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July 29, 2021

Lawrence Crehan Jr.
Key Civil Engineering, P.C.
664 Blue Point Road, Unit B
Holtsville, NY 11742

Re: Riverhead Water District
Map and Plan for Water Extension No. 93 – HK Ventures, LLC
H2M Project No.: RDWD2051

Dear Mr. Crehan:

Attached please find the map and plan necessary to extend and provide water to meet the demand calculations prepared by the applicants engineering consultant.

If you have any questions regarding the enclosed, please feel free to contact our office.

Very truly yours,

H2M architects + engineers

John R. Collins, P.E.

JRC:neb

Enclosure

cc: Frank Mancini, P.G., MBA (RDWD)
Robin Halpin (RDWD)
Jaclyn Peranteau (Key Civil Engineering)

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MAP & PLAN REPORT for

PROPOSED WATER DISTRICT
EXTENSION No. 93 – HK VENTURES LLC

4285 MIDDLE COUNTRY ROAD
CALVERTON, NEW YORK

Riverhead Water District
Town of Riverhead
Suffolk County, New York

H2M Project No.
RDWD2051

JULY 2021

Prepared for:

Town of Riverhead
200 Howell Avenue
Riverhead, New York 11901

Prepared by:

H2M architects + engineers
538 Broad Hollow Road, 4th Floor East
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RIVERHEAD WATER DISTRICT

PROPOSED BOUNDARY & WATER MAIN EXTENSION No. 93

4285 MIDDLE COUNTRY ROAD, CALVERTON

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RIVERHEAD WATER DISTRICT

PROPOSED BOUNDARY & WATER MAIN EXTENSION No. 93

4285 MIDDLE COUNTRY ROAD, CALVERTON

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RIVERHEAD WATER DISTRICT
MAP & PLAN FOR PROPOSED EXTENSION NO. 93
4285 MIDDLE COUNTRY ROAD, CALVERTON
HK VENTURES LLC INDUSTRIAL PARK

JULY 2021

0.0 EXECUTIVE SUMMARY

The purpose of this plan is to gain approval of the Town Board, as governing body of the Riverhead Water District, hereinafter referred to as (Town) to extend the boundaries of the Riverhead Water District (District) to serve a parcel that exists entirely within the boundaries of the Town, but a portion lies outside the current boundaries of the District. The extension of the boundaries shall be at no cost to the Town or District and upon inclusion the property shall be assessed the appropriate District water tax. It has been determined that the most feasible and economical means of providing water to the development is through the District; however, the Town and District must continue to work towards strengthening the resiliency of and redundancy within its water system by adding new source and/or storage facilities to meet the demands and maintenance of capacity and infrastructure to meet existing demands of this development as well as other proposed development across the Town. To provide public water to this extension, the owners of the HK Ventures LLC industrial development will be subject to the fees outlined herein including capital improvements, Key Money Fees, and an increased tax rate on the property. The extension of the boundaries, subject to the mapping and implementation of the planning herein, shall nave no negative environmental impacts. Notwithstanding the aforesaid, the construction of the overall development shall be subject to the appropriate environmental review.

Agreement of the property Owner / Developer of the terms outlined here-in shall warrant issuance of water availability dependent on receipt of approval of all applicable regulatory agency reviews. This Map & Plan is based on Overall and Partial Sanitary & Utility Plan SSP2-C-13 through 17 prepared by Key Civil Engineering, P.C. and last dated June 3, 2020, and Engineers Report for On-Site Water Supply – HK Ventures LLC Industrial Park prepared by Key Civil Engineering, P.C. and dated July 2020. The District reserves the right to rescind this Map & Plan in the event of any changes to the layout of the development and/or the anticipated water demand.

1.0 INTRODUCTION

This report shall evaluate the proposal of extending the boundaries of the Riverhead Water District to permit public water to be provided to the proposed HK Ventures LLC Industrial Park, located on the south side of Middle Country Road (NYS Route 25) in Calverton. The developer of this property has petitioned the Town Board to allow the property to be served by the District. The property is partially located within the existing boundaries of the District, with approximately six acres fronting Middle Country Road and extending five hundred feet into the property located within the current boundaries of the District and currently being assessed a water tax, with the remaining twenty-four acres of the property,

located outside the current District boundaries. To provide water service to the unincorporated area of the property, a formal extension of the boundaries is required.

This boundary extension shall be presented to the Town for their consideration and upon formal approval, the balance of the subject property can be added and included to the boundaries of the District such that water may be extended to the property subject to appropriate adjustment of tax roll. Under New York State Department of Environmental Conservation (NYSDEC) under 6 NYCRR Part 601, certain extensions of public water supply systems require approval of the NYSDEC. This extension shall be submitted to the NYSDEC to mimic past practices, although it should be noted that:

1. The District does not propose to increase its overall approved source capacity of existing wells, nor does it propose to construct additional wells under this extension.
2. The proposed water usage associated with the boundary extension accounts for less than 100,000 gallons per day (gpd).

2.0 PROPOSED DEVELOPMENT & EXTENSION AREA

2.1 DESCRIPTION OF PROPOSED DEVELOPMENT

Proposed Extension No. 93 – 4285 Middle Country Road is located along the south side of Middle Country Road (NYS Route 25), approximately 200 feet east of its intersection with Fresh Pond Road. The property borders the former US Navy / Grumman NWIRP to the south, retail and mining operation to the west and agricultural land to the east. The property is designated as District 0600, Section 161, Block 1, Lot 2 on the Suffolk County Tax Map. The 30.28-acre property consists of open grass and wooded areas and is proposed to be developed into an industrial park containing eight buildings encompassing 422,464 square feet (sf) of warehouse / industrial space with a 1,500 sf commissary. The total extension area measures approximately twenty-four acres.

A location map of the subject property within the District is presented in Exhibit ‘A’ and ‘B’. A description of the proposed extension is presented in Exhibit ‘C’.

2.2 WATER USAGE OF DEVELOPMENT

Based on information provided by the owner, the proposed water usage of the facility is 20,873 gallons per day, (gpd) broken down as follows:

Use	Area (sf)	Occupants/ Seats	Consumption Rate	Water Use (gpd)
Industrial Space	422,464	----	0.04 gpd/sf (1)	16,899 (1)
Commissary	1,500	40 seats	0.04 gpd/sf + 2.5 gpd/seat	160
Irrigation	42,800	-----	1" / week	3,811
Total				20,870

(1) – Does not include process water

The water consumption rates presented above are based on Suffolk County Department of Health Services (SCDH) standards for minimum design sewage flow rates. Over the past ten years the annual average day pumpage has been 7.21 million gallons per day (MGD). Over the same period, the average maximum daily demand has been 19.68 MGD. This equates to an maximum day to average day ratio of 2.74. Using this factor, the anticipated peak domestic demand of the proposed development is 57,184 GPD. The calculated peak hour domestic demand is 306 GPM as per information provided by Owner in the aforementioned Water Supply Report. The development also requires an available fire sprinkler demand of 375 gallons per minute (GPM) for each building and a hydrant fire flow demand of 1,500 GPM with a 20 psi system residual.

In addition to the domestic and fire flow demands, the development will also require irrigation for the common areas. As per information provided by the Owners representative, the anticipated daily irrigation demand is 1,907 gpd at ½" of water coverage per week. This equates to an area of approximately 42,000 sf. In estimating irrigation demand, the District adheres to estimates from Cornell Cooperative Extension which estimates a 1" per week irrigation rate for Long Island communities. Therefore, the estimate daily water demand is 3,811 gallons per day. Assuming a 4-hour daily irrigation period, this equates to 16 gpm.

Therefore, the total peak water supply demand is 2,197 GPM (306 GPM + 375 GPM + 1,500 GPM + 16 GPM).

2.3 HYDRAULIC EVALUATION

To ascertain the effect the proposed development will have upon the District's existing distribution system, an analysis utilizing a computerized hydraulic model of the District was utilized. The hydraulic model was created with the intent to form an accurate representation of the District's water supply and distribution system. The model can be used to simulate various conditions and modifications to a water

supply and distribution system. The results of the simulations can then be used to evaluate the impact added demands have upon the system or the effectiveness of implementing modifications without actually constructing the modifications. For this evaluation, the model was used to simulate the effect proposed demands (domestic and fire) associated with the development will have upon the system and to predict pressures and operating conditions, and the corresponding impacts of the various modifications.

The evaluation consisted of analyzing the existing District in the vicinity of the subject development, under the following conditions:

- historical peak demand conditions applied across District,
- only a single well at Plant No. 11 available for use as per NYSDEC regulations,
- the largest facility (Well No. 16 – Edwards Ave.) out of service as per AWWA standards,
- no consideration of emergency interconnect support,
- to mimic the layout of the development, a Development Node was created within the model connecting to the existing distribution mains of the District via two 8-inch water lines. The effects of meters and backflow on flow were not considered.

The first step in the analysis was to create a baseline for which to compare projected analysis to. Under the baseline scenario, the existing distribution model was reviewed without any demand from the proposed development applied. This provides a baseline to compare the effects the HK Ventures Development will have upon the current distribution system. Under peak day demands, key points in the high zone and the area surrounding the community were reviewed to assess the potential affect the development will have under peak demand.

The results predicted for the baseline scenario from the model are as follows:

Baseline Simulation:

Point	Address	Baseline Pressure at peak demand period (psi)
1	Route 25 Frontage of Site	72
2	Timber Drive (west on 25)	72
3	Edwards Ave. (east on 25)	83
4	Sound Ave. (north)	62

(Well No. 11-2, 16-1 not in service)

The baseline scenario shows the anticipated static working pressure in the vicinity of the proposed development is approximately 72 psi. As distribution systems are dynamic, the expected working pressure may vary dependent on storage tank levels, pump operations or demand patterns.

The next step in the analysis to gauge the effects the proposed development will have upon the existing distribution system under Peak demand and fire flow scenarios. To gauge the effect of these scenarios within the model a Development Node was created. To measure the impact of the peak

domestic demand, the Development Node was assigned a demand of 322 gpm. This represents the anticipated peak domestic and irrigation demand of the industrial development upon full build out. The model was then run and the pressure at the same points within distribution were reviewed to assess the affect the development will have under peak demand conditions. The results predicted from the model are as follows:

Peak Demand Simulation:

Point	Address	Pressure at Peak Demand period (psi)	Δ (psi)
1	Route 25 Frontage of Site	68	4
2	Timber Drive (west on 25)	68	4
3	Edwards Ave. (east on 25)	80	3
4	Sound Ave. (north)	60	2

(Well No. 11-2, 16-1, and Dogwood Dr. out of service)

The hydraulic model predicts the added domestic demand of the subject development alone will have a slight impact (static pressure drops of 2 – 4 psi) on the existing distribution system under peak demand conditions.

The next analysis was a fire demand analysis. This analysis was performed to ascertain if the existing distribution system could handle an 1,875 gpm three-hour fire flow demand. The fire flow demand was assigned to the Development Node. Note, domestic and irrigation demand was assumed to be negligible under a three-hour fire demand. The model was then re-run to assess the effects of a fireflow demand on the system under peak demand conditions. The results predicted from the model are as follows:

Fireflow Simulation (largest facility out of service):

Point	Address	Pressure at peak demand period (psi)	Δ (psi)
1	Route 25 Frontage of Site	**16**	52
2	Timber Drive	**18**	50
3	Edwards Avenue	35	45
4	Sound Avenue	27	33

(Well No. 11-2 and 16-1 out of service)

The hydraulic model predicts, residual pressures in the vicinity of the development will drop considerably under the predicted fireflow demand with pressures within the system falling below 20-psi. It should be noted that the Development Node with the assigned fireflow demand showed a negative pressure, indicating that an 1,875 gpm fire flow is not attainable under the model conditions. Note TSSWW (Section 8.2.1) requires that a distribution system maintain a 20-psi residual at all points of the system under all flow conditions.

When a new high pressure zone well was added to the simulation, results of the fire demand analysis were as follows:

Fireflow Simulation (additional high well):

Point	Address	Pressure at peak demand period (psi)	Δ (psi)
1	Route 25 Frontage of Site	36	32
2	Timber Drive	41	27
3	Edwards Avenue	58	22
4	Sound Avenue	47	13

With the availability of an additional well facility the impact of a fireflow on the remainder of the system is improved with a 20-psi residual maintained throughout the distribution system and the system is more capable of producing an 1,875 gpm fire flow under the remaining model conditions. Conversely, in lieu of new source supply, a boosted storage tank would provide the same effects on the fireflow simulation.

As per the regulations that govern water suppliers, the District must consider the impact that any increased water demand would have upon the existing distribution system with its largest facility out of service. This secondary Fireflow Simulation shows that with its largest facility out of service a prolonged fireflow event will have a negative impact on the existing distribution facility. To alleviate this negative impact and provide service to the proposed development, a new supply well or storage facility will need to be constructed. The supply well shall be a minimum of 1,000 gallons per minute to supplement existing supply. The storage tank shall be a minimum of 400,000 gallons to account for the projected fireflow over a three-hour duration as well as assume an 80% useable capacity.

The peak day, fire sprinkler and hydrant demand were provided by the developer as outlined in the Engineers Report for On-site Water Supply, prepared by Key Civil Engineering and dated July 2020. For the purpose of any analysis performed within this report, a needed fire flow of 1,875 gpm (1,500 gpm hydrant + 375 gpm sprinkler) was used.

The proposed HK Ventures, LLC Industrial Park will require approximately 9,074 gallons per day (gpd) for phase 1 and an additional 7,886 gpd for phase 2; in total the development will require 20,873 gpd for domestic and irrigation usage upon full build out.

While the District is actively pursuing potential supply well sites with the high-pressure zone, this potential well would serve to meet the existing demands of the District and not the future demands represented by this extension.

2.4 FACILITIES REQUIRED FOR DEVELOPMENT

The proposed HK Ventures Industrial Park property is situated adjacent to the District's high-pressure zone. Under average day demands, the District maintains a static working pressure of approximately 90 psi along Middle Country Road in the vicinity of the proposed development. Based on the elevations across the site, the pressure gradient of the high-pressure zone and the proximity of the site to high zone facilities, we estimate the water pressure in the development to vary between 80 psi and 90 psi during average demand periods and as shown in previous section during peak demand and fireflow conditions.

As shown, the current water system will be stressed to provide adequate fire protection to the site under peak demand periods. To enable the District to meet these fireflow demands, the District can either 1) develop additional source in the form of a new well or 2) construct additional storage to satisfy the fire flow demand. For this project, due to the fact that the District is only in the preliminary stages of their well site investigation, the uncertainty of locating a second site and the duration required to go from site selection to completed works for a new well, the most feasible option is to construct additional storage. as it is quicker to implement; and a boosted storage tank helps the instantaneous demand of a fire flow event as opposed to a new source well which would better serve a continuous demand such as domestic, process or irrigation. The developer shall provide the Town / District shall help fund the development of new storage facilities to meet the demands of this development.

In addition, the developer proposes to service the eight buildings through a private water main loop encompassing approximately 5,500 feet of water main and hydrants. Each building will be provided fire and domestic service from this private loop. To serve the private water main loop, the development will require two 8-inch metered connections with backflow prevention devices located with vaults at the property line near Middle Country Road. These 8-inch services will connect to an existing 12-inch high zone District water main located within the Middle Country Road right-of-way with appropriate valving. All water main and hydrants within the proposed development will be installed, owned and maintained by the developer.

3.0 WATER SYSTEM DESCRIPTION

The District is located on the eastern end of Long Island, Suffolk County, New York. The District is bounded on the north by the Long Island Sound, on the east by the Town of Southold, on the south by the Peconic River, Flanders Bay and the Towns of Southampton and Brookhaven, and on the west by the Town of Brookhaven. Exhibit 'A' indicates the District service area within the Town of Riverhead.

The District supplies potable water to a population of approximately 35,000 through 12,328 residential and commercial services in the Riverhead, Aquebogue, Jamesport, Baiting Hollow, Calverton, Northville, Wading River, and portions of Manorville areas throughout the Town of Riverhead. The District also supplies wholesale water service to the SCWA along Peconic Bay Boulevard to provide

service to homes in the Town of Southold. Although the District lies in the Town of Riverhead, the entirety of the Town is not within the Water District boundaries. Portions of the Town consisting mainly of farmland and the remote areas of Manorville, are not included within the District boundaries, and therefore are not assessed an annual water tax. These properties do not receive potable water service from the District.

The District covers an area of approximately 44.3 square miles. The topography of the District can generally be classified as flat with some hills. Elevations in the area average in the range from 20 feet above mean sea level (AMSL) at Plant Nos. 1, 2, and 5, to 125 feet AMSL in the area of the shoreline bluffs in the northern parts of the District. The extreme elevations are 5 feet AMSL at the shores to 263 feet AMSL at the highest point in Wading River.

3.1 WELL FACILITIES

Water supply for the District is currently obtained from sixteen active groundwater wells located at nine plant sites scattered throughout the service area. The sixteen active wells have a combined NYSDEC approved pumping capacity of 17,220 GPM, or 24.88 MGD, however the combined actual capacity available to the District is only 13,930 GPM or 20.06 MGD due the following limitations:

- Well Nos. 11-1 and 11-2 have a shared capacity of 1,380 GPM as regulated by the NYSDEC. The capacities of the wells are limited due to NYSDEC concerns of negative impacts on the groundwater table and nearby waterbodies. It is the intent of the District to have these restrictions lifted, however until the restrictions are lifted, The District is required to operate in accordance with the permit requirement. There is no timeframe on the relaxing of these NYSDEC stipulations. Even when stipulations are lifted, the District still requires an additional well to meet is peak demand periods.
- Well No. 12-1 is kept in compliance with regulatory monitoring requirements, however, is not permitted to be pumped to system by the NYSDEC due to environmental concerns. The well was last utilized to supplement system in July of 2012. There is no timeframe on its return to service.
- Well No. 16 is restricted by capacity of the perchlorate treatment system. Although the well is permitted for 2,380 GPM, the perchlorate filter is sized to treat 1,600 GPM.
- Well No. 17 is voluntarily restricted by the presence of chlorides in the well product due to suspected lateral saltwater intrusion. The NYSDEC has set a maximum chloride level of 65 ppm on Well No. 17. The District has reduced production from this well to 500 GPM to meet NYSDEC guidelines.
- The District has received approval to increase the capacity and deepen Well No. 2, however this work is not expected to commence until Fall of 2021. Due to the

deteriorating condition of the existing screen, the actual pumpage capacity of the current well is limited to below 900 GPM.

The location and description of the existing wells are summarized on the following table:

WELL NO.	LOCATION	ZONE	AUTHORIZED CAPACITY (MGD)	ACTUAL CAPACITY (MGD)
1A	Pulaski St	Low	1.44	1.44
2	Pulaski St	Low	1.72	1.29
3A	Pulaski St	Low	1.44	1.44
4-1	Osborne Ave	Low	1.44	1.44
4-2	Osborne Ave	Low	1.73	1.73
5-1	Middle Rd	Low	1.73	1.73
5-2(A)	Middle Rd	Low	1.44	1.44
7-2	Fresh Pond Ave	High	1.73	1.73
7-3	Fresh Pond Ave	High	1.73	1.73
11-1	Route 25	High	1.99	1.99
11-2	Route 25	High	1.99	
12-1	Grumman Blvd	High	0.00	0.00
15-1	Tuthill's Ln	Low	0.36	0.36
15-2	Tuthill's Ln	Low	0.36	0.36
15-3	Tuthill's Ln	Low	0.36	0.36
16	Edwards Ave	High	3.43	2.30
17	Northville Tpke	Low	1.99	0.72
Total			24.88	20.06

3.2 STORAGE FACILITIES

The District maintains and operates two elevated steel storage tanks, two ground storage tank, and two standpipes. The total storage capacity of all tanks is 6.24 million gallons with 4.41 million gallons in the low-pressure zone and 1.83 million gallons in the high-pressure zone. The Plant No. 10 tank has the ability to float on the low-pressure zone while maintaining ability to pump to the high-pressure zone. These District storage tanks are described on the following table:

TANK NO.	LOCATION	STYLE	CAPACITY (MG)	ZONE SERVED
1	Pulaski Street	Elevated	0.16	Low
3	Route 58	Elevated	0.75	Low
8	Baiting Hollow	Standpipe	1.00	High
9	Wading River	Standpipe	0.83	High
10	Sound Shore Road	Ground	1.50	Low
15	Tuthill Rd	Ground	2.00	Low
	Total Capacity		6.24	

3.3 PRESSURE ZONES & BOOSTER FACILITIES

Due to the extreme changes in gradient across the service area, the District operates within two separate pressure zones. The lower gradient zone is in the central and southeasterly portion of the District and includes the Riverhead Business District, the Middle Road area, Aquebogue, and Jamesport. The higher gradient zone consists of the areas located in Wading River, Calverton, Baiting Hollow, and areas north of Sound Avenue. There is also a third, separate small service area of regulated pressure in the higher elevations of Wading River and an additional seasonal regulated pressure area is created in higher elevations within Roanoke Hills. Both areas are fed from the higher gradient zone.

The low zone is supplied water from a total of eleven (11) supply wells:1A, 2, 3A, 4-1, 4-2, 5-1, 5-2A, 15-1, 15-2, 15-3 and 17. The low zone also contains four storage tanks; Route 58, Pulaski Street, Plant No. 10 and Plant No. 15. Due to its elevation, the storage tank at Plant No. 10 can act as an elevated storage tank and serve the low zone by floating on system pressure. This tank can also service the high zone by way of booster pumps. The high zone is supplied water from five (5) supply wells: 7-2, 7-3, 11-1, 11-2, and 16. The low zone supply capacity is 12.31 MGD with a storage capacity of 4.40 MG. The high zone supply capacity is 7.75 MGD with a storage capacity of 1.83 MG.

The District also maintains booster stations at Plants 6, 8, 9, 10, 13, 14, 15 and 18 to help transmit water throughout the District, including transmitting water from low to high pressure zone and aid in maintaining adequate pressure during periods of high demand. The District also maintains hydraulic

control valves at Edwards Avenue, Deep Hole Road, Reeves Avenue and Pier Avenue to dump water from the high to low pressure zones.

3.4 DISTRIBUTION SYSTEM

The water distribution system consists of water main sized from 2-inches to 24-inches in diameter and is constructed of mostly cast iron and ductile iron pipe. Since 1965, all iron mains that have been installed are cement lined cast iron or cement lined ductile iron. PVC mains make up a portion of the District distribution system as well. These were mainly installed in the 1980s in the Reeves Park area. The District currently maintains approximately 236 miles of water main within the distribution system.

3.5 INTERCONNECTIONS

The Riverhead Water District currently maintains four interconnections with the Suffolk County Water Authority (SCWA). Two interconnections allow water to be received from SCWA, and two allow water to be supplied to SCWA. All have checks, which allows flow to move in only one direction through each interconnection. All four interconnections are metered.

The size and location of each interconnection is shown on following table:

SUPPLIER	LOCATION	CAPACITY (MGD)	ZONE SERVED
SCWA to Riverhead WD	Dogwood Drive	1.15	High
	Meroke Trail	0.72	High
Riverhead WD to SCWA	West Main Street	0.72	Low
	Peconic Bay Blvd.	1.08	Low

The District receives water from SCWA through their Dogwood Drive interconnection which is routinely used to aid in meeting peak demand as well as supply the standpipe at Plant No. 9. Both interconnections are located at the Town line between Riverhead and Brookhaven. The District supplies water to the SCWA through the Peconic Bay Boulevard interconnection located at the town line with Southold. The SCWA boosts water from this interconnection to supplement its demand needs in the Town of Southold. The West Main Street interconnection supplies the Riverside Water District (operated by the SCWA), however is seldom utilized.

In periods of peak demand, the District utilizes the Dogwood Drive and Meroke Trail interconnection with SCWA to supplement its capacity. The Dogwood Drive pump station has the capacity to provide an additional 800 GPM (1.15 MGD) to the District's high zone. The Meroke Trail interconnect has the capacity to provide an additional 500 GPM (0.72 MGD) to the District's high zone. The total interconnect capacity available to the District is 1.87 MGD. The District provides up to 750 GPM (1.0 MGD) to the SCWA at the Southold Town line.

3.6 DISTRICT WATER QUALITY

In general water quality found beneath the Town is exceptionally good with a few exceptions. These exceptions are the results of the historical application of fertilizers, the application of increasing amounts of pesticides and herbicides, septic system and naturally occurring elements. In addition, there has been a dramatic improvement in the ability to test for even more minute concentrations of pollutants. The continuing improvement of analytical equipment combined with ongoing research of hazardous drinking water contaminants has resulted in the incorporation of organic compounds, inorganic compounds, radioactive compounds, perfluorinated compounds, and various other compounds into current drinking water standards.

Based on routine sampling data the raw water from the active District supply wells can be generally characterized as:

1) Corrosive with a relatively low pH in the range of 5.8 to 7.1. The District presently uses lime for pH adjustment with a resulting target pH of 7.5.

2) Manganese levels ranged from non-detect to 0.32 mg/L in 2020. One well, (Well No. 5-1) has historically exceeded the MCL of 0.3 mg/L for manganese. Manganese is naturally occurring in the aquifer.

3) Arsenic levels ranged from non-detect to 5.7 µg/l in 2020. The MCL for arsenic is 10.0 µg/l. Well Nos. 1A, 2 and 3A have the highest levels of arsenic within the District. Arsenic is naturally occurring in the aquifer but is also linked to the application of fertilizers.

4) Iron levels ranged from non-detect to 0.99 mg/L in 2020. Two supply wells, Well Nos. 2 and 4-2, exceeded the MCL of 0.3 mg/L for dissolved iron. The District presently uses a blended polyphosphate for sequestration at all wells. Iron is naturally occurring in the aquifer.

5) Variable in hardness, ranging from 9.2 mg/L to 77 mg/L in 2020. Hardness levels ranging from 0 mg/L to 60 mg/L characterizes the water as “soft” while the levels from 61 mg/L to 120 mg/L characterizes the water as “moderately hard.”

6) Nitrate concentrations within the District are considered low to moderate with a District average of 2.3 mg/L. Only two wells are at or slightly above 5.0 mg/L, including Well Nos. 5-1 and 16. Historically, wastes generated by over-fertilization and septic systems have resulted in nitrate and other contaminants being released directly into the aquifer system.

7) Perchlorate concentrations have been non-detect in all but two of the District’s wells. The maximum perchlorate concentration in the raw water at Well No. 16 was 10.8 µg/l in 2020. The maximum perchlorate concentration in the raw water at Well No. 17 was 2.8 µg/l. Perchlorate contamination is suspected to be residual from years of fertilizer application.

8) Historically the District has had no detections of VOCs, with the exception of Well No. 16 which has periodically had detections of 1,2,3-trichloropropane, a known soil fumigant. Maximum detection levels were 1.3 µg/l in 2020.

9) Chloride levels in the District range from 4.7 mg/L to 45.4 mg/L in 2020. In May of 2015, the chloride level in Well No. 17-1 had a maximum detection of 279 mg/L. The chloride levels in this well have been reduced through controlled pumping of the well. In 2020, the maximum chloride level in Well No. 17 was 28.7 mg/l.

10) The District has been testing for 1,4 dioxane from all wells on an annual basis. Detections have occurred at Well No. 5-1 (0.094 µg/l), 5-2A (0.073 µg/l) and Well No. 12-1 (0.027 µg/l). All other wells were non-detect. New York State has adopted an MCL for 1,4 dioxane at 1.0 µg/l.

11) The District has also been testing for six (6) perfluorinated compounds including PFOS and PFOA. Detections of PFOS and PFOA occurred at both Well No. 5-1 (15.9 & 8.4 ng/l, respectively) and 5-2A (3.3 & 2.6 ng/l respectively). Trace levels of three other perfluorinated compounds were also detected. New York State has adopted an MCL for PFOS and PFOA of 10 ng/l individually. This MCL of 10 ng/l has placed Well No. 5-1 in jeopardy and will require future treatment. All other wells were non-detect.

3.7 PUMPAGE

The following table shows that the District has an average annual production of 2,640.5 million gallons from 2010 through 2020, with a maximum peak demand over the ten-year period of 22.53 MG occurring in 2010. Over the selected period, production has generally remained steady. It is expected that annual production will remain steady over next few years. Although the Town continues to see an increase in commercial and residential development across the District, the District has realized effects of recent water conservation initiatives, such as meter replacements, rate increases, and community reach out.

YEAR	TOTAL ANNUAL PUMPAGE (MG)	AVERAGE DAY (MGD)	MAXIMUM DAY (MGD)
2010	2,834.0	7.76	**22.53**
2012	2,424.9	6.64	22.20
2012	2,604.5	7.14	19.67
2013	2,635.1	7.22	20.52
2014	2,645.9	7.25	17.50
2015	3,037.4	**8.32**	19.70

2016	2,876.8	7.88	20.36
2017	2,380.3	6.52	16.33
2018	2,437.4	6.68	18.69
2019	2,494.1	6.83	18.91
2020	2,674.8	7.33	20.11

The per capita consumption rates for average day based on 2020 data is 209 gallons per day per capita. The per capita consumption rates for peak day based on 2020 data is 575 gallons per day per capita.

The Town of Riverhead has experienced a steady increase in development over the past decade, particularly along the Route 58 corridor. Based on pending water availability requests, key money assessments and site plan application provided to the District, the trend of commercial development will continue to grow, not only along Route 58 but within downtown Riverhead and Calverton. In addition, residential development is expected to increase, however with fewer single-family residences in favor of clustered living in the form of apartments and townhomes. Based on current applications to the Town and requests for water availability received by the District, the estimated average day demand of future projects is estimated to be 245,000 gallons per day (GPD) (0.245 MGD). Using a max-day to average-day ratio of 2.74, the projected peak day demand associated with these developments is approximately 671,000 gpd (0.68 MGD).

3.8 ANALYSIS OF NEED

It is important to plan based on estimates of overall water supply that will be consistently available. To determine the base water supply availability for the District, a combination of accepted guidelines is used. One of these guidelines is the Recommended Standards for Water Works of the Great Lakes Upper Mississippi River Board of State Public Health & Environmental Managers, which is most often referred to as the Ten States Standards. The District must comply with the Ten States Standards for Water Works (TSSWW) since they are included as part of the New York State Sanitary Code Part 5, Drinking Water Standards. A second guide used is American Water Works Association (AWWA) Manual M31, Distribution Requirements for Fire Protection.

Regulatory standards state that the District should maintain enough system capacity to meet or exceed the maximum day demand with the largest producing well out of service (Section 3.2.1.1 of the TSSWW). The largest producing facility is Plant No. 16 with a current capacity of 2.3 MGD. From Section 3.1, the available capacity from all District wells is 20.06 MGD, thus the total available capacity with the largest storage well out of service is 17.76 MGD (20.06 MGD – 2.3 MGD).

Using these standards, the ability of the District to meet the current and future demands can be analyzed including:

a) Average day - Average daily demand represents the total yearly pumpage uniformly distributed or averaged over the entire calendar year. This statistic provides a basis of forecasting estimated revenues for budgetary purposes and is utilized in long-range water resources planning with respect to safe yield.

b) Maximum day - Maximum day pumpage statistics are reviewed to evaluate available supply well capacity with one major well out of service. Maximum day statistics include water supplied to other purveyors and water storage tank recovery.

c) Maximum day plus fire flow - Maximum day plus fire flow demand is used to analyze combined supply well and storage facility capacity requirements. Maximum day plus fire flow assumes an 1,875 gallons per minute (GPM) fire flow for a duration of three hours.

d) Maximum day plus future demand - Maximum Day plus future demand statistics are reviewed to evaluate available supply well capacity with one major well out of service for future planning. In this case, future demand is assumed to equal the potential overall demand of this extension assuming full build out and does not account for future supply or storage facilities.

The results of the analyses are depicted below. Note, available capacity from neighboring suppliers is not included in this analysis, although water sold to neighboring suppliers is accounted for. The analysis can be summarized as follows:

Average Daily Demand (ADD):

- A maximum daily demand of 8.32 MGD occurred in 2015 and represents the highest ADD since 2000.
- With its current source capacity and under 2015 ADD, a source surplus of 9.44 MGD is realized.
- The District maintains 17.90 MGD available with back-up power.
- The District can adequately meet the ADD of the proposed HK Ventures Development.

Maximum Day Demand (MDD):

- A maximum peak daily demand of 22.53 MGD occurred in 2010 and represents the highest MDD since 2000.
- With its current source capacity and under 2010 MDD and its largest facility out of service, the District would realize a source deficit of 4.77 MGD. This deficit may be overcome if storage is accounted for.

Maximum Day + Fireflow (MDFF):

- A MDFF of 22.87 MGD is used representing maximum day demand from 2010 plus a fire flow of 1,875 GPM for a three-hour duration (0.34 million gallons).
- The District will continue to operate in a supply deficit under a fireflow demand during peak demand periods. To meet this demand, the District must rely on storage, however with a total available storage capacity of 6.24 million gallons and assuming a useable tank capacity of 80%, the District would realize a deficit even when considering storage

Maximum Day + Future Demand (MDFD):

- As stated, the projected future domestic and irrigation demand of the HK Ventures Development is estimated at 57,184 GPD.
- A MDFD demand of 23.10 MGD is utilized representing maximum day demand from 2010 plus the current estimated future maximum daily demand.
- With its current source capacity, its largest facility out of service and under 2010 maximum day demands, a source deficit of 5.35 MGD is realized. To meet this demand, the District must rely on storage, however with a total available storage capacity of 6.24 million gallons and assuming a useable tank capacity of 80%, the District would realize a deficit even when considering storage.

The demand analysis shows:

- The District operates with a surplus during ADD situations without reliance on storage and can adequately meet the projected the demands of Extension No. 93.
- The District operates within a source deficit during historical MDD when without their largest well, however this deficit can be overcome by relying on storage facilities.
- The District operates under a deficit during MDFF and MDFD situations without its largest well. Storage will help to reduce these deficits but not completely overcome them. To fully overcome the projected deficits, additional supply or storage is needed.

4.0 EVALUATION OF ALTERNATIVES

The proposed action consists of the extension of the existing District boundaries to include the subject property. Approval of the extension will allow the Town of Riverhead to assess Water District taxes on the property and provide service to the proposed development. Alternatives to the proposed action are as follows:

- Denial the boundary extension and access to public water, thereby forcing the Town and County to deny approval of the development.

- Denial the boundary extension and access to public water, opening up the potential of the creation of a Non-Transient, Non-Community water suppler with private wells.
- Provide water service from alternate water supplier.

5.0 PROJECT JUSTIFICATION

In accordance with NYSDEC 6 NYCRR 601.10(k):

1) Why the proposed project was selected from the evaluated alternatives;

- If serviced by the District, the property should be assessed all applicable taxes in order that the property can share in current and future bond expenses that may be required to fund capital projects.
- The establishment of a non-transient, non-community water system would be discouraged by both NYSDEC and Suffolk County Department of Health due to stricter regulations and increasing susceptibility of wells to contamination. Reliance on a public water supply with trained operators will ensure a safe and reliable source of water.
- The most feasible source of providing public water and fire protection to this development is the Riverhead Water District with the closest facilities of alternates suppliers being located approximately four miles from the site.

2) Why increased water conservation or efficiency measures cannot negate or reduce the need for the proposed water withdrawals;

- Under this extension the District does not propose to increase their existing permitted withdrawal from existing wells. The District has implemented many actions under the umbrella of Water Conservation and the proposed withdrawal associated with supplying water to this development will have a smaller impact as compared to the impact it would have had 5 or 10 years ago. Measures include but are not limited to:

  i. Implementation of a meter replacement program. Since 2015 all large meters including those of its top water users have been replaced. The District typically replaces approximately one thousand residential meters a year, however this number was reduced during 2020 as the District focuses on installing updated meter reading software which will allow for easier account audits.

  ii. Completed ultrasonic leak detection on the entirety of the District service area and addressed all leaks.

  iii. Replaced older in-plant flow meters or installed new measuring gauges.

  iv. Continue to stress Water Conservation in newsletters.

v. Raised water rates in 2016 and again in 2020.

vi. Working with other Town departments to implement smart controller requirements on all automatic irrigation systems.

vii. For the proposed HK ventures development, the District will work with other Town Departments and the Owner to ensure water conservation criteria are evaluated including the use of water saving / low flow fixtures, periodic leak detection surveys on private water main, and installation of smart controller on irrigation take-offs.

3) *Why the proposed water withdrawal quantity is reasonable for the proposed use;*

- Water usage estimates for the development are based off the Suffolk County Department of Health Standards and in accordance with engineering estimates. The District does not propose increasing the approved capacity of existing wells to meet these predicted demands.

4) *Why the proposed water conservation measures are environmentally sound and economically feasible:*

- There are no proposed added water conservation measures associated with this extension application. Properties hooking up to the District will be subject to the current District rate structure for water used. The District will continue to stress Conservation efforts to its consumers as well as institute Water Conservation measures including continued annual water meter replacements.

- To reduce the impact of the development on the District facilities, the District could require the irrigated areas to be fed through a private well. Based on the predicted irrigation demand, the District is not requiring this option.

5) *Whether the proposed water supply is adequate;*

- As shown in Section 3.8, the District will experience deficits in its supply during Maximum Day periods when considering the future or fire flow demands of the proposed development with its largest facility out of service. In order to provide service, additional supply in the form of new well or new storage will need to be constructed. In addition, the Diostrict will work to strengthen its system by other means such as continuing to investigate permit modifications at Plant No. 11 and development of Well No. 2A.

6) *Whether the proposed project is just and equitable to other municipalities and their inhabitants in regards to present and future needs for sources of potable water;*

- The extension of District boundaries and the potential supply of potable water to the proposed development will have no effect on the sources of water for other municipalities or their inhabitants.

7) *Whether the proposed withdrawal will result in no significant individual or cumulative adverse environmental impact;*

- See Section 7.0. The proposed withdrawal will result in no significant individual or cumulative adverse impacts. The extension of the boundaries is performed in order to bring the current lots within the taxable District boundaries and requires no adverse construction or implementation effects on surrounding areas or the quality of water. The actual construction of the development will be subject to review to ascertain the impacts on the environment if any.

8) *Whether the proposed withdrawal will be consistent with all applicable municipal, State and Federal laws as well as regional and interstate and international agreements.*

- To the best of our knowledge, the proposed withdrawal will be consistent with all applicable municipal State and Federal laws as well as regional and international agreements.

6.0 PROJECT COSTS

The total cost of this extension is to be borne by the developer with no costs associated with installation of water facilities to provide service to Extension No. 93 borne by the Town or District. Applicable costs shall include the following:

1. Construction of a new 0.4 million gallon storage facility
2. Extension of water service lines from existing distribution main to property.
3. Key Money Fees applicable to all developments

As shown, to meet the projected demands of this development, the District must fortify its existing system with a new boosted storage tank. As the main concern in the demand analysis is providing adequate fireflow, the appropriate installation is a ground storage tank supporting a three-hour fire flow of 1,875 gpm. The estimated cost to install a 400,000-gallon prestressed concrete ground storage tank with a dual booster pump system located in a small masonry building including piping, electric, site preparation, engineering, permitting, legal and contingencies is $2,600,000. The facility will require the dedication of a minimum two-acre parcel. This land shall be dedicated within Phase 1 of the development with access to District facilities of Route 25. The District will also consider construction of the facility on Town owned property at an alternate location within the high-pressure zone, but near to the development as possible if land is not available within the development. The facility will be owned, constructed, and operated by the District.

An estimated cost of a 0.4 MG storage tank is summarized below:

ITEM	ESTIMATED COST
0.4 Million Gallon Concrete Tank	$ 1,100,000
Booster Pump System, Piping and Valves	$ 150,000
Masonry Pump House & Foundation (approx. 30' x 20')	$ 250,000
Site Work (Drainage, Fencing, Paving & Landscape)	$ 100,000
Electrical Work incl. new service	$ 400,000
Construction Subtotal:	**$ 2,000,000**
Engineering Services (15%)	$ 300,000
Legal & Administrative (7%)	$ 140,000
Contingencies (8% of construction cost)	$ 160,000
Estimated Project Cost:	**$ 2,600,000**

To provide service to the proposed private main within the development, two 8-inch service connections with meters located in below grade vaults will be required. The estimated cost to install two new 8-inch service stubs under the District's current maintenance contract is $111,000 including meter in pit, connection to existing main, restoration and contingencies. The facilities within the development, including hydrants and backflow are proposed to be private. Note, the installation of water facilities within the public right-of-way will be performed by a District employed contractor.

ITEM	ESTIMATED COST
8" service connection Stub w/ Meter & Vault (2 units @ $36,000/connection)	$ 72,000
Additional 12" Valves at Connection (4 units @ $1,000/valve)	$ 4,000
NYS Composite Road Restoration (50 SY @ $ 400/sy)	$ 16,000
Additional MPT Requirements – Attenuator Truck (3 days @ $1,500/day)	$ 4,500
Construction Subtotal:	**$ 96,500**
Legal & Administrative (7%)	$ 6,800
Contingencies (8% of construction cost)	$ 7,700
Estimated Project Cost:	**$ 111,000**

In addition to the costs of the water main installation as described, the property will also be subject to Key Money Fees. The Key Money Fee is a Town policy established in 1986 (Section 199 of the Town Code) whereas all developments are assessed based on their projected water and sewerage usage. The purpose is to cover the cost of increasing the system capacity. System capacity includes

transmission, new wells, pumps, treatment and storage. The fee is applied to all new development and where a change in use is proposed.

From Section 2.1, the total projected daily water demand of Extension No. 93 is 20,870 GPD. Using the Riverhead Water District Key Money Assessment Method, this development shall be assessed a Key Money Fee of $9.10 per gallon. Therefore, the total Key Money Fees for the proposed development is $189,917 (20,870 GPD x $9.10 / gallon). It should be noted that the water usage associated with the industrial space is for density loading only. It does not consider the potential for kitchen, gray or process loading. If in the future specific tenants require water for these uses, the space will be subject to additional Key Money Fees. The District will re-assess these incidences on a case-by-case basis and reassess accordingly.

Section 2.3 shows that under historical peak day demands, the existing water system is insufficient to meet the requested development fire flow demand of 1,875 gpm, when considering their largest source facility out of service, without causing pressure within the system to fall below a 20 psi residual. As regulation forces the District to consider their needs analysis with their largest facility out of service and maintain a working pressure of 20 psi at all times, the District must develop new sources to support the fire flow of this development. As such, the District will require the developer of HK Ventures to fund a new storage tank in the high gradient zone which would have direct influence over this extension.

Once annexed into the Water District boundaries, the property will be assessed annual District taxes based on the standard District tax rate.

7.0 STATE ENVIRONMENTAL QUALITY REVIEW (SEQR)

In New York State, most projects or activities proposed by a state agency or unit of local government require an environmental impact assessment as prescribed by 6 NYCRR Part 617 State Environmental Quality Review (SEQR). This project, the extension of the boundaries of a Special District to encompass a disenfranchised area, is considered an Unlisted Action and is therefore not subject to further review as the extension of a district boundary is one that is not included in statewide or individual agency lists of Type I or Type II actions. Furthermore, in accordance with Section 617.5.c.13, the physical extension of utility distribution facilities, including water connections to render service in approved subdivisions; is considered a Type II action and not subject to further review.

8.0 CONCLUSIONS & RECOMMENDATIONS

After reviewing the information presented, the following conclusions can be drawn:

A. The Riverhead Water District has been requested to provide domestic water and fire protection to a proposed eight building industrial development located on Middle Country Road in Calverton. A portion of this property is located outside of the boundaries of current Water District.

B. The proposed development will require an estimated total of 20,870 gallons per day for average day domestic, an estimated 58,000 for peak day usage and a required fire flow of 1,875 gallons per minute.

C. The hydraulic analysis shows:

- In review of the projected average day domestic demands of this extension, only a minimal impact on pressure will be seen within the existing distribution system.
- The District cannot meet the projected peak day demands of this extension while relying on well capacity alone and must rely on storage, existing and new to meet these demands.
- Under a three-hour fireflow, the District will not be capable of meeting the projected fire flow demands of the extension with its largest facility out of service and under historical peak demand.
- These deficiencies in meeting the fire flow demand can be rectified with the availability of additional storage facilities.

D. The demand analysis shows:

- The District can meet the average daily demands of this development,
- Under maximum daily demands plus the projected demands of this development, the District must rely on storage in addition to its sources. This is true for when the Districts largest facility is not available.
- Under peak daily demands plus fire flow, the District would realize a supply deficit even when considering storage.
- Under maximum daily demands plus estimated future demands, the District would realize a supply deficit even when considering storage.
- The District does not have the facilities in place to meet the requested demands of this development.

E. The most feasible, safe, and economical way to provide water service and fire protection to this extension is through the Riverhead Water District.

F. The property owner will be responsible for all costs associated with the construction of a 0.4 MG concrete ground storage tank at an estimated cost of $2,600,000.

G. The property owner will be responsible for all costs associated with the installation of all water facilities to and within the development. It is estimated that the cost to bring two 8-inch metered water services to the property line of the development is $111,000.

H. The development will be subject to Key Money Fees of $189,917 for the proposed industrial space, commissary and irrigation needs.

I. Upon approval of the Town Board, the property will be incorporated into the boundaries of the Water District and assessed appropriately.

J. The proposed extension of the District boundaries will not have a significant adverse impact on the environment and is considered an Unlisted Action requiring no further review.

After reviewing the facts presented above, it is recommended that the Town Board accept this Map and Plan report for Extension No. 93 and proceed with scheduling a Public Hearing. Once approved by the Town Board, the properties can be added to the appropriate tax rolls and the properties provided service upon and water will be available to the HK Ventures Development upon agreement to the stipulations presented here-in and upon acceptance of this application by the NYSDEC.

EXHIBITS

A - KEY MAP - RIVERHEAD WATER DISTRICT

B - PROPOSED EXTENSION AREA

C - DESCRIPTION OF EXTENSION

N

W E

S

1 inch = 2,700 feet

Proposed Extension Area No. 93

Exhibit A: Riverhead Water District with Proposed Extension

Legend

- Extension Boundary Proposal No. 93
- Town Boundary
- Riverhead Water District Boundary
- Parcels

Fresh Pond Avenue

Middle Country Road

Middle Country Road

Point of Beginning

Proposed HK Ventures, LLC
Idustrial Park
11600
0100
002000

Peconic Avenue

Suffolk County

09700 0100 020000
09700 0100 007000
09700 0100 008000
09700 0100 019000
09700 0100 009000
09700 0100 018000
09700 0100 010000
09700 0100 011000
09700 0100 016000
09700 0100 015000
09700 0100 012000
09700 0100 014000
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09700 0200 020000
09700 0200 027000
09700 0200 028000
09700 0200 029000
09700 0200 030000
09700 0200 031000
09700 0200 032000
09700 0200 033000
09700 0200 034000
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09800 0100 026000
09800 0100 025000
09800 0100 001001
09800 0100 003003
09800 0100 003002
09800 0100 022000
09800 0100 004000
09800 0100 005000
09800 0100 006000
09800 0100 024000
09800 0100 007000
09800 0100 008000
09800 0100 010000
09800 0100 011000
09800 0100 020000
09800 0100 023000
09800 0100 016005
09800 0100 014000
09800 0100 016003
09800 0100 019000
09800 0100 013000
09800 0100 012000
09800 0100 015000
09800 0100 016002
11600 0100 002000
11600 0100 003001
11600 0100 007004
11600 0100 001001
11600 0100 007005
13500 0100 007004
13500 0100 007033
Proposed Calverton Industrial Subdivision
(Town of Riverhead Owned)

N
W
E
S

1 inch = 200 feet

Legend

- Proposed Valves
- Proposed 8" Mains
- Existing Fire Hydrants

Existing Water Mains

- 4"
- 6"
- 8"
- 10"
- 12" / 14"
- 16" / 18"
- Parcels
- Extension Boundary Proposal No. 93
- Riverhead Water District Boundary
- High Zone 1
- High Zone 2
- Low Zone
- Seasonal High Zone
- Riverhead Town Boundary

Exhibit B: Extension Area

EXHIBIT 'C'

RIVERHEAD WATER DISTRICT

PROPOSED BOUNDARY & WATER MAIN EXTENSION No. 93

4285 MIDDLE COUNTRY ROAD, CALVERTON

DESCRIPTION OF EXTENSION

APRIL 2021

Parcel A, comprised of this certain lot, parcel of land, said property being known as District 0600, Section 116, Block 01, Lot 2.0 situated and lying and being at Calverton, Town of Riverhead, County of Suffolk, and State of New York, bounded and described as follows:

BEGINNING at a point 500 feet south of the southerly right-of-way line of Middle Country Road on the westerly property line of District 0600, Section 116, Block 01, Lot 2.0. Said point being the **POINT OF BEGINNING**.

From said **POINT OF BEGINNING**, running south along the westerly property line of District 0600, Section 116, Block 01, Lot 2.0, a distance of 2,110 feet to the southwesterly corner of the aforementioned property.

THENCE, running east along the southerly property line of District 0600, Section 116, Block 01, Lot 2.0, a distance of approximately 515 feet to the southeasterly corner of the aforementioned property.

THENCE, running north along the easterly property line of District 0600, Section 116, Block 01, Lot 2.0, a distance of approximately 2,003 feet to a point 500 south of the southerly right-of-way line of Middle Country Road.

THENCE, running west through the lands of District 0600, Section 116, Block 01, Lot 2.0, along a line 500 feet south of and parallel to the southerly right-of-way line of Middle Country Road, a distance of approximately 515 feet, to a point on the westerly property line of the aforementioned property. Said point being the aforementioned **POINT OF BEGINNING.**

END OF DESCRIPTION

APPENDIX

NEW YORK STATE DEPT. OF ENVIRONMENTAL CONSERVATION APPLICATION

- **USACE JOINT APPLICATION FORM**
- **NYSDEC WATER WITHDRAWAL APPLICATION**
- **NYSDEC FULL EAF, PART 1**
- **2020 DEC MONTHLY PUMPAGE REPORTING FORM**

NEW YORK STATE | Department of Environmental Conservation | Office of General Services | Department of State

US Army Corps of Engineers

JOINT APPLICATION FORM

For Permits for activities activities affecting streams, waterways, waterbodies, wetlands, coastal areas, sources of water, and endangered and threatened species.

You must separately apply for and obtain Permits from each involved agency before starting work. Please read all instructions.

1. **Applications To:**

>NYS Department of Environmental Conservation ☑ Check here to confirm you sent this form to NYSDEC.

Check all permits that apply:

- ☐ Stream Disturbance
- ☐ Excavation and Fill in Navigable Waters
- ☐ Docks, Moorings or Platforms
- ☐ Dams and Impoundment Structures
- ☐ 401 Water Quality Certification
- ☐ Freshwater Wetlands
- ☐ Tidal Wetlands
- ☐ Wild, Scenic and Recreational Rivers
- ☐ Coastal Erosion Management
- ☑ Water Withdrawal
- ☐ Long Island Well
- ☐ Incidental Take of Endangered / Threatened Species

>US Army Corps of Engineers ☐ Check here to confirm you sent this form to USACE.

Check all permits that apply: ☐ Section 404 Clean Water Act ☐ Section 10 Rivers and Harbors Act

Is the project Federally funded? ☐ Yes ☑ No

If yes, name of Federal Agency:

General Permit Type(s), if known:

Preconstruction Notification: ☐ Yes ☑ No

>NYS Office of General Services ☐ Check here to confirm you sent this form to NYSOGS.

Check all permits that apply:

- ☐ State Owned Lands Under Water
- ☐ Utility Easement (pipelines, conduits, cables, etc.)
- ☐ Docks, Moorings or Platforms

>NYS Department of State ☐ Check here to confirm you sent this form to NYSDOS.

Check if this applies: ☐ Coastal Consistency Concurrence

2. **Name of Applicant**

Riverhead Water District

Taxpayer ID (if applicant is NOT an individual): 11-6001935

Mailing Address: 1035 Pulaski Street

Post Office / City: Riverhead

State: NY

Zip: 11901

Telephone: 631-727-3205

Email: fmancini@townofriverheadny.gov

Applicant Must be (check all that apply): ☑ Owner ☐ Operator ☐ Lessee

3. **Name of Property Owner (if different than Applicant)**

HK Ventures, LLC

Mailing Address: 6500 Rock Spring Drive, Suite 5

Post Office / City: Bethesda

State: MD

Zip: 20817

Telephone: 301-493-9236

Email:

For Agency Use Only	Agency Application Number:

4. **Name of Contact / Agent**

John R. Collins, P.E.

Mailing Address	Post Office / City	State	Zip
538 Broad Hollow Road, 4th Floor East	Melville	NY	11747

Telephone 634-756-8000 x 1357 Email jcollins@h2m.com

5. **Project / Facility Name**

Extension No. 93

Property Tax Map Section / Block / Lot Number: Section 116, Block 1, Lot 2.0

Project Street Address, if applicable	Post Office / City	State	Zip
4285 Middle Country Road	Calverton	NY	11933

Provide directions and distances to roads, intersections, bridges and bodies of water

Approximately 5,000 linear feet east of intersection with County Route 25A

☑ Town ☐ Village ☐ City

County	Stream/Waterbody Name
Suffolk	n/a

Riverhead

Project Location Coordinates: Enter Latitude and Longitude in degrees, minutes, seconds:

Latitude: 40 ° 55 ' 41 " Longitude: 72 ° 46 ' 19.4 "

6. **Project Description:** Provide the following information about your project. Continue each response and provide any additional information on other pages. **Attach plans on separate pages.**

a. Purpose of the proposed project:

Extend the boundaries of the Riverhead Water District to include SCTM District 600, Section 166, Block 1, Lot 2.0 . The Water District does not propose to increase the permitted well capacity / withdrawal of the District wells.

b. Description of current site conditions:

Rural with residential and commercial structures and/or wooded or partially wooded

c. Proposed site changes:

none

d. Type of structures and fill materials to be installed, and quantity of materials to be used (e.g., square feet of coverage, cubic yards of fill material, structures below ordinary/mean high water, etc.):

No fill will be imported. Spoils from pie trench will be utilized to backfill trench.

e. Area of excavation or dredging, volume of material to be removed, location of dredged material placement:

none

f. Is tree cutting or clearing proposed? ☐ Yes If Yes, explain below. ☑ No

Timing of the proposed cutting or clearing (month/year):

Number of trees to be cut: Acreage of trees to be cleared:

g. Work methods and type of equipment to be used:

Trenching utilizing excavators

h. Describe the planned sequence of activities:

Approval by Town Board & NYSDEC, Town Assessor adds to tax rolls, project funded, and installed. Private property owner to hire plumber to perform water service connection on private property at their leisure.

i. Pollution control methods and other actions proposed to mitigate environmental impacts:

Silt fence along road edge in susceptible areas. No open trench excavations overnight.

j. Erosion and silt control methods that will be used to prevent water quality impacts:

See above

k. Alternatives considered to avoid regulated areas. If no feasible alternatives exist, explain how the project will minimize impacts:

Where wetlands or bog material encountered, piping proposed to be installed with trenchless construction

l. Proposed use: ☐ Private ☑ Public ☐ Commercial

m. Proposed Start Date: TBD Estimated Completion Date: TBD

n. Has work begun on project? ☐ Yes If Yes, explain below. ☑ No

o. Will project occupy Federal, State, or Municipal Land? ☐ Yes If Yes, explain below. ☑ No

p. List any previous DEC, USACE, OGS or DOS Permit / Application numbers for activities at this location:

n/a

q. Will this project require additional Federal, State, or Local authorizations, including zoning changes?

☐ Yes If Yes, list below. ☑ No

7. **Signatures.**
Applicant and Owner (If different) must sign the application.
Append additional pages of this Signature section if there are multiple Applicants, Owners or Contact/Agents.

I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief.

Permission to Inspect - I hereby consent to Agency inspection of the project site and adjacent property areas. Agency staff may enter the property without notice between 7:00 am and 7:00 pm, Monday - Friday. Inspection may occur without the owner, applicant or agent present. If the property is posted with "keep out" signs or fenced with an unlocked gate, Agency staff may still enter the property. Agency staff may take measurements, analyze site physical characteristics, take soil and vegetation samples, sketch and photograph the site. I understand that failure to give this consent may result in denial of the permit(s) sought by this application.

False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the NYS Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

Signature of Applicant | Date

Applicant Must be (check all that apply): ☑ Owner ☐ Operator ☐ Lessee

Printed Name: Frank Mancini | Title: Superintendent of Water

Signature of Owner (if different than Applicant) | Date

Printed Name: Frank Mancini | Title: Superintendent of Water

Signature of Contact / Agent | Date

Printed Name: John Collins, P.E. | Title: Asst Vice President

For Agency Use Only **DETERMINATION OF NO PERMIT REQUIRED**

Agency Application Number

(Agency Name) has determined that No Permit is required from this Agency for the project described in this application.

Agency Representative:

Printed Name | Title

Signature | Date

New York State Department of Environmental Conservation

Water Withdrawal Application Supplement WW-1

Pursuant to 6 NYCRR Part 601: http://www.dec.ny.gov/regs/4445.html

READ THE INSTRUCTIONS ON PAGE 2 BEFORE COMPLETING THIS FORM

May 2013

FOR DEPARTMENT USE ONLY

Application No.

WWA Number

1. APPLICANT NAME Riverhead Water District

2. FACILITY NAME Extension No. 93 - 4285 Middle Country Road

3. PROJECT TYPE

- ☐ Water Withdrawal
- ☑ New Public Water Supply Service Area or Extension
- ☐ Land Acquisition for Public Water Supply
- ☐ Change in Use of Existing Water Withdrawal

4. WATER USE TYPE

- ☑ Public Water Supply
- ☐ Bottled/Bulk Water
- ☐ Commercial
- ☐ Cooling
- ☐ Industrial
- ☐ Institutional
- ☐ Mine Dewatering
- ☐ Oil/Gas Production
- ☐ Power Production
- ☐ Recreational
- ☐ Other:

5. WITHDRAWAL TYPE ☑ Existing ☐ New

If this is an existing public water supply, provide the most recent WSA or WWA Number:

If other than public water supply, list other existiing or pending related DEC permits (e.g., SPDES, Mining, Dam):

6. WATER WITHDRAWAL SOURCE

- ☐ Surface Water — Water Body Name(s): Magothy Aquifer
- ☑ Groundwater — Nearest Surface Water Body: Long Island Sound — Distance From Well (in feet): 10,500

7. WATER SUPPLY TO OTHER STATES Does this project involve the transport of any fresh water of NYS through pipes, conduits, ditches or canals to any other state?

☑ No ☐ Yes, describe:

8. TRANSPORTATION OF WATER BY VESSEL Does this project involve the transport by vessel of more than 10,000 gallons per day of surface water? (Excludes ballast water necessary for normal vessel activity. A vessel is defined as any floating craft propelled by mechanical power.) ☐ Yes ☑ No

9. WATER WITHDRAWAL AMOUNTS This project involves the withdrawal of up to: 24,400 gallons per day Source Name: Magothy Aquifer

Does the project include a MAJOR DRAINAGE BASIN TRANSFER of water? See map at http://www.dec.ny.gov/lands/56800.html ☑ No ☐ Yes

If yes, ☐ Existing ☐ New From Basin: To Basin:

10. *REQUIRED EXHIBITS (6 NYCRR Part 601.10)* *Provide the names of the required exhibits applicable to this withdrawal:*

601.10(a) *PROJECT AUTHORIZATION FOR PUBLIC WATER SUPPLY SYSTEMS (e.g. Resolutions, Ordinances)*	attached	***601.10(h)*** *ACQUISITION MAPS (Map of any lands to be acquired as part of project)*	n/a
601.10(b) *GENERAL MAP (e.g. Project Location, For Public Water Supplies - water service area boundary)*	Engineering Report	***601.10(i)*** *WATER ANALYSES (Public Water Supplies should submit chemical & bacterial analysis directly to NYSDOH)*	n/a
601.10(c) *WATERSHED MAPS (Topographic map with location of withdrawal and any return flow or interbasin diversions).*	n/a	***601.10(j)*** *TREATMENT METHODS (Public Water Supplies - proposed methods to meet NYSDOH standards)*	n/a
601.10(d) *CONTRACT PLANS (Public Water Supplies should submit directly to NYSDOH for review and approval)*	n/a	***601.10(k)*** *PROJECT JUSTIFICATION (Provide summary statement of answers to the eight justification questions)*	Engineering Report
601.10(e) *ENGINEER'S REPORT (Signed by NYS PE, includes project description, water source yields and demands, etc.)*	Engineering Report	***601.10(l)*** *CANAL WITHDRAWAL APPROVALS (If applicable, provide adequate proof of approval from Canal Authority)*	n/a
601.10(f) *WATER CONSERVATION PROGRAM (Completed Water Conservation Program Form)*	attached	***601.10(m)*** *TRANSMITTAL LETTER (Include all contact information for applicant, attorney, engineer, etc.)*	Transmittal Letter
601.10(g) *ANNUAL REPORTING FORM FOR EXISTING WITHDRAWALS (Most recent submitted annual report)*	attached	***601.10(n)*** *GREAT LAKES-ST. LAWRENCE RIVER WATER RESOURCES COMPACT PROCESS REQUIREMENTS (Only applicable to Public Water Supply diversions from Great Lakes Basin - no other diversion types are allowed).*	n/a

Clear Form

Applicant Signature:

Name: Frank Mancini

Date:

Title: Superintendent

INSTRUCTIONS

Water Withdrawal Application Supplement Form (WW-1)

1. Before completing this form, please carefully review the Water Withdrawal Permit Program page located on the Department's website at http://www.dec.ny.gov/lands/55509.html (non-agricultural facilities) and http://www.dec.ny.gov/lands/86747.html (agricultural facilities). Note that applications by existing systems for an Initial Permit shall be submitted in accordance with the schedule established in NYCRR Part 601.7(b)2 as shown in Table 1 at http://www.dec.ny.gov/lands/86935.html.

2. This form is to accompany the Joint Application Form. The Joint Application Form, Supplement WW-1 and their instructions are available on the Department's website at http://www.dec.ny.gov/permits/6222.html.

3. NYSDEC strongly encourages electronic submission of supporting documents. Submit 3 completed copies of the Joint Application Form, Supplement WW-1 and all attachments to the NYSDEC Regional Permit Administrator (refer to the Joint Application Instructions).

4. Applicant Name - Applications must be in the name of the owner of the water withdrawal system involved. For acquisitions of existing systems, the applicant should be the prospective owner.

5. All Water Withdrawal Applications must include a completed Water Conservation Program Form demonstrating that the applicant has developed and implemented a Water Conservation Program that incorporates environmentally sound and economically feasible water conservation measures. Information is available on the Department's website at http://www.dec.ny.gov/lands/86945.html.

6. Locate and describe all facilities and service areas on appropriate maps and plans to be submitted with this form. Choose a scale for this location map that allows you to accurately define all groundwater wellhead and surface water intake positions, and the overall project area within the county or town. Include coordinates for all wellheads and intakes on the Joint Application Form, Item 8, and on additional sheets if needed.

7. Water Withdrawal Amounts (Item 9) - Convert to gallons per day (GPD). In order to convert from gallons per minute (GPM) to GPD, multiply GPM x 1440.

8. All facts and opinions expressed in the application must be documented in appropriate legal, engineering, or other papers attached as exhibits and noted in Item 10 of this form.

9. If more room is needed to complete any item, provide the information as attachments.

10. All Water Withdrawal Applications must include the following items in a separate exhibit:
    a) Names, titles, mailing addresses, and phone numbers of the Applicant's Attorney; Engineer; and other consultants (planners, geologists, etc.) serving the applicant.
    b) A list of all maps and exhibits accompanying the application.

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Riverhead Water District - Extension No. 93		
Project Location (describe, and attach a general location map): 4285 Middle Country Road, Calverton NY 11933		
Brief Description of Proposed Action (include purpose or need): Extension of Riverhead Water District boundary to supply water to the existing property currently outside of the District boundary.		
Name of Applicant/Sponsor: Riverhead Water District	Telephone: (631) 727-3205 E-Mail: cconlin@townofriverheadny.gov	
Address: 1035 Pulaski Street		
City/PO: Riverhead	State: NY	Zip Code: 11901
Project Contact (if not same as sponsor; give name and title/role): John R. Collins, P.E.	Telephone: (631) 756-8000 E-Mail: jcollins@h2m.com	
Address: 358 Broad Hollow Road. 4th Floor East		
City/PO: Melville	State: NY	Zip Code: 11747
Property Owner (if not same as sponsor): HK Ventures, LLC	Telephone: (301) 493-9236 E-Mail:	
Address: 6500 Rock Spring Drive, Suite 5		
City/PO: Bethesda	State: MD	Zip Code: 20817

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustees ☑Yes ☐No	Town of Riverhead Town Board; Anything Financial	TBD
b. City, Town or Village Planning Board or Commission ☐Yes ☑No		
c. City, Town or Village Zoning Board of Appeals ☐Yes ☑No		
d. Other local agencies ☐Yes ☑No		
e. County agencies ☑Yes ☐No	SCDHS - 348 Application for Water Supply Improvements	
f. Regional agencies ☐Yes ☑No		
g. State agencies ☑Yes ☐No	NYSDEC	
h. Federal agencies ☐Yes ☑No		

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes ☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes ☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☐Yes ☑No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☐Yes ☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☑Yes ☐No

If Yes, identify the plan(s):

Remediaton Sites:152136, NYS Heritage Areas:LI North Shore Heritage Area

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes ☑No

If Yes, identify the plan(s):

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☐ Yes ☑ No
If Yes, what is the zoning classification(s) including any applicable overlay district?

b. Is the use permitted or allowed by a special or conditional use permit? ☐ Yes ☑ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? Riverhead CSD

b. What police or other public protection forces serve the project site?
Town of Riverhead Police

c. Which fire protection and emergency medical services serve the project site?
Riverhead Fire Department / Riverhead Community Ambulance

d. What parks serve the project site?
Suffolk County

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Extension of the Riverhead Water District to provide potable water and fire protection to subject property.

b. a. Total acreage of the site of the proposed action? 30.28 acres
b. Total acreage to be physically disturbed? 0.5 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 0 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)

ii. Is a cluster/conservation layout proposed? ☐ Yes ☑ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: _____ months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☐Yes ☑No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase	_____	_____	_____	_____
At completion of all phases	_____	_____	_____	_____

g. Does the proposed action include new non-residential construction (including expansions)? ☐Yes ☑No

If Yes,

i. Total number of structures _____

ii. Dimensions (in feet) of largest proposed structure: _____height; _____width; and _____ length

iii. Approximate extent of building space to be heated or cooled: _____ square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐Yes ☑No

If Yes,

i. Purpose of the impoundment: _____

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐Other specify:

_____

iii. If other than water, identify the type of impounded/contained liquids and their source.

_____

iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):

_____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) ☐Yes ☑No

If Yes:

i .What is the purpose of the excavation or dredging? _____

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

_____

_____

iv. Will there be onsite dewatering or processing of excavated materials? ☐Yes ☑No

If yes, describe. _____

_____

v. What is the total area to be dredged or excavated? _____acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐Yes ☑No

ix. Summarize site reclamation goals and plan: _____

_____

_____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐Yes ☑No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____

_____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

_____

_____

_____

_____

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☑ No

If Yes, describe: _____

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☐ Yes ☑ No

If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____

_____

- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

_____

c. Will the proposed action use, or create a new demand for water? ☑ Yes ☐ No

If Yes:

i. Total anticipated water usage/demand per day: 24,400 gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☑ Yes ☐ No

If Yes:

- Name of district or service area: Riverhead Water District
- Does the existing public water supply have capacity to serve the proposal? ☑ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☑ No
- Is expansion of the district needed? ☑ Yes ☐ No
- Do existing lines serve the project site? ☐ Yes ☑ No

iii. Will line extension within an existing district be necessary to supply the project? ☑ Yes ☐ No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: Installation of 2 service stubs for future fire and domestic water connection
- Source(s) of supply for the district: Magothy Aquifer

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☑ No

If, Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

_____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☐ Yes ☑ No

If Yes:

i. Total anticipated liquid waste generation per day: _____ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____

_____

_____

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐ Yes ☐ No

If Yes:

- Name of wastewater treatment plant to be used: _____
- Name of district: _____
- Does the existing wastewater treatment plant have capacity to serve the project? ☐ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No

- Do existing sewer lines serve the project site? ☐Yes ☐No
- Will a line extension within an existing district be necessary to serve the project? ☐Yes ☐No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

_____

_____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes ☐No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

_____

_____

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

_____

_____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☐Yes ☑No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or _____ acres (impervious surface)

_____ Square feet or _____ acres (parcel size)

ii. Describe types of new point sources. _____

_____

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

_____

_____

- If to surface waters, identify receiving water bodies or wetlands: _____

_____

_____

- Will stormwater runoff flow to adjacent properties? ☐Yes ☐No

iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☐Yes ☐No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐Yes ☑No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

_____

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

_____

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

_____

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes ☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☐No

ii. In addition to emissions as calculated in the application, the project will generate:

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

_____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

_____

_____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐Weekend ☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____

_____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

_____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☐Yes ☑No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

_____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

_____

iii. Will the proposed action require a new, or an upgrade, to an existing substation? ☐Yes ☐No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 8:00 A.M. - 4:00 A.M.
- Saturday: No Work
- Sunday: No Work
- Holidays: No Work

ii. During Operations:

- Monday - Friday: _____
- Saturday: _____
- Sunday: _____
- Holidays: _____

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☐ Yes ☑ No

If yes:

i. Provide details including sources, time of day and duration:

_____

_____

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☐ No

Describe: _____

_____

n. Will the proposed action have outdoor lighting? ☐ Yes ☑ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

_____

_____

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☐ No

Describe: _____

_____

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

_____

_____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities:_____

_____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

_____

_____

_____

_____

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐ Yes ☑ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ tons per _____ (unit of time)
- Operation : _____ tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: _____

  _____
- Operation: _____

  _____

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: _____

  _____
- Operation: _____

  _____

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

_____

_____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

_____

_____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

_____

_____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

_____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

_____

_____

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☐ Commercial ☐ Residential (suburban) ☑ Rural (non-farm)
☑ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

_____

_____

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces			
• Forested			
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)			
• Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)			
• Wetlands (freshwater or tidal)			
• Non-vegetated (bare rock, earth or fill)			
• Other Describe: _____ _____			

c. Is the project site presently used by members of the community for public recreation? ☐ Yes ☑ No

i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐ Yes ☑ No

If Yes,

i. Identify Facilities:

_____

_____

e. Does the project site contain an existing dam? ☐ Yes ☑ No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

_____

_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Has the facility been formally closed? ☐ Yes ☐ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

_____

_____

iii. Describe any development constraints due to the prior solid waste activities: _____

_____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____

_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☑ Yes ☐ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☑ Yes ☐ No

☐ Yes – Spills Incidents database Provide DEC ID number(s): _____

☑ Yes – Environmental Site Remediation database Provide DEC ID number(s): 152136

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

_____

_____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☑ Yes ☐ No

If yes, provide DEC ID number(s): 152136

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

_____

_____

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☑ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☑ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 1000 feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☑ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____%

c. Predominant soil type(s) present on project site: Sandy / Silt / Loam 100 %
_____ _____%
_____ _____%

d. What is the average depth to the water table on the project site? Average: 25 feet

e. Drainage status of project site soils:
☑ Well Drained: 100 % of site
☐ Moderately Well Drained: _____% of site
☐ Poorly Drained _____% of site

f. Approximate proportion of proposed action site with slopes:
☐ 0-10%: _____% of site
☐ 10-15%: _____% of site
☐ 15% or greater: _____% of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☐ Yes ☑ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☐ Yes ☑ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☐ Yes ☑ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name _____ Classification _____
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name _____ Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☑ No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100-year Floodplain? ☐ Yes ☑ No

k. Is the project site in the 500-year Floodplain? ☐ Yes ☑ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☑ Yes ☐ No

If Yes:

i. Name of aquifer: Sole Source Aquifer Names:Nassau-Suffolk SSA

m. Identify the predominant wildlife species that occupy or use the project site: _____

_____ _____ _____

_____ _____ _____

n. Does the project site contain a designated significant natural community? ☐ Yes ☑ No

If Yes:

i. Describe the habitat/community (composition, function, and basis for designation): _____

ii. Source(s) of description or evaluation: _____

iii. Extent of community/habitat:

- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☑ Yes ☐ No

If Yes:

i. Species and listing (endangered or threatened): Short-eared Owl, Tiger Salamander

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐ Yes ☑ No

If Yes:

i. Species and listing: _____

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐ Yes ☑ No

If yes, give a brief description of how the proposed action may affect that use: _____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☑ No

If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☑ No

i. If Yes: acreage(s) on project site? _____

ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No

If Yes:

i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature

ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☑ Yes ☐ No

If Yes:

i. CEA name: SGPA, Central Suffolk Pine Barrens

ii. Basis for designation: Protect groundwater, Benefit to human health & protect drinking water

iii. Designating agency and date: Agency:Long Island Regional Planning, Agency:Suffolk County, Date:3-19-93, Date:2-10-88

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☐ Yes ☑ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based:

_____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☐ Yes ☑ No

If Yes:

i. Identify resource: _____

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____

iii. Distance between project and resource: _____ miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

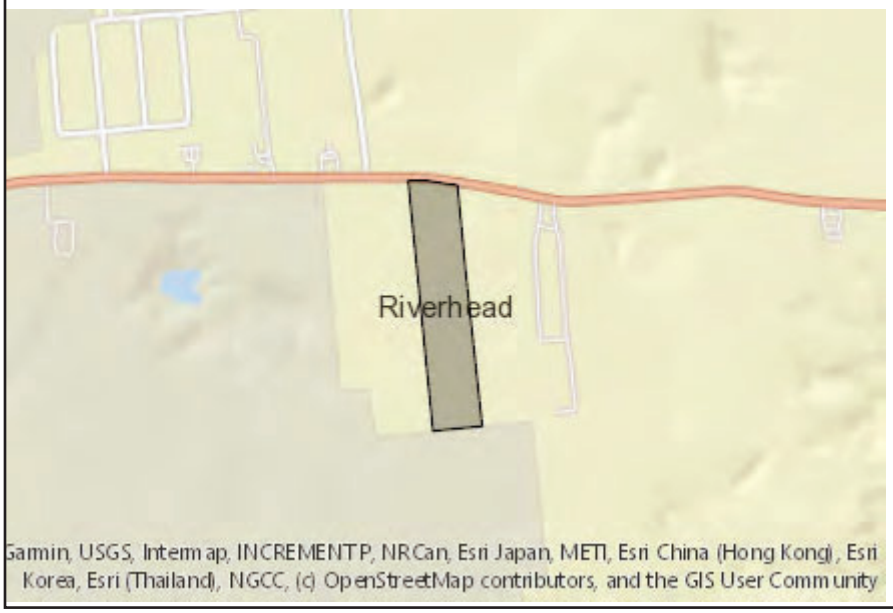
Applicant/Sponsor Name _____ Date _____

Signature _____ Title _____

PRINT FORM

EAF Mapper Summary Report

Thursday, April 22, 2021 9:37 AM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.

B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	Remediaton Sites:152136, NYS Heritage Areas:LI North Shore Heritage Area
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Yes - Digital mapping data for Spills Incidents are not available for this location. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Yes
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Yes
E.1.h.i [DEC Spills or Remediation Site - DEC ID Number]	152136
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	152136
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	No
E.2.h.ii [Surface Water Features]	No
E.2.h.iii [Surface Water Features]	No
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	Yes

E.2.l. [Aquifer Names]	Sole Source Aquifer Names:Nassau-Suffolk SSA
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Short-eared Owl, Tiger Salamander
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	Yes
E.3.d [Critical Environmental Area - Name]	SGPA, Central Suffolk Pine Barrens
E.3.d.ii [Critical Environmental Area - Reason]	Protect groundwater, Benefit to human health & protect drinking water
E.3.d.iii [Critical Environmental Area – Date and Agency]	Agency:Long Island Regional Planning, Agency:Suffolk County, Date:3-19-93, Date:2-10-88
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water, Region 1

SUNY @ Stony Brook, 50 Circle Road, Stony Brook, NY 11790

P:(631) 444-0405 I F:(631) 444-0424 I Email: R1dow@dec.ny.gov

www.dec.ny.gov

Instructions to add more columns for additional wells:

Right click on heading letter H and click insert.

Right click on cell G32, press copy.

Right click on cell G33, press paste special - formula (Fx).

Repeat steps above to create as many additional columns as needed.

Reporting Period:	**2020**
Utility Name:	**Riverhead Water Dist**
Address:	1035 Pulaski st Riverhead New York.
Report Prepared By:	Tom Kruger
Phone Number:	631-727-3205
Email Address:	Kruger@townofriverheadny.gov

PUMPAGE DATA

DEC Well Number:	S-108348	S-7261	S-111777	S-30271	S-34732	S-66685	S-124088	S-89133	S-105439	S-114622	S-122918
WSA or WWA #:	WSA9370	WSA1938	WSA9370	WSA5522	WSA5641	WSA6842	WSA66685	WSA7782	WSA9065	n/a	n/a
District Well ID:	Well#1a	Well#2	Well#3a	Well#4-1	Well#4-2	Well#5-1	Well#5-2a	Well#7-2	Well#7-3	Well#11-1	Well#11-2
Authorized Capacity:	1000 gpm	1000 gpm	1000 gpm	1000 gpm	1200 gpm	1200 gpm	1380 gpm	1200 gpm	1200 gpm	1350 gpm	1350 gpm
Actual Capacity:	1000 gpm	900 gpm	1,300 gpm	1000 gpm	1375 gpm	1260 gpm	1100 gpm	1275 gpm	1250 gpm	1325 gpm	1350 gpm
January	15,095,000	0	4,151,000	23,816,000	0	0	11,624,000	3,087,000	2,020,000	11,880,000	14,051,000
February	15,358,000	0	8,606,000	13,974,000	0	0	12,948,000	2,660,000	1,819,000	12,857,000	12,109,000
March	12,143,000	0	15,214,000	0	0	0	29,622,000	4,904,000	1,681,000	11,723,000	14,748,000
April	10,603,000	0	15,465,000	0	0	0	33,121,000	6,351,000	2,740,000	13,637,000	15,127,000
May	20,244,000	0	29,246,000	0	0	1,115,000	43,095,000	21,956,000	2,387,000	27,625,000	29,051,000
June	34,573,000	2,606,000	42,691,000	37,137,000	14,421,000	26,313,000	49,893,000	40,084,000	38,783,000	48,074,000	47,806,000
July	34,663,000	4,787,000	45,887,000	41,792,000	24,503,000	33,652,000	53,226,000	50,814,000	36,557,000	54,651,000	46,751,000
August	24,045,000	2,618,000	45,599,000	43,054,000	14,734,000	26,818,000	46,779,000	40,575,000	28,523,000	44,346,000	45,471,000
September	25,977,000	0	29,928,000	40,904,000	6,491,000	13,549,000	48,498,000	36,741,000	23,305,000	42,359,000	35,088,000
October	15,939,000	0	13,667,000	30,903,000	1,739,000	4,985,000	44,913,000	11,053,000	10,320,000	27,857,000	29,298,000
November	6,412,000	0	6,764,000	28,725,000	11,000	37,000	19,920,000	5,191,000	5,117,000	15,666,000	17,427,000
December	3,739,000	0	7,200,000	25,298,000	0	0	22,007,000	3,532,000	4,670,000	10,289,000	14,221,000
Total	218,791,000	10,011,000	264,418,000	285,603,000	61,899,000	106,469,000	415,646,000	226,948,000	157,922,000	320,964,000	321,148,000

NOTE: Pumpage entered in thousands of gallons

Sum of Monthly Total	
Sum of Each Well Total	

1. Population served in service area:	35,000
2. Population served outside of own service area:	21
3. Percent of Customers Metered:	100%
4. Number of Services:	12,263
5. Peak Day Rate:	20,114,000
6. Date of Peak Occurrence:	July 27,2020
7. Number of wells which can be operated by power source other than electric:	14
8. Amount of water purchased from another water district (thousands of gallons):	28,491,000
9. District water was purchased from:	SCWA
10. Amount of water supplied to another district	

(thousands of gallons): 4,305,000

11. District water supplied to: SCWA

STORAGE FACILITIES

Name	Type	Capacity
Pulaski St Tank	Elevated	0.16 million
Baiting Hollow Plt 8	Standpipe	1.0 million
Wading River Plt no.9	Standpipe	0.827 million
Northville Plt no. 10	Ground	1.5 million
Route 58 Tank	Elevated	0.75 million
Tuthills Lane Plt 15 (not in service)	Ground	2.0 million

NOTE: Storage facilty capacity entered in millions of gallons

S-49605	S-129655	S-129656	S-129657	S-129453	S-130317	S.C.W.A	S.C.W.A	
n/a	WSA11249	WSA11249	WSA11249	WSA11367	WSA11411			
Well#12-1	Well#15-1	Well#15-2	Well#15-3	Well#16-1	Well#17-1	Merokee Trail	Dogwood Dr	
1000 gpm	250 gpm	250 gpm	250 gpm	1380 gpm	1380 gpm	interconnect	interconnect	
1000 gpm	250 gpm	250 gpm	250 gpm	1300 gpm	400 gpm			Monthly Totals
0	427,000	580,000	560,000	1,127,000	0	0	0	88,418,000
0	486,000	617,000	604,000	667,000	0	0	0	82,705,000
0	330,000	406,000	377,000	740,000	0	0	0	91,888,000
0	427,000	552,000	565,000	977,000	0	0	0	99,565,000
0	4,911,000	6,089,000	6,126,000	9,206,000	0	0	0	201,051,000
0	7,905,000	9,817,000	9,527,000	35,615,000	3,589,000	4,989,000	4,847,000	458,670,000
0	9,651,000	11,270,000	10,946,000	33,820,000	3,072,000	6,292,000	6,493,000	508,827,000
0	6,377,000	7,836,000	7,600,000	27,947,000	488,000	2,048,000	3,512,000	418,370,000
0	1,836,000	2,088,000	2,230,000	17,388,000	29,000	0	310,000	326,721,000
0	429,000	117,000	357,000	8,240,000	0	0	0	199,817,000
0	592,000	78,000	494,000	0	0	0	0	106,434,000
0	80,000	65,000	127,000	1,130,000	0	0	0	92,358,000
0	33,451,000	39,515,000	39,513,000	136,857,000	7,178,000	13,329,000	15,162,000	2,674,824,000

August 2, 2021

VIA ELECTRONIC MAIL

John R. Collins, P.E.
H2M architects + engineers
538 Broad Hollow Road, 4th Floor East
Melville, NY 11747

Re: Riverhead Water District
Map and Plan for Water Extension No. 93 – HK Ventures, LLC
Review Comments

Mr. Collins,

P.W. Grosser Consulting, Inc. (PWGC) has reviewed the Riverhead Water District Map and Plan for Water Extension No. 93 (the "Plan"), dated July 2021 for the proposed HK Ventures, LLC Industrial Park to be located at 4285 Middle Country Road in Calverton, New York (the "Site").

Upon review of the Plan, there are a number of items that we believe need to be further addressed. The Plan is based on the Engineers Report for On-Site Water Supply – HK Ventures, LLC Industrial Park, prepared by Key Civil Engineering, P.C., dated July 2020. Since that plan was prepared, there has been a Water Availability Letter submitted to the Riverhead Water District (RWD) on December 17, 2020, a sewage treatment plant (STP) Siting Letter submitted to the Suffolk County Department of Health Services (SCDHS), dated December 10, 2020, a Draft Environmental Impact Statement (DEIS) submitted to the Town of Riverhead Planning Board in May 2021 and accepted on June 17, 2021, and a Water Supply Source Study prepared in April 2021 and included in the DEIS submission. Based on the level of information these documents provide, we ask that they be considered and included as part of the Plan analysis.

Further, upon review of the Plan, an error was identified in Section 3.8 (Analysis of Need). The Maximum Day plus Future Demand (MDFD) is calculated incorrectly, based on the information provided. The Maximum Day Demand (MDD) is 22.53 million gallons per day (MGD) and the peak future demand (of the Proposed Site) was noted to be 0.57 MGD (or 570,000 GPD) for a MDFD of 23.10 MGD. The peak future demand of the Site is not 0.57 MGD (or 570,000 GPD), but rather is 0.0572 MGD (or 57,200 GPD) (the calculation was higher by a factor of ten). Therefore, the corrected MDFD should be 22.5872 MGD. If this correction is made, the Plan analysis would indicate that not only does the District does have the capacity to meet the MDFD, but that the District would

P.W. GROSSER CONSULTING, INC.
P.W. GROSSER CONSULTING ENGINEER & HYDROGEOLOGIST, P.C.
PHONE: 631.589.6353 PWGROSSER.COM 630 JOHNSON AVENUE, STE 7 BOHEMIA, NY 11716
LONG ISLAND • MANHATTAN • SARATOGA SPRINGS • SYRACUSE • SEATTLE • SHELTON

be able to rely on existing storage, similar to how they would meet the current MDD, by relying on existing storage.

From Section 3.1 of the Plan, the RWD wells available capacity is 20.06 MGD. Therefore, the total available capacity with the largest well out of service is 17.76 MGD (20.06 MGD – 2.3 MGD). From Section 3.2 of the Plan, the RWD total storage capacity is 6.24 MGD, so assuming a usable tank capacity of 80%, there is a total capacity of 4.992 MGD. Therefore, if the district were to rely on their existing supply wells and existing storage, there is a capacity of 22.752 MGD (assuming the largest producing well is out of service and assuming a usable tank capacity of 80%), which is enough to satisfy both the MDD (22.53 MGD) and MDFD (22.5872 MGD).

Based on the above information, there is a fourth alternative that should be presented and considered in the Plan. This alternative includes potable water for the subject site to be provided by the RWD, and fire and hydrant water to be provided by private wells located on the Site. The fire and hydrant water would be provided by wells on-site, since the RWD does not have the capacity to meet the Maximum Day plus Fire Flow demand per the Plan. The water will be considered non-potable water and will, therefore, not be subject to the requirements of a potable water supply.

Please contact our office should you have any questions. Thank you.

Regards,
P.W. Grosser Consulting

Kim Gennaro-Oancea, AICP CEP
Vice President

Jenny Lund, PE
Project Manager

cc: Frank Mancini, P.G. MBA (Riverhead Water District)

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