of other VOCs.



Chemical Name:	1,4-Dioxane
Chemical Formula:	$C_4H_8O_2$
USEPA Classification:	Probable Human Carcinogen

1,4-dioxane was included in the USEPA's third Unregulated Contaminant Monitoring Rule (UCMR3) and levels were monitored throughout the United Stated to evaluate whether federal regulations will be required to control concentrations in drinking water. Results released in 2017 suggested that over 20% of treatment plants tested had at least one sample measure above the minimum reporting limit of 0.07 ppb (µg/L) and over 7% of sites had at least one sample measure above 0.35 ppb, the USEPA's established 1 in 1,000,000 cancer risk concentration of 1,4-dioxane in water.

CASE **STUDIES**

TREATING 1,4-DIOXANE AT TARP

Pilot studies were carried out in 2010 to evaluate UV-oxidation as a possible remedy for 1,4-dioxane contamination. Specifically, evaluation was based on three independent criteria: treatment capabilities, by-product formation and residual hydrogen peroxide quenching.

Treatment Capabilities

1,4-Dioxane removal of greater than the targeted 2-log reduction was observed during pilot testing with the highest level of 1,4-dioxane reduction calculated to be approximately 2.8-log. In addition, VOCs including TCE and 1,1-DCE were simultaneously reduced to equal or greater levels than 1,4-dioxane (Figure 1).

By-Product Formation

A significant by-product of concern was bromate. However, effluent testing after UV-oxidation treatment showed no bromate formation. Equivalent pilot testing experiments carried out with ozone-hydrogen peroxide (O_3-H_2O_2) systems showed increases in bromate to over 50 µg/L, 5 times the regulated limit (Figure 2).

Quenching

Quenching residual hydrogen peroxide (H_2O_2) with granular activated carbon (GAC) was favored over other established methods of quenching due to the high efficiency of GAC and its ability to remove H_2O_2 with both high loading rates and minimal empty bed contact time. This limited concerns associated with head loss and additional pumping requirements.

THE TROJANUV SOLUTION

TrojanUV supplied 6 TrojanUVPhox™ D72AL75 UV units organized in three treatment trains with each train containing two UV units. Each unit contains 144 low-pressure high-output (LPHO) UV lamps designed for high efficiency UV output with minimum energy requirements. Along with an advanced H_2O_2 dosing system, the UV-oxidation installation is capable of removing 1.6-log (>97%) 1,4-dioxane and treating a maximum capacity of 5,800 gallons per minute (gpm). GAC is applied after UV-oxidation treatment to remove residual H_2O_2 exiting the UV reactors.

CONCLUSION

Commissioned in January 2014, the UV-oxidation installation at the Advanced Oxidation Process Water Treatment Facility treats 1,4-dioxane and produces water that is blended and then treated at the neighboring TARP facility. This purified water is supplied to nearly 50,000 end-users in the Tucson area.

FULL SCALE SYSTEM

SYSTEM DESIGN PARAMETERS

PEAK FLOW CAPACITY:
5,800 gpm (1,317 m^3/hr)

PRIMARY CONTAMINANT:
1,4-Dioxane

SECONDARY CONTAMINANTS:
TCE, 1,1-DCE

DESIGN TREATMENT REQUIREMENT:
1.6-Log 1,4-Dioxane Removal

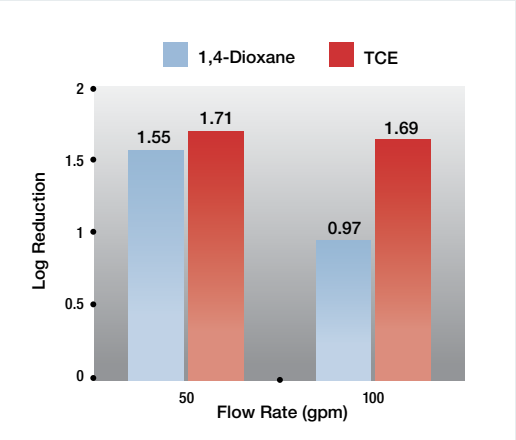


Figure 1. Results of pilot testing low-pressure UV-oxidation for treatment of indicated contaminants. Log reduction of contaminants treatment with UV-oxidation. H_2O_2 concentration = 15 ppm.

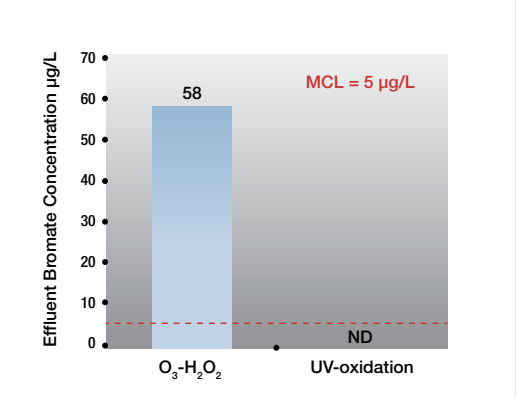


Figure 2. Maximum concentration of bromate detected in post-treatment effluent during pilot testing of indicated AOP technologies.

About TrojanUV

TrojanUV designs and manufactures pressurized and open-channel UV disinfection systems for municipal wastewater and drinking water, as well as UV-oxidation systems for environmental contaminant treatment and potable and non-potable reuse applications. We have the largest municipal UV installation base in the world and are proud to play an important role in continually advancing UV disinfection technology. TrojanUV is part of the Trojan Technologies group of businesses.

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TROJAN UV™ A TROJAN TECHNOLOGIES BUSINESS

Water Confidence™

TROJAN UV™

CASE STUDIES

Environmental Contaminant Treatment

Site Example: The Trojan UVPhox™ Applied at a Groundwater Remediation Site for 1,4-Dioxane and VOC Treatment

STOCKTON, California Project

In the early 1990's, the volatile organic compounds (VOCs) tetrachloroethylene (PCE), and trichloroethylene (TCE) were discovered in the vicinity of several city water supply wells near the city of Stockton, California. An aggressive hydraulic containment/water reinjection system was installed to contain the plume and protect the quality of the drinking water. For several years, a treatment system consisting of granular activated carbon and air stripping was used to remove VOCs from the reinjected water.

However, the contaminant 1,4-dioxane was also discovered in the plume. 1,4-Dioxane is commonly used as a stabilizer in chlorinated solvents, and therefore is often present in VOC plumes. In particular, 1,4-dioxane contamination is commonly found at sites contaminated with 1,1,1-trichloroethane (TCA), a solvent that contains up to 15% 1,4-dioxane. A semi-volatile contaminant with low volatility and low affinity for carbon materials, 1,4-dioxane resists removal from water by carbon or air stripping. The consulting engineer for the project, Dudek and Associates Inc., contacted Trojan Technologies for a treatment solution to remove this emerging contaminant. Trojan worked closely with the engineers to provide an optimized low-energy ultraviolet light (UV) oxidation system to treat the 1,4-dioxane.

THE TROJAN SOLUTION

Trojan provided a pressurized, multi-lamp TrojanUVPhox™ reactor system to treat the 1,4-dioxane by UV-oxidation, a process that combines UV light and hydrogen peroxide. To optimize the UV treatment system during the design phase, Trojan performed testing on groundwater collected at the site to determine its water quality parameters. The resulting TrojanUVPhox™ system was installed in the summer of 2001 and is still in operation today.

DESIGN PARAMETERS

- FLOW RATE: 200 gallons per minute
- INFLUENT 1,4-DIOXANE CONCENTRATION: 110 parts per billion (ppb)
- EFFLUENT 1,4-DIOXANE CONCENTRATION: < 1.0 ppb
- OXIDIZER (FOR 1,4-DIOXANE TREATMENT): Hydrogen Peroxide

CASE **STUDIES**

TESTIMONIALS

"We are extremely pleased with the performance of the Trojan system. The energy costs are significantly lower than expected and Trojan has continued to work with us to optimize operations as influent concentrations of 1,4-dioxane have changed."

Derek Reed, P.E.
Project Engineer, Dudek and Associates, Inc.

GENERAL CONTAMINANT OVERVIEW

CONTAMINANT:
1,4-Dioxane

POTENTIAL SOURCES:
- Chlorinated solvents manufacturing
- Printed circuit board manufacturing
- Plastic, lacquer, varnish & paint manufacturing
- Dye, resin, wax & grease manufacturing
- Textile processing
- Pesticide production
- Tissue processing & biological labs

TOXICITY:
- Probable human carcinogen

CALIFORNIA DEPARTMENT OF HEALTH SERVICES (DHS):
- Action level - 3.0 parts per trillion (ppt)

SUMMARY:
1,4-Dioxane is most commonly used in industry as a stabilizer in chlorinated solvents such as TCE. Reported fractions of 1,4-dioxane in the host solvent range from 1% to 15%, depending on the manufacturer. For this reason, 1,4-dioxane is often found intermingled in groundwater solvent plumes. Due to its chemical properties, 1,4-dioxane migrates farther and persists longer than other contaminants in a groundwater plume.

BEFORE TREATMENT:
- (1,4-Dioxane) 110 ppb

AFTER TROJAN LOW-ENERGY UV TREATMENT:
- (1,4-Dioxane) <1.0 ppb

TROJAN UV™
WATER CONFIDENCE™

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TROJANUV

CASE **STUDIES**

Environmental Contaminant Treatment

Site Example: Treatment of NDMA and 1,4-Dioxane

Drinking Water Projects, **SAN GABRIEL VALLEY**, California

Since it was first settled in 1841, California's San Gabriel Valley, east of Los Angeles, has hosted a wide variety of industries. However, industrial development has left a significant portion of the Valley's groundwater contaminated with various organic contaminants, including *N*-nitrosodimethylamine (NDMA) and 1,4-dioxane. Because much of the Valley's water supply is obtained from this groundwater, treatment facilities are required.

Volatile organic compounds were first discovered at the Valley County Water District in 1979. The plume now extends for approximately nine miles and underlies the cities of Azusa, Baldwin Park, West Covina, Industry, and Irwindale. NDMA was first discovered in the plume at the La Puente Valley County Water District in 1997. Its discovery led to the re-evaluation of treatment plans for impacted facilities. The aquifer in the San Gabriel Valley, in which the plume is located, provides drinking water to over one million residents in Los Angeles County. While many of the contaminants can be removed with conventional contaminant treatment technologies such as air stripping and carbon adsorption, NDMA and 1,4-dioxane require more advanced technology. NDMA, produced as a by-product of rocket fuel manufacturing, is considered highly carcinogenic and is most cost-effectively removed by UV light. 1,4-Dioxane, a stabilizer used in industrial solvents, requires treatment by UV-oxidation (the combination of UV light with hydrogen peroxide).

THE TROJAN SOLUTION

TrojanUV has supplied UV-oxidation treatment systems to all five groundwater treatment facilities in the Baldwin Park Operable Unit Superfund Site located in the San Gabriel Basin. Four of the five systems use hydrogen peroxide in combination with UV (TrojanUV supplies NSF-grade hydrogen peroxide through its subsidiary, US Peroxide). This turn-key solution includes full-service delivery of hydrogen peroxide to the plant. The first TrojanUV system, at the La Puente Valley County Water District, replaced a competitor's existing UV system based on the substantial operation and maintenance cost savings that the TrojanUV system provided. After testing the site's water and optimizing the system based on the site's water quality parameters, extensive permit testing was completed in November 2001. This testing showed excellent NDMA and 1,4-dioxane destruction while reducing electricity consumption by over 80% when compared to the previous high-energy UV system. TrojanUV gained technology acceptance for use of its UV technology in drinking water at La Puente from the state regulator in January 2001. The system at the La Puente Treatment Facility has been delivering drinking water since May 2002.

The five NDMA and 1,4-dioxane treatment plants treat over 50 million gallons per day (MGD). Each of the plants is capable of reducing the

CASE **STUDIES**

NDMA concentration to less than 2 parts per trillion (ppt) and 1,4-dioxane to less than 0.5 parts per billion (ppb). These five systems help restore groundwater supplies that had been lost to contamination:

California Domestic Water Company
- Flowrate: 14.4 MGD
- Influent NDMA concentration: 200 ppt

San Gabriel Valley Water Company B5
- Flowrate: 11.2 MGD
- Influent NDMA concentration: 700 ppt

San Gabriel Valley Water Company B6
- Flowrate: 11.2 MGD
- Influent NDMA concentration: 900 ppt

Valley County Water District SA-1
- Flowrate: 11.2 MGD
- Influent NDMA concentration: 3,000 ppt

La Puente Valley County Water District
- Flowrate: 3.6 MGD
- Influent NDMA concentration: 1,500 ppt

TESTIMONIALS

"Trojan was a great help in obtaining drinking water permit approval quickly from the California DHS – not to mention the fact that the reduction in power use with the Trojan system allowed us to negotiate a lower rate with the power company."

Mike Berlien
La Puente Valley County Water District, Plant Manager

GENERAL CONTAMINANT OVERVIEW

CONTAMINANT:
N-nitrosodimethylamine (NDMA)

POTENTIAL SOURCES:
- Drinking water disinfection with chlorine or chloramine
- Printed circuit board manufacturing
- Pesticide manufacturing
- Pharmaceutical manufacturing
- Fish & seafood processing
- Rocket fuel manufacturing

TOXICITY:
- Probable human carcinogen

SUMMARY:
NDMA is formed relatively easily in a variety of processes, including drinking water disinfection with chlorine or chloramine. This emerging contaminant, often associated with only rocket fuel contamination, is being detected in water supplies throughout North America.

CONTAMINANT:
1,4-Dioxane

POTENTIAL SOURCES:
- Chlorinated solvents manufacturing
- Plastic, lacquer, varnish & paint manufacturing
- Pesticide production
- Textile processing
- Paper manufacturing

TOXICITY:
- Probable human carcinogen

SUMMARY:
1,4-Dioxane is most commonly used in industry as a stabilizer in chlorinated solvents such as trichloroethylene (TCE) and 1,1,1-trichloroethane (TCA). Reported fractions of 1,4-dioxane in the host solvent range from 1% to 15%, depending on the manufacturer. For this reason, 1,4-dioxane is often found intermingled in groundwater solvent plumes. Due to its chemical properties, 1,4-dioxane migrates farther and persists longer than other contaminants in a groundwater plume.

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Appendix G

Description

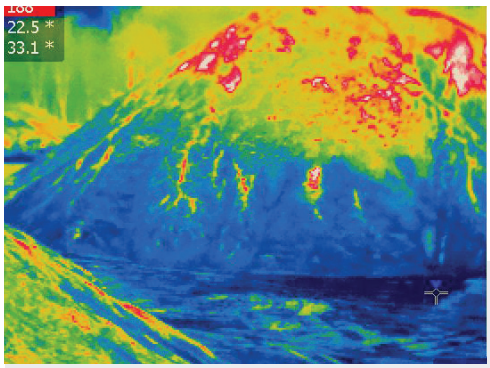
Thermal Analytics Camera - FLIR FC-Series R

THERMAL ANALYTICS CAMERA

FC-SERIES R

The FC-Series R features non-contact temperature measurement capability for early fire detection and thermal monitoring of substations, waste disposal facilities, or valuable equipment. FC-Series R combines state-of-the-art image detail and onboard video analytics for superior continuous monitoring. Flexible alarm options via email, web and mobile apps, edge image storage, or VMS event notifications offer quick and reliable incident detection.

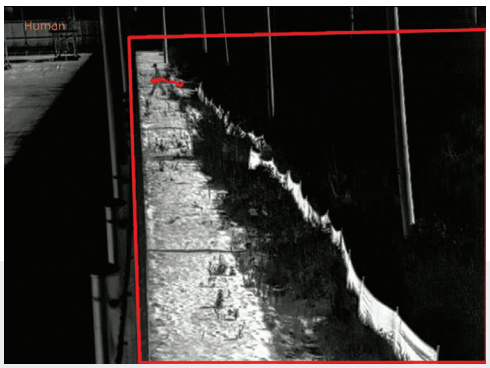
www.flir.com/products/fc-series-r-automation/



ONBOARD TEMPERATURES MEASUREMENT & ALARMS

Calibrated for fire detection, safety, and thermal monitoring of equipment

- On-screen temperature value displays
- Up to four temperature measurement tools —spots or boxes
- Flexible integration tools allow temperature data and alarms to be integrated into a wide variety of external monitoring and control systems
- Dynamic Detail Enhancement (DDE) creates sharp edges and contrast to improve analytics



FEATURE-RICH EDGE ANALYTICS

Powerful onboard analytics capable of classifying humans or vehicle intrusions

- Multiple alarm notification options, including email, digital outputs, or VMS alarms
- Auto-calibration for depth setup, allowing simple and reliable configuration
- Camera configuration via web interface, FSM PC application, or mobile apps
- ONVIF compliant, interoperable with most video management systems

RUGGED INDUSTRIAL DESIGN

Durable enclosure protects camera from water and is submersible up to one meter

- IP66 and IP67 rated
- Shock, vibration, and corrosion resistant
- Multiple fields of view and resolution options
- PoE, AC and DC inputs, analog and network outputs

SPECIFICATIONS

	FC 3xx R-Series	FC 6xx R-Series
Image		
Array format (NTSC)	320 × 240	640 × 480
Detector type	Long-life, uncooled VOx microbolometer	
Spectral range	7.5 µm to 13.5 µm	
Effective resolution	76,800 pixels	307,200 pixels
Pixel pitch	7.5 µm to 13.5 µm	7.5 µm to 13.5 µm
Thermal frame rate	NTSC: 30 Hz - PAL: 25 Hz / 8.3 Hz	
E-Zoom	4x continuous E-Zoom	
Focus	Athermalized, focus-free	
Sensitivity	<35 mK for F# 1.0 optics	
Video		
Composite video NTSC or PAL	Hybrid system with IP & analog video, dynamic NTSC or PAL settings	
Analog video output composite	1Vp-p (PAL or NTSC), 1 × BNC 75Ω	
Video compression	Two independent channels of H.264 (restricted VBR and CBR,10 kbps-4 Mbps, MPEG4, and MJPEG)	
Streaming resolution	D1: 720 × 576, 4CIF: 704 × 576, Native: 640 × 512, Q-Native: 320 × 256, CIF: 352 × 288, QCIF: 176 × 144	
Thermal AGC modes features	Brightness, contrast, sharpness, grey shade compression, gamma, smart screen balance	
Thermal AGC Region of Interest (ROI)	Default, presets, and user-definable to insure optimal image quality on subjects of interest	
Analytics management	Web-based confguration and management. Masking of analytic detection areas, adjustable sensitivity, automatic responses, remote I/O control	
Analytics features	Region entrance/intrusion detection, crossover/fence trespassing	
Image uniformity optimization	Automatic Flat Field Correction (FFC); thermal and temporal triggers	
SD card snapshot capture	Support for 32 GB SD card (sold separately)	
System Integration		
Ethernet	10/100 Mbps	
External analytics compatible	Yes	
Control input/output	1× dry contact in; 1× relay out (rated load 0.025 A @ 5 V DC)	
Network APIs	FLIR SDK, FLIR CGI, ONVIF profile S	
Network		
Supported protocols	IPV4, HTTP, Bonjour, UPnP, DNS, NTP, RTCP, TCP, UDP, ICMP, IGMP, DHCP, ARP, FTP, RTP/RTSP, Unicast/ Multicast, TCP/IP, HTTP, IEEE 802.1X	
General		
Weight with sunshield	7.5/9/13/19/25/35 mm 1.8 kg (4 lb.) - 60 mm 2.0 kg (4.5 lb.) - 75 mm 2.2 kg (4.75 lb.)	
Weight without sunshield	7.5/9/13/19/25/35 mm 2.2 kg (4.75 lb.) - 60 mm 2.4 kg (5.25 lb.) - 75 mm 2.5 kg (5.5 lb.)	
Dimensions (L × W × H)	Without sunshield: 259 × 114 × 106 mm/10.2 × 4.5 × 4.2 in With sunshield: 282 × 129 × 115 mm/11.1 × 5.1 × 4.5 in	

Input voltage	Source	POE (802.3af)	POE+ (802.3at)	12 V DC	24 V DC	24 V AC (VA)
	Heater off	<5.5 W	<5.5 W	<5.5 W	<5.5 W	<8 W
	Heater on (@ 100%)	N/A	<25 W	<25 W	<25 W	<32 W

Surge immunity on AC power lines	CE: EN55032 Class A; FCC 47 CFR Part 15, Subpart B, Class A (within CISPR 22:2008 Class A limits)
Surge immunity on signal lines	EN 55024: 2010 and 55032: 2010 to 4.0 kV on AC aux power lines; EN 50130-4:2011; IEC 62599-2:2010

Environmental	
IP rating (dust & water ingress)	IP66 & IP67
Operating temperature range	-50°C to 70°C/-58°F to 158°F (continuous operation) -40°C to 70°C /-40°F to 158°F (cold start)
Storage temperature range	-50°C to 85°C/-58°F to 185°F
Humidity	0-95% relative humidity
Shock	MIL-STD-810G "Transportation"
Vibe	IEC 60068-2-27
De-icing / anti-icing	MIL-STD-810 F, Method 521.2 - 6 mm ice, 120 minutes with POE+, 4 mm ice with POE af FC-304, FC-305, FC-610 & FC-608 with Cold weather kit - not yet available
Warranty & Regulatory	
Approvals	CE: EN55032 Class A; FCC 47 CFR Part 15, Subpart B, Class A (within CISPR 22:2008 Class A limits)
Certifications	IEC 60068-2-1:2007; IEC 60068-2-2:2007; ISTA-1A (handling)
Compliance	RoHS Directive 2011/65/EU; WEEE 2012/19/EU
Warranty	Camera: 3 years Sensor: 10 years

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NASDAQ: FLIR

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Appendix H

Description

Sample Emergency Action Plan

Emergency Action Plan

BRANCH NAME AND NUMBER: _____

BRANCH ADDRESS: _____

_____

BRANCH MANGER SIGNATURE: _____

DATE: _____

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1.0 - Purpose

The Emergency Response & Action Plan is designed to guide the site on what actions to take during an event and provide action steps protect employees and others during an event. The safety and wellbeing of our employees and customers is paramount along with the protection of our facilities, assets, and customer assets.

2.0 - Scope

This plan provides procedures to guide the site as they handle an event. It also provides general site occupants with actions they can take to protect themselves and others.

3.0 – Contacts and Responsibilities

3.1 - Emergency Personnel

Primary Emergency Personnel: Branch or Title Center Manager

Title: _____

Name: _____ Phone: _____

Secondary Emergency Personnel

Name: _____ Phone: _____

3.2 – Emergency Personnel Responsibilities

Site Emergency Personnel are responsible for directing overall event management at the site level throughout the event's response and recovery.

Responsibilities include but are not limited to:

- Ensuring employees (including Temporary Workers) have received appropriate training and participated in drills and exercises to conduct their role effectively in the event of an emergency.
- Contacting IAA Safety to coordinate a visit from an OSHA/OHS inspector in the event of an accident.
- Acting as First Responder Liaison
    - Ensuring all vehicle traffic stops or is controlled so first responders can reach the scene of the event unimpeded.

  - Identifying employees to direct first responders to the event location. Multiple employees may need to be placed in strategic points to ensure quick response to the event location.
  - Providing event and facility-specific details to first responders.
  - Providing support to first responders as capabilities allow.
  - Ensuring first responders can conduct their activities and investigations as needed.
- Personnel Accountability
  - Gathering details about occupants that were known or were possibly at the site at the time of the event.
  - Collecting accountability details. All occupants should be counted as
    - On site and safe
    - On site and need assistance
    - Off site
    - Missing/Not Responded
  - Leading the effort to account for missing individuals.
  - Notifying First responders of missing individuals.
- Crowd Control
  - Moving employees and customers quickly and safely
    - Away from the scene of an accident
    - Toward shelter in the event of a storm
    - Out of the building(s) in the event of an evacuation.
  - Secure the scene of an event as prescribed in this plan.
  - Remind people that no photos or videos are allowed.

3.3 - Access and Functional Needs Assistants

Name: _____ Phone: _____

Name: _____ Phone: _____

These individuals are responsible for assisting any access or function needs individuals in responding during an emergency event. Access and Functional Needs Assistants should have a conversation with the individual they are assisting prior to an event to understand what assistance they may need.

This role is usually filled by someone working in close proximity to the individual needing assistance. If physical assistance may be required, ensure the assistant(s) has the capability and training to do so.

Individuals who have access and/or functional needs and may need assistance during an emergency event must notify site management or their HR representative about their need. Assistants will be identified and will coordinate developing an emergency action plan.

3.4 - Area and Regional Contacts

Area Manager

_____

Name and Phone Number

Regional Vice President

_____

Name and Phone Number

3.5 - Corporate Office Contacts

Safety/Security
Eric Zurawski
VP Security & Safety
ezurawski@iaai.com
520-235-2117 (cell)

Environmental/Legal
Lauren Kavanaugh
Real Estate Counsel
lauren.kavanaugh@iaai.com
708-492-7548 (office)
708-295-0580 (cell)

Legal
Jeffery Cisowski
Litigation Counsel
Jeffery.cisowski@iaai.com
708-492-7226 (cell)

3.6 – Non-Emergency Phone Numbers

First Responder Agency/Company	Phone
Fire Department	
Paramedics	
Local Law Enforcement	
Local Environmental Authority	
Spill Clean Up Company	

3.7 – Utility Emergency Contacts

Utility Type	Company Name	Phone	Contact Name/Title
Electric			
Water/Sewer			
Gas (Natural, Propane, Other)			

4.0 - Evacuation Routes

Evacuation route maps have been posted in each work area. The following information, at a minimum, is noted on these evacuation maps:

- Emergency exits
- Primary and secondary evacuation routes
- Assembly areas

Site personnel should know at least two evacuation routes from their primary work area.

In the event of an evacuation

- Leave the building using the designated escape routes.
- Assemble in the designated area.
- Remain outside until the competent authority announces that it is safe to re-enter.

Designated Assembly Area: _____

See Appendix A for Site Evacuation Map

5.0 – Emergency Drills

One site specific Emergency drills must be conducted at least annually and documented on the Emergency Drill Report

See Appendix B for Emergency Drill Report

Types of drills include but not limited to:

- Fire
- Earthquake
- Tornado
- Active Shooter

6.0 - Medical Emergencies

In the event of a medical emergency, call for help by shouting, then call the appropriate emergency phone numbers as soon as possible. Call 911 (999 in UK):

If you are unsure whether the situation is an emergency, call emergency medical services (EMS). The dispatcher/operator will ask questions to determine whether it is an emergency and will assist you in providing appropriate care.

Provide the following information to the dispatcher/operator:

- The nature of medical emergency
- Approximate number of people injured
- The location of the emergency (address, building, room number, etc.)
- Your name and the phone number from which you are calling
- Let the dispatcher know of any safety hazards, such as a chemical spill, fire, or fumes.
- Do not hang up unless the dispatcher tells you to do so.
- Assign personnel to meet responders at the gate and direct them to the scene.
- Do not move a victim unless it is absolutely necessary, such as when there is eminent danger from fire, explosion, electrocution, etc.
- Seek the assistance of personnel trained in CPR, first aid, and AED to provide any needed assistance prior to the arrival of the professional medical help.
- Render first-aid or CPR only if you've been trained to do so.
- Ensure scene remains secured and unchanged until first responders clear and release the event area.
- Be prepared to advise whether any of our employees were injured — an important step to meet OSHA requirements!
- If customers (buyers/sellers) are injured, as quickly as reasonable, identify them and notify their employers
- Before cleanup can begin, authorities (police, OSHA/OHS), and so on must clear the scene.
- Call a professional bio-hazard remediation company to clean up the scene if blood or other body fluids are present based on severity.

7.0 - Fire Emergencies

7.1 – Building Fires

If you see smoke or flames:

- Ensure 911 (999 UK) is notified.
- Alert nearby occupants of the emergency and assembly areas via fire alarm and/or verbally.
- Leave the affected area and close all doors behind you; don't lock the doors.
- Use stairways instead of elevators.
- If you encounter fire or smoke, use an alternate exit.

- Do not re-enter the building until the fire department declares it to be safe.

Only use a fire extinguisher if
- You've been trained to do so.
- You have a fully charged and proper type of unit for the fire you're fighting.
- Everyone else has left the area.

Never fight a fire if
- You lack a safe way to escape should your efforts fail.
- It has spread beyond its source of origin.
- You're unsure of the type of extinguisher you need or have.

The following tasks must be carried out by Site Emergency Personnel:
- Coordinate an orderly evacuation of personnel.
- Perform an accurate head count of personnel at the designated area.
- Lead an effort to locate missing personnel.
- Provide the fire personnel with the necessary information about the facility and headcount information.
- Perform an assessment and coordinate emergency closing procedures.

Upon the restoration of heat and power:

- Electronic equipment should be brought up to ambient temperatures before energizing to prevent condensation from forming on circuitry.
- After the heat has been restored to the facility and water has been turned back on, Maintenance will check fire and water piping for leaks from freeze damage.

7.2 – Yard Fires

When a fire occurs at a branch, the following items should be looked at in order to see if the incident needs to be escalated to Legal/Safety/Area Managers/RVP's:

- Has the ground surface been impacted?
  -If yes, communication of the issue should be escalated. Generally, when a one or two car fire is extinguished in a few minutes, there is often not an issue of ground surface impact.
- Have engine components melted, tires burned off or aluminum wheels melted?
  -If yes, communication of the incident should be escalated.
- Are four or more vehicles are involved in the fire?
  -If yes, communication of the incident needs to be escalated.
- Was foam used to extinguish the fire?
  -If yes, we should check SDSs to see if PFAs were used and escalate the incident. Firefighting foam can be a big issue.
  https://www.epa.gov/pfas/basic-information-pfas
- Were storm drains, drainage areas or sheens near the burn area?
  -If yes, communication of the incident needs to be escalated.

7.2.1 - Escalation Procedures

- Notify the branch manager, area manager, RVP, Environmental/Legal, Safety, Legal and Account Management (see Section 3.5).
- Provide date and approximate time of fire as well as cause of fire (if known)
- Provide a list of inventory impacted by the fire (including an indicator if any of the units are on hold)
- Take pictures of the impacted vehicles as the provider will likely request images.

7.2.2 – Other Responsibilities

- Pictures should be taken before and after the ground surface is scraped up and disposed. Sending pictures when escalating an issue is very important so that the severity of the issue is better understood.
- What type of cleanup actions are planned?
  Generally, the best approach is disposing of the ash, burned material and charred surface with the vehicles.
- Did the fire department provide a report? If so, please provide.
- Contact Security if the fire occurred in an area that is covered by security cameras. Video may need to be saved.
- Do not discuss the fire with anyone outside of IAA, including towers and buyers.

8.0 - Threatening Individual

A threatening individual is any person who you determine to be a threat to you or those around you. The individual may have a weapon, such as a gun or knife, or just make you suspicious because of their behavior. They may be acting aggressively or appear under the influence of drugs/alcohol. Trust your instincts and keep yourself safe by creating distance between you and the person(s).

When dealing with a threatening individual:

- Ensure your safety.
- Attempt to move occupants away from the threatening individual.
- Request assistance from another co-worker when dealing with the individual.
- Contact law enforcement if you are concerned for employees' safety.

8.1 - Verbally Abusive Behavior

If someone's behavior is verbally abusive:

- Remain calm
- Try to de-escalate the issue by trying to calm the person down, but do NOT tell the person to calm down as this could agitate them.
- Listen carefully and pay attention to what is said.
- Let the person know you will help within your ability to do so.
- If the individual does not respond, get the attention of others around you.
- If the situation is escalating or if you feel there is an immediate threat, leave your workspace and notify your supervisor and law enforcement immediately.

8.2 - Physically Aggressive Behavior

If someone is physically aggressive:

- Do not engage the person.
- Leave your workspace immediately.
- If you're in danger, call law enforcement.
- Once you are safe, notify your supervisor

9.0 - Bomb Threats

Bomb threats or suspicious items should always be taken seriously. Bomb threats are most commonly received via phone, but are also made in person, via email, written note, or other means. No matter the type of threat, you need to complete the Bomb Threat Checklist.

9.1 – Bomb Threat Checklist

Bomb Threat Checklist

Your name: _____ Time: _____ Date: _____

Identity of person making the threat (if known):

Sex: Male ☐ Female ☐ Don't know ☐ Approx. age _____

Origin of threat: Phone call ☐ In-person ☐ Mail ☐ Electronic/Email ☐ Social media ☐

Caller #: _____

Name: _____ Gender: Male ☐ Female ☐ Don't know ☐

Race: _____ Hair/Eye color: _____ Height/Weight: _____

Type/color of clothing: _____

Distinguishing features: _____

Voice characteristics:		Speech:		Language characteristics:	
Loud ☐	Soft ☐	Fast ☐	Slow ☐	Excellent ☐	Good ☐
High-pitched ☐	Deep ☐	Distinct ☐	Distorted ☐	Fair ☐	Poor ☐
Raspy ☐	Pleasant ☐	Stutters ☐	Nasal ☐	Foul ☐	Other (specify) ☐
Intoxicated ☐	Other (specify) ☐	Slurred ☐	Other (specify) ☐		

Manner:		Accent:		Background noises (specify below):	
Calm ☐	Angry ☐	Local ☐	Not local ☐	Factory ☐	Animals ☐
Rational ☐	Irrational ☐	Region ☐	Foreign (specify) ☐	Machines ☐	Quiet ☐
Coherent ☐	Incoherent ☐			Music ☐	Voices ☐
Deliberate ☐	Emotional ☐			Office ☐	Airplanes ☐
Righteous ☐	Laughing ☐			Street ☐	Party ☐
	Other (specify) ☐			Traffic ☐	Trains ☐
					Other (specify) ☐

Exact wording of threat - be as specifc and detailed as you can (use the back of this sheet if you need more room)

9.2 – Questions to Ask

When will the bomb explode? **Certain Time:** _____ **Time Remaining:** _____

Where is it located? **Building:** _____ **Area:** _____

What kind of bomb? _____

What kind of package? _____

How do you know so much about the bomb? _____

What is your name and address? _____

Inform caller that detonation could cause injury or death.

9.3 – Telephone Bomb Threat

In the event of a telephone bomb threat:

- Stay calm and be courteous.
- Listen, and do not interrupt the caller.
- As you listen, fill out the checklist as fully as possible with observations about the caller.
- To keep the caller talking, pretend that you are having difficulty hearing them.
- If the caller seems agreeable to further conversation, ask questions, such as those listed at the bottom of the form.

9.4 – Email Bomb Threat

In the event of an emailed bomb threat, leave the message open on the computer. Do not delete or forward it.

9.5 – Written Bomb Threat

In the event of a written bomb threat, handle the document as little as possible and secure the written threat.

After receiving a bomb threat of any type notify the following individuals:

- Branch or service center manager
- Law enforcement
- Area manager, RVP, Corporate Security and Corporate Safety

10.0 - Active Threat/Shooter

An active threat or shooter is an individual(s) actively engaged in killing or attempting to kill people in a confined space or other populated area. In most cases, offenders use firearms and have no pattern or method to their selection of victims.

In such a situation, attempt to notify others verbally.

10.1 - Run. Hide. Fight.

Run

The first option is to run if the opportunity exists:

- Leave belongings.
- Keep hands visible, arms raised, and fingers spread.
- Direct others to follow your lead, but don't stop to convince them.
- Evacuate the building and get as far away from it as possible.
- Scatter rather than congregate; do not use pre-determined assembly areas.
- Don't stop running until you feel safe.
- Once you are safe, call law enforcement.

Hide

Hiding should only be a temporary resolution until it is safe to run.

- Hide in an area out of the active shooter's view.
- Block entry to your hiding place and lock the doors.
- Move chairs/tables in front of the door(s).
- Place a door stop on the inside of the door.
- Turn off lights.
- Silence your phones.
- Listen for signs of an opportunity to run, such as a cease in gunfire or law enforcement instructions.
- Once you are safe, call law enforcement.

Fight

The last resort is to fight only when your life is in imminent danger. Fully commit to whatever means necessary to save your life and get to safety.

Tip: The most effective action is to knock the attacker unconscious. See Figure 2 for the most effective body parts to hit. The red areas indicate the most effective body parts to hit to incapacitate an active threat.

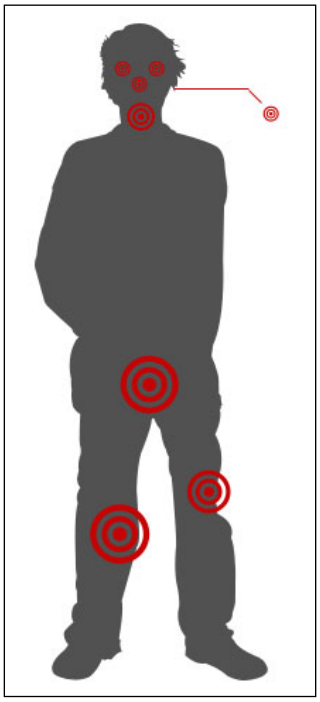


FIGURE 2

You may consider using common office items to disable or distract the attacker in order to get away, such as a:

- Chair
- Fire extinguisher
- Floor
- Wall
- Corner of table
- Tape dispenser
- Water bottle

After the attacker is incapacitated, run as fast and as far as you can and then call law enforcement.

10.2 - When Law Enforcement Arrives

Law enforcement will not stop to help the injured. Their purpose is to stop the attacker(s) as soon as possible.

When law enforcement arrives:

- Stay calm and follow the officers' instructions.
- Do not engage the officers or make quick movements.
- Keep hands raised and visible with fingers spread; drop any items you are carrying.

- Avoid pointing, screaming, and/or yelling.

10.3 - Once Outside and It Is Safe to Do So

After you're outside and safe:

- Locate law enforcement's outside meeting area (incident command post) to be available for informational needs.
- Begin accounting for occupants and provide available details to law enforcement.

For more information about dealing with volatile individuals, how to prepare for a potential attack, and See Something, Say Something see the IAA LMS.

11.0 - Chemical Spill

A prompt response to a spill is the best means of minimizing impact to the environment and preventing discharge from reaching drinking water systems, sewer systems, and surface water.

Take the following steps when responding to an emergency spill or incidental release of a hazardous chemical on-site:

- If the spill is to any waterway, which includes surface water or groundwater in any amount- Immediately notify: Legal/Environmental and Safety Department immediately.
- Report any spill to the safety coordinator.
- If there is a threat to anyone's health or safety:
    - Evacuate the area via fire alarm and/or verbally.
    - Call 911 (999 UK) from a safe area.
- If safe to do so, take the necessary steps to stop the leak or spill:
    - Turn off pump(s) or other equipment.
    - Close any valves to isolate the overfilled/leaking tank or piping

11.1 - Large Chemical Spills

When a large chemical spill occurs:

Any employee or contractor on site with knowledge or observation of any petroleum product or chemical release or spill in excess of 42 gallons must report the event directly to the branch manager, Area Manger, RVP, VP Legal/Environmental, and Safety.

- Immediately notify the Emergency Personnel.
- Evacuate the building as necessary.
- Secure the area, and alert the site personnel.
- Attend to injured personnel, and call the medical emergency number if required.
- Begin containing the spill only if you are trained and authorized to do so.
- Use appropriate equipment (e.g., pads, booms, absorbent powder, etc.).

Remember: Large spills may need to be reported to federal, state/provincial, or local agencies in a timely manner. Tetra Tech can assist the site.

11.2 - Small Chemical Spills

When a small chemical spill occurs:

- Immediately notify the Emergency Personnel.
- Secure the area with caution tapes or cones to prevent other personnel from entering.
- Reference the chemical's Safety Data Sheet (SDS), if available, for response information.
- Determine whether cleanup procedures can safely be completed. ONLY the Branch Manager or IAA Safety or Legal/Environmental will determine whether the spill requires Tetra Tech response or further notification is required.
- Wear proper Personal Protective Equipment (PPE) during cleanup.
- Utilize the spill kits (if it can be completed safely) to minimize the amount of hazardous chemicals that are spilled into drainage systems, waterways, and onto land.
- Contain waste resulting from the spill in impervious bags, drums, and buckets with proper hazardous waste labeling or within containment dike.
- Waste must be removed by Safety Kleen within two weeks.
- Segregate any material recovered as a result of the spill cleanup from other waste generated at the facility. Analyze for hazardous characteristics, if generator knowledge can't determine the waste material.
- Dispose of all hazardous waste under manifest procedures.
- Take leaking tanks/equipment out of service until repaired.

11.3 - Post Cleanup

After a spill has been cleaned up, the following tasks need completed:

- Repair or replace all affected equipment, pipes, or tanks.
- Have integrity testing completed on all repaired/replaced sections of tanks or equipment.
- Only return tank/equipment to service after the leak has been repaired and testing results are back.

11.4 - Documentation

Document all incidental spills and major spills, including

- Photos of the spill and cleanup
- Safety-Kleen Response invoices, manifests, service tickets, and testing results (tank or chemical)
- Repair/replacement documentation.
- Keep documentation on-site and available for review for three years.

12.0 - Power Outage

If a power outage occurs:

- Instruct employees to unplug all electrical equipment (including computers) and turn off light switches.
- Use flashlights. Do not light candles or use other kinds of flames for lighting.

- Leave dark areas, assisting physically challenged individuals.
- Determine expected outage duration by visiting the electric company's website via cell phone or calling.
- Determine the need and ability to continue operations.
- Notify Area Manager.
- If the site needs to be closed, notify all employees.
- When you return, check your area and report any equipment damage to your supervisor. it's safe for you to remain in the building, stay near the passengers until assistance arrives.
- If passengers are trapped in an elevator, advise them to stay calm and tell them you are getting help. If it's safe for you to remain in the building, stay near the passengers until assistance arrives.

13.0 - Water Leaks

If a water leak occurs:

- Report all water leaks to the Branch Manager or Service Center Manager.
- Turn off the water source.
- Contact a licensed plumber.
- Move files and important assets to a dry area of the building. If items can't be moved, attempt to protect them via a barrier, such as plastic covering, booms, or sandbags.
- Evacuate and/or close the building if there is a concern for safety or the building will not be useable for an extended time.

14.0 - Gas Leak

If you smell gas or suspect a gas leak:

- Evacuate the area and notify everyone via the fire alarm or verbally.
- Do not touch any switches or electrical devices or use any phone.
- Move upwind from the building. Do not smoke or use cell phones or other electrical devices in the area.
- Notify the gas company once outside of the building.
- Isolate and eliminate potential ignition sources if it's safe to do so.
- Wait for additional instruction from the gas company.

15.0 - Mold

After determining the site has a mold concern:

- Contact a mold remediation vendor.
- Remove all employees from the area near and around the mold.
- Shut down ventilation systems in the area if there is a concern about it being airborne or in the system.

- Evacuate and/or close the building if there is a concern for safety or the building will not be useable for an extended time.
- If the building is leased, then contact Real Estate and the building management.

16.0 - Severe Weather and Natural Disaster

The following items are summarized basic steps to take during natural disasters.

16.1 - Tornadoes

If severe weather is approaching or imminent, move employees off the lots and indoors until the storm has passed.

- When a warning is issued by sirens or other means, seek an inside shelter.
- When choosing a shelter, the following options are preferable:
    - Small interior rooms without windows on the lowest floor.
    - Hallways away from doors and windows on the lowest floor.
    - Rooms with no windows constructed with reinforced concrete, brick, or block.
    - Stay away from outside walls and windows.
- Use your arms to protect your head and neck.
- Remain sheltered until the tornado threat is announced to be over.

16.2 - Earthquakes

Earthquakes are more common in the western United States, but they do occur in other areas as well. How you respond to an earthquake depends on whether you're inside, outside, or driving.

If you're inside:

- Initiate Drop, Cover & Hold On:
    - Drop: Drop to the floor.
    - Cover: Find shelter under desks or tables if possible or next to an interior wall; cover your head and neck with your arms.
    - Hold On: Hold on to the shelter with one hand and move if it shifts.
- Keep away from overhead fixtures, windows, filing cabinets, and electrical power sources.
- Assist access and functional needs people with finding a safe place.

If you're outdoors, stay in an open area away from buildings, power lines, trees, or roadways.

If you're driving, pull over to the side of the road, stop, and stay inside the vehicle until the shaking ends.

After an earthquake occurs:

- Assess for injuries and damage. Reference other sections within this plan based on your findings (for example, a gas leak, medical, or fire).
- If safe to do so, assist trapped individuals.

16.3 Floods

Flood events are generally predicted in advance. However, floods, especially flash floods, can come on quickly and unexpectedly. If expected flooding poses a safety threat for the site, employees should not be at the site.

To prepare a site for possible flooding:

- Move customer vehicles to areas less prone to flooding.
- Sandbag areas near buildings to help prevent water from entering.
- Shut off electricity if building flooding is possible.
- Have the gas company shut off the gas supply if building flooding is possible

If Indoors:

- Be ready to evacuate, as directed by the Emergency Personnel or designated person.
- Follow the recommended primary or secondary evacuation routes.

If Outdoors:

- Climb to high ground and stay there.
- Avoid walking or driving through flood water.
- If your car stalls, abandon it immediately, and climb to a higher ground.

16.4 - Hurricanes

The nature of a hurricane provides for more warning than other natural and weather disasters. A hurricane watch is issued when a hurricane becomes a threat to a coastal area. A hurricane warning is issued when hurricane winds of 74 mph or higher or a combination of dangerously high water and rough seas is expected in the area within 24 hours.

No employees or customers should ever be present at our sites during any period in which the site is in or near a hurricane evacuation zone.

To prepare a site for a possible hurricane:

- Secure or remove items that may be blown by the winds.
- Reference the site preparation activities in the preceding section if flooding may also occur.
- Monitor local TV and radio stations for instructions.

After a hurricane has passed, site management must follow directions of local authorities in terms of evacuation and access to the site.

16.5 - Blizzards/Major Snow or Ice Events

These types of weather events are predicted long in advance. Employees should not be on site.

16.6 - Hazardous Air

Hazardous air may exist inside or outside.

If the hazardous air is internal:

- Notify the Branch Manager or Service Center Manager.
- Call 911 (999 UK).
- Initiate evacuation via fire alarm and/or verbally.
- Evacuate upwind from the building.
- Segregate persons that may have been exposed to a hazardous substance from persons that have not been exposed. Exposed individuals should be held at a safe distance from the incident for treatment.

If the hazardous air is external, initiate shelter or evacuation procedures based on guidance from public officials.

16.7 - Lightning

If you hear thunder, see lightning, or a weather app indicates it is within ten miles/sixteen kilometers of the site:

Notify employees to seek safe shelter.

- Buildings are the preferred shelter.
- Hard-topped metal vehicles can be used if not close to a building.
- Close all doors and windows.
- Put your hands in your lap and wait. Do not touch any metal.
- Only exit if vehicle is on fire.
- Avoid sheltering in sheds and under canopies or tall trees.

If you cannot get into a vehicle or shelter:

- Avoid open areas.
- Make sure you crouch as low as you can and balance on the balls of your feet while your heels are touching
- Protect your ears!

Notify employees once it's safe to leave the shelter; wait at least 30 minutes after hearing thunder.

17.0 - Cybersecurity

General IT-related events should be reported to the Service Desk at itservicedesk@iaai.com. If it has been predetermined that the IT risk or event may be greater than normal business operations, please send an email to the IAA Security Incident Response Team (SIRT).

18.0 - Program review

Revisions to the program will be conducted:

- Annually

- Changes to the facility or property
- Changes to the contents of the program

The Branch Manager will sign off on the written program and training will be conducted annually for all personnel located at the site.

Appendix A – Site Map(s)

Appendix B – Emergency Drill Report

Emergency Drill Report

Facility Name:_____

Date: _____ **Time:**_____

Person conducting the drill:_____

Type of Drill:_____

Drill Start Time: _____ **Drill End Time:** _____ **Total Time:**_____

Number of occupants evacuated: _____

Was an alarm sounded for the drill? _____

Improvements: _____

_____

_____

_____

_____

Observer Name:_____

Observer Signature:_____

Appendix I

Description

Correspondence with Yaphank Fire Department

Yaphank Fire Department

Main Street
Yaphank, New York 11980
(631) 924-3200

1926 2020

Chief Craig Eisenberg 1st Asst.Alexander Zeruto 2nd Asst. Kieran Donlon

April 24, 2020

VHB Engineering, Surveying, Landscaping Architecture and Geology, P.C.
Attn: Katelyn Kaim, Environmental Planner
RE: Proposed Automobile Storage Facility at Yaphank
422 Sills Road, Hamlet of Yaphank
Town of Brookhaven, Suffolk County

The Yaphank Fire Department Chief's office is writing in response to the letter dated March 5th, 2020, regarding the Proposed Automobile Storage Facility at Yaphank.

In the event of a vehicle fire at the specified location the Yaphank Fire Department will respond according to department protocols to extinguish the fire using water, should water not suffice, then *Fire-Break Foam Concentrate* will be used to extinguish and fire. It is environmentally friendly and bio-degradable and meets NFPA 298 standards.

Should an electric vehicle be involved in the event, according to standard operating procedures, copious amounts of water will be used to extinguish the fire; it is also requested that all electric or hybrid vehicles be located together in a labeled area within 500 ft of a fire hydrant.

In addition to the precautions listed, it is requested that the property include three (3) additionally fire hydrant in the event of a fire emergency, to be placed at the mid-south end of the property, the mid-north end of the property, and the east side of the property, this addition will allow for a more timely and efficient response to a vehicle fire.

If you have any further questions or concerns, please feel free to contact us.

Sincerely,

Yaphank Fire Department Chief's Office

www.vhb.com

March 24, 2020

Ref: 26662.00

VIA CERTIFIED MAIL

Mr. Matthew Quinn, District Manager
Yaphank Fire Department
31 Main Street
Yaphank, New York 11980

Re: Environmental Review
Proposed Automobile Storage Facility at Yaphank
422 Sills Road, Hamlet of Yaphank
Town of Brookhaven, Suffolk County

Dear Mr. Quinn,

VHB Engineering, Surveying, Landscape Architecture, and Geology, P.C. (VHB), on behalf of our client, is serving as an environmental consultant for the above-referenced proposed automobile storage facility located at 422 Sills Road in Yaphank, (south of Baseball Heaven), in the Town of Brookhaven, Suffolk County. Attached is correspondence we submitted to you, dated March 5, 2019, regarding the availability of the Yaphank Fire Department to serve the proposed development. Please facilitate a response to our information request as soon as you are able to do so.

Thank you in advance for your assistance in this matter and should you have any questions or require any additional information please feel free to contact me at kkaim@vhb.com or (631) 787-3464.

Sincerely,

VHB Engineering, Surveying, Landscape Architecture and Geology, P.C.

Katelyn R. Kaim

Katelyn Kaim
Environmental Planner
kkaim@vhb.com
KK/

100 Motor Parkway
Suite 350
Hauppauge, New York 11788
P 631.787.3400
F 631.813.2545

Engineers | Scientists | Planners | Designers

www.vhb.com

March 5, 2020

Ref: 26662.00

VIA CERTIFIED MAIL

Mr. Matthew Quinn, District Manager
Yaphank Fire Department
31 Main Street
Yaphank, New York 11980

Re: Environmental Review
Proposed Automobile Storage Facility at Yaphank
422 Sills Road, Hamlet of Yaphank
Town of Brookhaven, Suffolk County

Dear Mr. Quinn,

VHB Engineering, Surveying, Landscape Architecture and Geology, P.C. is serving as environmental consultant to the Applicant and preparing a Draft Supplemental Environmental Impact Statement (DSEIS) for the above-referenced proposed action pursuant to the requirements of the New York State Environmental Quality Review Act (SEQRA). The proposed development is an automobile storage facility to be located on a 35.7±-acre property located on the west side of Sills Road in Yaphank, New York (south of Baseball Heaven), which we believe is within the service area of the Yaphank Fire Department. Specifically, the subject property is located at 422 Sills Road in the hamlet of Yaphank, Town of Brookhaven, Suffolk County, New York (see enclosed Site Location Map) and consists of three parcels known on the Suffolk County Tax Map as District 0200 - Section 739 - Block 1 - Lots 1.2 and 1.4; and Block 3 - Lot 1.

The proposed action specifically consists of the development of a 20.82±-acre portion of the 35.7±-acre subject property as a temporary storage facility for repossessed and insurance salvage vehicles (see enclosed Site Plan). Vehicles would be stored at the subject property on a temporary basis while they await auction – no live auction activities are proposed to occur at the subject property. An asphalt paved surface lot will be created for the storage of vehicles, and large vegetative buffers of 150 feet in depth will be retained along the LIRR right-of-way (i.e., along the northern property boundary) (100 feet adjacent to the recharge basin), 100-feet along Bellport Avenue and Sills Road, and 50 feet along other property boundaries. Access to the proposed development would be provided via a single, 30-foot-wide paved driveway at Sills Road. The proposed action also involves the installation of a stormwater treatment system designed to treat stormwater runoff from the proposed parking lot area to protect groundwater and, more specifically, the adjacent Suffolk County Water Authority (SCWA) public water supply wells. A pump house container would be installed as part of the proposed stormwater treatment system.

It is expected that operations at the proposed facility would be comparable to those at the several existing automobile storage, auction and outdoor storage facilities that are present throughout this portion of the Town.

Engineers | Scientists | Planners | Designers

100 Motor Parkway
Suite 350
Hauppauge, New York 11788
P 631.787.3400
F 631.813.2545

As part of the SEQRA process, which includes the preparation of a DSEIS, VHB will be evaluating potential effects of the proposed action related to fire protection services. Specifically, the Town of Brookhaven Planning Board, as the lead agency for the SEQRA review, is requiring the review of potential groundwater impacts related to fire protection. Therefore, we ask that you kindly please advise, in writing, as to the following:

1. What specialized protocols/procedures for providing fire protection services does the Yaphank Fire Department apply to facilities of this nature (i.e., automobile storage facilities)?
2. What, if any, specific techniques, materials or substances, etc., are used by the Yaphank Fire Department for fire suppression in the event of a fire incident at an automobile storage facility?
3. Please also describe any specialized techniques, materials or substances used when electric vehicles are involved.
4. The subject property is adjacent to a public water supply wellfield of the Suffolk County Water Authority. Does the Yaphank Fire Department implement any special practices or precautions related to groundwater in the event of a fire emergency near a public water supply well?

Please note that the Applicant has offered the following measures relevant to fire protection services:

- If desired by the Town of Brookhaven Fire Marshal and/or the Yaphank Fire Department, a portion of the paved area would be specifically designated for the storage of electric and hybrid vehicles, with appropriate signage and labeling.
- A key lock box could be maintained at the access gate for Fire Department access.
- Contact information for the site operator can be kept on file with your Department.
- The Applicant intends to install an infrared thermal analytics camera security system that includes software and functions for the detection and alert of fire emergencies.
- The stormwater treatment system would be fitted with controls for automatic shut-off in the event of a fire emergency. There is also a manual emergency shut off switch located outside of the pump house container that allows the operator or first responders, to manually shut down the system in case of emergency.

Thank you in advance for your assistance in this matter and should you have any questions or require any additional information please feel free to contact me at kkaim@vhb.com or (631) 787-3464.

Sincerely,

VHB Engineering, Surveying, Landscape Architecture and Geology, P.C.

Katelyn R. Kaim

Katelyn Kaim
Environmental Planner
kkaim@vhb.com
KK/ag

\\vhb\gis\proj\Hauppauge\26662.00 Yaphank Auto Auction\Project\Figure 1 - Site Location.mxd

0 450 900 1800 Feet

Subject Property

Proposed Automobile Storage Facility at Yaphank | Yaphank, NY

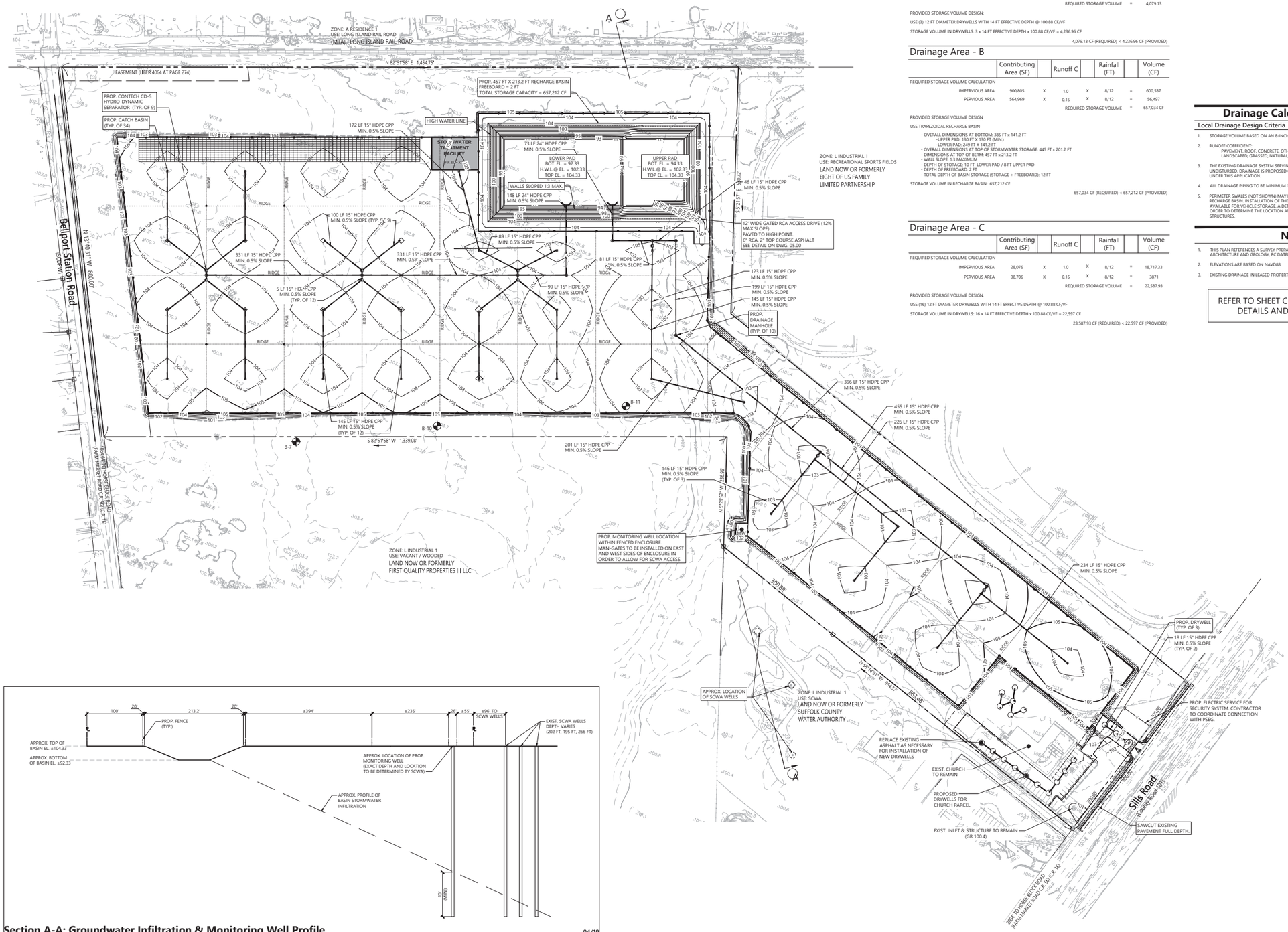
Site Location

Sills Road

hamlet of Yaphank, Town of Brookhaven

Suffolk County

Sources: NYS Ortho Imagery (2016);
NYS Civil Boundaries, NYS Office of Information Technology Services GIS Program Office (GPO)



Section A-A: Groundwater Infiltration & Monitoring Well Profile 04/19

N.T.S. Source: VHB LD

Drainage Area - A

	Contributing Area (SF)		Runoff C		Rainfall (FT)		Volume (CF)
REQUIRED STORAGE VOLUME CALCULATION							
IMPERVIOUS AREA	3,437	X	1.0	X	8/12	=	2,291.33
PERVIOUS AREA	17,878	X	0.15	X	8/12	=	1788
					REQUIRED STORAGE VOLUME	=	4,079.13

PROVIDED STORAGE VOLUME DESIGN:

USE (3) 12 FT DIAMETER DRYWELLS WITH 14 FT EFFECTIVE DEPTH @ 100.88 CF/VF

STORAGE VOLUME IN DRYWELLS: 3 x 14 FT EFFECTIVE DEPTH x 100.88 CF/VF = 4,236.96 CF

4,079.13 CF (REQUIRED) < 4,236.96 CF (PROVIDED)

Drainage Area - B

	Contributing Area (SF)		Runoff C		Rainfall (FT)		Volume (CF)
REQUIRED STORAGE VOLUME CALCULATION							
IMPERVIOUS AREA	900,805	X	1.0	X	8/12	=	600,537
PERVIOUS AREA	564,969	X	0.15	X	8/12	=	56,497
					REQUIRED STORAGE VOLUME	=	657,034 CF

PROVIDED STORAGE VOLUME DESIGN

USE TRAPEZOIDAL RECHARGE BASIN

- OVERALL DIMENSIONS AT BOTTOM: 385 FT x 141.2 FT
  - UPPER PAD: 130 FT X 130 FT (MIN.)
  - LOWER PAD: 249 FT X 141.2 FT
- OVERALL DIMENSIONS AT TOP OF STORMWATER STORAGE: 445 FT x 201.2 FT
- DIMENSIONS AT TOP OF BERM: 457 FT x 213.2 FT
- WALL SLOPE: 1:3 MAXIMUM
- DEPTH OF STORAGE: 10 FT LOWER PAD / 8 FT UPPER PAD
- DEPTH OF FREEBOARD: 2 FT
- TOTAL DEPTH OF BASIN STORAGE (STORAGE + FREEBOARD): 12 FT

STORAGE VOLUME IN RECHARGE BASIN: 657,212 CF

657,034 CF (REQUIRED) < 657,212 CF (PROVIDED)

Drainage Area - C

	Contributing Area (SF)		Runoff C		Rainfall (FT)		Volume (CF)
REQUIRED STORAGE VOLUME CALCULATION							
IMPERVIOUS AREA	28,076	X	1.0	X	8/12	=	18,717.33
PERVIOUS AREA	38,706	X	0.15	X	8/12	=	3871
					REQUIRED STORAGE VOLUME	=	22,587.93

PROVIDED STORAGE VOLUME DESIGN:

USE (16) 12 FT DIAMETER DRYWELLS WITH 14 FT EFFECTIVE DEPTH @ 100.88 CF/VF

STORAGE VOLUME IN DRYWELLS: 16 x 14 FT EFFECTIVE DEPTH x 100.88 CF/VF = 22,597 CF

23,587.93 CF (REQUIRED) < 22,597 CF (PROVIDED)

Drainage Calculation Summary

Local Drainage Design Criteria

1. STORAGE VOLUME BASED ON AN 8-INCH RAINFALL FOR AUTO STORAGE FACILITY ONLY.
2. RUNOFF COEFFICIENT:
   PAVEMENT, ROOF, CONCRETE, OTHER IMPERVIOUS AREAS = 1.00
   LANDSCAPED, GRASSED, NATURAL, OTHER PERVIOUS AREAS = 0.15
3. THE EXISTING DRAINAGE SYSTEM SERVING THE 1.53 ACRE LEASED CHURCH PARCEL SHALL REMAIN UNDISTURBED. DRAINAGE IS PROPOSED ONLY FOR THE NEWLY DEVELOPED AREAS INCLUDED UNDER THIS APPLICATION.
4. ALL DRAINAGE PIPING TO BE MINIMUM 15"ø HDPE UNLESS OTHERWISE NOTED.
5. PERIMETER SWALES (NOT SHOWN) MAY BE REQUIRED FOR PROPER CONVEYANCE TO THE RECHARGE BASIN. INSTALLATION OF THESE SWALES COULD IMPACT THE AMOUNT OF AREA AVAILABLE FOR VEHICLE STORAGE. A DETAILED GRADING AND DRAINAGE PLAN IS REQUIRED IN ORDER TO DETERMINE THE LOCATION AND EXTENT OF ANY NECESSARY SWALES OR CONVEYANCE STRUCTURES.

Notes

1. THIS PLAN REFERENCES A SURVEY PREPARED BY VHB ENGINEERING, SURVEYING, LANDSCAPE ARCHITECTURE AND GEOLOGY, PC DATED AUGUST 15, 2018.
2. ELEVATIONS ARE BASED ON NAVD88.
3. EXISTING DRAINAGE IN LEASED PROPERTY TO REMAIN.

REFER TO SHEET C5.00 FOR DRAINAGE DETAILS AND BORING LOGS

vhb.com

vhb

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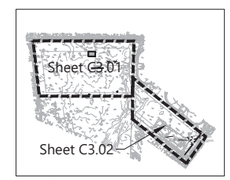
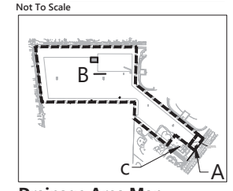


Key Map

Not To Scale



Drainage Area Map

Not To Scale

0 40 80 160Feet

Automobile Storage Facility

422 Sills Road
Yaphank, New York 11980

No.	Revision	Date	Appvd.
03	Drainage Layout	03/20/19	SS/DB
04	DEIS	05/15/19	SS/DB
05	DEIS Comments / Revised Site Layout	08/08/19	SS/DB
06	Preliminary Site Plan Engineering	09/10/19	KPW
07	Town of Brookhaven Planning Comments	10/04/19	KPW
08	Town of Brookhaven Planning Comments	11/08/19	KPW

Designed by: SS Checked by: AL

Issued for: Preliminary Site Engineering Plans — Not Approved for Construction

Date: Aug. 15, 2018

Drawing Title: Grading, Drainage & Utility Plan

Drawing Number: C3.00

Sheet 3 of 11

IT IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER

Project Number: 26662.00

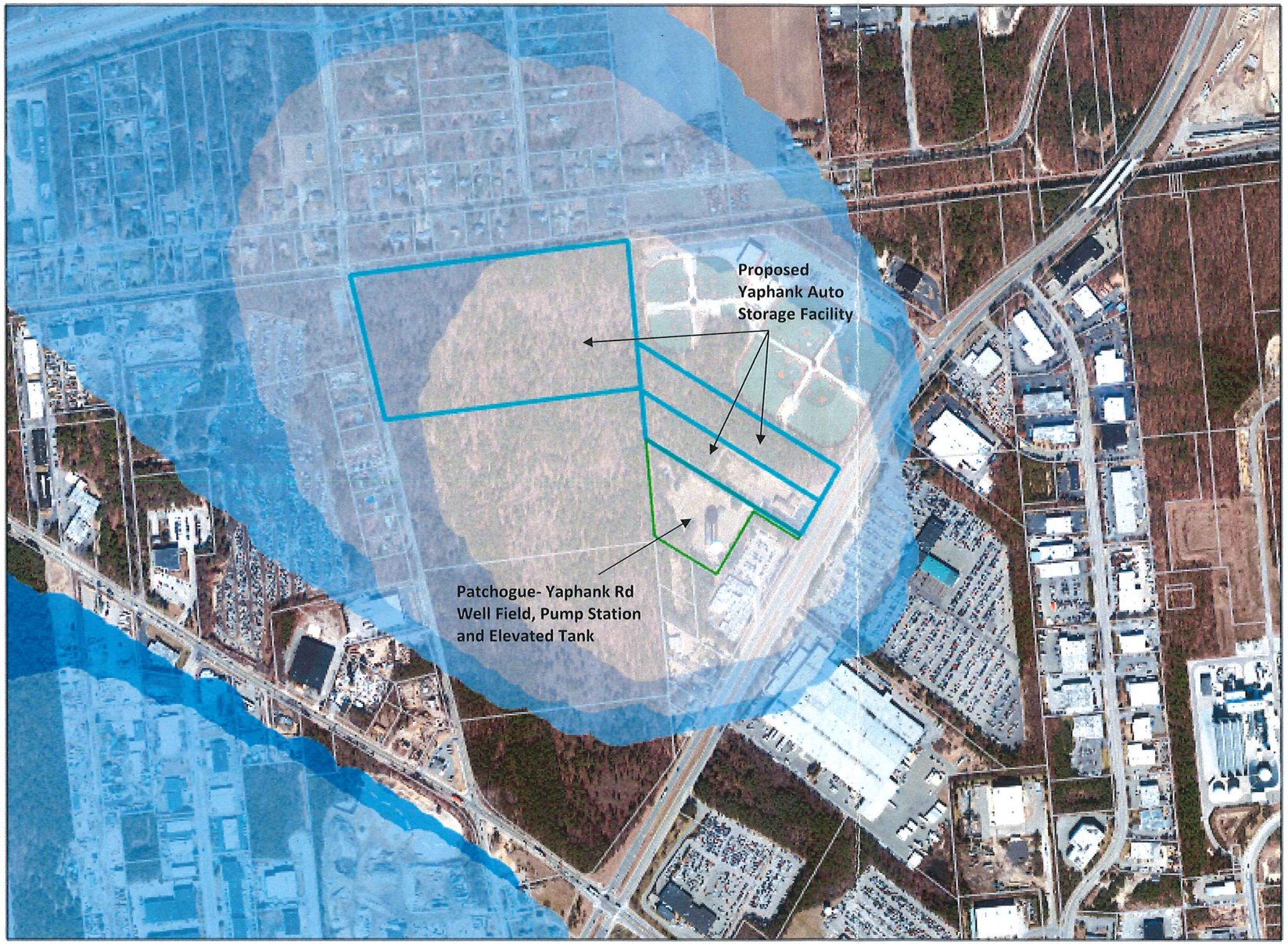
Saved Thursday, February 27, 2020 10:34:47 PM BHORTON, Plotted Monday, March 2, 2020 3:41:57 PM Horton, Ron

Appendix J

Description

SCWA Source Water Contribution Area Map

Proposed Yaphank Auto Storage Facility and the Source Water Contribution Area to the Patchogue Yaphank Road Well Field & Elevate Tank



SCWA Well Field

NO TANKS

TANKS

PROPOSED
YAPHANK AUTO
STORAGE FACILITY

Source Water Contribution Area

2

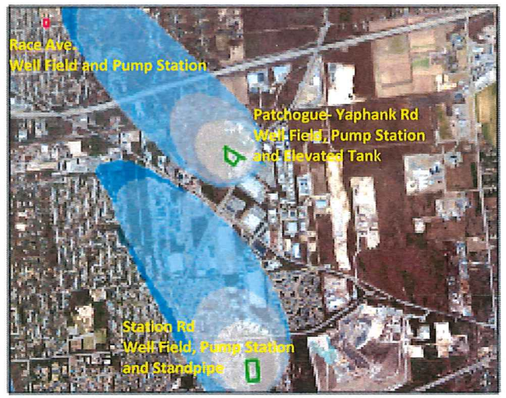
5

25

50

75

100



0 1 2 4 6 8 Miles

N
W E
S