NICHOLAS FANNIN Vice Chairman

RICHARD FRANZETTI, P.E. *Wetland Inspector*

ROSE TROMBETTA Secretary

TOWN OF CARMEL ENVIRONMENTAL CONSERVATION BOARD



60 McAlpin Avenue Mahopac, New York 10541 Tel. (845) 628-1500 - Ext. 190 www.ci.carmel.ny.us

BOARD MEMBERS

Edward Barnett Anthony Federice Nicole Sedran

Boathouse & Repair Dock

ENVIRONMENTAL CONSERVATION BOARD AGENDA

FEBRUARY 3, 2022 - 7:30 P.M.

ELIGIBLE FOR A PERMIT

<u>APPLICANT</u>	ADDRESS	<u>TAX MAP #</u>	COMMENTS	
1. Loewenberg, Diana	260 West Lake Blvd	64.16-1-30	Construction of Garage, 2 nd fl. Addition to Existing	

SUBMISSION OF AN APPLICATION OR LETTER OF PERMISSION

2.	Pasato, Luis	24 Wood Street	85.15-1-10	Proposed Addition
3.	Suez Water New York Inc – Archer Wells	9 Colton Road	85.12-1-8	Tree Cutting – 15 trees
4.	Suez Water New York Inc - London Bridge Wells	39 Brook Street	64.7-1-10	Upgrades to Existing Well Site
5.	Suez Water New York Inc – Geymer Wells	70 Geymer Drive	75.13-1-6	Upgrades to Existing Well Site
6.	Suez Water New York Inc – Chateau Wells	59 McNair Drive	75.20-1-16	Upgrades to Existing Well Site
7.	Suez Water New York Inc – Mahopac Wells	34 Coventry Circle	75.20-2-68	Upgrades to Existing Well Site
8.	Suez Water New York Inc – Archer Wells	9 Colton Road	85.12-1-8	Upgrades to Existing Well Site

ROBERT ROSELLI, PE

PO Box 837 Mahwah, NJ 07430 213 Route 100 Katonah, NY 10536 Phone: 201-993-0781 Email:<u>info@upstatedevelopment.com</u>

January 24, 2022

Town of Carmel Environmental Conservation Board 60 McAlpin Avenue Mahopac, NY 10541 Attn.: Robert Laga, Chairman

Re: Pasato Residence, 24 Wood Street Mahopac

Mr. Laga:

Please find enclosed four copies of the following information for a wetlands permit for an addition to a single family home:

-Application form -Copy of deed -Location Map at 1"=2000" -Site Plan for the proposed addition -Project Narrative -Short EAF -\$225 application fee and \$500 escrow deposit

If you have any questions regarding the above, please feel free to contact me. Thank you.

Very truly yours,

Robert Roselli, PE

PROJECT NARRATIVE January 24, 2021 PROPOSED ADDITION 24 WOOD STREET, MAHOPAC

The proposed project entails the construction of an addition to an existing single family home. The addition is approximately 830 square feet and consists of a living room and family room, no new bedroom is proposed. The sequencing of construction will be as follows:

- 1. Placement of all erosion control measures including silt fence
- 2. Excavation/construction for the footings and foundation
- 3. All framing
- 4. Final inspections and removal of silt fence upon receipt of co from the Town of Carmel

The project is located within the 100 foot buffer area of a locally regulated wetland hence the need for a Wetland Permit Application.

NICHOLAS FANNIN Vice Chairman

RICHARD FRANZETTI Wetland Inspector

ROSE TROMBETTA Secretary

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APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

LUIS PARATO Name of Applicant: Address of Applicant: 24 WOOD ST Email: 1 pasat 2014 e g mailion Telephone# 914-899-7727 Name and Address of Owner if different from Applicant: Property Address: 24 WORD ST Tax Map # 85.15-1-10 Agency Submitting Application if Applicable:

Location of Wetland: ADJACENT TO STREAM IN THE REAR YARD Size of Work Section & Specific Location: 830 SF ' SOUTH SIDE OF EXISTING HOUSE Will Project Utilize State Owned Lands? If Yes, Specify: NO

Type and extent of work (feet of new channel, yards of material to be removed, draining, dredging, filling, etc). A brief description of the regulated activity (attach supporting details).

AN ADDITION TO AN EXISTING SINGLE ONSTRUCTION OF FAMILY HOME REMOVAL OF APPROXIMATELY 35 CY FOR NEW FOOTINGS

Proposed Start Date: 3/1/22 Anticipated Completion Date: 6/1/22 Fee Paid \$ 225

CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief, false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. As a condition to the issuance of a permit, the applicant accepts full legal responsibility for all damage, direct or indirect, or whatever nature, and by whomever suffered, arising out of the project described here-in and agrees to indemnify and save harmless the Town of Carmel from suits, actions, damages and costs of every name and description resulting from the said project.

fur for

01/25/2022

Short Environmental Assessment Form Part 1 - Project Information

Instructions for Completing

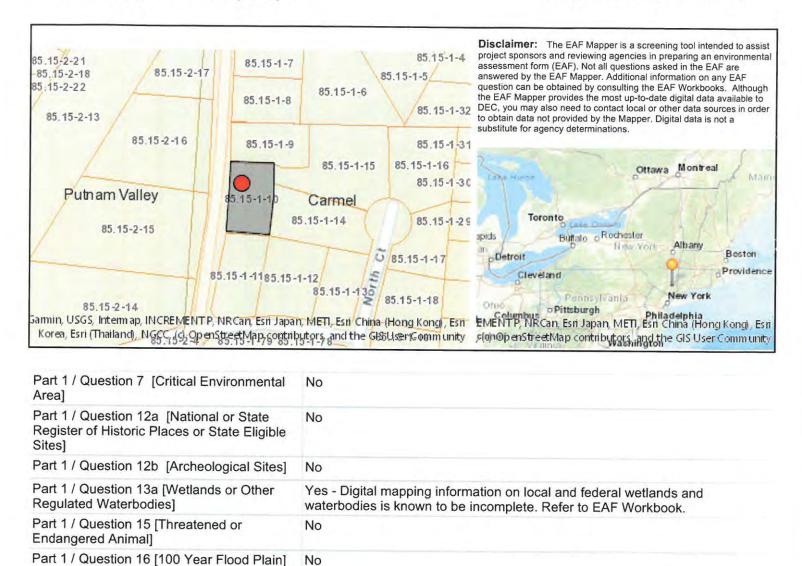
Part 1 – Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 – Project and Sponsor Information		
Name of Action or Project:		
Proposed Addition		
Project Location (describe, and attach a location map):		
24 Wood Street, Mahopac, NY 10541		
Brief Description of Proposed Action:		
Construction of an addition to an existing single family house.		
Name of Applicant or Sponsor:	Telephone: 201-993-078	11
Robert Roselli, PE	E-Mail: Info@upstatedev	velopment.com
Address:		
P.O. Box 837		
City/PO:	State:	Zip Code:
Mahwah 1. Does the proposed action only involve the legislative adoption of a plan, local	NJ	07430
 Does the proposed action only involve the registrative adoption of a plan, loca administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the emay be affected in the municipality and proceed to Part 2. If no, continue to ques Does the proposed action require a permit, approval or funding from any oth 	environmental resources th stion 2.	nat NO YES NO YES NO YES
If Yes, list agency(s) name and permit or approval: Building Permit		
 a. Total acreage of the site of the proposed action? b. Total acreage to be physically disturbed? c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 	0.46 acres 0.02 acres 0.46 acres	
 4. Check all land uses that occur on, are adjoining or near the proposed action: 5. Urban Rural (non-agriculture) Industrial Commercient Forest Agriculture Aquatic Other(Speen Parkland 		rban)

5. Is the proposed action,	NO	YES	N/A
a. A permitted use under the zoning regulations?	Π		
b. Consistent with the adopted comprehensive plan?			
		NO	YES
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	5		
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?		NO	YES
If Yes, identify:			
		\checkmark	
8. a. Will the proposed action result in a substantial increase in traffic above present levels?		NO	YES
b. Are public transportation services available at or near the site of the proposed action?			
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?		\checkmark	
9. Does the proposed action meet or exceed the state energy code requirements?		NO	YES
If the proposed action will exceed requirements, describe design features and technologies:			
	_	\checkmark	
10. Will the proposed action connect to an existing public/private water supply?		NO	YES
If No, describe method for providing potable water:			
11. Will the proposed action connect to existing wastewater utilities?		NO	YES
If No, describe method for providing wastewater treatment:			
		Ц	\checkmark
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district	t	NO	YES
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?		\checkmark	
b. 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?		\checkmark	
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?		NO	YES
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	ł		
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres:		V	
	_		

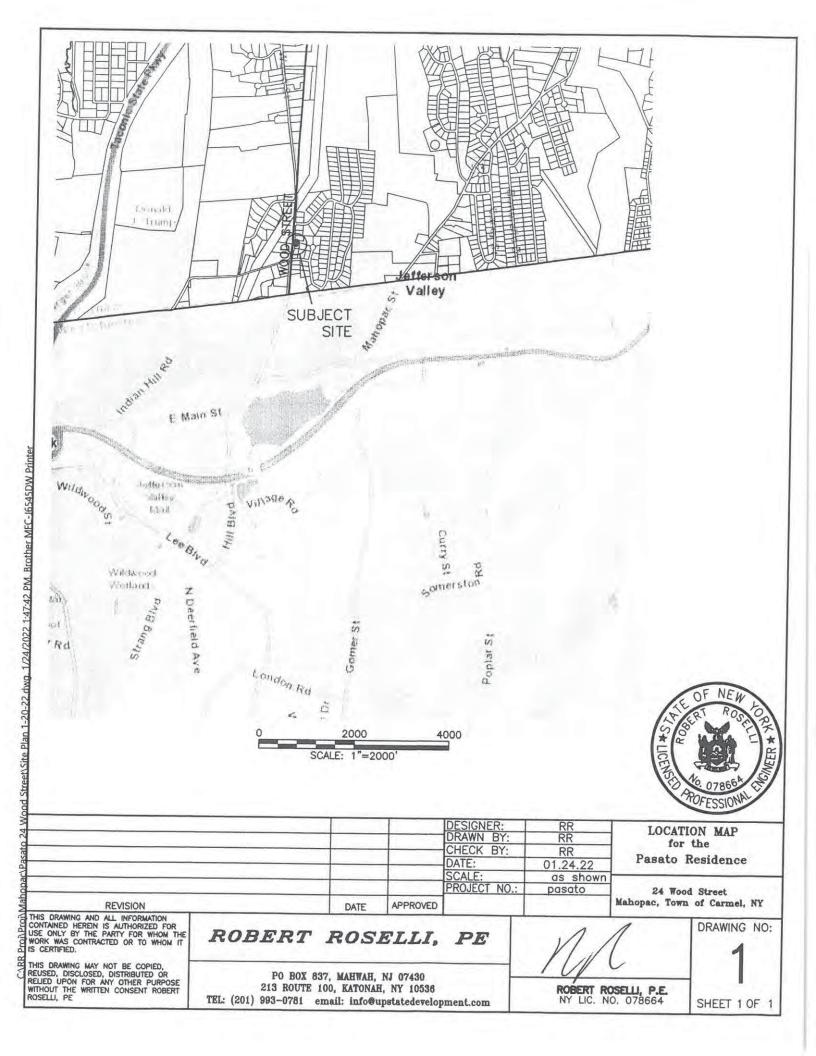
14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:		
□ Shoreline □ Forest □ Agricultural/grasslands □ Early mid-successional ☑ Wetland □ Urban ☑ Suburban		
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or	NO	YES
Federal government as threatened or endangered?	\checkmark	
16. Is the project site located in the 100-year flood plan?	NO	YES
	\checkmark	
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes,	NO	YES
a. Will storm water discharges flow to adjacent properties?	$\mathbf{\nabla}$	
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe:		
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)? If Yes, explain the purpose and size of the impoundment:	NO	YES
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility?	NO	YES
If Yes, describe:	\checkmark	
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste?	NO	YES
If Yes, describe:	\checkmark	
I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE B MY KNOWLEDGE Applicant/sponsor/name: <u>Robert Roselly</u> Date: /-25-3	EST OF	
Signature:		

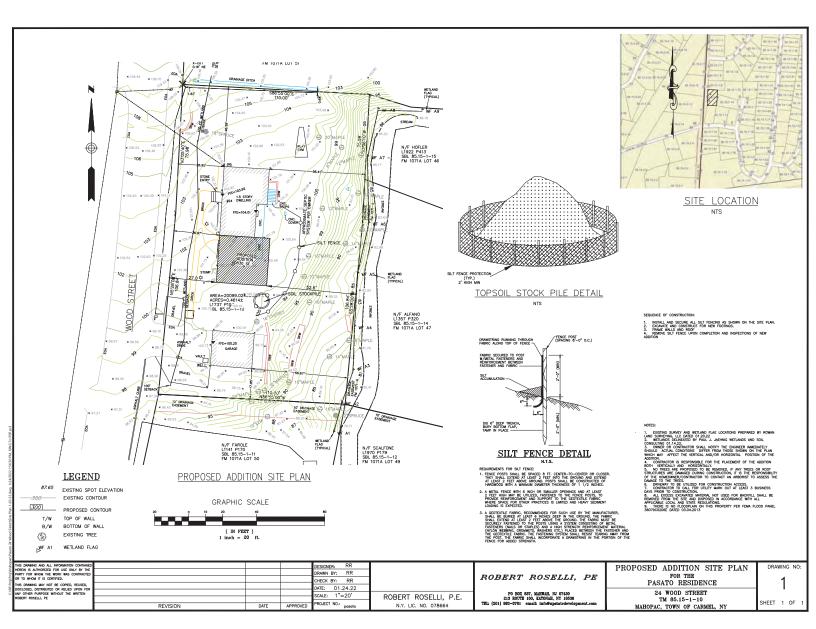


No

No

Part 1 / Question 20 [Remediation Site]







January 31st, 2022

Chairman Robert Laga and Members of the Town of Carmel Environmental Conservation Board 60 McAlpin Avenue Mathopac, NY 10541

RE: Archer Well Site 9 Colton Dr Mathopac, NY 10541 Tax Map #85.12-1-8 Tree Cutting Permit

Dear Chairman Laga and Environmental Conservation Board Members,

The tree cutting permit application is being submitted in anticipation of the proposed Archer Well Site Building Permit. Due to bat regulations, we are only able to cut trees from October 1 - March 31. Usually, tree removal is covered under a building permit with the town of Carmel but since this project is a design-build, we are still finalizing the designs and have not applied for the building permit. The goal is to get the tree cutting permit approved before our official building permit so we can cut down trees in the designated months as to not affect bat habitats. The total land area involved with the anticipated tree removal is .59 acres. The applicant is proposing to remove 15 Maple, 1 Ash, 2 Birch, 1 Oak and 2 Unknown trees. A total of 21 trees are proposed to be removed that range in size from 6 inches in diameter to 24 inches in diameter. All trees to be removed have been clearly designated with paint.

In order to do this a chainsaw will be used to cut down all indicated trees for this site. A tree climber will systematically cut down limbs and lower them down with a rope. An F550 truck will be used with a body for woodchips. This truck will be equipped with a spill kit. Due to vehicular access issues the tree cutters will walk their equipment down the current utility easement between homes 5 & 11 on Colton Dr. Tree stumps will not be removed at this time. Refer to the tree removal plan for the work & staging area along with an outline of the 100' buffer. Since none of the soil is being disturbed on site soil & erosion controls are not necessary. All cut down trees will remain on the site until there is adequate vehicular access to the site.

Thank you,

David Kimland

David Rimland Project Engineer | J. Fletcher Creamer & Son, Inc. 101 East Broadway | Hackensack, NJ 07601 C: 551-206-9945 D: 908-986-5693 WWW.JFCSON.COM





101 East Broadway Hackensack, NJ 07601-6851 Phone (201) 488-9800 | Fax (201) 488-2901 JFCSON.COM

NICHOLAS FANNIN Vice Chairman

RICHARD FRANZETTI Wetland Inspector

ROSE TROMBETTA Secretary

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BOARD MEMBERS

Edward Barnett Anthony Federice Nicole Sedran

APPLICATION FOR A TREE CUTTING PERMIT

Name of Applicant: J. Fletcher Crean	ner & Sons	
Address: 101 East Broadway, Hack Owner of Property: Suez Water New		Tel. No <u>, 551-206-9945</u> , West Nyack 10944
Address: Site: 9 Colton Rd, Mathopa		
Tax Map Number:85.12-1-8	Total Land Area Involved:	.71 AC total Only .59 AC for Tree Cutting
Number of trees of each species to be cut;	Ash - 1	s,ofdiameter,measured4&½feet
above the ground of the trees to be cut:	Birch - 2 Oak - 1 6-24"	
Total Board Foot Volume for each specie	es to be cut:	

A Sketch Map drawn to scale must be attached showing:

- 1. Boundaries of Property.
- 2. Access Roads into property and proposed roads and skid trails in the property.
- 3. Area within the property where cutting will occur.
- 4. Location and size of product loading areas.
- 5. Any area of the property defined as a wetland by the Town of Carmel Wetland Law.
- 6. If tree cutting operation is to be conducted in stages, each stage shall be shown on the sketch map.
- 7. Scale of map.

A written statement must be attached stating that each tree to be removed has been designated with paint or other distinctive means at two points so as to be readily visible. One point shall be low enough on the tree so as to be visible on the stump after the tree is removed.

Permit Fee is: - Up to 5 acres - \$500.00 - 5 to 25 acres - \$1,000.00 - Over 25 acres - \$1,500.00

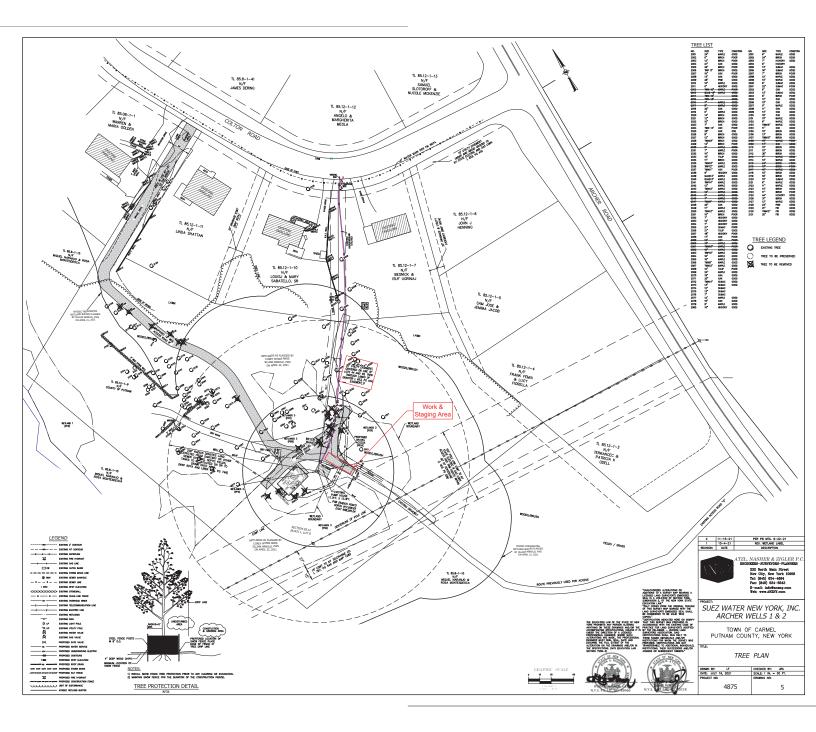
SIGNATURE OF OWNER

Christopher Graziano - General Manager

Danid Kimeano SIGNATURE OF APPLICANT

David Rimland - Project Engineer

All property owners within 500 feet of the subject property must be notified by U.S. Mail prior to commencement of the operation.



NICHOLAS FANNIN Vice Chairman

RICHARD FRANZETTI Wetland Inspector

ROSE TROMBETTA Secretary

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BOARD MEMBERS Edward Barnett

Anthony Federice Nicole Sedran

60 McAlpin Avenue Mahopac, New York 10541 Tel. (845) 628-1500 - Ext. 190 www.ci.carmel.ny.us

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

Name of Applicant: SUEZ Water New York, Inc.

Address of Applicant: 162 Old Mill Road, West Nyack, NY 10994 Email: steven.garabed@suez.com

APPLICANT IS THE SAME AS OWNER

Property Address: 39 Brook Street, Mahopac, NY 10541 Tax Map # 64.7-1-10

Agency Submitting Application if Applicable: Atzl, Nasher & Zigler, P.C.

Location of Wetland: Shown on Site Plan

Size of Work Section & Specific Location: See attached description.

Will Project Utilize State Owned Lands? If Yes, Specify: <u>No</u>

Type and extent of work (feet of new channel, yards of material to be removed, draining, dredging, filling, etc). A brief description of the regulated activity (attach supporting details).

See attached description.

Proposed Start Date: MARCH 2022 Anticipated Completion Date: October 2022 Fee Paid \$1,000

CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief, false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. As a condition to the issuance of a permit, the applicant accepts full legal responsibility for all damage, direct or indirect, or whatever nature, and by whomever suffered, arising out of the project described here-in and agrees to indemnify and save harmless the Town of Carmel from suits, actions, damages and costs of every name and description resulting from the said project.

SIGNATURE

1-26-22 DATE

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 1 is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project:		
SUEZ Water New York, Inc. – London Bridge Well 1 & 2		
Project Location (describe, and attach a general location map):		
39 Brook Street in the Town of Carmel, Putnam County		
Brief Description of Proposed Action (include purpose or need):		
SUEZ Water is proposing the construction of upgrades at their existing London Bridge Well 1 state drinking water regulations for polyfluoroalkyl substances (PFAS). The planned upgrade State Drinking Water Standard of 10 parts per trillion (ppt) for both Perfluorooctanoic acid (PI compounds.	will add treatment for PFAS to remain	ain below the New York
See the attached narrative for details.		
Name of Applicant/Sponsor:	Telephone: 845-620-3319	
SUEZ Water New York, Inc.		
SUEZ Water New York, Inc.	E-Mail: steven.garabed@suez.	com
Address: 162 Old Mill Road		
City/PO: West Nyack	State: NY	Zip Code: 10994
Project Contact (if not same as sponsor; give name and title/role):	Telephone: 845-634-4694	·
John Atzl - Atzl, Nasher & Zigler, PC	E-Mail: jatzl@anzny.com	
Address:		
234 North Main Street		
City/PO:	State:	Zip Code:
New City	NY	10956
Property Owner (if not same as sponsor):	Telephone:	
PROPERTY OWNER IS THE SAME AS APPLICANT	E-Mail:	
Address:	-	
City/PO:	State:	Zip Code:
		_L

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)				
Government Enti	ty	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			
b. City, Town or Village Planning Board or Commission	☑Yes□No on	Town of Carmel Planning Board - Site Plan and Conditional Use Approval	August 2021	
c. City, Town or Village Zoning Board of App	⊿ Yes □ No eals	Town of Carmel Zoning Board - variance	August 2021	
d. Other local agencies	√ Yes □ No	Town of Carmel Building Department - Building Permit, Sewer Connection Permit	August 2021	
e. County agencies	∑ Yes⊡No	Putnam County Department of Health	August 2021	
f. Regional agencies	□Yes□No			
g. State agencies	□Yes□No			
h. Federal agencies	□Yes□No			
i. Coastal Resources.<i>i</i>. Is the project site within a	Coastal Area, o	r the waterfront area of a Designated Inland W	Vaterway? □Yes ☑No	
<i>ii.</i> Is the project site located in a community with an approved Local Waterfront Revitalization Program? □ Yes☑No <i>iii.</i> 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? 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 	□Yes ☑ No
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?) 	ℤ Yes □ No
If Yes, identify the plan(s): NYC Watershed Boundary	
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 adop If Yes, what is the zoning classification(s) including any applicable overla Residential District 		ℤ Yes □ No
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?If Yes,<i>i</i>. What is the proposed new zoning for the site?		☐ Yes Ø No
C.4. Existing community services.		
a. In what school district is the project site located? <u>Mahopac Central Scho</u>	ol District	
b. What police or other public protection forces serve the project site? <u>Town of Carmel Police Department</u>		
c. Which fire protection and emergency medical services serve the project Mahopac Volunteer Fire Department	t site?	
d. What parks serve the project site? Airport Field, Sycamore Town Park		
D. Project Details		
D.1. Proposed and Potential Development		
a. What is the general nature of the proposed action (e.g., residential, induced components)? Industrial Water Treatment and Supply	istrial, commercial, recreational; if n	nixed, include all
b. a. Total acreage of the site of the proposed action?	1.61 acres	
b. Total acreage to be physically disturbed? c. Total acreage (project site and any contiguous properties) owned	0.26 acres	
or controlled by the applicant or project sponsor?	1.61 acres	
c. Is the proposed action an expansion of an existing project or use? *		✔ Yes No

<i>i.</i> If Yes, what is the approximate percentage of the proposed expansion and identify the ur square feet)? %194 Units:726 sq. ft.	nits (e.g., acres, miles, housing units,
d. Is the proposed action a subdivision, or does it include a subdivision?	□Yes ∠ No
If Yes,	
<i>i</i> . Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify	y types)
<i>ii.</i> Is a cluster/conservation layout proposed?	□Yes □No
<i>iii.</i> 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>i</i> . If No, anticipated period of construction: <u>12</u> mo	nths
<i>ii</i> . If Yes:	
Total number of phases anticipated	
Anticipated commencement date of phase 1 (including demolition) mo	nthyear
Anticipated completion date of final phase mo	onth year
• Generally describe connections or relationships among phases, including any contin	gencies where progress of one phase may

determine timing or duration of future phases:

Page 3 of 13

f. Does the proje	ct include new resid	lential uses?			☐ Yes 7 No
	nbers of units propo	osed.			
	One Family	<u>Two</u> Family	Three Family	Multiple Family (four or more)	
Initial Phase					
At completion					
of all phases					
g. Does the prop	osed action include	new non-residenti	al construction (inclu	uding expansions)?	∠ Yes No
If Yes,					—
<i>i</i> . Total number	r of structures	1			
<i>ii.</i> Dimensions	(in feet) of largest p	roposed structure:	22_height;	22 width; and 33 length 726 square feet	
				l result in the impoundment of any agoon or other storage?	☐Yes Z No
If Yes,	18 Creation of a wate	suppry, reserven	., ponu, iako, wasto n	agoon of other storage:	
	e impoundment:				
<i>ii</i> . If a water imp	poundment, the prin	cipal source of the	water:	Ground water Surface water stream	ns Other specify:
<i>iii</i> . If other than v	water, identify the t	ype of impounded	contained liquids and	d their source.	
iv. Approximate	size of the propose	d impoundment.	Volume:	million gallons; surface area:	acres
v. Dimensions of	of the proposed dam	ı or impounding st	ructure:	million gallons; surface area: height;length ructure (e.g., earth fill, rock, wood, cond	
vi. Construction	method/materials	for the proposed da	am or impounding st	ructure (e.g., earth fill, rock, wood, cond	crete):
D.2. Project Op	oerations				
a. Does the prope	osed action include	any excavation, m	ining, or dredging, d	uring construction, operations, or both?	Yes√ No
(Not including	general site prepara			or foundations where all excavated	— —
materials will	remain onsite)				
If Yes:		ation or dradging?			
	urpose of the excava aterial (including ro			o be removed from the site?	
				o be removed from the site?	
	hat duration of time				
			be excavated or dred	ged, and plans to use, manage or dispose	e of them.
iv. Will there be	e onsite dewatering	or processing of e	xcavated materials?		Yes No
	· 1 · · · · · · h - dd.	1			
v. What is the u	otal area to be dredg	ged or excavated?		acres	
vii What would	be the maximum de	worked at any on onth of excavation	or dredging?	feet	
	avation require blas		of areaging		Yes No
ix. Summarize si	te reclamation goals	s and plan:			
				-	
			ion of, increase or de ach or adjacent area?	crease in size of, or encroachment	☐ Yes √ No
If Yes:	ing worana,	<i>ouj, morena, c</i> .	aon or aujacent art		
<i>i</i> . Identify the v				water index number, wetland map numb	er or geographic
description):					

<i>ii</i> . Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placeme alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in squ	
<i>iii.</i> Will the proposed action cause or result in disturbance to bottom sediments? If Yes, describe:	□Yes □No
<i>iv.</i> 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):	
<i>v</i> . 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>i</i> . Total anticipated water usage/demand per day: gallons/day	
<i>ii.</i> Will the proposed action obtain water from an existing public water supply?	□Yes □No
If Yes:	
Name of district or service area:	
• 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? Do quicting lines some the project site? 	□ Yes□ No □ Yes□ No
• Do existing lines serve the project site? <i>iii.</i> Will line extension within an existing district be necessary to supply the project?	$\Box Y es \Box No$
If Yes:	
Describe extensions or capacity expansions proposed to serve this project:	
• Source(s) of supply for the district:	·····
<i>iv.</i> Is a new water supply district or service area proposed to be formed to serve the project site? If, Yes:	☐ Yes ☐No
 Applicant/sponsor for new district:	
	·····
Proposed source(s) of supply for new district:	
<i>v</i> . If a public water supply will not be used, describe plans to provide water supply for the project:	
<i>vi</i> . 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>i</i> . Total anticipated liquid waste generation per day: gallons/day	1
<i>ii.</i> Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all approximate volumes or proportions of each):	components and
<i>iii.</i> 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:		
<i>iv.</i> Will a new wastewater (sewage) treatment district be formed to serve the project site?	□Yes 2 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 spec	ifying proposed	1
receiving water (name and classification if surface discharge or describe subsurface disposal plans):		
		_
		_
<i>vi.</i> 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	☐Yes Z No	
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?		
If Yes:		
<i>i</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 (impervious surface) Square feet or acres (parcel size)		
ii Describe transport active garcel size)		
<i>ii</i> . Describe types of new point sources.		
<i>iii.</i> Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent provided in the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent provided in the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent provided in the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent provided in the stormwater management facility/structures, adjacent provided in the stormwater management facility (i.e. on-site stormwater management facility) (i.e.		
	operties,	
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	
<i>iv.</i> Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater?		
f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel	∠ Yes □ No	
combustion, waste incineration, or other processes or operations?		
If Yes, identify:		
<i>i</i> . Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)		
Construction equipment and vehicles		
<i>ii.</i> Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)		
Power generation		
<i>iii.</i> 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,	☐Yes Z No	
or Federal Clean Air Act Title IV or Title V Permit?		
If Yes:		
<i>i</i> . Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet	□Yes□No	
ambient air quality standards for all or some parts of the year)		
<i>ii.</i> 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 ₂ O)		
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, sewa landfills, composting facilities)?	ge treatment plants,	☐Yes √ No
If Yes:		
<i>i</i> . Estimate methane generation in tons/year (metric):		
<i>ii.</i> Describe any methane capture, control or elimination measures included in project de	sign (e.g., combustion to ge	nerate heat or
electricity, flaring):		
· · · · · · · · · · · · · · · · · · ·		
i. Will the proposed action result in the release of air pollutants from open-air operations	or processes, such as	☐Yes √ No
quarry or landfill operations?		
If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulate	s/dust):	
j. Will the proposed action result in a substantial increase in traffic above present levels of	or generate substantial	Yes No
new demand for transportation facilities or services?	c	
If Yes:		
<i>i</i> . When is the peak traffic expected (Check all that apply): \Box Morning \Box Eve	ning 🗌 Weekend	
Randomly between hours of to <i>ii.</i> For commercial activities only, projected number of truck trips/day and type (e.g., see		
<i>ii.</i> For commercial activities only, projected number of truck trips/day and type (e.g., se	mi trailers and dump trucks):
<i>iii.</i> Parking spaces: Existing Proposed Net <i>iv.</i> Does the proposed action include any shared use parking?	increase/decrease	
<i>iv.</i> 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 r		
vi. Are public/private transportation service(s) or facilities available within 1/2 mile of the	e proposed site?	□Yes No
vii Will the proposed action include access to public transportation or accommodations f	for use of hybrid, electric	□Yes□No
or other alternative fueled vehicles?		
viii. Will the proposed action include plans for pedestrian or bicycle accommodations for	connections to existing	□Yes□No
pedestrian or bicycle routes?		
k. Will the proposed action (for commercial or industrial projects only) generate new or a	additional demand	V Yes No
for energy?		
If Yes:		
<i>i</i> . Estimate annual electricity demand during operation of the proposed action:		
16,335 kWh*		
ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, o	n-site renewable, via grid/lo	cal utility, or
other):		
New York State Electric & Gas Corporation		
<i>iii.</i> Will the proposed action require a new, or an upgrade, to an existing substation?		☐Yes ⁄ No
1. Hours of operation. Answer all items which apply.		
<i>i.</i> During Construction: <i>ii.</i> During Operations:		
Monday - Friday: 8AM - 6PM Monday - Friday:	y: 24 hours/day	
Saturday: <u>8AM - 6PM</u> Saturday: <u>8AM - 6PM</u>	24 hours/day	
Sunday:		
Holidays: CLOSED Holidays:		

*The average number of kilowatt hours per square foot for a commercial building is approximately 22.5. (Source: lota Communications.com). The proposed building is 726 sq. ft.

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both?	☑ Yes □No
If yes:	
<i>i</i> . Provide details including sources, time of day and duration:	
The operation of construction equipment will increase local daytime ambient noise levels. This will only occur during permitted hours or resulting noise will cease upon completion of the project.	of operation and the
<i>ii.</i> 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>i</i> . Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:	
See Lighting Plan	
<i>ii.</i> Will proposed action remove existing natural barriers that could act as a light barrier or screen?	Yes No
Describe:	
	Yes No
o. Does the proposed action have the potential to produce odors for more than one hour per day? 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)	🗌 Yes 💋 No
or chemical products 185 gallons in above ground storage or any amount in underground storage? If Yes:	
<i>ii.</i> Volume(s) (e.g., month, year)	
<i>iii</i> . 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>i</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>i</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) <i>ii.</i> Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waster	
Construction:	
Operation:	
<i>iii</i> . 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?
If Yes:
<i>i</i> . Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or
other disposal activities):
<i>ii.</i> Anticipated rate of disposal/processing:
• Tons/month, if transfer or other non-combustion/thermal treatment, or
• Tons/hour, if combustion or thermal treatment
<i>iii.</i> If landfill, anticipated site life: years
t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous $\Box Yes \square No$
waste? If Yes:
<i>i</i> . Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility:
<i>i</i> . Traine(s) of an nazardous wastes of constituents to be generated, nandred of managed at facinity.
<i>ii.</i> Generally describe processes or activities involving hazardous wastes or constituents:
<i>iii</i> . Specify amount to be handled or generated tons/month <i>iv</i> . Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents:
<i>iv.</i> Describe any proposals for on-site minimization, recycling or reuse of nazardous constituents:
v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility?
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>i</i> . Check all uses that occur on, adjoining and near the project site.
Urban 🛛 Industrial 🔲 Commercial 🖾 Residential (suburban) 🗌 Rural (non-farm)
Forest Agriculture Aquatic <i>ii</i> If min of was comprelly described
<i>ii.</i> 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	0.07	0.2	+ 0.13
Forested	1.34	1.21	- 0.13
Meadows, grasslands or brushlands (non- agricultural, including abandoned agricultural)	0.02	0.02	0
Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
Surface water features (lakes, ponds, streams, rivers, etc.)	0.05	0.05	0
Wetlands (freshwater or tidal)	0.13	0.13	0
Non-vegetated (bare rock, earth or fill)	0	0	0
Other Describe:			

c. Is the project site presently used by members of the community for public recreation?<i>i.</i> If Yes: explain:	☐ Yes ⁄ No
 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? If Yes, <i>i.</i> Identify Facilities: 	∏Yes ∏ No
 e. Does the project site contain an existing dam? If Yes: <i>i</i>. Dimensions of the dam and impoundment: Dam height: feet 	☐ Yes ⁄ No
Dam length: feet	
Surface area: acres	
Volume impounded:	
<i>ii.</i> Dam's existing hazard classification:	
<i>iii.</i> 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 faci If Yes:	∐Yes ∏ No lity?
<i>i</i> . Has the facility been formally closed?	□Yes□ No
• If yes, cite sources/documentation:	
<i>ii.</i> Describe the location of the project site relative to the boundaries of the solid waste management facility:	
<i>iii.</i> 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? If Yes:	☐ Yes ⁄ No
<i>i</i> . Describe waste(s) handled and waste management activities, including approximate time when activities occurr	red:
 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? If Yes: 	∐Yes ⊠ No
<i>i</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):	
<i>ii</i> . If site has been subject of RCRA corrective activities, describe control measures:	
<i>iii.</i> Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? If yes, provide DEC ID number(s):	□Yes 2 No
<i>iv.</i> 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 2No
 If yes, DEC site ID number:	
Describe any use limitations:	
Describe any engineering controls:	
 Will the project affect the institutional or engineering controls in place? Explain: 	☐ Yes ☐ No
• Explain:	
E.2. Natural Resources On or Near Project Site	
a. What is the average depth to bedrock on the project site? > 6.5 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: CrC - Charlton-Chatfield complex ChC - Charlton fine sandy loam Ce - Catden muck CsD - Chatfield-Charlton complex 18 %	
CsD - Chatfield-Charlton complex 16 % d. What is the average depth to the water table on the project site? Average: >6 feet	
e. Drainage status of project site soils: Well Drained: <u>82</u> % of site	
$\square Moderately Well Drained: \begin{tabular}{c c c c c c c c c c c c c c c c c c c $	
Poorly Drained 18% of site	
f. Approximate proportion of proposed action site with slopes: \checkmark 0-10%:46 % of site \checkmark 10-15%:12 % of site \checkmark 15% or greater:42 % of site	
g. Are there any unique geologic features on the project site?	Yes V 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
<i>ii.</i> Do any wetlands or other waterbodies adjoin the project site?	V es No
If Yes to either <i>i</i> or <i>ii</i> , continue. If No, skip to E.2.i.	
<i>iii.</i> 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 Wetlands: Name Federal Waters, NYS Wetland Classification Approximate Size	
Wetlands: Name Federal Waters, NYS Wetland Approximate Size Wetland No. (if regulated by DEC) OL 18	
• Wetland No. (if regulated by DEC) <u>OL-18</u> v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired	Yes ZNo
waterbodies?	
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
1. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer?	Yes No
If Yes:	
i. Name of aquifer:	

m. Identify the predominant wildlife species	that approximition use the majoritation		
Squirrel	Raccoon	·····	
Deer	Possum		· · · · · · · · · · · · · · · · · · ·
Rabbit	Fox		
n. Does the project site contain a designated s	ignificant natural community?		☐ Yes √ No
If Yes:			
<i>i</i> . Describe the habitat/community (compos	ition, function, and basis for desig	gnation):	· · · · · · · · · · · · · · · · · · ·
<i>ii.</i> Source(s) of description or evaluation:			
<i>iii</i> . 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 pla		And an NVC	
			Yes No
endangered or threatened, or does it contain	any areas identified as nabitat to	or an endangered or inreatened spec	1es?
If Yes:			
<i>i.</i> Species and listing (endangered or threatened	l):		
p. Does the project site contain any species of	f plant or animal that is listed by	NYS as rare, or as a species of	☐ Yes √ No
special concern?	1 5		
If Yes:			
<i>i</i> . Species and listing:			
<i>i</i> . Species and listing			
q. Is the project site or adjoining area current			□Yes √ No
If yes, give a brief description of how the pro	posed action may affect that use:		
E.3. Designated Public Resources On or N			
a. Is the project site, or any portion of it, loca	ted in a designated agricultural dis	strict certified pursuant to	∐ Yes ∑ No
Agriculture and Markets Law, Article 25-	AA, Section 303 and 304?	-	
If Yes, provide county plus district name/nur			
b. Are agricultural lands consisting of highly			□Yes √ No
<i>i</i> . If Yes: acreage(s) on project site?			
<i>ii.</i> 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	∐ Yes ∑ No
Natural Landmark?	of is it substantianty contiguous a	s, a registered reational	
If Yes:			
	Biological Community	Geological Feature	
<i>ii.</i> Provide brief description of landmark, in	cluding values behind designation		
	endening values benind designation		
d. Is the project site located in or does it adjo	n a state listed Critical Environme	ental Area?	☐ Yes √ No
If Yes:			
<i>i</i> . CEA name:			
<i>ii</i> . Basis for designation:			
<i>iii.</i> Designating agency and date:			

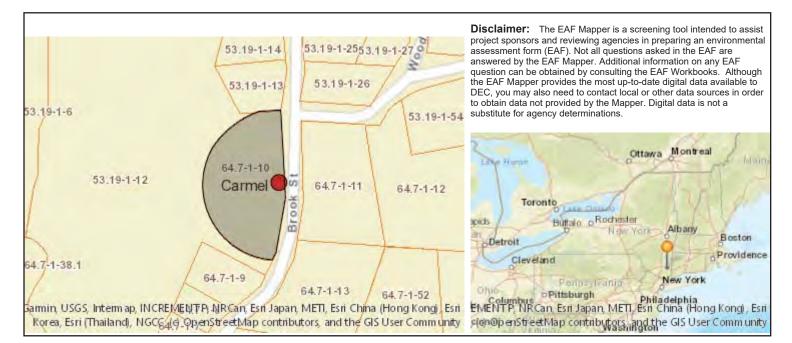
e. Does the project site contain, or is it substantially contiguous to which is listed on the National or State Register of Historic Pla Office of Parks, Recreation and Historic Preservation to be elig	ces, or that has been determined by the Commiss	
If Yes:		
i. Nature of historic/archaeological resource: Archaeological	Site Historic Building or District	
ii. Name:	and the second	
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 archaeological sites on the NY State Historic Preservation Office		
g. Have additional archaeological or historic site(s) or resources b If Yes:	een identified on the project site?	Yes No
<i>i</i> . Describe possible resource(s): <i>ii</i> . Basis for identification:		
h. Is the project site within fives miles of any officially designated scenic or aesthetic resource?	and publicly accessible federal, state, or local	ØYes □No
If Yes:		
i. Identify resource: State Scenic Byway		
 Nature of, or basis for, designation (e.g., established highway etc.): Taconic State Parkway 	overlook, state or local park, state historic trail o	r scenic byway,
iii. Distance between project and resource:	2 miles.	
 Is the project site located within a designated river corridor un Program 6 NYCRR 666? 	der the Wild, Scenic and Recreational Rivers	Yes No
If Yes:		
<i>i</i> . Identify the name of the river and its designation:		
ii. Is the activity consistent with development restrictions contain	and 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.

I certify that the information provided is frue to the b	est of my knowledge.	
Applicant/Sponsor Name John Atz	Date August 27, 2021	
Signature	Title Land Surveyor	



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]	NYC Watershed Boundary
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters, NYS Wetland
E.2.h.iv [Surface Water Features - Wetlands Size]	NYS Wetland (in acres):200.4
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	OL-18
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.I. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No
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]	No
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

Project Description

General Project Information

Applicant:	SUEZ Water New York, Inc.
Project:	PFAS Compliance Project F – London Bridge Well
Location:	Town of Carmel Putnam County, New York
Consultant:	Gannett Fleming, Inc. 207 Senate Avenue Camp Hill, PA 17011

Introduction

SUEZ is proposing the construction of upgrades at their existing London Bridge well site. The proposed study area (41° 21' 01.238" N, 73° 45' 03.518" W) is located in the Town of Carmel, Putnam County, New York. The project study area for this project encompassed the entire SUEZ property. During delineation efforts an additional 300-foot buffer was reviewed around the project study area and is referred to in the permit application as the action area. Refer to the Topographic Location Map and Aerial Layout Map for the location and project limits located in **Section A**.

Project Purpose and Need

The State of New York has adopted a new drinking water standard that sets a Maximum Contaminant Level (MCL) of 10 parts per trillion (ppt) for Perfluorooctanoic Acid (PFOA) and Perfluoroctane Sulfonate (PFOS) in drinking water. Some PFAS do not breakdown easily and persist for a long time in the environment, especially in water. The concern of PFAS chemicals having toxic effects on public health has resulted in new regulations for the New York State Drinking Water Standard.

In order to comply with these new MCLs, SUEZ plans to construct a treatment facility at the existing London Bridge Well Site.

Necessary upgrades were identified based on the water quality sampling results. The site upgrades include upsizing of the existing well pumps, installation of a prefiltration system consisting of bag filters, and installation of a GAC treatment system. The planned upgrades will not increase the firm capacity of the wells.

Architectural, civil, electrical, structural, HVAC and plumbing upgrades will also be implemented to accommodate the new treatment system at the existing location.

Project Description Details

Improvements at the London Bridge site shall include the installation of a PFAS building, underground influent and effluent piping, underground electrical conduits, and a 15' gravel driveway. A perimeter fence shall be installed around the outside of the London Bridge location. Disturbance will be kept to a minimum and avoidance measures have been considered during the design phase of the project.

Project Area Description

The proposed PFAS upgrades will be installed within the existing SUEZ property located on the west side of Brook Street in the Town of Carmel, New York. The proposed project study area is approximately 0.7 acres and is located immediately south of the intersection of Brook Street and Woodland Road. The action area surrounding the project study area is approximately 12 acres. The project study area and action area consist of predominantly forested area, gravel parking area, existing well infrastructure, rural residential properties, and local roads.

Water resources within or adjacent to the project area include unnamed tributaries to the Muscoot River as identified by NYSDEC freshwater mapping, National Wetland Inventory mapping, and U.S. Geological Survey topographical mapping. Additional water resources were identified during field investigations.

Project Impacts

One parcel was impacted by the SUEZ PFAS project. Project design will impact one regulated feature and the intent of this package is to obtain approvals from the Town. Refer to the Wetland Delineation Report provided in **Section B** for more information regarding these resources.

The proposed project limit of disturbance overlaps NYSDEC regulated freshwater wetlands, regulated freshwater wetland buffers and USACE regulated wetlands. As per the site visit conducted on June 7, 2021, NYSDEC has accepted the USACE regulated wetland boundary as the NYSDEC freshwater wetland boundary. Therefore, the USACE regulated wetland boundary and NYSDEC freshwater wetland boundary coincide with one another.

There are both permanent and temporary impacts associated with the construction of the PFAS structure, driveway and infrastructure. Reclamation to the portion of the wetlands with temporary

impacts will take place as soon as construction is complete. All impacts that are permanent in nature are outlined and mitigation is proposed.

Please see **Section** C for a typical diagram of construction.

Regulated Activities

Wetland Impacts

The Town of Carmel will regulate impacts at the London Bridge Well site that temporarily impact Wetland 1. The temporary impacts include the areas required for the installation of temporary erosion and sediment control to protect the surrounding portions of Wetland 1. All controls shall be removed once construction is complete and the area shall be restored and allowed to revegetate back to pre-construction conditions. There are no USACE regulated permanent wetland impacts associated with the London Bridge site. Below are the calculated impacts to the wetland and within 100 feet adjacent to the wetlands.

Wetland Impacts

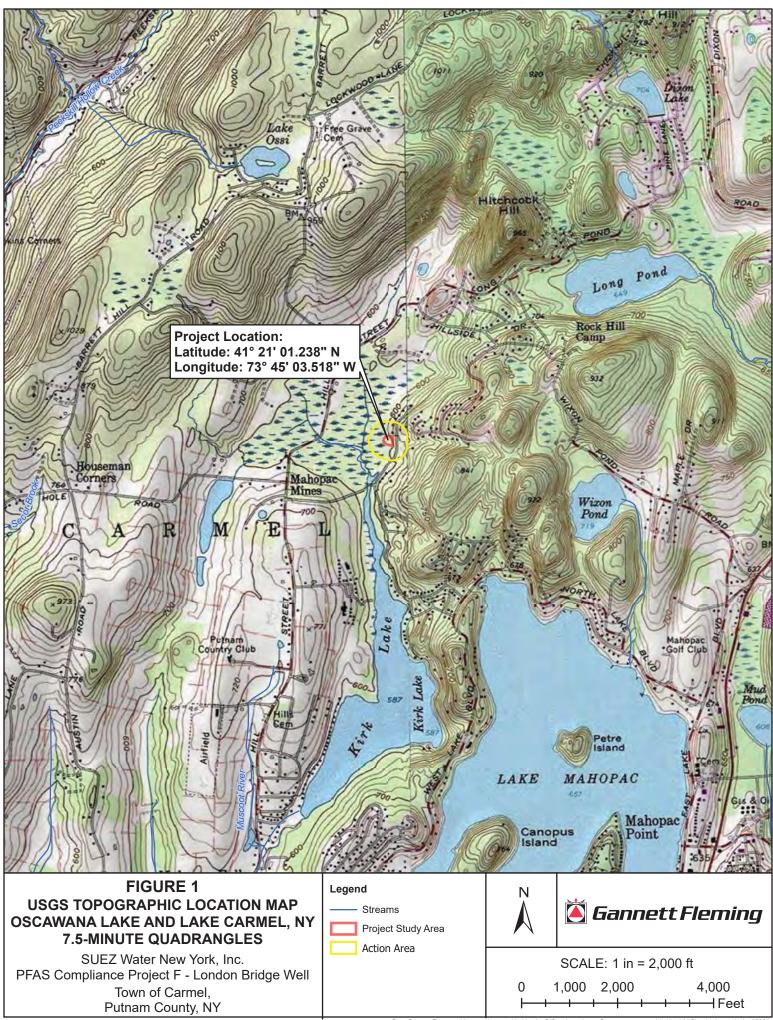
• 1,456.05 ft²; 0.033 ac

Impacts to 100' Buffer

• 19,497.03 ft²; 0.448 ac

There are no stream impacts associated with this project.

Section A: Topographic Location Map and Aerial Layout Map



Data Source: Topographic mapping provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April2021.

		Brook St	E automotion of the second sec
Project Location: Latitude: 41° 21' 01.23 Longitude: 73° 45' 03	38" N 518" W		
	Contraction of the second seco		
FIGURE 2	Legend	N	
PROJECT LOCATION AND STUDY AREA MAP	Streams Action Area		🎽 Gannett Fleming
SUEZ Water New York, Inc. PFAS Compliance Project F - London Bridge Well Town of Carmel, Putnam County, NY	Project Study Area	0 jery provided by ArcGIS	SCALE: 1 in = 150 ft 75 150 300 + + + + webservices. Streams were provided by NY Clearinghouse in April 2021.

Section C: Typical diagram of construction

Note: Please refer to the attached Site Plan set.

WETLAND AND WATERWAY **IDENTIFICATION AND DELINEATION REPORT**



SUEZ Water New York, Inc. PFAS Compliance Project F – London Bridge Well

Town of Carmel, Putnam County, New York

Prepared for:

SUEZ Water New York, Inc. 162 Old Mill Rd West Nyack, NY 10994

Prepared by:

Gannett Fleming 207 Senate Avenue

Camp Hill, PA 17011

May 2021

GF Project No. 068577

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT

SUEZ Water New York Inc. PFAS Compliance Project F – London Bridge Well

Town of Carmel, Putnam County, New York

Prepared for: SUEZ Water New York, Inc.

Prepared by:



May 2021

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APPENDIX A – WETLANDS AND WATERWAYS MAPPING APPENDIX B – SITE PHOTOGRAPHS AND PHOTOGRAPH LOCATION MAP APPENDIX C – WETLAND FIELD DATA FORMS

1.0 Executive Summary

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing London Bridge well site. The proposed study area (41°21'01.238"N, 73°45'03.518"W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for perand polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), the regulated compounds.

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with U.S. Fish and Wildlife Service (USFWS). The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area and action area. This report was prepared to satisfy the regulatory requirements of the U.S. Army Corps of Engineers (USACE) under the purview of Section 404 of the Clean Water Act and New York State Department of Environmental Conservation (NYSDEC) under Article 24, Freshwater Wetlands Act.

On April 22, 2021, Gannett Fleming, Inc. (GF) conducted a field investigation to delineate wetlands and waterways within the 0.7-acre project study area and 12-acre action area for use in project planning and permitting efforts for PFAS Compliance Project F – London Bridge Well. One (1) wetland and one (1) waterway were delineated within the project study area and action area (**Table 1**). Wetland and waterway boundaries were mapped in the field and are presented in **Appendix A**. Photographs were taken of the wetlands and waterways and are provided in **Appendix B**. Wetland data forms were completed to document the hydrology, vegetation, and soil conditions of the delineated wetlands and are provided in **Appendix C**.

Table 1. Wetland and Waterway Summary							
PROJECT TOTALS							
WETLANDS							
Feature TypeNumber PresentTotal Acres (AC)							
PFO Wetland 1 4.30+							
WATERWAYS							
Feature TypeNumber PresentTotal Linear Feet (LF)							
 Perennial Waterway 	1	708+					

Table 1. Wetland and Waterway Summary

Wetlands

• Wetland 1 – PFO wetland, 4.30+ acre (Open-Ended)

Waterways

Stream 1 – Perennial, Unnamed Tributary to Muscoot River, 708+ linear feet

*Length in linear feet for Stream 1 was delineated in the field west of Brook Street. East of Brook Street, the length of Stream 1 was digitized and measured using aerial imagery

A "+" indicates the delineated resource extends beyond the Project Study Area or Action Area.

2.0 **Project Description**

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing London Bridge well site. The proposed study area (41°21'01.238"N, 73°45'03.518"W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for perand polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both PFOA and PFOS, the regulated compounds

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with USFWS. The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The proposed PFAS upgrades will be installed within the existing SUEZ property located on the west side of Brook Street in the Town of Carmel, New York. The proposed project study area is approximately 0.7 acres and is located immediately south of the intersection of Brook Street and Woodland Drive. The action area surrounding the project study area is approximately 12 acres. The project study area and action area consist of predominantly forested area, gravel parking area, existing well infrastructure, rural residential properties, and local roads.

3.0 Purpose

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area and action area. This report was prepared to satisfy the regulatory requirements of the USACE under the purview of Section 404 of the Clean Water Act and NYSDEC under Article 24, Freshwater Wetlands Act.

4.0 Study Area Description

A 300-foot buffer was used surrounding the project study area to create the action area. The project study area encompassed approximately 0.7 acres and consisted of a gravel parking area and existing well infrastructure. The action area is approximately 12 acres and is bordered by forested wetlands to the west, and residential properties, mixed forest and local roads to the north, east, and south.

4.1 Topography

According to the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps (Oscawana Lake, New York, and Lake Carmel, New York), the elevation of the project study area is approximately 600 feet above mean sea level (amsl). An excerpt from the USGS Topographic Quadrangle Map is provided as **Figure 1**. A Project Location and Study Area Map is provided as **Figure 2**.

4.2 Soils

According to the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey, four (4) soil series were mapped within the action area: Catden muck, 0 to 2 percent slopes (Ce), Charlton fine sandy loam, 8 to 15 percent slopes (ChC), Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky (CrC), and Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky (CsD). Ce is listed as 100% hydric, CrC is listed as having 5% hydric inclusions, and CsD is listed as having 6% hydric inclusions. ChC listed as non-hydric. An excerpt from the soil survey mapping is provided as **Figure 3**.

4.3 Geology

The project is located in the Hudson Highlands Section of the Physiographic Provinces of New York (NYSM, 1995). The project study area is underlain by the Biotite-quartz-plagioclase paragneiss (bqpc) unit of bedrock; the bqpc unit that underlays the project study area consists of "biotite-quartz-plagioclase gneiss with subordinate biotite grantic gneiss, amphibolite, calcsilicate rock" assumed to be from the Middle Proterozoic period (NYSM, 1995). The project is also underlain by the surficial geologic unit till (t) defined by "variable texture (e.g. clay, silt-clay, boulder clay), usually poorly sorted diamict, deposition beneath glacier ice, relatively impermeable (loamy matrix), variable clast content...potential land instability on steep slopes, thickness variable (1-50 meters)" (NYSM, 1989).

4.4 Surface Waters

The USGS map did not identify any waterways within the project study area or action area. The USGS identified an unnamed tributary (UNT) to the Muscoot River west of the action area (**Figure 1**). The UNT to Muscoot River flows into Kirk Lake south of the project study area. No other streams or waterbodies were identified on USGS mapping within or immediately adjacent to the project study area or action area.

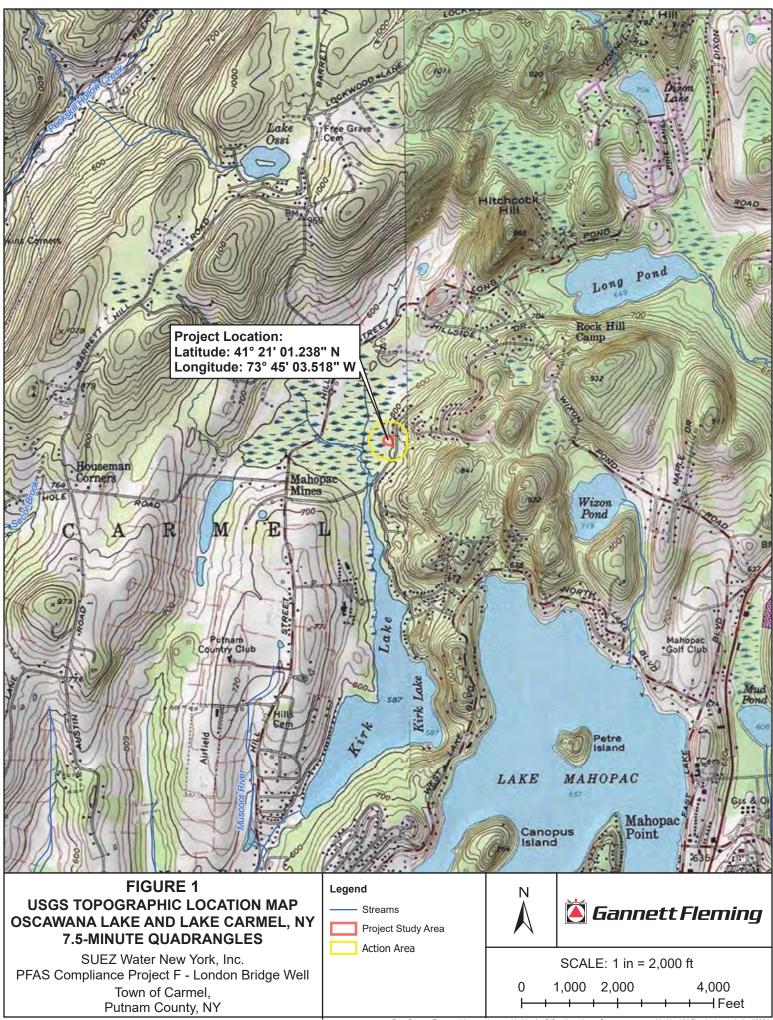
NYSDEC has designated the UNT to the Muscoot River as water quality classification "C". This classification indicates that the water resource is best used for fishing and non-contact activities. A 'C' classification is not considered protected waters of the state.

4.5 National Wetlands Inventory

The National Wetlands Inventory (NWI) online mapping tool identified three (3) features within the project study area and action area. NWI identified a palustrine, forested, broad-leaved deciduous, seasonally flooded/saturated (PFO1E) feature within the western portion of the project study area and action area. A riverine, intermittent, streambed, seasonally flooded (R4SBC) feature was identified east of the project study area within the action area. An additional linear palustrine, forested, broad-leaved deciduous, temporarily flooded (PFO1A) feature was identified east of project study area. The NWI map for the project study area is provided as **Figure 4**.

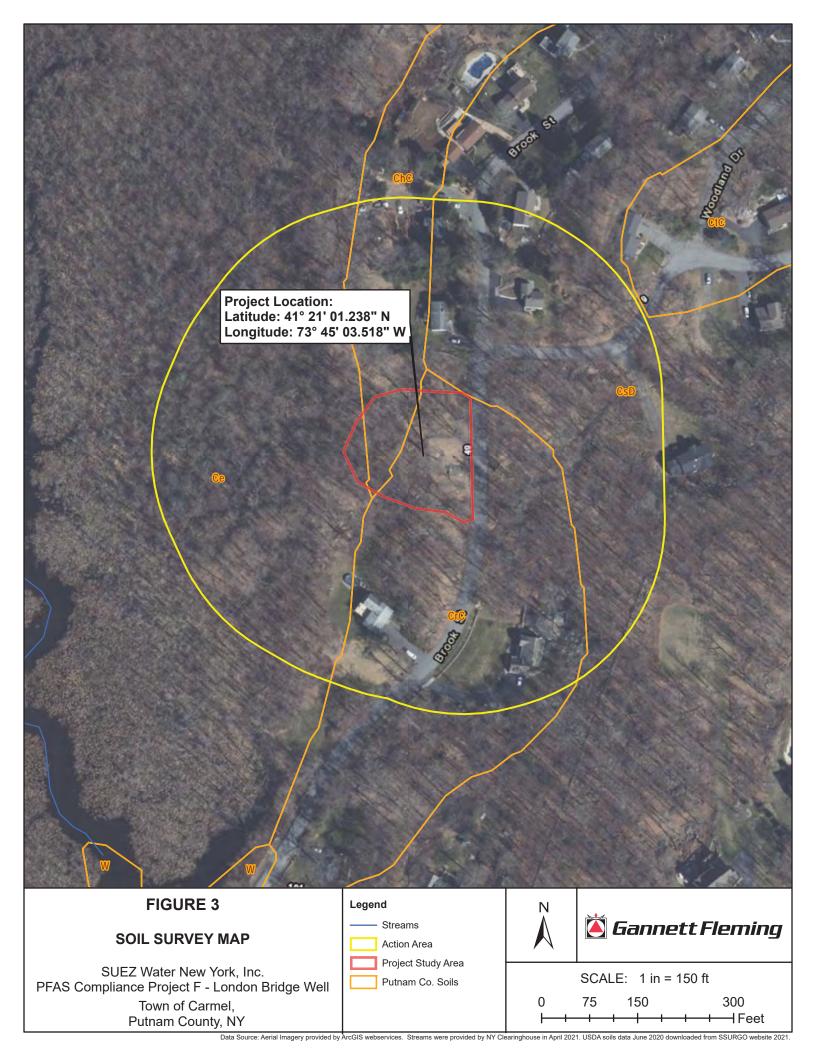
4.6 NYSDEC Wetlands

NYSDEC identified one (1) state regulated freshwater wetland within a small portion of the project study area and the western portion of the action area. Wetland OL-18 is a Class 1 wetland totaling 200.4 acres. The western portion of the project study area is within the 100-foot regulated buffer of this wetland. The 500-foot checkzone extended to the eastern extent of the action area. The NYSDEC wetlands map for the project study area is provided as **Figure 5**.



Data Source: Topographic mapping provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April2021.

FIGURE 2 PROJECT LOCATION AND STUDY AREA MAP SUEZ Water New York, Inc. PFAS Compliance Project F - London Bridge Well Town of Carmel, Putnam County, NY	Project Location: Latitude: 11° 21' 01.23 Longitude: 73° 45' 03.			
STUDY AREA MAP Action Area SUEZ Water New York, Inc. Project Study Area PFAS Compliance Project F - London Bridge Well SCALE: 1 in = 150 ft Town of Carmel, 0 75 150 300 Putnam County, NY Image: Compliance Project For the project Study Area	FIGURE 2	Legend	Ņ	
SUE2 Water New York, Inc. SCALE: 1 in = 150 ft PFAS Compliance Project F - London Bridge Well 0 75 150 300 Town of Carmel, 0 75 150 SCALE: 1 in = 150 ft Putnam County, NY Image: 1 in = 1 ft	STUDY AREA MAP	Action Area	A	interpretation and the second
Data Source: Aerial Imagery provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April 2021.	PFAS Compliance Project F - London Bridge Well Town of Carmel,		+-	75 150 300



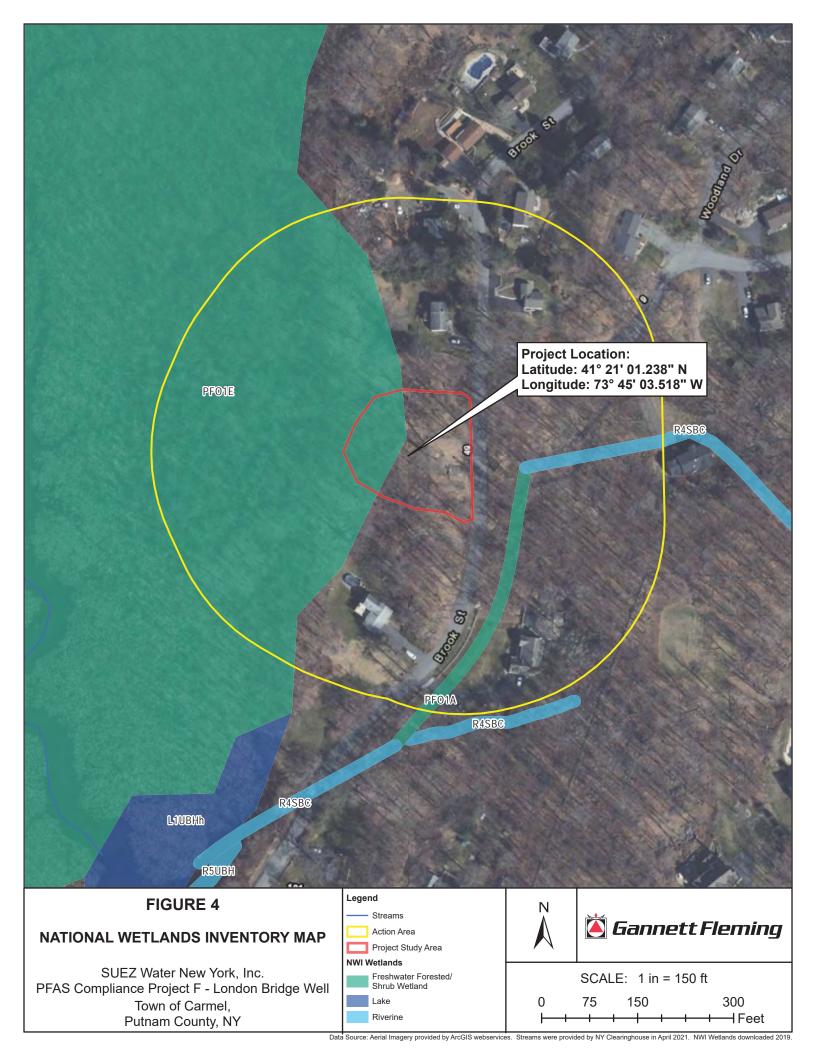


FIGURE 5	Legend	N
NYSDEC WETLANDS MAP	Streams Action Area Project Study Area	Gannett Fleming
SUEZ Water New York, Inc. PFAS Compliance Project F - London Bridge Well Town of Carmel, Putnam County, NY	NYSDEC Freshwater Wetland Boundary NYSDEC Freshwater Wetland 100' Buffer NYSDEC Freshwater Wetland Checkzone	SCALE: 1 in = 150 ft 0 75 150 300

5.0 Methods

The 0.7-acre project study area and 12-acre action area were investigated for palustrine wetland indicators of vegetative composition, soil development, and hydrology. Portions of the action area east of Brook Street were not investigated due to property access issues but conditions were documented from the road. The investigation was conducted in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (U.S. Army Corps of Engineers, 2012). Wetland field data forms were completed to document wetland or non-wetland data points. If present, wetlands within and directly adjacent to the study area were delineated so that their presence could be shown on project mapping to aid in impact avoidance and/or minimization during engineering design.

Soils were characterized by evaluating the upper horizons of the soil profile. Soil pits were dug using a "sharpshooter" spade with a 16-inch blade. Soil horizons were evaluated using normal field protocols for determining texture and nomenclature. The *Munsell Soil Color Charts* (Kollmorgen Instruments Corporation, 1994) were used to determine the colors of horizons and redoximorphic features. Soil observations of reducing conditions were determined in the field using presence/absence determinations of redoximorphic concretions and oxidized rhizospheres, and identifying low chroma matrices according to *Field Indicators of Hydric Soils in the United States (Version 7.0)* (USDA-NRCS, 2010).

Vegetation was identified using A Field Guide to Trees and Shrubs (Petrides, 1986), Newcomb's Wildflower Guide (Newcomb, 1977), and Grasses: An Identification Guide (Brown, 1979). Plant species were assigned an indicator status [i.e., Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), or Obligate Wetland (OBL)] based on the 2018 National Wetland Plant List (Version 3.4) (USACE, 2018).

Data point locations were investigated for primary and secondary wetland hydrology indicators. If present, wetland boundaries were marked using pink wetland flagging. Wetland boundary data points were located using a Trimble Geo 7X Global Positioning System (GPS) with Trimble Tornado receiver. The Trimble Geo 7X and the Tornado are capable of attaining sub-meter accuracy. The GPS data were then transferred onto relevant project mapping using the U.S. State Plane NY East coordinate system.

Wetland type classifications were assigned to each wetland following the Cowardin et al methods (1979). Hydrogeomorphic classifications were assigned to each wetland based on the *Hydrogeomorphic Wetland Classification: HGM Classification for Wetlands of the Mid-Atlantic Region, USA* (Brooks, 2017). Palustrine plant community classifications were assigned to each wetland based on *Ecological Communities of New York State* (Edinger et al, 2014). Color photographs were taken of all relevant features to document site conditions during the time of the investigation.

Waterways were identified through a review of available mapping and field investigation. Topographic and engineering maps were reviewed for the presence of streams within the project study area. A field investigation for waterways was performed in conjunction with the wetland field investigation and included the field verification of mapped watercourses and the identification and delineation of streams, springs, and seeps that were not shown on existing engineering plans. Waterways were identified by the presence of bed and banks and/or ordinary

high-water marks. The flow regime of each identified waterway was characterized based upon field indicators of hydrologic, floral, and faunal character at the time of the investigation. All identified waterways were photographed and located using GPS.

6.0 Field Observations and Delineated Features

On April 22, 2021, GF investigated the 0.7-acre project study area and 12-acre action area for wetlands and waterways. The weather conditions were mostly sunny and windy with a high temperature of 46°F. Precipitation data indicated no precipitation occurred on the day of the investigation and 0.17 inch of precipitation fell across the region within the 48 hours prior to the field investigation. Weather data was recorded at Danbury Municipal Airport Station in Danbury, CT, approximately 14 miles east of the project study area.

The dominant land-uses within and surrounding the project study area and action area included residential properties, mixed forests, local roads, and mowed lawns. Dominant vegetation observed within the project study area is summarized in **Table 2**.

Scientific Name	Common Name	Indicator Status						
Tree Species								
Acer rubrum	Red Maple	FAC						
Quercus velutina	Black Oak	NL						
Betula alleghaniensis	Yellow Birch	FAC						
Ostrya virginiana	Eastern Hop-Hornbeam	FACU						
	Shrub Species							
Lindera benzoin	Northern Spicebush	FACW						
Rosa multiflora	Multiflora Rose	FACU						
Berberis thunbergii	Japanese Barberry	FACU						
Euonymus alatus	Burning Bush	UPL						
Vaccinium corymbosum	Highbush Blueberry	FACW						
Lonicera tatarica	Tartarian Honeysuckle	FACU						
	Herb Species							
Alliaria petiolata	Garlic Mustard	FACU						
Symplocarpus foetidus	Skunk Cabbage	OBL						
Osmundastrum cinnamomeum	Cinnamon Fern	FACW						
Veratrum viride	American False Hellebore	FACW						
Erythronium americanum	Yellow Trout Lily	NL						
	Vine Species							
Vitis sp.	Grape Species	-						

Table 2. Dominant Plant Species List

6.1 Waterbodies & Wetlands

During the field investigation, one (1) palustrine wetland complex was delineated within the project study area and action area. Delineated wetlands are listed in **Table 3** with their respective delineated area, Cowardin Classification, hydrogeomorphic (HGM) wetland classification, and Ecological Community of New York State. Wetland boundaries were mapped and are presented in **Appendix A**. Photographs were taken of the wetlands and are provided in **Appendix B**. The Wetland Determination Data Forms are provided in **Appendix C**.

Wetland ID Area		Cowardin	HGM Wetland	Ecological
(acre)		Classification	Classification	Community
Wetland 1	4.30+ (Open-Ended)	PFO	Riverine Lower Perennial (R2)	Red-Maple Hardwood Swamp

6.2 Waterways

During the field investigation, one (1) waterway was identified and delineated within the project study area and action area.

Stream 1, perennial, 708+ linear feet

Stream 1 was identified in the field within the project study area and action area. Stream 1 flows from east to west, through Wetland 1, and out of the action area towards the Muscoot River. The stream flows under Brook Street through a culvert into the project study area. The stream was not able to be delineated on the east side of Brook Street due to property access issues.

Channel Width	hannel Width Bank Height		Substrate
3-5 feet	2 feet	2-4 inches	Boulder, Cobble, Gravel

7.0 Wetland & Waterway Resource Summary

The field investigation conducted by GF on April 22, 2021, identified and delineated one (1) wetland and one (1) waterway in conjunction with the PFAS Compliance Project F – London Bridge Well. The following features were delineated in the field:

Wetlands (Field Delineated)

• Wetland 1 – PFO wetland, 4.30+ acre (Open-Ended)

Waterways (Field Delineated)

• Stream 1 – Perennial, Unnamed Tributary to Muscoot River, 708+ linear feet

*Length in linear feet for Stream 1 was delineated in the field west of Brook Street. East of Brook Street, the length of Stream 1 was digitized and measured using aerial imagery.

A "+" indicates the delineated resource extends beyond the Project Study Area or Action Area.

8.0 References

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- Weather Underground. 2021. "*Danbury, CT Weather History*." Available online at <u>https://www.wunderground.com/</u>. Accessed April 28, 2021.

9.0 List of Contributors

Steven C. Smith, Senior Environmental Scientist 38 Hour U.S. Army Corps of Engineers Wetland Delineator Certification Training Program PennDOT Phase I Bog Turtle Habitat Evaluation Training Professional Experience: 21 years Education: B.S. Geoenvironmental Studies

Jillian Arnold, Senior Environmental Scientist 36-Hour Swamp School Wetland Delineation & Regional Supplement Training Society of Wetland Scientists, Professional Wetland Scientist (PWS) #2736 PennDOT Phase I Bog Turtle Habitat Evaluation Training Professional Experience: 17 years Education: B.S., Geoenvironmental Studies, GIS Certificate M.S., Biology

Clayton D. Frey, Environmental Scientist

36-Hour Swamp School Wetland Delineation and Regional Supplement Training
24-Hour OSHA Hazardous Waste Operations and Emergency Response Certification
Professional Experience: 3 years
Education: B.S., Wildlife and Fisheries Science

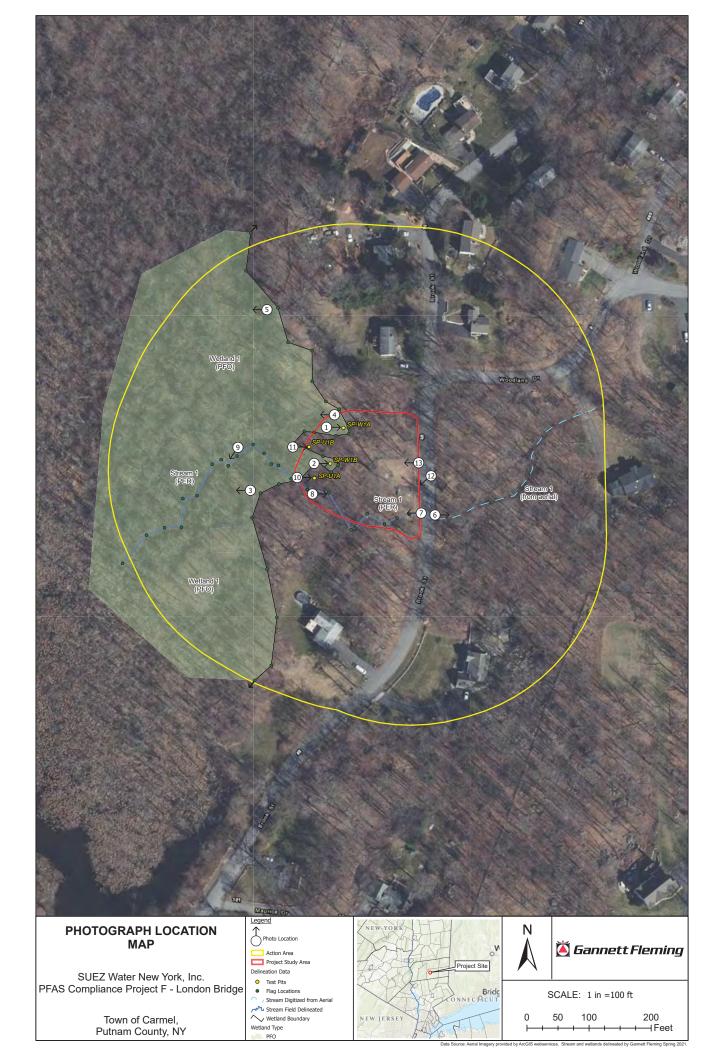
Kayla Briggs, Environmental Scientist ESRI MOOC Do it Yourself Geo Apps (6-Week Course) ESRI Web Courses and Online Training Seminars Professional Experience: 11 years Education: B.S., Geoenvironmental Studies, GIS Certificate

APPENDIX A

WETLANDS AND WATERWAYS MAPPING



APPENDIX B SITE PHOTOGRAPHS AND PHOTOGRAPH LOCATION MAP





Photograph 1: Overview of SP-W1A, a wetland test pit recorded within Wetland 1 (PFO), looking towards the project site. (facing east; 4/22/2021)



Photograph 2: Overview of SP-W1B, a wetland test pit recorded within Wetland 1 (PFO), looking towards the project site. (facing east; 4/22/2021)



Photograph 3: Overview of Wetland 1 (PFO), taken south of Stream 1. (facing west; 4/22/2021)



Photograph 4: Overview of Wetland 1 (PFO), taken north of test pit SP-W1A. (facing west; 4/22/2021)



Photograph 5: Overview of Wetland 1 (PFO), taken near the northwestern extent of the action area. (facing west; 4/22/2021)



Photograph 6: Upstream view of Stream 1, taken from culvert on Brook Street. (facing east; 4/22/2021)



Photograph 7: Downstream view of Stream 1, flowing from culvert under Brook Street. (facing west; 4/22/2021)



Photograph 8: View of Stream 1, looking upstream towards Brook Street. (facing east; 4/22/2021)



Photograph 9: View of Stream 1 running through Wetland 1. (facing southwest; 4/22/2021)



Photograph 10: View of SP-U1A, and upland test pit taken to document conditions surrounding Wetland 1, looking towards the existing well site. (facing east; 4/22/2021)



Photograph 11: View of SP-U1B, an upland test pit taken adjacent to Wetland 1 and Stream 1 to document conditions adjacent to these habitats. (facing east; 4/22/2021)



Photograph 12: Overview of the existing well site, taken from Brook Street. (facing southwest; 4/22/2021)



Photograph 13: Overview of proposed gravel drive and PFAS building location on north side of the existing well site. (facing west; 4/22/2021)

APPENDIX C WETLAND FIELD DATA FORMS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: London Bridge	City/County: Putnam County Sampling Date: April 22, 2021
Applicant/Owner: SUEZ Water NY	State: <u>NY</u> Sampling Point: <u>SP-W1A</u>
	Section, Township, Range: Town of Carmel
Landform (hillslope, terrace, etc.): hillslope	ocal relief (concave, convex, none): <u>concave</u> Slope (%): <u>2</u>
Subregion (LRR or MLRA): LRR R Lat: 41.400529	Long: 73.751104 Datum: NAD83
Soil Map Unit Name: Charlton fine sandy loam, 8 to 15 percent	slopes (ChC) NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of y	
Are Vegetation, Soil, or Hydrology significantly	
Are Vegetation , Soil , or Hydrology , naturally pr	
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separate repo Small lobe of larger PFO wetland complex.	Is the Sampled Area within a Wetland? Yes No If yes, optional Wetland Site ID: W1A
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
X Surface Water (A1)	
X High Water Table (A2) Aquatic Fauna X Saturation (A3) Marl Deposits	
Water Marks (B1)	
	ospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
	Reduced Iron (C4) Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	eduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5)	rface (C7) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	n in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes X No Depth (inchest)	a 1
Surface Water Present? Yes X No Depth (inchest Vest) Water Table Present? Yes X No Depth (inchest)	
Saturation Present? Yes X No Depth (incluses)	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if available:
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
Acer rubrum	60	Y	FAC	Number of Dominant Species That Are OBL FACW or FAC: 2 (A)
2. Ostrya virginiana	10	N	FACU	That Are OBL, FACW, or FAC: 2 (A)
				Total Number of Dominant Species Across All Strata: 2 (B)
3				Species Across All Strata: <u>2</u> (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	70	= Total Cov	/er	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: N/A)				FACW species x 2 =
1				FAC species x 3 =
				FACU species x 4 =
2				UPL species x 5 =
3				Column Totals: 0 (A) 0 (B)
4			. <u> </u>	Drouglance Index D/A
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				Rapid Test for Hydrophytic Vegetation
	0	= Total Cov	/er	Dominance Test is >50%
Herb Stratum (Plot size: 5')				Prevalence Index is $\leq 3.0^{1}$
1. Symplocarpus foetidus	5	N	FACW	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Impatiens capensis	2	N	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3 Symplocarpus foetidus	30	Y	OBL	
				¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5			. <u> </u>	Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
12.	37	= Total Cov		height.
N/A			/ei	
Woody Vine Stratum (Plot size: N/A)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes X No
	0	= Total Cov	/er	
Remarks: (Include photo numbers here or on a separate	sheet.)			

SOIL	

Profile Desc	ription: (Describe	to the de	pth needed to docu	ment the	indicato	r or confir	rm the absence of indicators.)
Depth (inchoo)	Matrix	01		x Feature	es T1	1 2	- Toyturo Domesta
<u>(inches)</u> 0 - 4	Color (moist) 10YR 2/2	<u>%</u> 100	Color (moist)	%	Type ¹	Loc ²	Texture Remarks SiL
4 - 10	10YR 5/2	85	7.5YR 5/8	15	С	М	CL
·							
					<u> </u>		
1 Type: C=C(oncentration D=Der	oletion RN	I=Reduced Matrix, C	S=Covere	d or Coa	ed Sand (Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil				0-001010			Indicators for Problematic Hydric Soils ³ :
Histosol			Polyvalue Belo	w Surface	e (S8) (LF	RR.	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B				Coast Prairie Redox (A16) (LRR K, L, R)
Black Hi			Thin Dark Surfa				
	en Sulfide (A4)		Loamy Mucky I			K , L)	Dark Surface (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surfac	CO (A11)	Loamy Gleyed		2)		Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L)
	ark Surface (A12)	Se (ATT)	Redox Dark Su)		Iron-Manganese Masses (F12) (LRR K, L, R)
	lucky Mineral (S1)		Depleted Dark				Piedmont Floodplain Soils (F19) (MLRA 149E
	Gleyed Matrix (S4)		Redox Depress				Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5)						Red Parent Material (F21)
	Matrix (S6)						Very Shallow Dark Surface (TF12)
Dark Su	rface (S7) (LRR R,	MLRA 149	B)				Other (Explain in Remarks)
³ Indicators of	f hydrophytic vegets	ation and w	etland hydrology mus	st he nres	ent unle	s disturhe	ed or problematic
	Layer (if observed)		iciana nyarology ma		ient, unie.		
Type: RC							
	ches): 10+						Hydric Soil Present? Yes X No
Remarks:							
Kennarks.							

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: London Bridge	City/County: Putnam County Sampling Date: April 22, 2021
Applicant/Owner: SUEZ Water NY	State: NY Sampling Point: SP-W1B
Investigator(s): S. Smith, C. Frey	Section, Township, Range: Town of Carmel
Landform (hillslope, terrace, etc.): Hillslope	ocal relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR or MLRA): LRR R Lat: 41.400394	Long: 73.751165 Datum: NAD83
Soil Map Unit Name: Charlton fine sandy loam, 8 to 15 percent	slopes (ChC) NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of y	ear? Yes 🔀 No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "Normal Circumstances" present? Yes 🔀 No 🦲
Are Vegetation, Soil, or Hydrology naturally pr	
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes X No Remarks: (Explain alternative procedures here or in a separate repo Small lobe of larger wetland complex.	Is the Sampled Area within a Wetland? Yes X No If yes, optional Wetland Site ID: W1B
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Leaves (B9) Drainage Patterns (B10)
High Water Table (A2)	a (B13) Moss Trim Lines (B16)
Saturation (A3) Marl Deposits	
Water Marks (B1)	
	ospheres on Living Roots (C3) L Saturation Visible on Aerial Imagery (C9)
	Reduced Iron (C4) Stunted or Stressed Plants (D1)
	eduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Sur Inundation Visible on Aerial Imagery (B7) Other (Explain	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches	5):
Water Table Present? Yes X No Depth (inches	s): <u>3</u>
Saturation Present? Yes X No Depth (inches	s): <u>3</u> Wetland Hydrology Present? Yes X No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial phot	tos, previous inspections), if available:
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2 3				Total Number of Dominant Species Across All Strata: <u>5</u> (B)
4 5				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40.00</u> (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0	= Total Cov	ver	OBL species <u>1</u> x 1 = <u>1</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species 1 x 2 = 2
_{1.} Rosa multiflora	5	Y	FACU	FAC species 1 x 3 = 3
2 Berberis thunbergia	5	Y	FACU	FACU species 3 x 4 = 12
				UPL species 0 x 5 = 0
3				Column Totals: <u>6</u> (A) <u>18</u> (B)
4 5				Prevalence Index = $B/A = \frac{3.00}{1000}$
6				Hydrophytic Vegetation Indicators:
				Rapid Test for Hydrophytic Vegetation
1	10			Dominance Test is >50%
51	10	= Total Cov	ver	\mathbf{X} Prevalence Index is $\leq 3.0^1$
Herb Stratum (Plot size: 5')				Morphological Adaptations ¹ (Provide supporting
1. Alliaria petiolate	15	Y	FACU	data in Remarks or on a separate sheet)
2. Symplocarpus foetidus	15	Y	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Ranunculus abortivus	10	Υ	FAC	1
4. Impatiens capensis	5	Ν	FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				
6				Definitions of Vegetation Strata:
				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				Woody vines – All woody vines greater than 3.28 ft in
12	45			height.
N1/A		= Total Cov	ver	
Woody Vine Stratum (Plot size: N/A)				
1				
2				
3				Hydrophytic
4				Vegetation
	•	= Total Cov	/er	Present? Yes X No
Remarks: (Include photo numbers here or on a separate		10101 000		
Vegetation was not strongly hydrophyti		nt was o	n tho u	nslone edge of the larger complex
	c but pit		ii uie u	psiope edge of the larger complex.

SOIL	

		e to the de				or or confi	rm the absence of indicat	tors.)
Depth (inches)	Matrix Color (moist)	%	Red Color (moist)	ox Featur %	Type	Loc ²	Texture	Remarks
0 - 3	10YR 2/2	100					SiL	
3 - 8	10YR 4/2	95	7.5YR 5/8	5	С	М		
			·					
			·					
			·					
		pletion, RN	I=Reduced Matrix, C	S=Cover	ed or Coa	ated Sand		=Pore Lining, M=Matrix.
Hydric Soil				0 ((00) (1			ematic Hydric Soils ³ :
Histoso	r (A1) pipedon (A2)		Polyvalue Belo		e (S8) (L	RR R,) (LRR K, L, MLRA 149B) dox (A16) (LRR K, L, R)
	istic (A3)		Thin Dark Surf		(LRR R,	MLRA 149		t or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Mucky			K , L)	Dark Surface (S7	
	d Layers (A5) d Below Dark Surfa	ce (A11)	Loamy Gleyed		-2)			Surface (S8) (LRR K, L) e (S9) (LRR K, L)
	ark Surface (A12)	00 (////)	Redox Dark S		5)			Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)		Depleted Dark					plain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4) Redox (S5)		Redox Depres	sions (F8)		Mesic Spodic (T/	A6) (MLRA 144A, 145, 149B)
	d Matrix (S6)							rk Surface (TF12)
	urface (S7) (LRR R,	MLRA 149	B)				Other (Explain in	
³ Indicators o	of hydrophytic yogot	ation and w	vetland hydrology mu	ist ha pro	cont unic	se dicturb	ad or problematic	
	Layer (if observed		reliand frydrology ffid	ist be pre	sent, unite	55 015(010)		
Type: RC		,						
	ches): <u>8+</u>						Hydric Soil Present?	Yes X No
Remarks:								

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: London Bridge		City/County: Putn	am County	_ Sampling Date: April 22, 2021
Applicant/Owner: SUEZ Water NY			State: NY	Sampling Point: SP-U1A
Investigator(s): S. Smith, C. Frey		_ Section, Township	, Range: Town of Carm	el
Landform (hillslope, terrace, etc.): hil	lslope L	ocal relief (concave,	convex, none): Convex	Slope (%): 2
Subregion (LRR or MLRA): LRR R	Lat: 41.400291		Long: 73.751383	Datum: NAD83
Soil Map Unit Name: Catden muck	<, 0 to 2 percent slopes (0	Ce)	NWI classif	ication:
Are climatic / hydrologic conditions on	the site typical for this time of	year? Yes 🔀 N	No (If no, explain in	Remarks.)
Are Vegetation, Soil, d	or Hydrology significant	ly disturbed?	Are "Normal Circumstances"	present? Yes X No
Are Vegetation, Soil, c	or Hydrology naturally p	problematic? ((If needed, explain any answ	vers in Remarks.)
SUMMARY OF FINDINGS -	Attach site map showir	ig sampling poi	nt locations, transect	s, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: (Explain alternative proce Upland area between We		port.)		No <u></u>
HYDROLOGY Wetland Hydrology Indicators:			Secondary India	cators (minimum of two required)
Primary Indicators (minimum of one	is required; check all that apply	()	Surface So	il Cracks (B6)
Surface Water (A1)		d Leaves (B9)	=	atterns (B10)
High Water Table (A2)	Aquatic Faun			Lines (B16)
Saturation (A3) Water Marks (B1)	Marl Deposits	s (B15) Ifide Odor (C1)	Dry-Seasor	n Water Table (C2)
Sediment Deposits (B2)		zospheres on Living F		Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Reduced Iron (C4)		Stressed Plants (D1)
Algal Mat or Crust (B4)		Reduction in Tilled So		c Position (D2)
Iron Deposits (B5)	Thin Muck Su		Shallow Aq	
Inundation Visible on Aerial Ima	_	n in Remarks)		raphic Relief (D4)
Sparsely Vegetated Concave S	urface (B8)		FAC-Neutra	al Test (D5)
Field Observations:				
Surface Water Present? Yes		es):		
Water Table Present? Yes		es):	Wetland Hydrology Prese	ent? Yes No X
Saturation Present? Yes (includes capillary fringe)				
Describe Recorded Data (stream ga	uge, monitoring well, aerial pho	otos, previous inspect	tions), if available:	
Remarks:				

VEGETATION – Use scientific names of plants.

I

Tree Stratum (Plot size: 30')	Absolute	Dominant Species?		Dominance Test worksheet:
Acer rubrum	<u>40</u>	Y	FAC	Number of Dominant Species That Are OBL_EACW_or EAC: 3 (A)
2. Quercus velutina	10	Y	UPL	That Are OBL, FACW, or FAC: <u>3</u> (A)
				Total Number of Dominant Species Across All Strata: 8 (B)
3				Species Across All Strata: <u>o</u> (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 37.50 (A/B)
5				
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	50	= Total Cov	/er	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species $x = \frac{0}{1}$
_{1.} Lindera benzoin	20	Y	FACU	FAC species $x = \frac{0}{2}$
2. Rosa multiflora	5	Y	FACU	FACU species x 4 = $\frac{0}{2}$
3. Berberis thunbergia	5	Y	FACU	UPL species $x = 0$
4				Column Totals: 0 (A) 0 (B)
				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				Rapid Test for Hydrophytic Vegetation
7	30			Dominance Test is >50%
E!	30	= Total Cov	/er	Prevalence Index is $\leq 3.0^1$
Herb Stratum (Plot size: 5')	0			Morphological Adaptations ¹ (Provide supporting
1. Erythronium rostratum	2	N	UPL	data in Remarks or on a separate sheet)
2. Alliaria petiolata	20	Y	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Symplocarpus foetidus	20	Y	FACW	¹ Indicators of hydric soil and wetland hydrology must
4. Veratrum viride	20	Υ	FACW	be present, unless disturbed or problematic.
5. Allium ascalonicum	2	Ν	UPL	Definitions of Vegetation Strata:
6				
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
				of size, and woody plants less than 3.28 ft tall.
11				Woody vines – All woody vines greater than 3.28 ft in
12	64			height.
N/A		= Total Cov	/er	
Woody Vine Stratum (Plot size: N/A)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No X
	0	= Total Cov	/er	
Remarks: (Include photo numbers here or on a separa	te sheet.)			

SUIL

Profile Desc	cription: (Describe	to the dep	th needed to docur	nent the i	ndicator	or confirn	m the absence of indicators.)
Depth	Matrix			x Features		1 . 2	Tata
(inches) 0 - 6	Color (moist) 10YR 2/2	<u>%</u> 100	Color (moist)	%	Type ¹	Loc ²	Remarks SiL
6 - 10	10YR 3/2			·			· ·
0-10	101R 3/2	100					<u>SiL</u>
							· ·
·		·					· ·
<u> </u>		·		·			· ·
							·
		·					·
1		·					·
Type: C=Co Hydric Soil	oncentration, D=Dep	letion, RM=	Reduced Matrix, CS	S=Covered	l or Coate	ed Sand G	irains. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
Histosol			Polyvalue Belov	N Surface	(S8) (I R	R	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	oipedon (A2)		MLRA 149B		(00) (11	,	Coast Prairie Redox (A16) (LRR K, L, R)
Black Hi			Thin Dark Surfa				
	en Sulfide (A4) d Layers (A5)		Loamy Mucky M			., L)	Dark Surface (S7) (LRR K, L)
	d Below Dark Surfac	e (A11)	Loamy Gleyed)		Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L)
	ark Surface (A12)	0 ()	Redox Dark Su				Iron-Manganese Masses (F12) (LRR K, L, R)
	lucky Mineral (S1)		Depleted Dark		7)		Piedmont Floodplain Soils (F19) (MLRA 149B)
	Bleyed Matrix (S4)		Redox Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5) I Matrix (S6)						Red Parent Material (F21) Very Shallow Dark Surface (TF12)
	rface (S7) (LRR R, N	/LRA 149E	3)				Other (Explain in Remarks)
	f hydrophytic vegetat		etland hydrology mus	t be prese	nt, unless	s disturbec	d or problematic.
Type: roc	Layer (if observed): _k						
							Hydric Soil Present? Yes No X
	ches): <u>10</u>						
Remarks:							

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: London Bridge	City/County: Putn	am County	Sampling Date: April 22, 2021
Applicant/Owner: SUEZ Water NY		State: NY	Sampling Point: SP-U1B
Investigator(s): S. Smith, C. Frey	Section, Township	, Range: Town of Carmel	
Landform (hillslope, terrace, etc.): hillslope	Local relief (concave,	convex, none): convex	Slope (%): 2
Subregion (LRR or MLRA): LRR R Lat: 41.4004	446	Long: 73.751307	Datum: NAD83
Soil Map Unit Name: Catden muck, 0 to 2 percent slopes (Ce)	NWI classifi	cation:
Are climatic / hydrologic conditions on the site typical for this time	e of year? Yes 🔀 N	No (If no, explain in I	Remarks.)
Are Vegetation, Soil, or Hydrologysignifi	cantly disturbed?	Are "Normal Circumstances"	present? Yes X No
Are Vegetation, Soil, or Hydrology natura	ally problematic? ((If needed, explain any answ	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sho	wing sampling poin	nt locations, transect	s, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separate Upland area located between two small lol	e report.)	nal Wetland Site ID:	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of one is required; check all that a	(vlage	_	I Cracks (B6)
	ained Leaves (B9)		atterns (B10)
	auna (B13)	Moss Trim I	
Saturation (A3)	osits (B15)	Dry-Season	Water Table (C2)
Water Marks (B1)	n Sulfide Odor (C1)	🔲 Crayfish Bu	rrows (C8)
	Rhizospheres on Living F		/isible on Aerial Imagery (C9)
	e of Reduced Iron (C4)		Stressed Plants (D1)
	on Reduction in Tilled So		c Position (D2)
	k Surface (C7)	Shallow Aqu	
Inundation Visible on Aerial Imagery (B7) Other (E) Sparsely Vegetated Concave Surface (B8)	kplain in Remarks)	FAC-Neutra	aphic Relief (D4)
Field Observations:			
	nches):		
	nches):		
Saturation Present? Yes No X Depth (in (includes capillary fringe)	nches):	Wetland Hydrology Prese	nt? Yes No X
Describe Recorded Data (stream gauge, monitoring well, aerial	l photos, previous inspect	tions), if available:	
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:		
Acer rubrum	40	Y	FAC	Number of Dominant Species	1	
		·		That Are OBL, FACW, or FAC:	1	(A)
2	. <u> </u>			Total Number of Dominant	0	
3				Species Across All Strata:	3	(B)
4				Percent of Dominant Species		
5				That Are OBL, FACW, or FAC:	33.33	(A/B)
6						
				Prevalence Index worksheet:	-	
7	40			Total % Cover of:		
	40	= Total Cov	er	OBL species		_
Sapling/Shrub Stratum (Plot size: 15')				FACW species		_
1. Berberis thunbergia	2	N	FACU	FAC species		_
2. Vaccinium corymbosum	30	Υ	FACW	FACU species		_
3	·			UPL species		
				Column Totals: 0	(A) <u>0</u>	(B)
4				Prevalence Index = B/A		
5	·			Prevalence index = b/A		
6				Hydrophytic Vegetation India	cators:	
7				Rapid Test for Hydrophytic	: Vegetation	
	32	= Total Cov	or	Dominance Test is >50%		
Had Chatter (Distributed 5'		- 10/01/00/	CI	Prevalence Index is $\leq 3.0^1$		
Herb Stratum (Plot size: 5')	2	N	OBL	Morphological Adaptations	s ¹ (Provide support	ting
1. Symplocarpus foetidus	·			data in Remarks or on		
2. Erythronium rostratum	30	Y	UPL	Problematic Hydrophytic V	'egetation ¹ (Explai	n)
3. Polystichum acrostichoides	1	Ν	FACU	1		
4				¹ Indicators of hydric soil and w be present, unless disturbed or		nust
					•	
5				Definitions of Vegetation Stra	ata:	
6	·			Tree – Woody plants 3 in. (7.6	cm) or more in dia	ameter
7	·			at breast height (DBH), regard		
8				Sapling/shrub – Woody plants	s less than 3 in. D!	зн
9				and greater than 3.28 ft (1 m) t		
10				Herb – All herbaceous (non-wo	oody) plants, rega	rdless
				of size, and woody plants less	than 3.28 ft tall.	alcoo
11	·					0.4.:-
12				Woody vines – All woody vine height.	s greater than 5.2	0 11 11
	33	= Total Cov	er	5		
Woody Vine Stratum (Plot size: N/A)						
1						
2.						
3	·			Hydrophytic Vegetation		
4				Present? Yes	No X	
		= Total Cov	ver			
Remarks: (Include photo numbers here or on a separate s	sheet.)					

SOIL	

Profile Desc	ription: (Describe	to the de	pth needed to document the indicator or confirm	the absence of indicators.)
Depth	Matrix		Redox Features	
<u>(inches)</u> 0 - 4	Color (moist) 10YR 2/2	<u>%</u> 100	Color (moist) % Type ¹ Loc ²	Texture Remarks SiL
4 - 8		-		·
4 - 8	7.5YR 4/4	100		SiL
·				
		_		
·				
17				ing 2 partice DL Dave Lister M Matrix
Hydric Soil		Dietion, RIV	I=Reduced Matrix, CS=Covered or Coated Sand Gra	ains. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
Histosol			Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	oipedon (A2)		MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
Black Hi			Thin Dark Surface (S9) (LRR R, MLRA 149B)	
	en Sulfide (A4) d Layers (A5)		Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L)
	d Below Dark Surfac	e (A11)	Depleted Matrix (F3)	Thin Dark Surface (S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Surface (F6)	Iron-Manganese Masses (F12) (LRR K, L, R)
	Aucky Mineral (S1) Gleyed Matrix (S4)		Depleted Dark Surface (F7) Redox Depressions (F8)	Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5)			Red Parent Material (F21)
	Matrix (S6)			Very Shallow Dark Surface (TF12)
Dark Su	rface (S7) (LRR R, I	MLRA 149	B)	Other (Explain in Remarks)
³ Indicators o	f hydrophytic vegeta	tion and w	etland hydrology must be present, unless disturbed	or problematic.
Restrictive I	Layer (if observed)			
Type: RC				
Depth (in	ches): <u>8+</u>			Hydric Soil Present? Yes No X
Remarks:				
l				

Sodium Hypochlorite (12%) – 50 gallon tank

(545138)

ALLIED UNIVERSAL CORPORATION

Headquarters:

3901 NW 115th Avenue, Miami, Florida 33178 Phone: (305) 888 - 2623

MATERIAL SAFETY DATA SHEET

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR § 1910.1200.

TODAY'S DATE:

MSDS NUMBER: 0001

24 HOUR EMERGENCY CHEMICAL SPILL OR RELEASE PHONE NUMBERS:

Allied Universal Corp. at 1-305-483-7732 (Digital Beeper) and/or CHEMTREC at 1-800-424-9300

SECTION 1 CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Sodium Hypochlorite

Product Names: Aqua Guard Chlorinating Sanitizer, Aqua Guard Bleach, Liquid Chlorine Solution, Liquid Bleach, Hypochlorite, Hypo and Chlorine Bleach.

Listed Strengths: 10.5%, 12.5% and 15%

Date MSDS Revised: August 2007 (previous revision 11/04)

09/06/07

Product Use: Disinfectant and sanitizer, see product label for all approved uses & instructions. **NSF Approval:** Yes. Certified to NSF/ANSI Standard 60. Maximum use in Potable Water is 84 mg/L for 12.5% bleach and 100 mg/L for 10.5% bleach.

NSF Non-Food Compounds Approval: Yes

SECTION 2 HAZARD INGREDIENTS/IDENTITY INFORMATION

Hazardous Ingredient(s	s): % (w/w) as Sodium Hypochlorite :	10.5-16%	
Exposure Standards: 1	None established for Sodium Hypochlorite	, as Chlorine exposure standards are:	
PEL (OSHA):	1 ppm as Cl ₂	STEL (OSHA):	3 ppm as Cl ₂
TLV (ACGIH):	0.5 ppm as Cl ₂	TWA (ACGIH):	0.5 ppm as Cl ₂
WEEL (AIHA):	2 mg/m3, 15 minute TWA as Cl ₂	STEL (ACGIH):	1 ppm as Cl ₂
Emergency Overview:	May cause burns to the eyes, skin and	mucous membranes.	and the second second

SECTION 3 PHYSICAL/CHEMICAL CHARACTERISTICS

Alternate Name(s):	Bleach
Chemical Name:	Sodium Hypochlorite
Chemical Family:	Oxidizing Agent
Molecular Formula:	Na-O-Cl
Form:	Liquid
Appearance:	Water clear to a slight greenish-yellow, or light yellow aqueous solution
Odor:	Chlorine odor
pH:	11-14, dependent upon % weight as Sodium Hypochlorite
Vapor Pressure:	Not available
Vapor Density (Air=1):	Not available
Boiling Point:	Approximately 230° F (110° C)
Freezing Point:	14 F(8% w/w Cl ₂ solution), 7 F(10% w/w Cl ₂ solution), -3 F (12% w/w Cl ₂ solution)
Solubility (Water):	Completely Soluble
Solubility (Other):	Reacts with Many Organic Solvents
Density:	Appx. 10 lbs. per gallon
Evaporation Rate:	Not Available
Specific Gravity:	1.126 (8% w/w Cl ₂ solution), 1.163 (10% w/w Cl ₂ solution), 1.202 (12% w/w Cl ₂ solution), 1.25 (15% w/w Cl ₂ solution)
Molecular Weight:	74.5

SECTION 4 STABILITY & REACTIVITY DATA

Chemical Stability	Stable X	Unstable		
Incompatibility (Conditions	to Avoid): Stability decreases with h	neat and light exposure.		
caustics ammonia urea reducir	agents, organics, ether and oxidizabl	ong acids. Other incompatibles include strong e materials. Reaction with metals (nickel, iron, n. May react with organohalogen compounds to		

CAS Number: 7681-52-9

	(545156)	
acids and reducing agents. Acidification	on liberates chlorine gas.	ro- and chloro-organic compounds as well as
Hazardous dases/vapors produced a	re hypochlorous acid, chlorine and hy dditional decomposition products, whic	composes with heat and reacts with acids, rdrochloric acid. Composition depends upon ch depend on pH, temperature and time, are
No Mechanical Shock or Impact	No Static Discharge	Oxidizer: No if <12% by weight, Yes if > than 12% by weight
Hazardous Polymerization	May Occur	Will Not Occur X

15151201

Note: Sodium Hypochlorite reacts violently with amines and ammonium salts. Solutions are reactive with common cleaning products such as toilet bowl cleaners, rust removers, vinegar, acids, organics and ammonia products to produce hazardous gases such as chlorine and other chlorinated species.

SECTION 5 POTENTIAL HEALTH EFFECTS AND FIRST AID INFORMATION

GENERAL: May cause immediate pain. Exposure to the skin may cause sensitization or other allergic responses. If the eye is not irrigated immediately after it has been exposed permanent eye damage may occur. Strict adherence to first aid measures following any exposure is essential. SPEED IS ESSENTIAL!

ROUTE(S) OF ENTRY AND POTENTIAL HEALTH EFFECTS	EMERGENCY & FIRST AIDE PROCEDURES
INHALATION: Strong irritating to mucous membranes in the nose, throat and respiratory tract. Prolonged contact can cause chronic irritation, pulmonary edema and central nervous system depression. Repeated inhalation exposure may cause impairment of lung function and permanent lung damage.	If inhaled, move expose person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. If breathing is difficult, have trained person administer oxygen. Call a poison control center or medical physician for further treatment advice. Have the product label or MSDS with you when calling or going for medical treatment.
SKIN CONTACT: Prolonged and repeated exposure to dilute solutions often causes irritation, redness, pain and drying and cracking of the skin. Human evidence has indicated that an ingredient in this product can cause skin sensitization. Depending upon the concentration and how soon after exposure the skin is washed with water, skin contact may cause burns and tissue destruction.	If on skin or clothing, take off all contaminated clothing and rinse skin immediately with plenty of water for 15-20 minutes. If irritation persists, repeat flushing. Do not transport victim unless the recommended irrigation period is completed unless flushing can be continued during transport. Call a poison control center or medical physician for treatment advice. Have the product label or MSDS with you when calling or going for medical treatment.
EYE CONTACT: Strongly irritating to eyes. Exposure to vapor can cause tearing, conjunctivitis and burning of the eyes. Eye contact may cause a corneal injury. The severity of the effects depend on the concentration and how soon after exposure the eyes are washed with water. In severe exposure cases, glaucoma, cataracts and permanent blindness may occur.	If in eyes, hold eye open and rinse slowly and gently with plenty of water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye for 10-15 minutes. Do not transport victim until the recommended flushing period is completed unless irrigation can be continued during transport. Call a poison control center or medical physician for further treatment advice. Have the product label and/or MSDS with you when calling or going to medical treatment.
INGESTION: Corrosive. Can cause severe corrosion of and damage to the gastrointestinal tract (including mouth, throat, and esophagus). Exposure is characterized by nausea, vomiting, abdominal pain, diarrhea, bleeding, and/or tissue ulceration.	If swallowed, call poison control center or medical physician immediately for treatment advice. Have the product label or MSDS with you when calling or going for medical treatment. Have exposed person sip a glass of water if able to swallow, and dilute immediately by giving milk, melted ice cream, starch paste or antacids such as milk of magnesia. Avoid sodium bicarbonate because of carbon dioxide release. DO NOT INDUCE VOMITING, LAVAGE OR ACIDIC ANTIDOTES unless told to do so by poison control center or medical physician. DO NOT give anything by mouth to an unconscious person. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water.

NOTE TO PHYSICIAN(S): Pre-existing medical conditions may be aggravated by exposures affecting target organs. There are no known chronic effects. Probable mucosal damage may contraindicate the use of gastric lavage. In addition to the alkalinity of this product, the continued generation of chlorine gas after ingestion can damage further the stomach mucous, depending on the amount ingested. Consideration may be given to removal of the product from the stomach, taking care to avoid perforation of esophagus or stomach. An ounce of 1% sodium thiosulfate or milk of magnesia is helpful.

SECTION 6 TOXICOLOGICAL DATA

ANIMAL DATA: Inhalation 0.25-hour LC50 - 10.5 mg/L in rats; Acute Dermal LD50 - 10,000 mg/kg in rabbits; Acute Oral LD50 - 8910 mg/kg in rats

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SUMMARY: The concentrated solution is corrosive to skin, and a 5% solution is a severe eye irritant. Solutions containing more than 5% available chlorine are classified by DOT corrosive (please see section 10 of this MSDS). Toxicity described in animals from single exposures by ingestion include muscular weakness, and hypoactivity. Repeated ingestion exposure in animals caused an increase in the relative weight of adrenal glands in one study, but no pathological changes were observed in two other studies. Long-term administration of compound in drinking water of rats caused depression of the immune system. No adverse changes were observed in an eight week dermal study of a 1% solution in guinea pigs. Tests in animals demonstrate no carcinogenic activity by either the oral or dermal routes. Tests in bacterial and mammalian cell cultures demonstrate mutagenic activity.

CARCINOGENICITY: None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as carcinogen.

MUTAGENICITY: Sodium Hypochlorite has been shown to produce damage to genetic material when tested in vitro. Studies in vivo have shown no evidence of mutagenic potential for this material. It is judged that the risk of genetic damage is insignificant for sodium hypochlorite because of its biological activity, lack of mutagenicity in vivo, and failure to produce carcinogenic response.

SECTION 7 FIRE AND EXPLOSION HAZARD DATA

Flash Point: This product does not f	lash	Flammable Limits (Lower): Not Applicable			
Flammable Limits (Upper): Not App		Auto Igni		perature: Not Applicable	
Decomposition Temperature: Not	Applicable			Burning: Not Available	
Explosive Power: Not Available	Sensitivity to M	Mechanical Impact: to be sensitive to pactSensitivity to Static Discharg Not expected to be sensitive static discharge			
Fire and Explosion Hazards: This flammable but is decomposed by heat ar pressure build-up which could result in an heated, it may release chlorine gas or Vigorous reaction with oxidizable or orga result in fire.	nd light, causing a explosion. When hydrochloric acid.	surrounding fog or spray.	fire. Foar If leak o the vapors	dia: Use agents appropriate for n, dry chemical, carbon dioxide, water or spill has not ignited, use water spray and to protect persons attempting to	
Fire Fighting Procedures: Water used to cool containers and may be use escaping vapor. Remove storage vess zone.	ed to knock down	clothing. in	cluding a paratus, r Toxic (ective Equipment: Full protective a NIOSH approved self-contained must be worn in a fire involving this gas vapors are produced upon	

SECTION 8 ECOLOGICAL INFORMATION

The toxicity and corrosivity of this product is a function of concentration and the concentration's pH. **ECOTOXICOLOGICAL INFORMATION:** Toxic to aquatic life. 96-hour LC50: fathead minnows: 0.090-5.9 mg/L, bluegill sunfish: 0.10-2.48 mg/L, shore crab: 1.418 mg/L, grass shrimp: 52.0 mg/L, scud: 0.145-4.0 mg/L, water flea: 2.1 mg/L. **ENVIRONMENTAL EFFECTS:** Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers. May be an aesthetic nuisance due to color. Mammals and birds, exposed wildlife would be subject to skin irritation and burns due to the corrosive nature of this material.

SECTION 9 DISPOSAL CONSIDERATIONS

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State, and Local regulations. Do not burn. Do not flush to surface water or sanitary sewer system. If pH of material is equal to or greater than a 12.5, the material is a RCRA Hazardous Waste D002, corrosive.

SECTION 10 TRANSPORT INFORMATION

U.S. DOT Basic Shipping Description: Hypochlorite Solutions, 8, UN1791, III

U.S. DOT Hazardous Substance: Yes, RQ 100 pounds (Sodium Hypochlorite)

U.S. DOT Marine Pollutant: No

U.S. DOT Required Label: Corrosive (see column 6, 49 CFR §172.101)

U.S. DOT Packaging Exception: Yes, if package meets the criteria of a limited quantity or consumer commodity as defined by 49 CFR §171.8, §173.144 and .154, and §172.312 and .316

N. AMERICAN EMERGENCY GUIDE PAGE NUMBER: 154

Transportation Emergency Phone Numbers: CHEMTREC 1-800-424-9300

SECTION 11 PRECAUTIONS FOR SAFE HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Take all precautions to avoid personal contact. Keep container closed except when transferring material. Locate safety shower and eyewash station close to chemical handling area. Use normal good industrial hygiene and housekeeping practices, wash thoroughly after handling. Store in a cool, dry, well-ventilated area, away from incompatibles (minimum distance of 20-25 feet per NFPA Code 1) and direct sunlight. Keep container properly labeled at all times. Vented containers must be used and must be kept closed when not

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being used. Long-term storage is impossible without decomposition. Only use containers made from tinted glass, polyethylene & FRP. Keep out of reach of children.

PROCESS HAZARDS: Not Available

STORAGE TEMPERATURE: Store containers below 29°C and above freezing point. Do not expose sealed containers above 40°C. Try to store in the dark at the lowest possible temperature, but keep from freezing, to slow-down decomposition.

SECTION 12 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Full handling precautions should be taken at all times. Provide good room ventilation plus local exhaust at points of emission and low level floor exhaust in immediate handling area. Where engineering controls are not feasible, use adequate local exhaust ventilation wherever mist, spray or vapor may be generated

PERSONAL PROTECTIVE EQUIPMENT:

Eye: Use chemical safety goggles when there is potential for contact (splashing), faceshield recommended – ANSI Z87.1

Skin: Gloves and protective clothing (apron, boots, and bodysuits) made from rubber, vinyl, neoprene or PVC Standard work clothing closed at the neck and wrist while wearing impervious equipment.

Respiratory (Specify Type): A NIOSH/MSHA approved air purifying respirator with an acid gas cartridge or canister may be permissible under circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is potential for uncontrolled releases, exposure levels are not known, or other circumstances where air purifying respirators may not provide adequate protection.

Other: Eyewash, shower station (ANSI Z358.1) must be provided within the immediate work area.

SECTION 13 ACCIDENTAL RELEASE MEASURES

Ventilate enclosed area. Collect product for recovery or disposal. For release to land, contain discharge by constructing dikes or applying inert absorbent; for release to water, utilize damming and/or water diversion to reduce the spread of contamination; and, for release to air, vapors may be suppressed by the use of a water fog. All run-off water must be captured for treatment and disposal. Collect contaminated soil and water, and absorbent for disposal. Notify applicable government authority if release is reportable or could adversely affect the environment. Please follow all Local, State and Federal Laws for clean-up and disposal of all contaminated material. **Deactivating Chemicals:** Sodium Sulfite, Sodium Thiosulfate and Sodium Bisulfite.

SECTION 14 REGULATORY INFORMATION

OSHA CLASSIFICATION, 29 CFR §1900-1910:

Physical Hazards: Reactivity Health Hazards: Acute - Skin Sensitizer, Corrosive

CERCLA AND SARA REGULATIONS, 40 CFR §300-373:

Reportable Quantity = 100 lb. CERCLA Hazardous Material: Yes

Title III Hazard Classifications: Acute - yes, Chronic - no, Fire - yes, Reactivity - yes & Sudden Release of Pressure - No. This product may be reportable under the requirements of 40 CFR §370.

SARA Extremely Hazardous Substance: No SARA Toxic Chemical: No

FDA 21 CFR 178.1010: Yes, Approved as Sanitizer

NSF Whitebook (former USDA Approval) Listing: Aqua Guard Chlorinating Sanitizer 10.5% - 3D, B1, B2, D1, D2, G4, G7, GX, Q4, Aqua Guard Bleach 12.5% - 3D, B1, B2, D1, D2, G4, GX, Q4

EPA "CLEAN AIR ACT": This product does not contain nor is it manufactured with ozone depleting substances. It is not defined as a Hazardous Air Pollutant per 40 CFR 112.

EPA Pesticide: The 10.5% and 12.5% sodium hypochlorite products are registered with the U.S. EPA as a pesticide, as required under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). It is a violation of Federal law to use this product for pesticidal applications in a manner inconsistent with the FIFRA labeling.

NPCA-HMIS RATING: HEALTH: 3 FLAMMABILITY: (

NFPA RATING:NONE AT THIS TIME

SECTION 15 REFERENCES

Suppliers' Material Safety Data Sheets and EPA Labeling Requirements Olin and OxyChem Sodium Hypochlorite Handbook Chlorine Institute Sodium Hypochlorite Pamphlet #96 Chlorine Institute Product Stewardship Bulletins for Sodium Hypochlorite

Chlorine Institute Product Stewardship Bulletins for Sodium Hypochlorite

This information contained herein, while not guaranteed, is offered only as a guide to the handling of this specific material and has been prepared in good faith by product knowledgeable personnel. This information is not intended to be all-inclusive as to the manner and conditions of use, handling and storage. Other factors may involve other or additional safety or performance considerations. Though Allied Universal Corporation is happy to respond to questions regarding safe handling of Allied's products, safe handling and use remains the responsibility of the product's consumers and/or customers. No warranty of merchantability or fitness for purpose, or any other kind, express or implied, is made regarding performance, stability or otherwise. Allied Universal Corp. will not be liable for any damages, losses, injuries or consequential damages that may result from the use of or reliance on any information contained herein. No suggestions for use are intended as, and nothing herein shall be construed as a recommendation to infringe any existing patents or violate any federal, state or local laws, rules, regulations or ordinances.

CA Prop 65: No

REACTIVITY: 2



Phone: (973) 589-0700 Fax: (973) 589-4866

3 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Sodium Hypochlorite

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: KCC – HYPO - 001

MSDS DATE: March 06, 2007

PRODUCT NAME: SODIUM HYPOCHLORITE SOLUTION

24 HOUR EMERGENCY PHONE NUMBER: 973-589-0700

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

HMIS HAZARD RATINGS

HEALTH HAZARD - 3 (Serious) FIRE HAZARD - 0 (Minimal) REACTIVITY - 2 (Slight) WARNING - Corrosive, Oxidizing Agent

Based on Nat'l Paint & Coatings Association HMIS system.

NFPA HAZARD RATINGS

HEALTH HAZARD (Blue) - 2 FLAMMABILITY (Red) - 0 INSTABILITY (Yellow) - 1

Chemical not listed. Ratings based on NFPA guidelines

MANUFACTURERS NAME AND ADDRESS

KUEHNE CHEMICAL COMPANY, INC. 86 HACKENSACK AVENUE NORTH SOUTH KEARNY, NEW JERSEY 07032-4675

CHEMICAL NAME:

SODIUM HYPOCHLORITE SOLUTION

CAS NUMBER: 7681-52-9

SYNONYMS/COMMON NAMES: Chlorine Bleach, Soda Bleach

8

CHEMICAL FORMULA: NAOCI

DOT PROPER SHIPPING NAME: Hypochlorite Solutions

DOT HAZARD CLASS:

DOT ID NUMBER: UN1791

DOT PACKING GROUP: III

DOT HAZARDOUS SUBSTANCE: Kuehne COMPANY

Sodium Hypochlorite

Revision A - 06 March 2007

RQ 100# (Sodium Hypochlorite)





(973) 589-0700 Phone:

5 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

(973) 589-4866 Fax:

Sodium Hypochlorite

CHEMICAL PRODUCT AND COMPANY IDENTIFICATION (Continued) Ι.

NA DOT MARINE POLLUTANT:

NA ADDITIONAL DESCRIPTION:

HEALTH HAZARDS INFORMATION И.

EMERGENCY AND FIRST AID PROCEDURES

EYES:

OBJECT IS TO FLUSH MATERIAL OUT IMMEDIATELY AND THEN SEEK MEDICAL ATTENTION. IMMEDIATELY flush eyes with a directed stream of water for at least 15 minutes while forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. Washing eyes within one (1) minute is essential to achieve maximum effectiveness. SEEK MEDICAL ATTENTION IMMEDIATELY.

SKIN:

Flush thoroughly with cool water under shower while removing contaminated clothing and shoes. Discard non-rubber shoes, Wash clothing before reuse. Continue to flush until medical attention arrives.

SEEK MEDICAL ATTENTION IMMEDIATELY.

INHALATION:

Remove to fresh air. If breathing is difficult, have qualified person administer oxygen. If respiration stops, give mouth-to-mouth resuscitation. GET IMMEDIATE MEDICAL ATTENTION.

INGESTION:

NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. lf swallowed. DO NOT INDUCE VOMITING. Give large quantities of milk. If these are not available, give large quantities of water. If vomiting occurs spontaneously keep airway clear and give more milk or water. GET MEDICAL ATTENTION IMMEDIATELY. Avoid vomiting, lavage or acidic antidotes.

NOTE TO PHYSICIAN:

Sodium Hypochlorite is an alkaline corrosive. For exposure by ingestion do not use emesis, lavage or acidic antidotes. Dilute immediately by giving milk, melted Ice cream, beaten egg white, starch paste or antacids such as milk of magnesia, aluminum hydroxide gel or magnesium trisilicate gel. Avoid sodium bicarbonate because of carbon dioxide release. Sodium thiosulfate solution may prove beneficial by reducing unreacted material.

Kuchne GOMPANY Sodium Hypochlorite Revision A - 06 March 2007







5 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Phone: (973) 589-0700 Fax: (973) 589-4866

sodium Hypochlorite

II. HEALTH HAZARDS INFORMATION (Continued)

ROUTES OF EXPOSURE

INHALATION:

Inhalation of hypochlorous acid fumes may cause severe respiratory tract irritation and pulmonary edema.

SKIN:

Skin contact may cause severe irritation and burns.

EYE CONTACT:

Eye contact may cause severe irritation, burns, and/or corrosion.

INGESTION:

Ingestion may cause pain and inflammation of the mouth and digestive system, burns and perforation of the esophagus or stomach, vomiting, circulatory collapse, confusion, delirium and coma.

EFFECTS OF OVEREXPOSURE

ACUTE:

Corrosive and strongly irritating to the eyes, skin, and respiratory tract. Inhalation of fumes may cause pulmonary edema. Ingestion may cause burns to the mouth and digestive tract and abdominal distress.

CHRONIC:

No Data.

TOXICOLOGY DATA:

The toxicity and corrosivity of Sodium Hypochlorite is a function of concentration. Industrial grades of higher concentrations than household bleach are more toxic and corrosive.

Pentahydrate: 45% Concentration

Acute Oral LD₅₀ Acute Dermal LD₅₀ Primary Skin Irritation Primary Eye Irritation (rat) (rabbit) 8,910 mg/kg 10,000 mg/kg Severely irritating Severely irritation

Kuehne COMPANY Sodium Hypochlorite Revision A – 06 March 2007





th Hackensack Avenue, South Kearny, New Jersey 07032-4 Sodium Hypochlori			589-486
 III. IMPORTANT COMPONENTS			
<u>CAS Number</u> <u>Name</u> 7732-18-5 Water	PERCEN		
EXPOSURE LIMITS	VOL WT	85 85 - 87	
PEL: Not Established TLV: Not Established	VVI	00 - 01	
Common Names:			
<u>CAS Number</u> <u>Name</u> 7681-52-9 Hypochlorous Acid, Sodium Salt	PERCEN	TAGE	
EXPOSURE LIMITS	VOL	15 12 - 14	
PEL: 1 ppm (as Cl2) ceiling TLV: 1 ppm (as Cl2) TWA			
Common Names: Sodium Hypochlorite			
CAS NumberName1310-73-2Sodium Hydroxide (NaOH)	PERCEN	TAGE	
EXPOSURE LIMITS	VOL	1	
PEL: 2 ppm ceiling TLV: 2 ppm ceiling		·	
Common Names: Caustic Soda, Lye			
This product has not been listed as carcinogenic by the fol NTP, and OSHA	llowing agenc	ies: IARC,	
IV. FIRE & EXPLOSION DATA			
FLASH POINT: NA			
AUTOIGNITION TEMPERATURE: NA			
FLAMMABLE LIMITS IN AIR - % BY VOLUME - UPPER:	NA	1.00	
Kuehne DOMPANY		3	



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Phone: (973) 589-0700 Fax: (973) 589-4866

Sodium Hypochlorite

IV. FIRE & EXPLOSION DATA

(Continued)

EXTINGUISHING MEDIA:

Use water spray, fog, foam, dry chemical, or carbon dioxide or agents suitable for materials in surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES:

Use self-contained breathing apparatus and full protective equipment. Acid contamination will produce very irritating fumes similar to chlorine.

UNUSUAL FIRE AND EXPLOSION HAZARD:

Sodium Hypochlorite or its solutions decompose when heated. Decomposition products may cause containers to rupture or explode. Vigorous reaction is possible with organic materials or oxidizing agents and may result in fire.

V. SPECIAL PROTECTION

VENTILATION REQUIREMENTS

Provide good general room ventilation plus local exhaust at points of emission.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY:

NIOSH/MSHA approved respirator, following manufacturer's recommendations should be used as a precautionary measure where airborne contaminants may occur.

EYE:

Wear chemical safety goggles plus full face shleid to protect against splashing when appropriate.

GLOVES:

Wear impervious gloves such as rubber, neoprene or vinyl.

OTHER CLOTHING AND EQUIPMENT:

Wear impervious protective clothing including rubber safety shoes. Eye wash facility and emergency shower should be in close proximity









Phone: (9 Fax: (9

e: (973) 589-0700 (; (973) 589-4866

5 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Sodium Hypochlorite

VI.	PHYSICAL DATA	

Boiling Point:	(@760 mm Hg)	De	composes ab	oove 110 °C (230 °F)
Freezing Point:	<u>Wei</u> c 10 12 14	<u>aht %</u>	<u>Freezing</u> 7 - 3 - 14	<u>Point ⁰F</u>	
Vapor Pressure:	<u>Temperature ⁰F</u> 48.2 60.8 68.0 89.6 118.4	<u>mm Hg</u> 3.7 0.071 8.0 0.15 12.1 0.23 31.1 0.60 100.0 1.93		<u>PSIA</u>	
Specific Gravity:	(H ₂ O = 1)	1.190 - 1.	215		
Solubility in H2O (by Weight)	100%			
рН		12 @ 100	g/l		

Appearance/Odor: Colorless to light yellow-green liquid with chlorine like odor.

VII. REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY:

Strong Oxidizer, stability decreases with concentration, heat, light, decrease in pH and contamination by metals.

INCOMPATIBILITY:

Avoid contamination with heavy metals, reducing agents, organics, ether, ammonia, and acids.

HAZARDOUS DECOMPOSITION PRODUCTS:

Acid fumes.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION:

Material is not known to polymerize.







Kuehne COMPANY

Phone: (973) 589-0700

(973) 589-4866 Fax:

5 North Hackensack Avenue, South Kearny, New Jersey 07032-4675 sodium Hypochlorite

VIII. **HANDLING & STORAGE**

HANDLING AND STORAGE PRECAUTIONS:

Do not store adjacent to chemicals that may react if spillage occurs. Comply with DOT regulations when shipped. If closed containers become heated, vent to release decomposition products (mainly oxygen under normal decomposition). Do not mix or contaminate with ammonia, hydrocarbons, acids, alcohols or ethers.

DO NOT REUSE CONTAINERS:

Product residues may remain in containers. All labeled precautions must be observed. Dispose of container in a manner meeting government regulations.

PRODUCT DISPOSAL:

Product should be completely removed from containers. Material that cannot be used or chemically reprocessed should be disposed of in a manner meeting government regulations.

ENVIRONMENTAL PROCEDURES IX.

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Do not allow spilled material to enter sewers or streams. Flush with water to dilute as much as possible and pump into polyethylene containers for disposal. Avoid heat and contamination with acid materials. Do not use combustible materials such as sawdust to absorb Sodium Hypochlorite Solution.

WASTE DISPOSAL METHOD:

Reduce with agents such as bisulfites or ferrous salt solutions. Some heat will be produced. Keep on alkaline side and dilute with copious amounts of water. Main end product is salt water. Comply with all applicable governmental regulations.

ADDITIONAL INFORMATION Χ.

Section 311 of The Clean Water Act lists this product as a hazardous substance, which, If discharged to water, may require immediate response to mitigate danger to public health and welfare. Spills of 100 pounds or more must be reported to the National Response Center at the following number: 1-800-424-8802

Material is contained on a composite list as required under 101 (14) of CERCLA.

Kuchne COMPANY Sodium Hypochlorite Revision A - 06 March 2007







(973) 589-0700 Phone: (973) 589-4866 Fax:

5 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Sodium Hypochlorite

ADDITIONAL INFORMATION Х.

(Continued)

Sodium Hypochlorite Solution is regulated by the USEPA under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as a pesticide product.

Sodium Hypochlorite Solution produced by KUEHNE CHEMICAL COMPANY, INC. is registered with the USEPA under Registration Number 35317-20001.

This product has been classified as an approved drinking **NSF CERTIFICATION:** water treatment chemical under ANSI/NSF Standard 60 by Underwriter's Laboratories number: MH17612) (reference

USDA APPROVALS: B-1, D-2, L-1, Q-4 & Fruit and Vegetable washing compounds.

PREPARATION DATA XI.

Safety, Health and Environment Department : 1-973-589-0700 Prepared By:

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and KUEHNE CHEMICAL COMPANY, INC. will not be liable for any damages, losses, injuries or consequential damages that may result from the use of or reliance on any information contained herein.

REFERENCES:

National Institute for Occupational Safety and Health, US Dept. of Health & Human Services, Cincinnati, June, 1994.

Supplier's Material Safety Data Sheets.

Windholz, Martha, Ed, The Merck Index, 11th ed., Merck and Co, Inc., Rahway, New Jersey, 1989.

Chlorine Institute Pamphlet 96 (Sodium Hypochlorite Safety & Handling), Edition I, September, 1992







Phone: Fax:

(973) 589-0700 (973) 589-4866

Sodium Hypochlorite

WARNING LABEL INFORMATION

Sodium Hypochlorite (NaOC Inert Ingredients:	,	(weight per cent)
		•

Total

KEEP OUT OF REACH OF CHILDREN

100.0 %

DANGER

FIRST AID

IF CONTACT WITH EYES OCCURS: Hold eye open and rinse slowly and gently with water for 15 -20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue to rinse eye. Call a poison control center or doctor for treatment advice.

IF CONTACT WITH SKIN OCCURS: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF INHALED: Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably month-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

PRECAUTIONARY STATEMENTS HAZARDOUS TO HUMANS AND DOMESTIC ANIMALS

DANGER:

Corrosive, may cause severe skin and eye irritation or chemical burns to broken skin. Causes eye damage. Wear safety glasses or goggles and rubber gloves when handling this product. Wash after handling. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until strong odors have dissipated.

Kuehne COMPANY	
Sodium Hypochlorite	
Revision A - 06 March	2007







Phone: (973) 589-0700 Fax: (973) 589-4866

5 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Sodium Hypochlorite

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

PHYSICAL OR CHEMICAL HAZARDS

STRONG OXIDIZING AGENT:

Mix only with water according to label directions. Mixing this product with chemicals (e.g. ammonia, acids, detergents, etc.) or organic matter (e.g. urine, feces, etc.) will release chlorine gas, which is irritating to eyes, lungs and mucous membranes.

DIRECTION FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING

Reformulators and Repackagers of this product must obtain their own registrations from the United States Environmental Protection Agency (USEPA).

For manufacturing use in the formation of end-use Products:

NOTE: This product degrades with age. Use a Chlorine test kit and increase dosage as necessary, to obtain the required level of available Chlorine.

For specific use directions, see KUEHNE Circular for each particular application.

CIRCULAR NUMBER K586A

sanitizers of surfaces (wooden butcher blocks, stainless steel tops, concrete floors, tile walls)

CIRCULAR NUMBER K586B

sanitizers of commercial laundry

CIRCULAR NUMBER K586C

agents to wash or assist in lye peeling of fruits and vegetables (sodium hypochlorite only), agents to help control microorganisms on mushrooms (pins), potatoes, sweet potatoes (post harvest), agents to help control microorganisms on eggs for human consumption

Kuchne CEMPANY Sodium Hypochlorite Revision A – 06 March 2007







6 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Phone: (973) 589-0700 Fax: (973) 589-4866

Sodium Hypochlorite

CIRCULAR NUMBER K586D

disinfectants of human drinking water (emergency/public & individual), swimming pool water, spas/hot tubs, hydrotherapy pools, human drinking water systems (water mains)

CIRCULAR NUMBER K586E

disinfectants of nonporous hard surfaces (tile, glass, stainless steel, fiberglass)

CIRCULAR NUMBER K586F

agents to help control microorganisms in sewage, waste water, industrial and pulp and paper process water systems

CIRCULAR NUMBER K586G

algicides, slimicides in cooling towers or evaporative condensers

STORAGE AND DISPOSAL

Store this product in a cool dry area away from direct sunlight and heat to prevent deterioration. In case of a spill, flood areas with large quantities of water. Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer. Do not contaminate food or feed by storage, disposal or cleaning of equipment.

Large storage containers should be rinsed thoroughly with water and returned to manufacturer for reconditioning. Large storage containers should be thoroughly rinsed with water before reuse.

IN CASE OF:

FIRE:

Use self-contained breathing apparatus and full protective equipment. Use water spray, foam, dry chemical or C02. Fire may liberate toxic gases.

SPILL:

Get protective equipment. Contain spill and pump into marked container for reclamation for disposal. Avoid discharges to sewers and streams. Spills of 100 pounds or more must be reported to the National Response Center at the following number:

1-800-424-8802

IN CASE OF CHEMICAL EMERGENCIES CALL: 24 HOUR EMERGENCY PHONE (973) 589-0700

Kueh		ANY
Sodium F	Typochlor	ite
Revision	A – 06 M	arch 2007





SODIUM HYPOCHLORITE SOLUTION, 10.5%

ACTIVE INGREDIENT:

SODIUM HYPOCHLORITE	
OTHER INGREDIENT:	
TOTAL	100.0%
*Available chlorine: 10%	

KEEP OUT OF REACH OF CHILDREN DANGER

FIRST AID

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Drink large amounts of water. DO NOT induce vomiting. Call a physician or poison control center immediately.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Have product container or label with you when calling a poison control center or doctor for treatment advice.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS DANGER: Corrosive, Causes inversible eye and skin damage. Do not get in eyes, on skin or on clothing. Wear face shield or goggles and rubber gloves when handling this product. Wash thoroughly with scop and water after handling and before eating, drinking, chewing gum, using tobacco, or using the tollet. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until odors have dissipated. Remove and wash contaminated clothing before reuse.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your state water board or regional office of the EPA.

PHYSICAL OR CHEMICAL HAZARDS STRONG OXIDIZING AGENT: Mix only with water seconding to label directions. Mixing this product with chemicals (e.g., ammonia, acids, detergents, etc.) or organic matter (e.g., urine, feces, etc.) will release chlorine gas which is irritating to eyes, lungs and mucous membranes.

> Manufactured by: KUEHNE CHEMICAL COMPANY INC. 86 N. HACKENSACK AVENUE SOUTH KEARNY, NJ 07032-4675 (973) 589-0700

EPA REG. NO. 35317-4

EPA EST, NO, 35317-DE-1

ANSI / NSF 60 DRINKING WATER TREATMENT ADDITIVE

Net Contents:

DIRECTIONS FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING

NOTE: This product degrades with age. Use a chlorine test kit and increase dosage as necessary, to obtain the required level of available chlorine.

For specific use directions, see KUEHNE Circular for each particular application.

CIRCULAR NUMBER K586A

sanitizers of hard nonporous surfaces (stainless steel tops) CIRCULAR NUMBER K586B

sanitizers of commercial laundry CIRCULAR NUMBER K586C

agents to wash or assist in lye peeling of fruits and vegetables (sodium hypochlorite only), agents to help control microorganisms on mushrooms (pins), potatoes, sweet potatoes (post harvest), agents to help control microorganisms on eggs for human consumption CIRCULAR NUMBER K586D

disinfectants of human drinking water (emergency/public & individual) and human drinking water systems (water mains) CIRCULAR NUMBER K586E

disinfectants of hard nonporous surfaces (sealed tile and fiberglass, glass, stainless steel) CIRCULAR NUMBER K586F

agents to help control microorganisms in sewage, waste water, industrial and pulp and paper process water systems CIRCULAR NUMBER K586G

algicides, slimicides in cooling towers or evaporative condensers CIRCULAR NUMBER K586H

cincular NUMBER K586I

sanitizers of porous non-food contact surfaces (tile walls, concrete floors) CIRCULAR NUMBER K586J

disinfectants of swimming pool water, spas/hot tubs, hydrotherapy pools

STORAGE AND DISPOSAL

Pesticide Storage: Store this product in a cool dry area away from direct sunlight and heat to prevent deterioration. In case of a spill, flood area with large quantities of water.

Pesticide Disposal: Do not contaminate food or feed by storage, disposal or cleaning of equipment. Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer.

Container Disposal: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling the container is the responsibility of the refiller.

12/17/10

		_						SWNY PFAS Cor				
0	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names	Note: ?" stands for approximate estima
•	-	1	SWNY PFAS Compliance	384 days?	Wed 3/31/21	Mon 10/10/22		8%	Wed 3/31/21	NA		
\checkmark	-	2	D/B Contract Notice to Proceed	1 day	Mon 4/5/21	Mon 4/5/21		100%	Mon 4/5/21	Mon 4/5/21		
		3	Maintain Secure Project Website	365 days	Tue 4/6/21	Mon 9/19/22	2	0%	Tue 4/6/21	NA		
•	-	5	Design Phase	251 days?	Wed 3/31/21	Fri 4/1/22		23%	Wed 3/31/21	NA		
		54	Design Construction Services	345 days	Wed 3/31/21	Mon 8/15/22		0%	NA	NA		
•	-	62	Construction Phase	384 days	Wed 3/31/21	Mon 10/10/22		3%	Wed 3/31/21	NA		
	-	63	Administration	233 days	Wed 3/31/21	Tue 3/8/22		4%	Wed 3/31/21	NA		
3 🔶		133	Construction Phase	229 days	Mon 11/8/21	Mon 10/10/22	65,66,67,68,78,8	30%	Mon 11/8/21	NA		
4	-	134	Survey-Establish Control	1 day	Mon 3/7/22	Mon 3/7/22	50	0%	Mon 3/7/22	NA		
5	-	135	Test Pit and Verify 6" OD for Tapping Sleeve	1 day	Mon 11/8/21	Mon 11/8/21	50	0%	NA	NA		
5		136	Mobilization	2 days	Mon 3/7/22	Tue 3/8/22	53	0%	Mon 3/7/22	NA		
7	-	137	Erosion Control	3 days	Wed 3/9/22	Fri 3/11/22	136	0%	NA	NA		
3		138	Site Clearing of Existing Trees/Brush	3 days	Mon 3/14/22	Wed 3/16/22	137	0%	NA	NA		
9	-	139	Strip Topsoil	3 days	Thu 3/17/22	Mon 3/21/22	138	0%	NA	NA		
D		140	Site Grading	3 days	Tue 3/22/22	Thu 3/24/22	139	0%	NA	NA		
1	-	141	Install fill	1 day	Fri 3/25/22	Fri 3/25/22	140	0%	NA	NA		
2	-	142	Install Stone Base for Access Road	3 days	Fri 3/25/22	Tue 3/29/22	140	0%	NA	NA		
3		143	Exterior Piping	116 days	Wed 4/6/22	Mon 9/19/22		0%	NA	NA		
4	-	144	Install 6" DIP Influent Piping into building including Tapping 6" Main	2 days	Wed 4/6/22	Thu 4/7/22	142,155FF+1 day,119,120	0%	NA	NA		
5	-	145		1 day	Fri 4/8/22	Fri 4/8/22	144	0%	NA	NA		
5	-	146		5 days	Fri 8/5/22	Thu 8/11/22	122,152	0%	NA	NA		
7	-	147	Chlorinate, Pressure Test and Flush/DOH Appr	10 days	Fri 9/2/22	Fri 9/16/22	175	0%	NA	NA		
3	-	148	Cut & Cap 6" Main After Tie In	1 day	Mon 9/19/22	Mon 9/19/22	147	0%	NA	NA		
9	-	149	Install 6' DIA Seepage Pit	1 day	Thu 6/23/22	Thu 6/23/22	153	0%	NA	NA		
0	-	150	Electric	84 days	Thu 4/7/22	Thu 8/4/22		0%	NA	NA		
1	-4	151	Excavate and Install Underground Electric Feed into building	3 days	Thu 4/7/22	Mon 4/11/22	155	0%	NA	NA		
2		152	Install Electrical Appurtenances	30 days	Thu 6/23/22	Thu 8/4/22	166	0%	NA	NA		
3	-	153	Building/Superstructure	60 days	Wed 3/30/22	Wed 6/22/22		0%	NA	NA		
4	-	154	Excavate for Building Footings	1 day	Wed 3/30/22	Wed 3/30/22	142	0%	NA	NA		
5	-	155	Form, Install Rebar and Pour Footings for Build	15 days	Thu 3/31/22	Wed 4/6/22	154	0%	NA	NA		
5	-	156	Form, Install Rebar and Pour Foundation Wall for Building	5 days	Tue 4/12/22	Mon 4/18/22	155,151,145	0%	NA	NA		
7	-	157	Form, Install Rebar and Pour Foundation Wall with Integral Piers for Building	6 days	Tue 4/19/22	Tue 4/26/22	156	0%	NA	NA		
3	-	158	Backfill Footings	1 day	Wed 4/27/22	Wed 4/27/22	157	0%	NA	NA		
9	-	159	Install GAC Equipment Pad	4 days	Thu 4/28/22	Tue 5/3/22	158	0%	NA	NA		
D	-	160		3 days		Fri 5/6/22	159	0%	NA	NA		
1	-	161	Install Stone Base for Slab on Grade	1 day	Mon 5/9/22	Mon 5/9/22	160	0%	NA	NA		
2	-	162	Install Slab on Grade	5 days	Tue 5/10/22	Mon 5/16/22	161	0%	NA	NA		
3	-	163		1 day		Tue 5/17/22	162	0%	NA	NA		
4	-	164	Install Equipment Pads- Form, Rebar, Pour, Strip and Rub	3 days	Wed 5/18/22	Fri 5/20/22	163	0%	NA	NA		
5	-	165	Install Filter Pads- Form, Rebar, Pour, Strip and	days	Mon 5/23/22	Wed 5/25/22	164	0%	NA	NA		
5	-	166	Installation of Pre-Engineered Building	25 days	Wed 5/18/22	Wed 6/22/22	163	0%	NA	NA		
7		167	Chemical Feed System	4 days	Thu 6/23/22	Tue 6/28/22		0%	NA	NA		
3	-	168	Install Piping for Sodium Hypo and Phosphoric	4 days	Thu 6/23/22	Tue 6/28/22	166	0%	NA	NA		
9	-	169	Treatment Equipment	20 days	Thu 6/9/22	Thu 7/7/22		0%	NA	NA		
0		170	Install 8' DIA GAC Equipment	2 days	Thu 6/9/22	Fri 6/10/22	166FS-10 days	0%	NA	NA		
1	-	171	Install Filters	1 day	Thu 6/23/22	Thu 6/23/22	166,170	0%	NA	NA		

				SWNY PFAS Project F-Chateau							
D ()	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names
172	-4	172	Install Influent, Effluent and Wastewater Flanged Piping	7 days	Thu 6/23/22	Fri 7/1/22	166,170	0%	NA	NA	
73	-4	173	Install Pipe Supports	3 days	Tue 7/5/22	Thu 7/7/22	172	0%	NA	NA	
74		174	Instrumentation	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
75		175	Install Instrumentation Appurtenances	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
76		176	Building HVAC Work	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
77	-	177	Install HVAC	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
78		178	Painting/Coating	5 days	Fri 7/8/22	Thu 7/14/22		0%	NA	NA	
179	-	179	Paint Interior Piping	5 days	Fri 7/8/22	Thu 7/14/22	169	0%	NA	NA	
80		180	Site Work	15 days	Fri 7/8/22	Thu 7/28/22		0%	NA	NA	
81		181	Install Site Civil-Gravel Turnaround and Landsc	15 days	Fri 7/8/22	Thu 7/28/22	173	0%	NA	NA	
82	-	182	Start Up and Testing	10 days	Mon 9/19/22	Fri 9/30/22		0%	NA	NA	
83		183	Start up and Test Equipment and Instrumentat	10 days	Mon 9/19/22	Fri 9/30/22	147,152	0%	NA	NA	
84	-	184	Substantial Completion	1 day	Mon 10/3/22	Mon 10/3/22	182	0%	NA	NA	
85		185	DOH Review and Approval	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
86		186	In Service	0 days	Mon 10/10/22	Mon 10/10/22	185	0%	NA	NA	
87	-	187	Demobilization	5 days	Tue 10/4/22	Mon 10/10/22		0%	NA	NA	
88		188	Cleanup/Demobilization	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
89	-	189	Final Completion	0 days	Mon 10/10/22	Mon 10/10/22	188,186	0%	NA	NA	

Page 2 of 2

ATZL, NASHER & ZIGLER P.C.

ENGINEERS-SURVEYORS-PLANNERS 232 North Main Street New City, NY 10956 Tel: (845) 634-4694 Fax: (845) 634-5543

4. The hydrology and the hydraulics study for this project have been undertaken to examine the pre and post construction drainage conditions. The study provides the impact of the proposed impervious area to the drainage system. To attenuate the post-development peak flow to predevelopment peak flow we are proposing an underground infiltration system (Cultec R-330XLHD). The underground infiltration system is design per NYSDEC's stormwater management design manual. The drainage system consists of pipes, catch basins, trench drain, and an underground infiltration system (Cultec R-330XLHD). The storage depth of the underground infiltration system is 3'-6" and its design to store 2,346 cu.ft.. Please refer to the site plan (dwg. no 1) and the grading plan (dwg. no 3).

5. The erosion and sediment control measures to be used on the site during the proposed work include silt fences and a construction entrance. In addition, disturbed portions of the site where construction activities permanently cease shall be stabilized no later than 14 days after the last construction activity. The Erosion and Sediment Control (E&SC) Plan is prepared per NYS Standards and Specifications for Erosion and Sediment Control. Please refer to the erosion and sediment control plan (dwg. no 4).

6. Stormwater runoff generated by the proposed site improvement will be routed to the proposed underground infiltration system in order to provide zero net increase of peak runoff. The underground infiltration system is design to provide peak flow attenuation up to 100-year storm peak runoff. The underground infiltration system is design per NYSDEC's stormwater management design manual.

Ramya Ramanathan

From:	Liskovich, Sophia Z. <sliskovich@gfnet.com></sliskovich@gfnet.com>
Sent:	Thursday, January 27, 2022 9:29 AM
То:	Ramya Ramanathan
Subject:	FW: 3-3720-00469/00001 > London Bridge Well

Sophia Liskovich, PE | Project Manager Gannett Fleming, Inc. | 7133 Rutherford Road t 410-907-2682 | c 856-296-3636 | sliskovich@gfnet.com

From: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov> Sent: Friday, November 12, 2021 11:11 AM To: Arnold, Jillian N. <jarnold@GFNET.com>; Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com> Cc: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov> Subject: RE: 3-3720-00469/00001 > London Bridge Well

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Morning,

The technical review is complete and program staff had the following comments.

Is a 15-foot-wide driveway necessary? Can the gravel drive width be reduced? •

In addition, I still don't know what Nationwide Permit this project would fall under. Would it be NWP 39? I have a few of these PFAS projects and I believe that's the one they've been going under. Please let me know. USACE may or may not respond but if I know which NWP you believe it qualifies for, I can make a determination about the DEC Blanket WQC.

Please let me know if you have any questions.

Alysse Devine

Environmental Analyst, Division of Environmental Permits New York State Department of Environmental Conservation 21 South Putt Corners Rd, New Paltz, NY 12561

P: (845) 240-7806 | alysse.devine@dec.ny.gov

www.dec.ny.gov | 🛐 | 💟 I 阃



From: Arnold, Jillian N. <jarnold@GFNET.com> Sent: Friday, October 8, 2021 2:37 PM To: Devine, Alysse (DEC) <<u>Alysse.Devine@dec.ny.gov</u>> Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com> Subject: RE: 3-3720-00469/00001 > London Bridge Well

Hello Alysse,

I have not received any correspondence from USACE yet. And I will forward it on as soon as I receive it. I provided USACE with the DEC ID numbers you provided in your email on Wednesday.

I also am looking into the short form submittal. SEQR was to be completed by a sub on the project and I will need to get you that information.

I am also working with SUEZ on the signature information.

Thank you for your correspondence and we will get you the stuff you need ASAP! Jillian

From: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov> Sent: Friday, October 8, 2021 1:35 PM To: Arnold, Jillian N. <jarnold@GFNET.com> Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>; Devine, Alysse (DEC) <<u>Alysse.Devine@dec.ny.gov</u>> Subject: 3-3720-00469/00001 > London Bridge Well

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Good Afternoon,

Could you let me know which Nationwide Permit # this project will be covered under? Please send me any correspondence you receive from the USACE. Also, could you provide the Short Environmental Assessment Form Part I?

Alysse Devine

Environmental Analyst, Division of Environmental Permits New York State Department of Environmental Conservation 21 South Putt Corners Rd, New Paltz, NY 12561 P: (845) 240-7806 | alysse.devine@dec.ny.gov

www.dec.n<u>y.gov</u>



Department of Environmental Conservation

From: Devine, Alysse (DEC)

Sent: Wednesday, October 6, 2021 3:00 PM

To: 'Arnold, Jillian N.' <jarnold@GFNET.com>

Cc: dec.sm.DEP.R3 <DEP.R3@dec.ny.gov>; Petronella, John W (DEC) <john.petronella@dec.ny.gov>; Pawliczak, Sarah A (DEC) <<u>sarah.pawliczak@dec.ny.gov</u>>; 'Smith, Steven C.' <<u>scsmith@GFNET.com</u>>; 'Liskovich, Sophia Z.' <sliskovich@GFNET.com>; Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>

Subject: RE: SUEZ Joint Permit Applications for Archer, London Bridge and Chateau

Good Afternoon,

I was able to access the files. These applications have been received and assigned the following DEC IDs:

Archer Well – 3-3720-00471/00001 London Bridge Well – 3-3720-00469/00001 Chateau Well – 3-3720-00470/00001

We will review the documents and let you know if we have any questions moving forward.

Alysse Devine

Environmental Analyst, Division of Environmental Permits New York State Department of Environmental Conservation 21 South Putt Corners Rd, New Paltz, NY 12561

P: (845) 240-7806 | <u>alysse.devine@dec.ny.gov</u>

www.dec.ny.gov | 🕌 | 💟 | 🧐



From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Wednesday, October 6, 2021 2:36 PM
To: dec.sm.DEP.R3 <<u>DEP.R3@dec.ny.gov</u>>; Devine, Alysse (DEC) <<u>Alysse.Devine@dec.ny.gov</u>>
Cc: Petronella, John W (DEC) <<u>john.petronella@dec.ny.gov</u>>; Pawliczak, Sarah A (DEC)
<<u>Sarah.Pawliczak@dec.ny.gov</u>>; Smith, Steven C. <<u>scsmith@GFNET.com</u>>; Liskovich, Sophia Z.
<<u>sliskovich@GFNET.com</u>>
Subject: SUEZ Joint Permit Applications for Archer, London Bridge and Chateau

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Good afternoon,

I copied everyone from the email sent to Steve Smith requesting the electronic versions of the Archer, Chateau and London Bridge Joint Permit Applications. I sent this link to the regional email address and hope that is not too redundant or causes confusion.

The file sizes on each pdf is large making emailing cumbersome. Here is the link to download the 3 Joint Permit Applications.

Download Link: SUEZ - Archer, Chateau and London Bridge JPA Packages

Please let me know if there are any restrictions with accessing the link above. Any additional questions, please do not hesitate to let us know.

Thank you, Jill Jillian Arnold, PWS | Senior Environmental Scientist Gannett Fleming | 207 Senate Avenue, Camp Hill, PA 17011 t 717.886.5402 | c 717.422.6229 | jarnold@gfnet.com Excellence Delivered As Promised Gannett Fleming is ISO 9001:2008 Certified. www.gannettfleming.com | Stay connected: <u>Twitter | Facebook | LinkedIn | YouTube</u> PRINTING SUSTAINABILITY STATEMENT: Gannett Fleming is committed to conserving natural resources and minimizing adverse environmental impacts in projects. Accordingly, project documentation will be provided in electronic format only unless clients specifically request hard copies. Visit our <u>website</u> to read more about our sustainability commitment.

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Liskovich, Sophia Z.

From:	Orzel, Brian A CIV USARMY CENAN (USA) <brian.a.orzel@usace.army.mil></brian.a.orzel@usace.army.mil>
Sent:	Monday, January 10, 2022 12:24 PM
То:	Arnold, Jillian N.
Cc:	Smith, Steven C.; Liskovich, Sophia Z.
Subject:	RE: Submission of Suez Water Permit Applications
Attachments:	NWP Regulations FR 06JAN17.pdf; PN-LRB NAN Final Regional Conditions WQC CZM for NY (dated
	21-MAR-2017).pdf

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Jillian,

We received the pre-construction notification for NWP 3 for the above referenced project on November 16, 2021.

Due to my excessive work load, I was unable to provide a written determination within 45 days of its submission.

In accordance with the current nationwide general permit regulations (Federal Register dated January 6, 2017, pages 1860 to 2008), if the Corps of Engineers district does not respond to a pre-construction notification within 45 days of receipt, then the applicant may proceed with the project as proposed.

That means that the applicant must perform the work as proposed in your pre-construction notification. Any substantive changes to the project would require the applicant to submit a new notification to this office.

If you have any questions, let me know.

Brian

Brian A. Orzel Project Manager, Civil Engineer NY District US Army Corps of Engineers Regulatory Branch 26 Federal Plaza, Room 16-406 New York, New York 10278-0090

Please note in order to ensure our continuity of operations and improve the timeliness of permit application reviews due to the current COVID-19 virus, effective immediately, the New York District, U.S. Army Corps of Engineers is requiring that all new permit applications be submitted to the New York District electronically. Until further notice, the New York District will no longer process any paper permit applications. This electronic processing procedure will increase the efficiency of correspondence, furthering the goal of providing timely decisions. Please see the link below to the Regulatory Branch Operational Modification Special Public Notice describing the instructions for electronic application submittals:

https://www.nan.usace.army.mil/Portals/37/docs/regulatory/publicnotices/Non%20Project%20Specific/2020/CENAN-OP-R%20PN%20Electronic%20Submission%20of%20Permit%20Applications%2027MAR2020.pdf?ver=2020-03-31-163215-913.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, December 13, 2021 1:04 PM
To: Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Brian,

I wanted to touch base to you on the Suez projects in Putnam County. Have you been able to determine of the 5 projects (Archer, Chateau, Geymer, London Bridge and Mahopac) what nationwide permit these projects might fall under? NY DEC is currently waiting USACE's determination of the NWP in order to finalize the state permits.

Thank you very much for your time, we appreciate it!

Jillian

From: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Sent: Monday, November 15, 2021 10:24 AM
To: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>; Orzel, Brian A CIV USARMY CENAN (USA) <<u>Brian.A.Orzel@usace.army.mil</u>>
Subject: RE: Submission of Suez Water Permit Applications

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Ms. Arnold,

I have provided the Suez Water permit applications to Mr. Brian Orzel, copied on the email, who is the area project manager for Putnam County. If he has any questions on the submittal, he'll contact you.

R/ Rosie

ROSITA MIRANDA Chief, Western Section Regulatory Branch USACE, New York District Mobile: 347-446-0359

https://www.nan.usace.army.mil/Missions/Regulatory/

EFFECTIVE IMMEADIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: <u>CENAN-R-Permit-App@usace.army.mil</u>.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, November 8, 2021 12:42 PM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Good afternoon, I am following up with this email (below) from the 29th. I tried to submit the files to the site that was in the email from the 28th. However, It requested a code when I clicked the location. I know that USACE has not started reviewing these permits, and I am concerned about timeline for construction. Please let me know how I can get USACE the permits that need to be reviewed.

Thank you, Jillian

From: Arnold, Jillian N.
Sent: Friday, October 29, 2021 7:49 AM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>
Subject: RE: Submission of Suez Water Permit Applications

Good morning Rosie,

I am happy to drop off the files for Suez to the site listed in your email, however, it is asking for a request code? Are you able to send me a drop off request? I have never delivered information to USACE this way. Sorry for all of the questions.

Thank you, Jillian

From: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>> Sent: Thursday, October 28, 2021 3:12 PM To: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>> Subject: RE: Submission of Suez Water Permit Applications

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Please provide the town and county so we can direct your inquiry to the right permit section.

Please use - https://safe.apps.mil/ for file transfer.

R/ Rosie

ROSITA MIRANDA Chief, Western Section Regulatory Branch USACE, New York District Mobile: 347-446-0359 https://www.nan.usace.army.mil/Missions/Regulatory/

EFFECTIVE IMMEADIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: <u>CENAN-R-Permit-App@usace.army.mil</u>.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Thursday, October 28, 2021 12:12 PM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Could you please tell me how to submit packages to the FTP site? I have not received a response if you received the SUEZ packages for review. I do not want to lose too much time as NYSDEC is review these packages at this time.

Thank you very much for your help! Jillian

From: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>> Sent: Tuesday, October 12, 2021 4:54 PM To: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>> Subject: RE: Submission of Suez Water Permit Applications

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Please note that you have to use DOD Safe as the ftp site for large files.

What Town and County is this project in?

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Friday, October 8, 2021 1:02 PM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>; Liskovich, Sophia Z. <<u>sliskovich@GFNET.com</u>>
Subject: [Non-DoD Source] Submission of Suez Water Permit Applications

Good afternoon,

Please find the electronic versions of the Archer, Chateau and London Bridge Joint Permit Applications for SUEZ Water NY. These applications have been sent to NYSDEC for Joint Permit approvals. Below are the list of DEC IDs for these applications:

- Archer Well 3-3720-00471/00001
- London Bridge Well 3-3720-00469/00001
- Chateau Well 3-3720-00470/00001

The file sizes on each pdf is large making emailing cumbersome. Here is the link to download the 3 Joint Permit Applications.

Download Link: <u>SUEZ - Archer, Chateau and London Bridge JPA Packages</u>

Please let me know if there are any restrictions with accessing the link above.

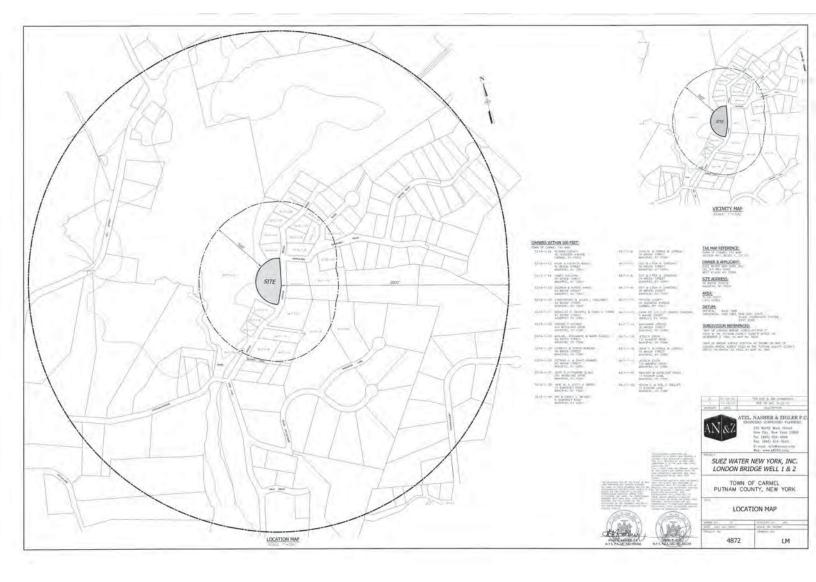
Any additional questions, please do not hesitate to let us know.

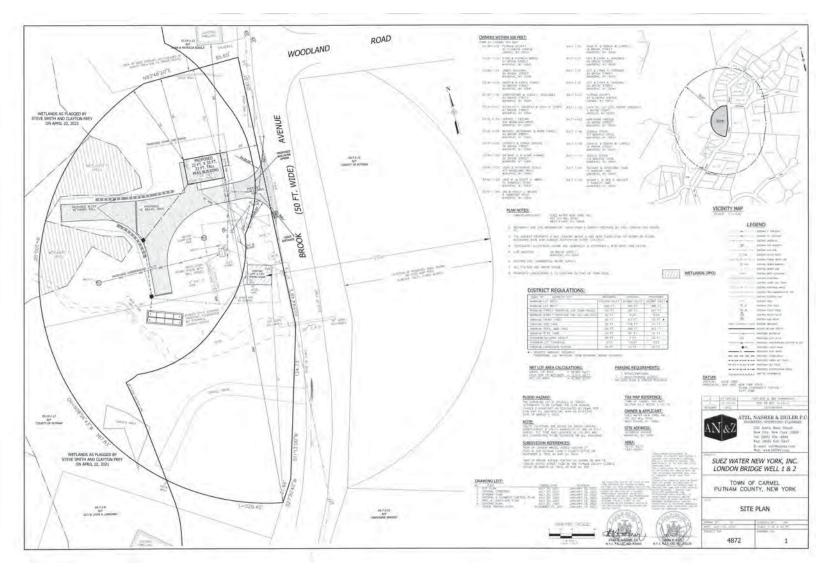
Thank you, Jill

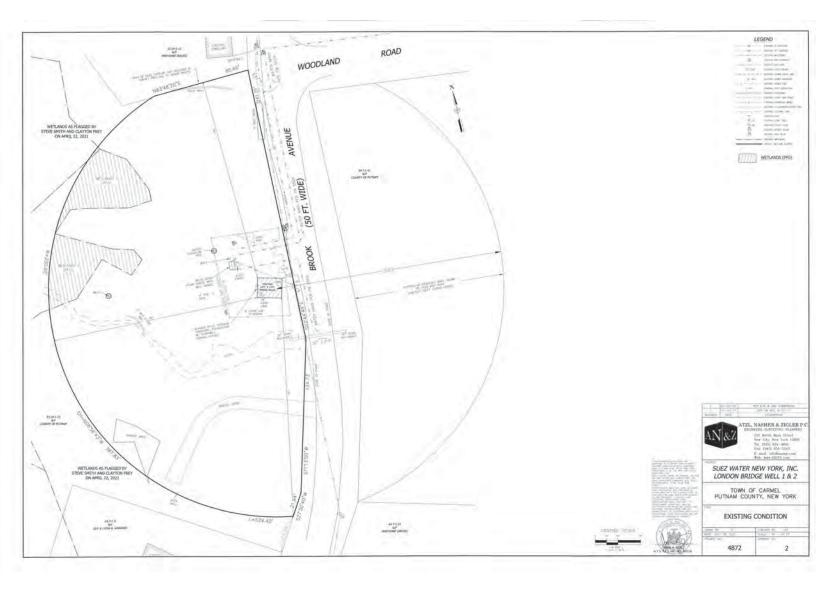
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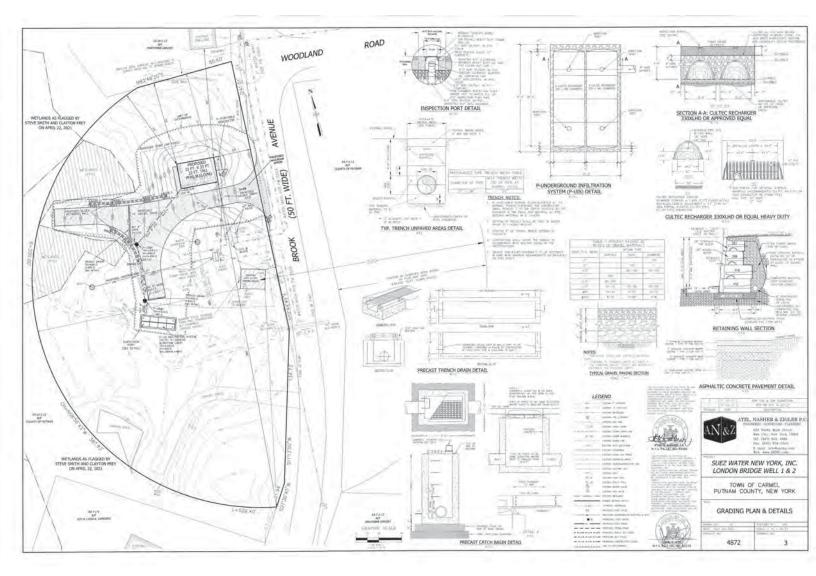
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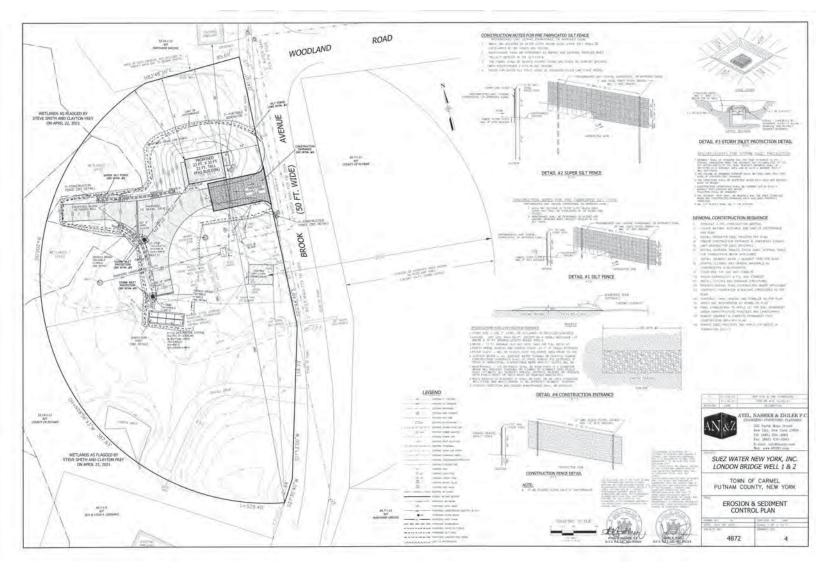
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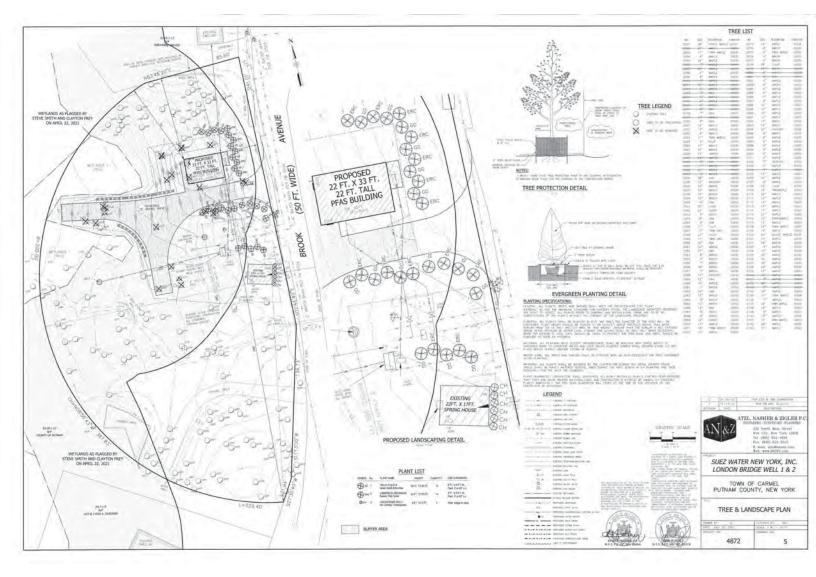


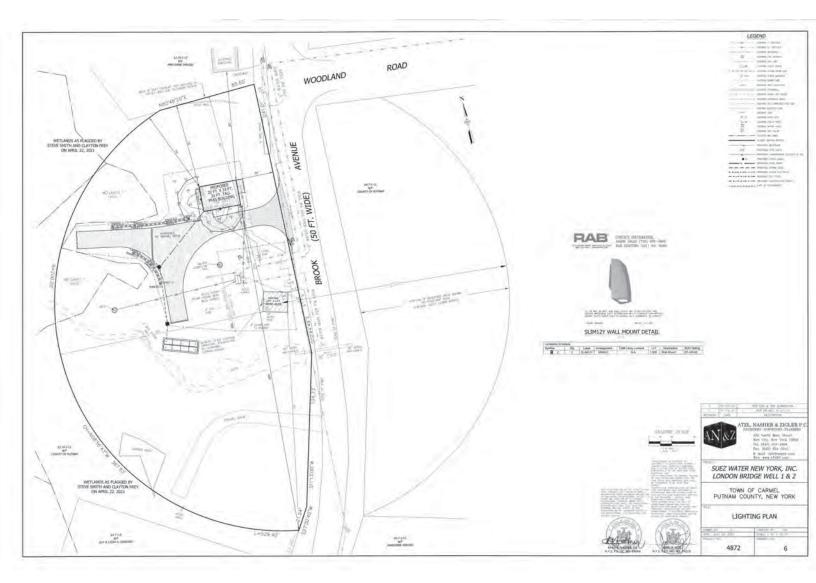


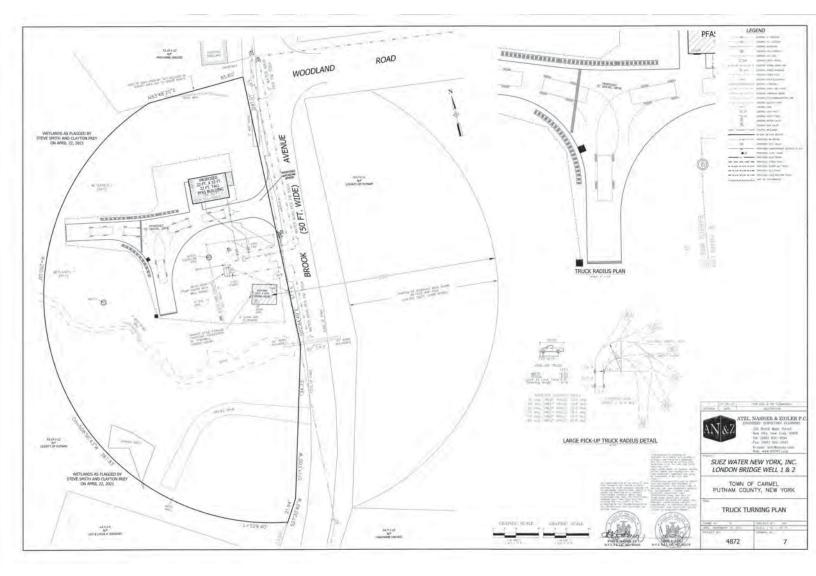












ROBERT LAGA Chairman

NICHOLAS FANNIN Vice Chairman

RICHARD FRANZETTI Wetland Inspector

ROSE TROMBETTA Secretary

TOWN OF CARMEL ENVIRONMENTAL CONSERVATION BOARD

BOARD MEMBERS

Edward Barnett Anthony Federice Nicole Sedran

60 McAlpin Avenue Mahopac, New York 10541 Tel. (845) 628-1500 - Ext. 190 www.ci.carmel.ny.us

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

Name of Applicant: SUEZ Water New York, Inc.

Address of Applicant: 162 Old Mill Road, West Nyack, NY 10994 Email: steven.garabed@suez.com

845-620-3319 Name and Address of Owner if different from Applicant: Telephone#___

APPLICANT IS THE SAME AS OWNER

Property Address: 70 Geymer Drive, Mahopac, NY 10541

Agency Submitting Application if Applicable: Atzl, Nasher & Zigler, P.C.

Location of Wetland: Shown on Site Plan

Size of Work Section & Specific Location: See attached description. Will Project Utilize State Owned Lands? If Yes, Specify: No

Type and extent of work (feet of new channel, yards of material to be removed, draining, dredging, filling, etc). A brief description of the regulated activity (attach supporting details).

See attached description.

Proposed Start Date: MARCH 2022 Anticipated Completion Date: October 2022 Fee Paid \$ 1,000 *******

CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief, false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. As a condition to the issuance of a permit, the applicant accepts full legal responsibility for all damage, direct or indirect, or whatever nature, and by whomever suffered, arising out of the project described here-in and agrees to indemnify and save harmless the Town of Carmel from suits, actions, damages and costs of every name and description resulting from the said project.

SIGNATURE

1-26-22 DATE

Tax Map # 75.13-1-6

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 1 is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project:			
SUEZ Water New York, Inc. – London Bridge Well 1 & 2			
Project Location (describe, and attach a general location map):			
39 Brook Street in the Town of Carmel, Putnam County			
Brief Description of Proposed Action (include purpose or need):			
SUEZ Water is proposing the construction of upgrades at their existing London Bridge Wel state drinking water regulations for polyfluoroalkyl substances (PFAS). The planned upgrad State Drinking Water Standard of 10 parts per trillion (ppt) for both Perfluorooctanoic acid (compounds.	le will add treatment for PFAS to r	emain below the New York	
See the attached narrative for details.			
Name of Applicant/Sponsor:	Telephone: 845-620-3319		
SUEZ Water New York, Inc.	E-Mail: steven.garabed@suez.com		
Address: 162 Old Mill Road			
City/PO: West Nyack	State: NY	Zip Code: 10994	
Project Contact (if not same as sponsor; give name and title/role):	Telephone: 845-634-4694		
John Atzl - Atzl, Nasher & Zigler, PC	E-Mail: jatzl@anzny.com		
Address:			
234 North Main Street		1	
City/PO:	State:	Zip Code:	
New City	NY	10956	
Property Owner (if not same as sponsor):	Telephone:		
PROPERTY OWNER IS THE SAME AS APPLICANT	E-Mail:		
Address:			
City/PO:	State:	Zip Code:	

B. Government Approvals

Government En	tity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustee			
b. City, Town or Village Planning Board or Commiss	∑ Yes⊡No sion	Town of Carmel Planning Board - Site Plan and Conditional Use Approval	August 2021
c. City, Town or Village Zoning Board of Ap	☑ Yes □ No opeals	Town of Carmel Zoning Board - variance	August 2021
d. Other local agencies	⊉ Yes □ No	Town of Carmel Building Department - Building Permit, Sewer Connection Permit	August 2021
e. County agencies	∑ Yes⊡No	Putnam County Department of Health	August 2021
f. Regional agencies	□Yes□No		
g. State agencies	□Yes□No		
h. Federal agencies	□Yes□No		
i. Coastal Resources.<i>i.</i> Is the project site within	a Coastal Area, o	or the waterfront area of a Designated Inland W	/aterway? □Yes ☑No

□ Yes **Z**No

ii.	Is the project site located in a community with an approved Local Waterfront Revitalization Program?
iii.	Is the project site within a Coastal Erosion Hazard Area?

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? 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 	□ Yes ☑ No
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?) 	ℤ Yes □ No
If Yes, identify the plan(s): NYC Watershed Boundary	
 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? If Yes, identify the plan(s): 	∐Yes Z No

C.3. Zoning	
 a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. If Yes, what is the zoning classification(s) including any applicable overlay district? Residential District	ℤ Yes □ No
b. Is the use permitted or allowed by a special or conditional use permit?	☐ Yes Z No
c. Is a zoning change requested as part of the proposed action?If Yes,<i>i</i>. What is the proposed new zoning for the site?	☐ Yes Ø No
C.4. Existing community services.	
a. In what school district is the project site located? <u>Mahopac Central School District</u>	
b. What police or other public protection forces serve the project site? <u>Town of Carmel Police Department</u>	
c. Which fire protection and emergency medical services serve the project site? <u>Mahopac Volunteer Fire Department</u>	
d. What parks serve the project site? Airport Field, Sycamore Town Park	
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 n components)? Industrial Water Treatment and Supply	nixed, include all
b. a. Total acreage of the site of the proposed action? 1.61 acres b. Total acreage to be physically disturbed? 0.26 acres	

b. a. Total acreage of the site of the proposed action?	1.61 acres	
b. Total acreage to be physically disturbed?	0.26 acres	
c. Total acreage (project site and any contiguous properties) owned		
or controlled by the applicant or project sponsor?	<u> </u>	
c. Is the proposed action an expansion of an existing project or use? *		🖌 Yes 🗌 No
<i>i</i> . If Yes, what is the approximate percentage of the proposed expans		, miles, housing units,
square feet)? % 194 Units:		
d. Is the proposed action a subdivision, or does it include a subdivision	?	🗌 Yes 🗾 No
lf Yes,		
<i>i</i> . Purpose or type of subdivision? (e.g., residential, industrial, comme	prcial; if mixed, specify types)	
<i>ii.</i> Is a cluster/conservation layout proposed?		□Yes □No
iii. Number of lots proposed?		
<i>iv</i> . Minimum and maximum proposed lot sizes? Minimum	Maximum	
e. Will the proposed action be constructed in multiple phases?		🗌 Yes 🖊 No
<i>i</i> . If No, anticipated period of construction:	12 months	
<i>ii</i> . If Yes:		
• Total number of phases anticipated		
Total number of phases anticipatedAnticipated commencement date of phase 1 (including demol	ition) month yea	al
 Total number of phases anticipated Anticipated commencement date of phase 1 (including demol Anticipated completion date of final phase 	monthyea	r
Total number of phases anticipatedAnticipated commencement date of phase 1 (including demol	, including any contingencies where	r progress of one phase ma

* Calculation: [Proposed building expansion (sq ft)/ Existing building (sq ft)] X 100 (600 sq. ft. proposed building /58 sq. ft. existing building) X 100

f. Does the proje	ct include new resid	lential uses?			☐ Yes 7 No
	nbers of units propo	osed.			
	One Family	<u>Two</u> Family	Three Family	Multiple Family (four or more)	
Initial Phase					
At completion					
of all phases					
g. Does the prop	osed action include	new non-residenti	al construction (inclu	uding expansions)?	∠ Yes No
If Yes,					—
<i>i</i> . Total number	r of structures	1			
<i>ii.</i> Dimensions ((in feet) of largest p	roposed structure:	22_height;	22 width; and 33 length 726 square feet	
				l result in the impoundment of any agoon or other storage?	☐Yes Z No
If Yes,	18 Creation of a wate	suppry, reserven	., ponu, iako, wasto n	agoon of other storage:	
	e impoundment:				
<i>ii</i> . If a water imp	poundment, the prin	cipal source of the	water:	Ground water Surface water stream	ns Other specify:
<i>iii</i> . If other than v	water, identify the ty	ype of impounded	contained liquids and	d their source.	
iv. Approximate	size of the propose	d impoundment.	Volume:	million gallons; surface area:	acres
v. Dimensions of	of the proposed dam	ı or impounding st	ructure:	million gallons; surface area: height;length ructure (e.g., earth fill, rock, wood, cond	
vi. Construction	method/materials	for the proposed da	am or impounding st	ructure (e.g., earth fill, rock, wood, cond	crete):
D.2. Project Op	oerations				
a. Does the prope	osed action include	any excavation, m	ining, or dredging, d	uring construction, operations, or both?	Yes√ No
(Not including	general site prepara			or foundations where all excavated	— —
materials will	remain onsite)				
If Yes:		ation or dradging?			
	urpose of the excava aterial (including ro			o be removed from the site?	
				o be removed from the site?	
	hat duration of time				
			be excavated or dred	ged, and plans to use, manage or dispose	e of them.
iv. Will there be	e onsite dewatering	or processing of e	xcavated materials?		Yes No
	· 1 · · · · · · h - dd.	1			
v. What is the u	otal area to be dredg	ged or excavated?		acres	
vii What would	be the maximum de	worked at any on onth of excavation	or dredging?	feet	
	avation require blas		of areaging		Yes No
ix. Summarize si	te reclamation goals	s and plan:			
				-	
			ion of, increase or de ach or adjacent area?	crease in size of, or encroachment	☐ Yes √ No
If Yes:	ing worana,	<i>ouj, morena, c</i> .	aon or aujacent art		
<i>i</i> . Identify the v				water index number, wetland map numb	er or geographic
description):					

<i>ii.</i> Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placeme alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in squ	
<i>iii.</i> Will the proposed action cause or result in disturbance to bottom sediments? If Yes, describe:	□Yes □No
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: 	
 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>i</i> . Total anticipated water usage/demand per day: gallons/day	
<i>ii.</i> Will the proposed action obtain water from an existing public water supply?	□Yes □No
If Yes:	
Name of district or service area:	
• 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
<i>iii.</i> Will line extension within an existing district be necessary to supply the project? If Yes:	□Yes □No
Describe extensions or capacity expansions proposed to serve this project:	
• Source(s) of supply for the district:	······
<i>iv.</i> Is a new water supply district or service area proposed to be formed to serve the project site? If, Yes:	☐ Yes ☐No
 Applicant/sponsor for new district:	
Proposed source(s) of supply for new district:	
<i>v</i> . If a public water supply will not be used, describe plans to provide water supply for the project:	
<i>vi</i> . 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>i</i> . Total anticipated liquid waste generation per day: gallons/day <i>ii</i> . Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all	components and
approximate volumes or proportions of each):	
<i>iii.</i> Will the proposed action use any existing public wastewater treatment facilities? If Yes:	☐ Yes ☐No
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:	
<i>iv.</i> 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 spec	ifying 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	□Yes 2 No
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?	
If Yes:	
<i>i</i> . How much impervious surface will the project create in relation to total size of project parcel?	
<i>i</i> . How much impervious surface will the project create in relation to total size of project parcer.	
Square feet or acres (impervious surface) Square feet or acres (parcel size)	
Square feet or acres (parcel size)	
<i>ii.</i> Describe types of new point sources.	
iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent pr	coperties,
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
<i>iv.</i> 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	⊿ Yes □ No
combustion, waste incineration, or other processes or operations?	
If Yes, identify:	
•	
<i>i</i> . Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)	
Construction equipment and vehicles	
<i>ii.</i> Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)	
Power generation	
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,	□Yes ∠ No
or Federal Clean Air Act Title IV or Title V Permit?	
If Yes:	
<i>i</i> . Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet	□Yes□No
ambient air quality standards for all or some parts of the year)	
<i>ii.</i> 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 ₂ O)	
•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)	
I Onsi year (Short tons) of Hazardous All I Onutants (ITAT S)	

h. Will the proposed action generate or emit methane (include	ding, but not limited to, sewage treatment plants,	☐Yes ∑ No
landfills, composting facilities)?		
If Yes:		
<i>i</i> . Estimate methane generation in tons/year (metric):	· 1 1 1 · · · · 1 · · · · · · ·	. 1
<i>ii.</i> Describe any methane capture, control or elimination me	asures included in project design (e.g., combustion to g	enerate heat or
electricity, flaring):		
i. Will the proposed action result in the release of air polluta	nts from open-air operations or processes, such as	☐Yes ∕ No
quarry or landfill operations? If Yes: Describe operations and nature of emissions (e.g., div	esel exhaust rock particulates/dust)	
If Tes. Describe operations and nature of emissions (e.g., un	eser exhaust, fock particulates/dust).	
j. Will the proposed action result in a substantial increase in	traffic above present levels or generate substantial	□Yes √ No
new demand for transportation facilities or services?		
If Yes: $(1 + 1) = 1 + 1 = 1 $		
<i>i</i> . When is the peak traffic expected (Check all that apply): \Box P and a why between between f		
Randomly between hours of to to		c):
<i>u</i> . For commercial activities only, projected number of the	ek uips/day and type (e.g., senn traners and dump truck	5)
<i>iii</i> . Parking spaces: Existing F		
iv. Does the proposed action include any shared use parking		□Yes □No
v. If the proposed action includes any modification of exis	sting roads, creation of new roads or change in existing	access, describe:
<i>vi.</i> Are public/private transportation service(s) or facilities a	wailable within 1/ mile of the proposed site?	☐Yes ☐No
<i>vii</i> Will the proposed action include access to public transpo		\Box Yes \Box No
or other alternative fueled vehicles?	station of accommodations for use of hybrid, electric	
<i>viii.</i> Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing Yes No		
pedestrian or bicycle routes?		
1 2		
1 - W' = 1 - 4' - 4' = 1 - 4' - 1 - 4	· 1.)	
k. Will the proposed action (for commercial or industrial pro	bjects only) generate new or additional demand	√ Yes No
for energy? If Yes:		
<i>i</i> . Estimate annual electricity demand during operation of the	he proposed action:	
16,335 kWh *		
<i>ii.</i> Anticipated sources/suppliers of electricity for the projec	t (e.g., on-site combustion, on-site renewable, via grid/l	ocal utility, or
other):		,
New York State Electric & Gas Corporation		
<i>iii</i> . 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>i</i> . During Construction:	<i>ii.</i> During Operations:	
Monday - Friday: <u>8AM - 6PM</u> Saturday: <u>8AM - 6PM</u>	Monday - Friday: 24 hours/day Saturday: 24 hours/day	
Saturday: 8AM - 6PM	 Saturday: 24 hours/day Sunday: 24 hours/day 	
Sunday: 8AM - 6PM	J	
Holidays:CLOSED	Holidays: 24 hours/day	

*The average number of kilowatt hours per square foot for a commercial building is approximately 22.5. (Source: lota Communications.com). The proposed building is 600 sq. ft.

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both?	☑ Yes □No
If yes:	
<i>i</i> . Provide details including sources, time of day and duration:	
The operation of construction equipment will increase local daytime ambient noise levels. This will only occur during permitted hours or resulting noise will cease upon completion of the project.	of operation and the
<i>ii.</i> 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>i</i> . Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:	
See Lighting Plan	
<i>ii.</i> Will proposed action remove existing natural barriers that could act as a light barrier or screen?	Yes No
Describe:	
	Yes No
o. Does the proposed action have the potential to produce odors for more than one hour per day? 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)	🗌 Yes 💋 No
or chemical products 185 gallons in above ground storage or any amount in underground storage? If Yes:	
<i>ii.</i> Volume(s) (e.g., month, year)	
<i>iii</i> . 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>i</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>i</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) <i>ii.</i> Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waster	
Construction:	
Operation:	
<i>iii</i> . 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?
If Yes:
<i>i</i> . Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or
other disposal activities):
<i>ii.</i> Anticipated rate of disposal/processing:
• Tons/month, if transfer or other non-combustion/thermal treatment, or
• Tons/hour, if combustion or thermal treatment
<i>iii.</i> If landfill, anticipated site life: years
t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous $\Box Yes \square No$
waste? If Yes:
<i>i</i> . Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility:
<i>i</i> . Traine(s) of an nazardous wastes of constituents to be generated, nandred of managed at facinity.
<i>ii.</i> Generally describe processes or activities involving hazardous wastes or constituents:
<i>iii</i> . Specify amount to be handled or generated tons/month <i>iv</i> . Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents:
<i>iv.</i> Describe any proposals for on-site minimization, recycling or reuse of nazardous constituents:
v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility?
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>i</i> . Check all uses that occur on, adjoining and near the project site.
Urban 🛛 Industrial 🔲 Commercial 🖾 Residential (suburban) 🗌 Rural (non-farm)
Forest Agriculture Aquatic <i>ii</i> If min of was comprelly described
<i>ii.</i> 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	0.07	0.2	+ 0.13
Forested	1.34	1.21	- 0.13
Meadows, grasslands or brushlands (non- agricultural, including abandoned agricultural)	0.02	0.02	0
Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
Surface water features (lakes, ponds, streams, rivers, etc.)	0.05	0.05	0
Wetlands (freshwater or tidal)	0.13	0.13	0
Non-vegetated (bare rock, earth or fill)	0	0	0
Other Describe:			

c. Is the project site presently used by members of the community for public recreation?<i>i.</i> If Yes: explain:	☐ Yes ⁄ No
 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? If Yes, <i>i.</i> Identify Facilities: 	∏Yes ∏ No
 e. Does the project site contain an existing dam? If Yes: <i>i</i>. Dimensions of the dam and impoundment: Dam height: feet 	☐ Yes ⁄ No
Dam length: feet	
Surface area: acres	
Volume impounded:	
<i>ii.</i> Dam's existing hazard classification:	
<i>iii.</i> 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 faci If Yes:	∐Yes ∏ No lity?
<i>i</i> . Has the facility been formally closed?	□Yes□ No
• If yes, cite sources/documentation:	
<i>ii.</i> Describe the location of the project site relative to the boundaries of the solid waste management facility:	
<i>iii.</i> 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? If Yes:	☐ Yes ⁄ No
<i>i</i> . Describe waste(s) handled and waste management activities, including approximate time when activities occurr	red:
 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? If Yes: 	∐Yes ⊠ No
<i>i</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):	
<i>ii</i> . If site has been subject of RCRA corrective activities, describe control measures:	
<i>iii.</i> Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? If yes, provide DEC ID number(s):	□Yes 2 No
<i>iv.</i> 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 2 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:		
	☐ Yes ☐ No	
• Explain:		
E.2. Natural Resources On or Near Project Site		
a. What is the average depth to bedrock on the project site? *SEE BELOW 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: Ff - Fluvaquents-Udifluvents complex 80 %		
Sm -Ridgebury complex 14 % RdA - Sun loam 6 %		
d. What is the average depth to the water table on the project site? Average:feet *SEE BELOW		
e. Drainage status of project site soils: Well Drained:% of site% of site		
Poorly Drained 100% of site		
f. Approximate proportion of proposed action site with slopes: 0-10%:		
$ \begin{array}{c c} \hline & 10-15\%: & \underline{2} & \% & \text{of site} \\ \hline & 15\% & \text{or greater:} & \underline{2} & \% & \text{of site} \\ \end{array} $		
	☐ Yes 7 No	
If Yes, describe:		
h. Surface water features.		
<i>i</i> . Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)?	ℤ Yes □ No	
<i>ii.</i> Do any wetlands or other waterbodies adjoin the project site?	V Yes No	
If Yes to either <i>i</i> or <i>ii</i> , continue. If No, skip to E.2.i.		
<i>iii.</i> Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency?		
iv. For each identified regulated wetland and waterbody on the project site, provide the following information: • Streams: Name 864-139 Classification C(T)		
Laka an Danda. Nama		
Lakes of Ponds: NameClassification Wetlands: NameFederal Waters, NYS Wetland Approximate Size Wetland No. (if regulated by DEC) ML-10		
	🗌 Yes 🔽 No	
waterbodies?		
If yes, name of impaired water body/bodies and basis for listing as impaired:		
i. Is the project site in a designated Floodway?	V Yes No	
j. Is the project site in the 100-year Floodplain?	√ Yes No	
k. Is the project site in the 500-year Floodplain?	V Yes No	
	V Yes No	
If Yes: <i>i</i> . Name of aquifer: Principal Aquifer		

* Depth to Bedrock

Depth to Water

6.5 FT > 80% of site 1.6 FT 6% of site	204 FT 80% of site 244 FT 6% of site	Page 11 of 13
6.5 FT > 14% of site	36 FT 14% of site	

m. Identify the predominant wildlife species	that approximition use the majoritist		
Squirrel	Raccoon	·····	
Deer	Possum		· · · · · · · · · · · · · · · · · · ·
Rabbit	Fox		
n. Does the project site contain a designated s	ignificant natural community?		☐ Yes √ No
If Yes:			
<i>i</i> . Describe the habitat/community (compos	ition, function, and basis for desig	gnation):	· · · · · · · · · · · · · · · · · · ·
<i>ii.</i> Source(s) of description or evaluation:			
<i>iii</i> . 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 pla		And an NVC	
			Yes No
endangered or threatened, or does it contain	any areas identified as nabitat to	or an endangered or inreatened spec	1es?
If Yes:			
<i>i</i> . Species and listing (endangered or threatened	l):		
p. Does the project site contain any species of	f plant or animal that is listed by	NYS as rare, or as a species of	☐ Yes √ No
special concern?	1 5		
If Yes:			
<i>i</i> . Species and listing:			
<i>i</i> . Species and listing			
q. Is the project site or adjoining area current			□Yes √ No
If yes, give a brief description of how the pro	posed action may affect that use:		
E.3. Designated Public Resources On or N			
a. Is the project site, or any portion of it, loca	ted in a designated agricultural dis	strict certified pursuant to	∐ Yes ∑ No
Agriculture and Markets Law, Article 25-	AA, Section 303 and 304?	-	
If Yes, provide county plus district name/nur			
b. Are agricultural lands consisting of highly			□Yes √ No
<i>i</i> . If Yes: acreage(s) on project site?			
<i>ii.</i> 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	∐ Yes ∑ No
Natural Landmark?	of is it substantianty contiguous a	s, a registered reational	
If Yes:			
	Biological Community	Geological Feature	
<i>ii.</i> Provide brief description of landmark, in	cluding values behind designation		
	endening values benind designation		
d. Is the project site located in or does it adjo	n a state listed Critical Environme	ental Area?	☐ Yes √ No
If Yes:			
<i>i</i> . CEA name:			
<i>ii</i> . Basis for designation:			
<i>iii.</i> Designating agency and date:			

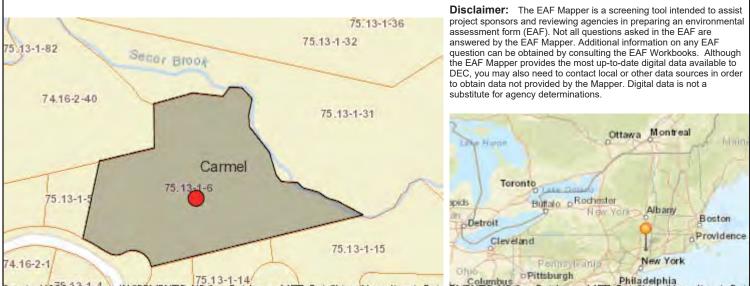
 e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissi Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places. <i>i</i>. Nature of historic/archaeological resource: Archaeological Site Historic Building or District <i>ii</i>. Name: <i>iii</i>. 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 ZNo
 g. Have additional archaeological or historic site(s) or resources been identified on the project site? If Yes: i. Describe possible resource(s): ii. Basis for identification: 	∏Yes ∑ No
 h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? 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 etc.): 	☐Yes ∑ No scenic byway,
etc.):	
 i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? If Yes: i. Identify the name of the river and its designation: 	☐ Yes ZNo
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.

 Date 7-15-21, Revised 8-27-21	Applicant/Sponsor Name John Atzl
 Title Land Surveyor	Signature



Samin, USGS; Internap, INCREMENTP.775.13-1-14 Samin, USGS; Internap, INCREMENTP.7VRCan, Esri Japan, METI, Esri China (Hopg Kondi Esri Ementre) EMENTP, NRCan, Esri Japa 74 orea, Esri (Thailand), MGCC, (c) OpenStreetMap contributors, and the GIS User Community conopenStreetMap contri

EMENTP, NRCan, Esri Japan, METT, Esri China (Hong Kong), Esri
sign@penStreetMap contributors and the GIS User Community

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]	NYC Watershed Boundary
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Stream Name]	864-139
E.2.h.iv [Surface Water Features - Stream Classification]	C(T)
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters, NYS Wetland
E.2.h.iv [Surface Water Features - Wetlands Size]	NYS Wetland (in acres):482.2
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	ML-10

E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	Yes
E.2.j. [100 Year Floodplain]	Yes
E.2.k. [500 Year Floodplain]	Yes
E.2.I. [Aquifers]	Yes
E.2.I. [Aquifer Names]	Principal Aquifer
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No
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]	No
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]	No
E.3.i. [Designated River Corridor]	No

Project Description

General Project Information

Applicant:	SUEZ Water New York, Inc.
Project:	PFAS Compliance Project F – Geymer Well
Location:	Town of Carmel Putnam County, New York
Consultant:	Gannett Fleming, Inc. 207 Senate Avenue Camp Hill, PA 17011

Introduction

SUEZ is proposing the construction of upgrades at their existing Geymer well site. The proposed study area (41° 21' 53.181" N, 73° 46' 37.994" W) is located in the Town of Carmel, Putnam County, New York. The project study area for this project encompassed the entire SUEZ property. During delineation efforts an additional 300-foot buffer was reviewed around the project study area and is referred to in the permit application as the action area. Refer to the Topographic Location Map and Aerial Layout Map for the location and project limits located in **Section A**.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for perand polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both PFOA and PFOS, the regulated compounds.

Project Purpose and Need

For years, states and water providers have followed the Environmental Protection Agency (EPA) health advisory limit of 70 parts per trillion (ppt) for PFOA and PFOS in drinking water; in late August 2020, the State of New York adopted new drinking water standards that set a Maximum Contaminant Level (MCL) of 10 ppt for these substances in drinking water.

In accordance with the new requirements, SUEZ Water New York, Inc. (SUEZ) took additional samples from its well water sources in October 2020. Those sites that tested above the new state standard remain well below the federal level of 70 ppt but will require treatment to meet the new state requirements.

To comply with these new MCLs, SUEZ plans to construct upgrades to the existing Geymer (AKA) Forest Park Homes site. The planned upgrade will not increase the firm capacity of the wells but add Granulated Activated Carbon as treatment to remove the PFAS and PFOA prior to entering the distribution system and ensuring compliance with the new regulations.

Project Description Details

The Geymer wells are located in a residential area 300 feet northeast of 76 Geymer Drive in Mahopac, Putnam County, New York and serve approximately 50 customers. The well water comes from two wells and have a combined production capacity of 100 gpm.

The well pumps will be replaced for this project to compensate for the pressure loss from the new treatment facility yet provide the customers with sufficient water pressure at their homes. From the wells, the water will enter a new treatment facility, which will house bag filters for pre-filtration, and Granular Activated Carbon for the PFOS and PFOA removal. The water will then receive sodium hypochlorite for disinfection. From there the water is sent to the distribution system. Architectural, civil, electrical, structural, HVAC and plumbing upgrades will also be implemented to accommodate the new treatment systems at the existing locations.

Construction will also include upgrades to the access road off of Geymer Drive, the installation of three (3) 6-inch pipelines that connect to the existing wells, and an electrical upgrade taking the facility to three-phase power. Erosion and sediment controls will be installed to protect the regulated features. Disturbance will be kept to a minimum and avoidance measures have been considered during the design phase of the project.

Project Area Description

The proposed PFAS upgrades will be installed within the existing SUEZ property located on the north side of Geymer Drive in the Town of Carmel, New York. The proposed project study area is approximately 4 acres and is located north of Geymer Drive and south of Secor Brook. The action area surrounding the project study area is approximately 23.5 acres. The project study area and action area consist of predominantly forested wetlands, Secor Brook, gravel access roads, existing well infrastructure, residential properties, and local roads.

Water resources within or adjacent to the project area include Secor Brook and its unnamed tributaries as identified by NYSDEC freshwater mapping, National Wetland Inventory mapping, and U.S. Geological Survey topographical mapping. Additional water resources were identified during field investigations.

Project Impacts

One parcel was impacted by the SUEZ PFAS project. Project design will impact one regulated feature and the intent of this package is to obtain approvals from the Town. Refer to the Wetland Delineation Report provided in **Section B** for more information regarding these resources.

The proposed project limit of disturbance overlaps NYSDEC regulated freshwater wetlands, regulated freshwater wetland adjacent areas and USACE regulated wetlands. As per the site visit conducted on June 7, 2021, NYSDEC has accepted the USACE regulated wetland boundary as the NYSDEC freshwater wetland boundary. Therefore, the USACE regulated wetland boundary and NYSDEC freshwater wetland boundary coincide with one another.

There are both permanent and temporary impacts associated with the construction of the PFAS structure, driveway and infrastructure. Reclamation to the portion of the wetlands with temporary impacts will take place as soon as construction is complete. All impacts that are permanent in nature are outlined and mitigation is proposed.

Please see **Section C** for a typical diagram of construction.

Regulated Activities

Wetland Impacts

The Town of Carmel will regulate impacts at the Geymer Well site that involve temporary and permanent impacts to Wetland 1. The temporary impacts include the areas required for the installation of temporary erosion and sediment control to protect the surrounding portions of Wetland 1. All controls shall be removed once construction is complete and the area shall be restored and allowed to revegetate back to pre-construction conditions. There is one USACE regulated permanent wetland impacts associated with the Geymer Well site. Below are the calculated impacts to the wetland and within 100 feet adjacent to the wetlands.

Wetland Impacts

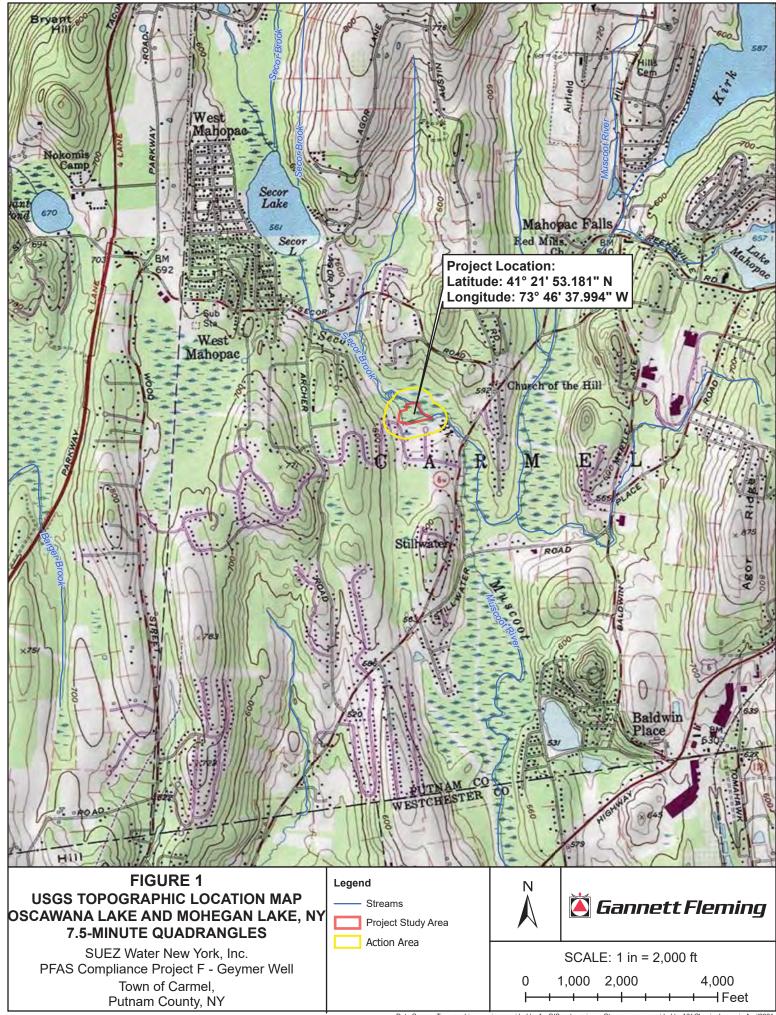
• 2,905.36 ft²; 0.067 ac

Impacts to 100' Buffer

• 24,459.54 ft²; 0.562 ac

There are no stream impacts associated with this project.

Section A: Topographic Location Map and Aerial Layout Map



Data Source: Topographic mapping provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April2021.

	Project Loca Latitude: 41 Longitude: 7	ation: ° 21' 53.181" N 73° 46' 37.994" W
		Secure
FIGURE 2 PROJECT LOCATION AND STUDY AREA MAP SUEZ Water New York, Inc. PFAS Compliance Project F - Geymer Well Town of Carmel, Putnam County, NY	Legend Action Area Project Study Area	N Image: Comment of the sector SCALE: 1 in = 200 ft 400 0 100 200 400 Image: Heat of the sector Heat of the sector Heat of the sector

-

Section C: Typical diagram of construction

Note: Please refer to the attached Site Plan set.

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT



SUEZ Water New York Inc. PFAS Compliance Project F – Geymer Well

Town of Carmel, Putnam County, New York

Prepared for:

SUEZ Water New York, Inc. 162 Old Mill Rd West Nyack, NY 10994

Prepared by:

Gannett Fleming 207 Senate Avenue Camp Hill, PA 17011

May 2021

GF Project No. 068577

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT

SUEZ Water New York Inc. PFAS Compliance Project F – Geymer Well

Town of Carmel, Putnam County, New York

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May 2021

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1.0 Executive Summary

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing Geymer well site. The proposed study area (41° 21' 53.181" N, 73° 46' 37.994" W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for perand polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), the regulated compounds.

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with U.S. Fish and Wildlife Service (USFWS). The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area and action area. This report was prepared to satisfy the regulatory requirements of the U.S. Army Corps of Engineers (USACE) under the purview of Section 404 of the Clean Water Act and New York State Department of Environmental Conservation (NYSDEC) under Article 24, Freshwater Wetlands Act.

On April 21 and 22, 2021, Gannett Fleming, Inc. (GF) conducted a field investigation to delineate wetlands and waterways within the 4-acre project study area and 23.5-acre action area for use in project planning and permitting efforts for the PFAS Compliance Project F – Geymer Well. One (1) wetland and two (2) waterways were delineated within the project study area and action area (**Table 1**). Secon Brook was confirmed in the field as a perennial waterway bordering the project study area to the north. Wetland and waterway boundaries were mapped in the field and are presented in **Appendix A**. Photographs were taken of the wetlands and waterways and are provided in **Appendix B**. Wetland data forms were completed to document the hydrology, vegetation, and soil conditions of the delineated wetlands and are provided in **Appendix C**.

Table 1. Wetland and Waterway Summary						
PROJECT TOTALS						
WETLANDS						
Feature TypeNumber PresentTotal Acres (AC)						
PFO Wetland 1 5.02+						
WATERWAYS						
Feature TypeNumber PresentTotal Linear Feet (LF)						
 Perennial Waterway 	2	1,991+				

Table 1. Wetland and Waterway Summary

Wetlands

• Wetland 1 – PFO wetland, 5.02+ acres (Open-Ended)

Waterways

- Stream 1 Perennial, 801 linear feet
- Stream 2 (Secor Brook) Perennial, 1,190+ linear feet

*Length in linear feet for Stream 1 was delineated in the field. Length of Secor Brook was digitized and measured using aerial imagery

A "+" indicates the delineated resource extends beyond the Project Study Area or Action Area.

2.0 **Project Description**

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing Geymer well site. The proposed study area (41° 21' 53.181" N, 73° 46' 37.994" W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for perand polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both PFOA and PFOS, the regulated compounds

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with USFWS. The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The proposed PFAS upgrades will be installed within the existing SUEZ property located on the north side of Geymer Drive in the Town of Carmel, New York. The proposed project study area is approximately 4 acres and is located north of Geymer Drive and south of Secor Brook. The action area surrounding the project study area is approximately 23.5 acres. The project study area and action area consist of predominantly forested wetlands, Secor Brook, gravel access roads, existing well infrastructure, residential properties, and local roads.

3.0 Purpose

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area. This report was prepared to satisfy the regulatory requirements of the USACE under the purview of Section 404 of the Clean Water Act and NYSDEC under Article 24, Freshwater Wetlands Act.

4.0 Study Area Description

The project study area consisted of the area in which SUEZ is proposing to complete their work. A 300-foot buffer or action area was used surrounding the project study area. The action area was investigated as part of the Phase I bog turtle habitat survey. The 4-acre project study area and 23.5-acre action area consisted of forested wetlands, Secor Brook, the existing wells, access roads, adjacent residential properties, and local roads.

4.1 Topography

According to the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Oscawana Lake and Mohegan Lake, New York), the elevation of the project study area and action area ranged from approximately 520 to 560 feet above mean sea level (amsl). An excerpt from the USGS Topographic Quadrangle Map is provided as **Figure 1**. A Project Location and Study Area Map is provided as **Figure 2**.

4.2 Soils

According to the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey, six (6) soil series were mapped within the project study area and action area: Fluvaquents-Udifluvents complex, frequently flooded (Ff), Paxton fine sandy loam, 8 to 15 percent slopes (PnC), Ridgebury complex, 0 to 3 percent slopes (RdA), Ridgebury complex, 3 to 8 percent slopes (RdB), Woodbridge loam, 3 to 8 percent slopes (WdB). Sm is a nationally listed hydric soil (100%). Ff has a hydric rating of 59%. RdA and RdB have hydric soil ratings of 60% and 58%, respectively. PnC is listed as having 2% hydric inclusions and WdB is listed as having 7% hydric inclusions. An excerpt from the soil survey mapping is provided as **Figure 3**.

4.3 Geology

The project is located in the Hudson Highlands Section of the Physiographic Provinces of New York (NYSM, 1995). The project study area is underlain by the Biotite-quartz-plagioclase paragneiss (bqpc) unit of bedrock; the bqpc unit that underlays the project study area consists of "biotite-quartz-plagioclase gneiss with subordinate biotite grantic gneiss, amphibolite, calcsilicate rock" assumed to be from the Middle Proterozoic period (NYSM, 1995). The project is also underlain by the surficial geologic unit till (t) defined by "variable texture (e.g. clay, silt-clay, boulder clay), usually poorly sorted diamict, deposition beneath glacier ice, relatively impermeable (loamy matrix), variable clast content...potential land instability on steep slopes, thickness variable (1-50 meters)" (NYSM, 1989).

4.4 Surface Waters

The USGS map identified Secor Brook as a perennial waterway bordering the project study area to the north (**Figure 1**). No other streams or waterbodies were identified on USGS mapping within or immediately adjacent to the project study area or action area.

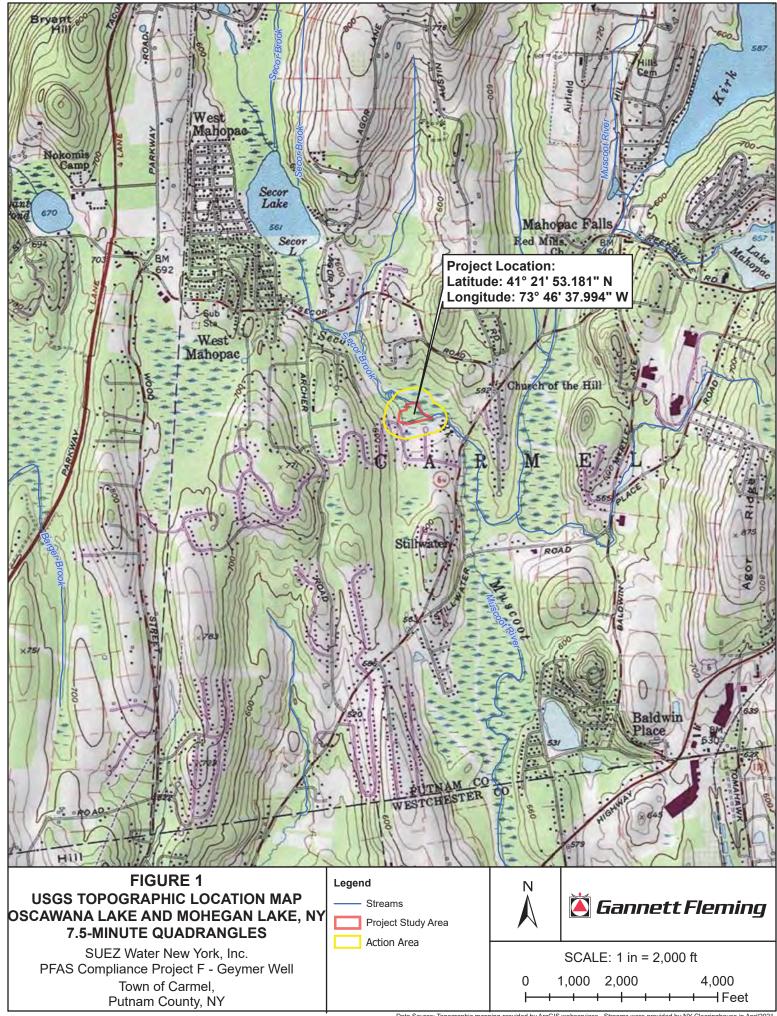
NYSDEC has designated Plum Brook as water quality classification 'C(T)'. This classification indicates that the water resource supports fisheries and is suitable for non-contact activities, and may support trout populations. A 'C(T)' classification is considered a protected water of the state.

4.5 National Wetlands Inventory

The National Wetlands Inventory (NWI) online mapping tool identified multiple features within the project study area and action area. NWI identified Secor Brook as a riverine, upper perennial, unconsolidated bottom, permanently flooded (R3UBH) and riverine, unknown perennial, unconsolidated bottom, permanently flooded (R5UBH) watercourse. Two riverine, intermittent, streambed, seasonally flooded (R4SBC) features were mapped within the action area, and one of these features was mapped within the western extent of the project study area. A palustrine, forested, broad-leaved deciduous, seasonally flooded (PFO1C) feature was mapped within the project study area and action area, on the north and south side of Secor Brook. The NWI map for the project study area is provided as **Figure 4**.

4.6 NYSDEC Wetlands

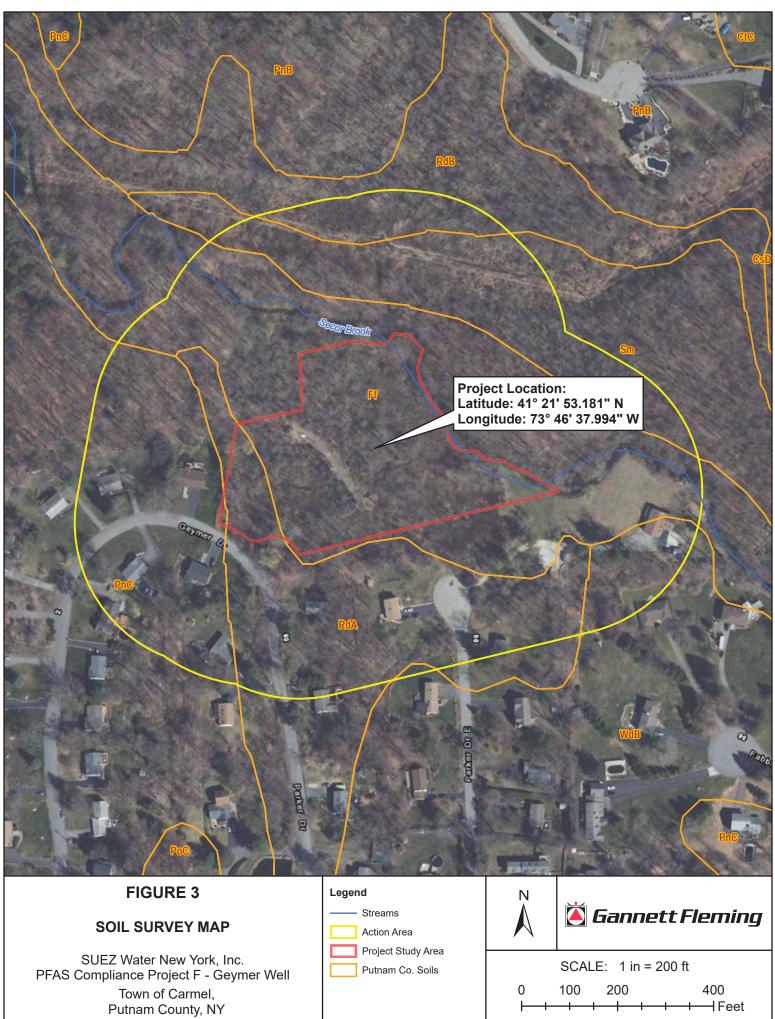
NYSDEC identified one (1) state regulated wetland within the project study area. Wetland ML-10 is a Class 1 wetland totaling 482.2 acres located within the project study area and action area. The project study area and action area are within the wetland, the 100-foot buffer, and the 500-foot checkzone of this wetland. The NYSDEC wetlands map for the project study area is provided as **Figure 5**.



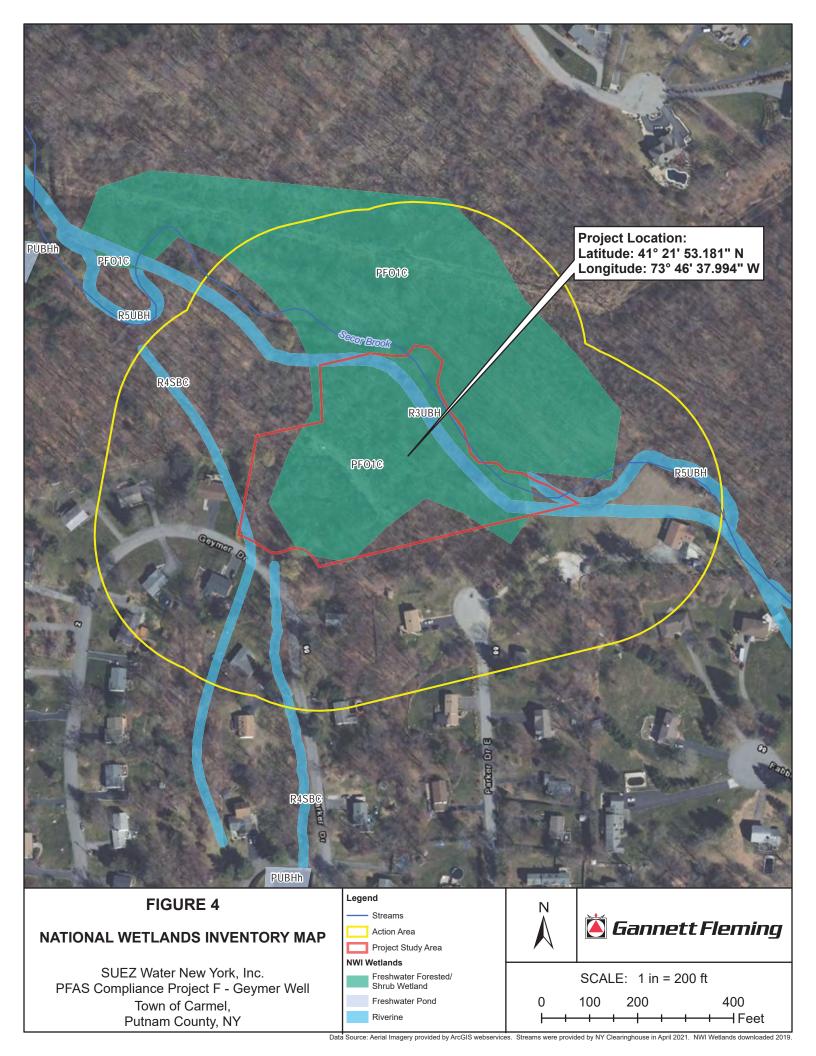
Data Source: Topographic mapping provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April2021.

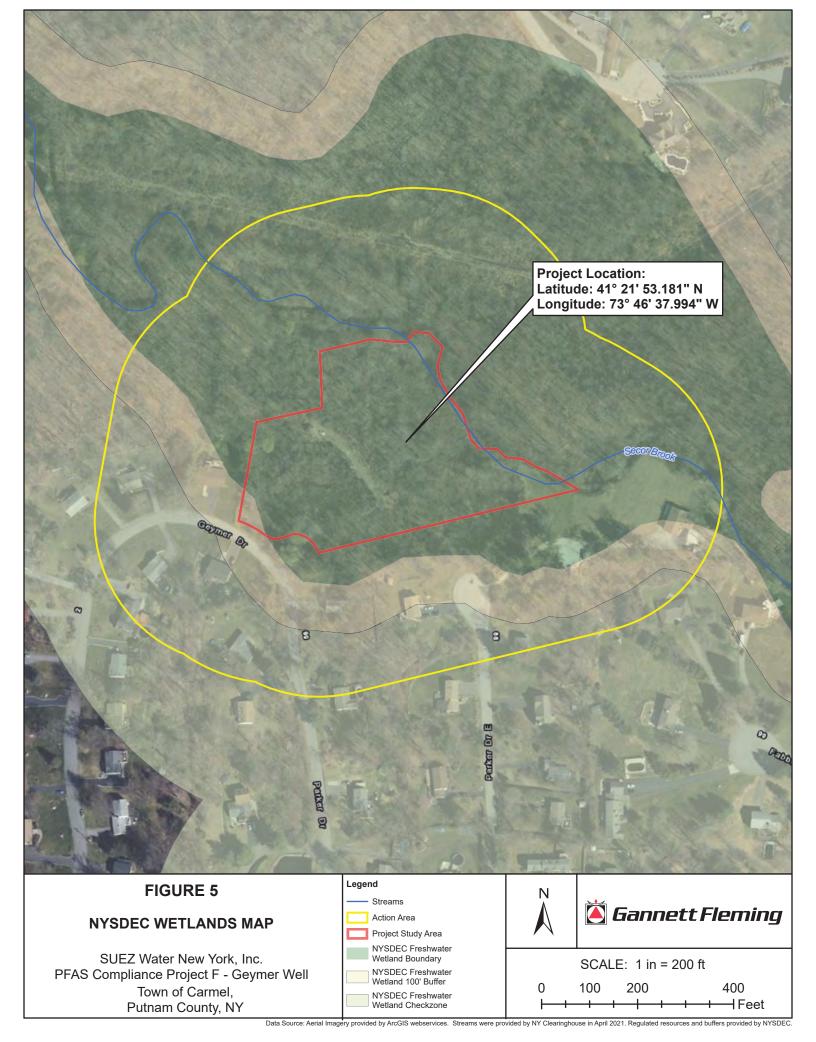
	Project Loca Latitude: 419 Longitude: 7	ation: 21' 53.181" N 3° 46' 37.994" W
		SCOTERON
FIGURE 2 PROJECT LOCATION AND STUDY AREA MAP SUEZ Water New York, Inc. PFAS Compliance Project F - Geymer Well Town of Carmel, Putnam County, NY	Legend Streams Action Area Project Study Area	N Image: Comment Fleming SCALE: 1 in = 200 ft 0 0 100 200 400 Image: Imag

Data Source: Aerial Imagery provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April 2021.



Data Source: Aerial Imagery provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April 2021. USDA soils data June 2020 downloaded from SSURGO website 2021.





5.0 Methods

The 4-acre project study area and 23.5-acre action area was investigated for palustrine wetland indicators of vegetative composition, soil development, and hydrology. Portions of the action area located north of Secor Brook and east of Parker Drive were not able to be investigated due to property access issues. The investigation was conducted in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (U.S. Army Corps of Engineers, 2012). Wetland field data forms were completed to document wetland or non-wetland data points. If present, wetlands within and directly adjacent to the study area were delineated so that their presence could be shown on project mapping to aid in impact avoidance and/or minimization during engineering design.

Soils were characterized by evaluating the upper horizons of the soil profile. Soil pits were dug using a "sharpshooter" spade with a 16-inch blade. Soil horizons were evaluated using normal field protocols for determining texture and nomenclature. The *Munsell Soil Color Charts* (Kollmorgen Instruments Corporation, 1994) were used to determine the colors of horizons and redoximorphic features. Soil observations of reducing conditions were determined in the field using presence/absence determinations of redoximorphic concretions and oxidized rhizospheres, and identifying low chroma matrices according to *Field Indicators of Hydric Soils in the United States (Version 7.0)* (USDA-NRCS, 2010).

Vegetation was identified using A Field Guide to Trees and Shrubs (Petrides, 1986), Newcomb's Wildflower Guide (Newcomb, 1977), and Grasses: An Identification Guide (Brown, 1979). Plant species were assigned an indicator status [i.e., Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), or Obligate Wetland (OBL)] based on the 2018 National Wetland Plant List (Version 3.4) (USACE, 2018).

Data point locations were investigated for primary and secondary wetland hydrology indicators. If present, wetland boundaries were marked using pink wetland flagging. Wetland boundary data points were located using a Trimble Geo7X Global Positioning System (GPS) with Trimble Tornado receiver. The Trimble Geo7X and Tornado are capable of attaining sub-meter accuracy. The GPS data were then transferred onto relevant project mapping using the U.S. State Plane NY East coordinate system.

Wetland type classifications were assigned to each wetland following the Cowardin et al methods (1979). Hydrogeomorphic classifications were assigned to each wetland based on the *Hydrogeomorphic Wetland Classification: HGM Classification for Wetlands of the Mid-Atlantic Region, USA* (Brooks, 2017). Palustrine plant community classifications were assigned to each wetland based on *Ecological Communities of New York State* (Edinger et al, 2014). Color photographs were taken of all relevant features to document site conditions during the time of the investigation.

Waterways were identified through a review of available mapping and field investigation. Topographic and engineering maps were reviewed for the presence of streams within the project study area. A field investigation for waterways was performed in conjunction with the wetland field investigation and included the field verification of mapped watercourses and the identification and delineation of streams, springs, and seeps that were not shown on existing engineering plans. Waterways were identified by the presence of bed and banks and/or ordinary

high-water marks. The flow regime of each identified waterway was characterized based upon field indicators of hydrologic, floral, and faunal character at the time of the investigation. All identified waterways were photographed and located using GPS.

6.0 Field Observations and Delineated Features

On April 21 and 22, 2021, GF investigated the 4-acre project study area and 23.5-acre action area for wetlands and waterways. The weather conditions on April 21, 2021 were partly cloudy with a high temperature of 65°F and a brief thunderstorm in the afternoon. The weather conditions on April 22, 2021 were mostly sunny and windy with a high temperature of 46°F. Precipitation data indicated 0.17 inches of rain fell on April 21, 2021. No precipitation fell across the region within the 48 hours prior to the field investigation. Weather data was recorded at Danbury Municipal Airport Station in Danbury, CT, approximately 16 miles east of the project study area.

The dominant land-uses within and surrounding the project study area included forested wetlands, gravel access roads and parking areas, residential properties, Secor Brook, paved local roads, and existing well infrastructure. Dominant vegetation observed within the project study area is summarized in **Table 2**.

Scientific Name	Common Name	Indicator Status					
Tree Species							
Acer rubrum	Red Maple	FAC					
Betula alleghaniensis	Yellow Birch	FAC					
Carpinus caroliniana	American Hornbeam	FAC					
Quercus velutina	Black Oak	NL					
	Shrub Species						
Berberis thunbergii	Japanese Barberry	FACU					
Ligustrum vulgare	European Privet	FACU					
Lindera benzoin	Northern Spicebush	FACW					
Lonicera tatarica	Tartarian Honeysuckle	FACU					
Rosa multiflora	Multiflora Rose	FACU					
Viburnum dentatum	Southern Arrow Wood	FAC					
	Herb Species						
Alliaria petiolata	Garlic Mustard	FACU					
Caltha palustris	Yellow Marsh Marigold	OBL					
Carex stricta	Tussock Sedge	OBL					
Equisetum arvense	Field Horsetail	FAC					
Erythronium rostratum	Yellow Troutlily	NL					
Phragmites australis	Common Reed	FACW					
Symplocarpus foetidus	Skunk Cabbage OBL						

Table 2. Dominant Plant Species List

6.1 Waterbodies & Wetlands

During the field investigation, one (1) palustrine wetland complex was delineated within the project study area and action area. Delineated wetlands are listed in **Table 3** with their respective delineated area, Cowardin Classification, hydrogeomorphic (HGM) wetland classification, and Ecological Community of New York State. Wetland boundaries were mapped and are presented in **Appendix A**. Photographs were taken of the wetlands and are provided in **Appendix B**. The Wetland Determination Data Forms are provided in **Appendix C**.

Wetland ID	Area	Cowardin	HGM Wetland	Ecological
	(acre)	Classification	Classification	Community
Wetland 1	5.02+ (Open-Ended)	PFO	Riverine Floodplain Complex (R2c)	Red Maple- Hardwood Swamp

Table 3. Delineated Wetland Resource Summary

6.2 Waterways

During the field investigation, two (2) waterways were identified and delineated within the project study area and action area. Stream 2 was confirmed as perennial Secor Brook during the investigation and delineated using aerial imagery.

Stream 1 - perennial, 801 linear feet

Stream 1 was identified and delineated within the project study area and action area. Stream 1 flows under Geymer Drive through a culvert into the project study area. This waterway flows from south to north, loses definition within Wetland 1, re-channelizes and continues north to its confluence with Secor Brook.

Channel Width	Bank Height	Water Depth	Substrate
5-8 feet	1 foot	2-4 inches	Silt, Sand, Small Cobble, Woody Debris

Stream 2 (Secor Brook) - perennial, 1,190+ linear feet

Secor Brook was confirmed bordering the project study area and within the action area. Secor Brook was delineated using aerial imagery due to site access issues. Secor Brook flows from west to east along the northern boundary of the project study area, through Wetland 1.

Channel Width	Bank Height	Water Depth	Substrate
20 feet	3-4 foot	2-18 inches	Small Cobble, Sand, Gravel

7.0 Wetland & Waterway Resource Summary

The field investigation conducted by GF on April 21 and 22, 2021 identified and delineated one (1) wetland and two (2) waterways in conjunction with the PFAS Compliance Project F – Geymer Well. The following features were identified on mapping and delineated in the field:

Wetlands (Field Delineated)

• Wetland 1 – PFO wetland, 5.02+ acres (Open-Ended)

Waterways (Field Delineated)

- Stream 1 Perennial, 801 linear feet
- Stream 2 (Secor Brook) Perennial, 1,190+ linear feet

*Length in linear feet for Stream 1 was delineated in the field. Length of Secor Brook was digitized and measured using aerial imagery

A "+" indicates the delineated resource extends beyond the Project Study Area or Action Area.

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- Weather Underground. 2021. "*Danbury, CT Weather History*." Available online at <u>https://www.wunderground.com/</u>. Accessed April 28, 2021.

9.0 List of Contributors

Steven C. Smith, Senior Environmental Scientist 38 Hour U.S. Army Corps of Engineers Wetland Delineator Certification Training Program PennDOT Phase I Bog Turtle Habitat Evaluation Training Professional Experience: 21 years Education: B.S. Geoenvironmental Studies

Jillian Arnold, Senior Environmental Scientist 36-Hour Swamp School Wetland Delineation & Regional Supplement Training Society of Wetland Scientists, Professional Wetland Scientist (PWS) #2736 PennDOT Phase I Bog Turtle Habitat Evaluation Training Professional Experience: 17 years Education: B.S., Geoenvironmental Studies, GIS Certificate M.S., Biology

Clayton D. Frey, Environmental Scientist

36-Hour Swamp School Wetland Delineation and Regional Supplement Training
24-Hour OSHA Hazardous Waste Operations and Emergency Response Certification
Professional Experience: 3 years
Education: B.S., Wildlife and Fisheries Science

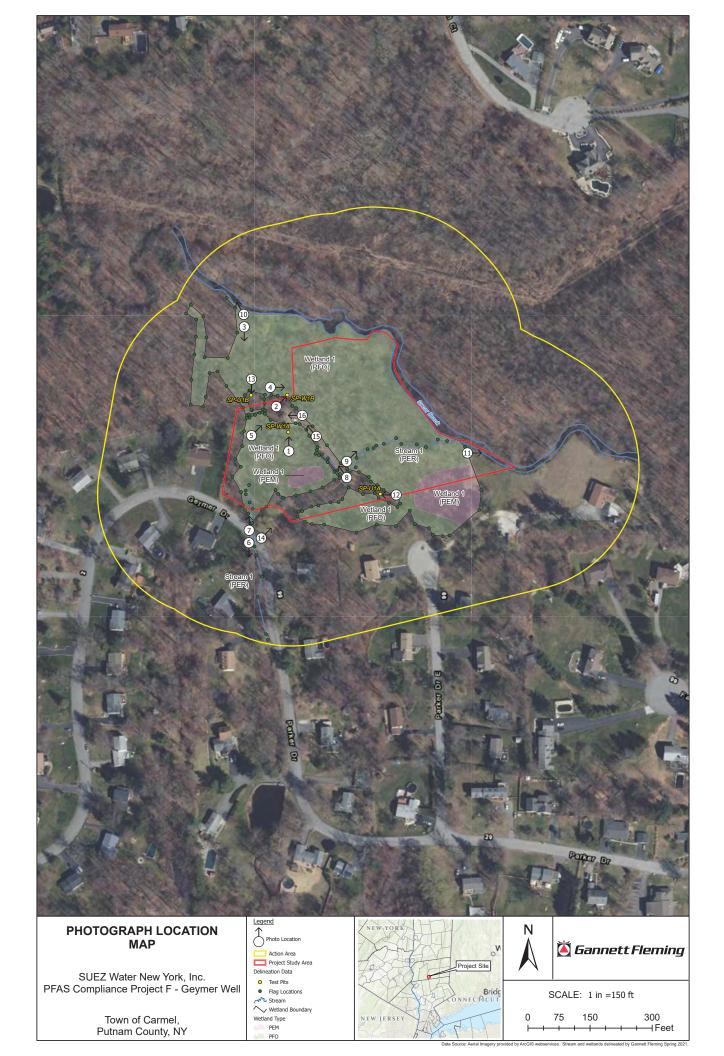
Kayla Briggs, Environmental Scientist ESRI MOOC Do it Yourself Geo Apps (6-Week Course) ESRI Web Courses and Online Training Seminars Professional Experience: 11 years Education: B.S., Geoenvironmental Studies, GIS Certificate

APPENDIX A

WETLANDS AND WATERWAYS MAPPING



APPENDIX B SITE PHOTOGRAPHS AND PHOTOGRAPH LOCATION MAP





Photograph 1: Overview of SP-W1A, a wetland test pit recorded within Wetland 1 (PFO), looking towards the existing pumphouse. (facing north; 4/21/2021)



Photograph 2: Overview of SP-W1B, a wetland test pit recorded within Wetland 1 (PFO). (facing northeast; 4/21/2021)



Photograph 3: Overview of Wetland 1 (PFO), taken near northwestern extent of Wetland 1. (facing south; 4/21/2021)



Photograph 4: Overview of Wetland 1 (PFO), taken north of existing access road. (facing east; 4/21/2021)





Photograph 5: Overview of Wetland 1 (PFO), looking towards existing pumphouse and access road. (facing northeast; 4/21/2021)



Photograph 6: Upstream view of Stream 1, taken from culvert on southwest side of Geymer Drive. (facing south; 4/21/2021)

Appendix B – Site Photographs



Photograph 7: Downstream view of Stream 1, taken from north side of Geymer Drive adjacent to existing access road. Stream 1 loses definition within Wetland 1 and re-channelizes to the east. (facing north; 4/21/2021)



Photograph 8: Stream 1, looking upstream from culvert under existing access road. Stream 1 re-channelizes along access road and flows east towards Secor Brook (facing northwest; 4/21/2021)



Photograph 9: Downstream view of Stream 1, flowing from culvert under existing access road. (facing northeast; 4/21/2021)



Photograph 10: View of Stream 2 (Secor Brook), looking upstream from northwestern extent of Wetland 1. (facing northwest; 4/21/2021)



Photograph 11: Downstream view of Secor Brook, taken downstream of the confluence of Stream 1 and Secor Brook. (facing southeast; 4/21/2021)



Photograph 12: View of SP-U1A, an upland test pit taken to document conditions adjacent to Wetland 1, facing existing access road. (facing west; 4/21/2021)



Photograph 13: View of SP-U1B, an upland test pit taken to document conditions adjacent to Wetland 1. (facing south; 4/21/2021)



Photograph 14: View of existing access road, taken at entrance to site from Geymer Drive. (facing northeast; 4/21/2021)



Photograph 15: View of well along existing access road, looking towards pumphouse. (facing northwest; 4/21/2021)



Photograph 16: View of existing pumphouse at western terminus of access road. (facing west; 4/21/2021)

APPENDIX C WETLAND FIELD DATA FORMS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Geymer Well	City/County: Putnam County	Sampling Date: 04/22/2021
Applicant/Owner: SUEZ Water NY		Sampling Point: SP-W1A
Investigator(s): S. Smith, C. Frey	Section, Township, Range: Town of Carmel	
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, convex, none): Concave	Slope (%):
Subregion (LRR or MLRA): LRR R Lat: 41.364	4808 Long: <u>73.777700</u>	
Soil Map Unit Name: Fluvaquents-Udifluvents complex, fr	requently flooded (Ff) NWI classific	cation:
Are climatic / hydrologic conditions on the site typical for this tin	ne of year? Yes 🔀 No 🦲 (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrologysigni	ficantly disturbed? Are "Normal Circumstances"	present? Yes X No
Are Vegetation, Soil, or Hydrology natu	rally problematic? (If needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map she	owing sampling point locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: (Explain alternative procedures here or in a separa PFO wetland area adjacent to the existing		
HYDROLOGY		
Wetland Hydrology Indicators:	Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; check all that		
Surface Water (A1) Water-S	Stained Leaves (B9)	tterns (B10)
High Water Table (A2)	Fauna (B13) Moss Trim L	ines (B16)
Saturation (A3)	posits (B15) Dry-Season	Water Table (C2)
	en Sulfide Odor (C1)	
		isible on Aerial Imagery (C9)
		tressed Plants (D1)
		Position (D2)
	Ick Surface (C7) Shallow Aqu	aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	Explain in Remarks) Microtopogra	
Field Observations:		1051 (20)
Surface Water Present? Yes X No Depth	(inches): <u>3</u>	
	(inches): 0	
	(inches): 0 Wetland Hydrology Preser	nt? Yes 🔀 No 📃
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aeria	al photos, provious inspections), if available:	
Describe Recorded Data (stream gauge, morntoring weil, aen	ai protos, previous inspections), ir available.	
Remarks:		

I

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30') % Cover Species? Status Dominance Test worksheet: 1. Acer rubrum 60 Y FAC Number of Dominant Species 4 2.	(A) (B) 0.00 (A/B)
2.	(B)
3.	
5 That Are OBL, FACW, or FAC:0	0.00 (A/B)
5	
^{o.} Prevalence Index worksheet:	
7 Total % Cover of: Mult	
$\frac{60}{2} = \text{Total Cover} \qquad \text{OBL species} \qquad x \ 1 = \frac{0}{2}$	
Sapling/Shrub Stratum (Plot size: 15') FACW species $x 2 = \frac{0}{2}$	
1. Viburnum dentatum 10 Y FAC FAC species $x 3 = \frac{0}{2}$	
2 FACU species x 4 = 0	
UPL species X 5 =	
) (B)
4 Prevalence Index = B/A =	
6 Hydrophytic Vegetation Indicators:	
7. Rapid Test for Hydrophytic Vegeta	ation
10 X Dominance Test is >50%	
$=$ = 10tal Cover \square Prevalence Index is $\leq 3.0^{1}$	
Herb Stratum (Plot size: 5' Morphological Adaptations ¹ (Provi	ide supporting
1. Symplocarpus foetidus 25 Y OBL data in Remarks or on a separation of the separation	
2. Equisetum pratense 5 N FACW Problematic Hydrophytic Vegetation	on ¹ (Explain)
3. Onoclea sensibilis 5 N FACW	
4. Phragmites australis 10 N FACW ¹ Indicators of hydric soil and wetland h be present, unless disturbed or problem	
5. Carex stricta 15 Y OBL Definitions of Vegetation Strata:	mane.
6 True _ Master a line (7.0 cm) cm	
7 Tree – Woody plants 3 in. (7.6 cm) or i at breast height (DBH), regardless of h	more in diameter
	leight.
8 Sapling/shrub – Woody plants less th	an 3 in. DBH
9 and greater than 3.28 ft (1 m) tall.	
10 Herb – All herbaceous (non-woody) pla	
11 of size, and woody plants less than 3.2	28 ft tall.
12. Woody vines – All woody vines greate	er than 3.28 ft in
60 = Total Cover height.	
Woody Vine Stratum (Plot size:)	
1	
2	
3 Hydrophytic	
4. Vegetation	
0 = Total Cover Present? Yes X No	
Remarks: (Include photo numbers here or on a separate sheet.)	

SOIL	

		e to the de	pth needed to docu			r or confir	m the absence	of indicate	ors.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	ox Featur %	es Type ¹	Loc ²	Texture		Remarks
0-6	10YR 2/2	100					Si		
6-16	10YR 3/1	98	10YR 4/6	2	C	N.4	SiL	Ruriod	Organica
0-10	101R 3/1	98	101R 4/0	2	<u> </u>	M	SIL	Buried	Organics
				_					
			·						
	<u> </u>								
	<u> </u>								
		pletion, RI	A=Reduced Matrix, C	S=Cover	ed or Coat	ed Sand (Pore Lining, M=Matrix.
Hydric Soil Histoso	Indicators:			Surfaa	o (CO) (I F		_		ematic Hydric Soils ³ : (LRR K, L, MLRA 149B)
	Epipedon (A2)		Polyvalue Belo MLRA 149E		e (58) (LF	KK K,			lox (A16) (LRR K, L, R)
Black H	listic (A3)		Thin Dark Surf	face (S9)			B) 🔲 5 cm I	Mucky Peat	or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Mucky			K , L)) (LRR K, L)
	ed Layers (A5) ed Below Dark Surfa	ce (A11)	Loamy Gleyed		2)				Surface (S8) (LRR K, L) e (S9) (LRR K, L)
	Oark Surface (A12)	00 (////)	Redox Dark S		5)				Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)		Depleted Dark						lain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4) Redox (S5)		Redox Depres	sions (F8)			Spodic (TA Parent Mater	(MLRA 144A, 145, 149B)
	d Matrix (S6)								k Surface (TF12)
	urface (S7) (LRR R,	MLRA 14	3B)					(Explain in	
³ Indicators of	of hydrophytic vegeta	ation and v	vetland hydrology mu	ist be pres	sent. unles	ss disturbe	ed or problemati	C.	
	Layer (if observed)		ionana nyarology me						
Туре:									
Depth (ir	nches):						Hydric Soi	I Present?	Yes X No
Remarks:									

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Geymer	City/County: Putnam County Sampling Date: 04/22/2021
Applicant/Owner: SUEZ Water NY	State: <u>NY</u> Sampling Point: <u>SP-W1B</u>
Investigator(s): S. Smith, C. Frey	Section, Township, Range: Town of Carmel
Landform (hillslope, terrace, etc.): depression	ocal relief (concave, convex, none): <u>concave</u> Slope (%): <u>1</u>
Subregion (LRR or MLRA): LRR R Lat: 41.365054	Long: 73.77706 Datum: NAD83
Soil Map Unit Name: Fluvaquents-Udifluvents complex, frequer	ntly flooded (Ff) NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of y	
Are Vegetation, Soil, or Hydrologysignificantly	
Are Vegetation, Soil, or Hydrology naturally pr	
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: (Explain alternative procedures here or in a separate report PFO wetland area adjacent to existing pump h	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
Surface Water (A1) Water-Stained	
High Water Table (A2) Aquatic Fauna	
Saturation (A3) Marl Deposits Water Marks (B1) Hydrogen Sulf	
	ospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
	Peduced Iron (C4) Stunted or Stressed Plants (D1)
	eduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5)	
Inundation Visible on Aerial Imagery (B7) Other (Explain	in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches	
Water Table Present? Yes No Depth (inches	
Saturation Present? Yes X No Depth (inches (includes capillary fringe)	s): 11 Wetland Hydrology Present? Yes X No No
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if available:
Remarks:	
Nemarks.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	60	Y	FAC	Number of Dominant Species That Are OBL EACW or EAC: 2 (A)
2. Carpinus caroliniana	5	N	FAC	That Are OBL, FACW, or FAC: 2 (A)
3. Betula alleghaniensis	5	N	FAC	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.66</u> (A/B)
5				
6				Prevalence Index worksheet:
7	70			Total % Cover of: Multiply by:
451	70	= Total Cov	ver	OBL species $x = \frac{0}{0}$
Sapling/Shrub Stratum (Plot size: 15')	_			FACW species $x = 0$
1. Lonicera tatarica	2	Y	FACU	FAC species $x_3 = \frac{0}{0}$
2				FACU species $x 4 = \frac{0}{0}$
3				UPL species $x 5 = \frac{0}{(A)}$ Column Totals: $\frac{0}{(A)}$ (B)
4				Column Totals: $\underline{\circ}$ (A) $\underline{\circ}$ (B)
5				Prevalence Index = B/A =
				Hydrophytic Vegetation Indicators:
6				Rapid Test for Hydrophytic Vegetation
7	2			Monarce Test is >50%
	2	= Total Cov	ver	Prevalence Index is $\leq 3.0^1$
Herb Stratum (Plot size:)				Morphological Adaptations ¹ (Provide supporting
1. Symplocarpus foetidus	40	Y	OBL	data in Remarks or on a separate sheet)
2. Caltha palustris	10	Ν	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
_{3.} Onoclea sensibilis	1	Ν	FACW	1
4				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				
6				Definitions of Vegetation Strata:
				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				of size, and woody plants less than 5.26 it tall.
12				Woody vines – All woody vines greater than 3.28 ft in height.
	51	= Total Cov	ver	neight.
Woody Vine Stratum (Plot size:)				
1				
2				
				Hadaar bada
3				Hydrophytic Vegetation
4	0			Present? Yes X No
		= Total Cov	ver	
Remarks: (Include photo numbers here or on a separate s	sheet.)			

SOII	

Depth Indexes Matrix Color (molst) Matrix Solution Texture Si Texture Si 0 - 6 10YR 2/2 100 5 10/2 C PL 6 - 15 10YR 4/2 98 5YR 4/6 2 C PL Si	Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
0 - 6 10YR 2/2 100		epth Matrix Redox Features						
6 - 15 10YR 4/2 98 5YR 4/6 2 C PL SiL		-		Color (moist)	%	Type'	Loc ²	
Image: Solid Construction in the second state of the se	0-6	10YR 2/2	100					<u>Si</u>
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Redox (S5) Redox Depressions (F8) Sandy Redox (S5) Redox Depressions (F8) Bark Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Yes X Nc Restrictive Layer (if observed): Type:	6 - 15	10YR 4/2	98	5YR 4/6	2	С	PL	SiL
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Redox (S5) Redox Depressions (F8) Sandy Redox (S5) Redox Depressions (F8) Bark Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Yes X Nc Restrictive Layer (if observed): Type:								
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Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Redox (S5) Redox Depressions (F8) Sandy Redox (S5) Redox Depressions (F8) Bark Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Yes X Nc Restrictive Layer (if observed): Type:			<u> </u>			<u> </u>		
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Redox (S5) Redox Depressions (F8) Sandy Redox (S5) Redox Depressions (F8) Bark Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Yes X Nc Restrictive Layer (if observed): Type:								
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Redox (S5) Redox Depressions (F8) Sandy Redox (S5) Redox Depressions (F8) Bark Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Yes X Nc Restrictive Layer (if observed): Type:								
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Redox (S5) Redox Depressions (F8) Sandy Redox (S5) Redox Depressions (F8) Bark Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Yes X Nc Restrictive Layer (if observed): Type:								· ·
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Redox (S5) Redox Depressions (F8) Sandy Redox (S5) Redox Depressions (F8) Bark Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Yes X Nc Restrictive Layer (if observed): Type:								
Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 144B) Sandy Redox (S5) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Parent Material (F21) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Sandy Redox (S5) Other (Explain in Remarks) * Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Mesic Soil Present? Yes No * Depth (inches): Popth (inches): Yes No No			pletion, RN	I=Reduced Matrix, C	S=Covere	d or Coate	ed Sand G	
Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 144B) Sandy Redox (S5) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Redox Depressions (F8) Wesic Spodic (TA6) (MLRA 144A, 145, 149B) Balcators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) No Image: Type: Mydric Soil Present? Yes No No	-				0			
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 144B) Sandy Redox (S5) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B)						e (S8) (LR	R R,	
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 144B) Sandy Redox (S5) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Stripped Matrix (S6) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)					,	LRR R. M	LRA 149B	
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Mediate Solid Present? Yes No								
Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Redox Depressions (F8) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No						2)		
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Red Parent Material (F21) Dark Surface (S7) (LRR R, MLRA 149B) Very Shallow Dark Surface (TF12) other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Medicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. No			ce (A11)					
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)								
Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No								
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Multiple for the stription of the stript								
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X								
Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes	Dark Su	rface (S7) (LRR R,	MLRA 149	B)				Other (Explain in Remarks)
Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes	³ la diantena ad	6 h					م مالمان سام م	
Type:				eliand hydrology mus	st be pres	ent, unies	s distuibed	
Depth (inches): Hydric Soil Present? Yes X No			-					
		ches).						Hydric Soil Present? Yes X No
	Remarks.							

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Geymer Well	City/County: Putnam County Sampling Date: April 21, 2021						
Applicant/Owner: SUEZ Water NY	State: PA Sampling Point: SP-U1A						
Investigator(s): S. Smith, C. Frey	Section, Township, Range: Town of Carmel						
Landform (hillslope, terrace, etc.): upland peninsula	bcal relief (concave, convex, none): <u>convex</u> Slope (%): 1 Long: <u>73.776896</u> Datum: NAD83						
Subregion (LRR or MLRA): LRR R Lat: 41.364392	Long: <u>73.776896</u> Datum: <u>NAD83</u>						
Soil Map Unit Name: Fluvaquents-Udifluvents complex, frequer	ntly flooded (Ff) NWI classification:						
Are climatic / hydrologic conditions on the site typical for this time of ye							
Are Vegetation, Soil, or Hydrology significantly	/ disturbed? Are "Normal Circumstances" present? Yes 🔀 No 🦲						
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed, explain any answers in Remarks.)						
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.							
	extending into Wetland 1. There was a noticable						
change to the vegetation, hydrology and soils.							
HYDROLOGY							
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)						
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)						
Surface Water (A1) Water-Stained							
High Water Table (A2)							
Saturation (A3) Marl Deposits							
Water Marks (B1)							
	ospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)						
	educed Iron (C4) Stunted or Stressed Plants (D1) eduction in Tilled Soils (C6) Geomorphic Position (D2)						
☐ Algal Mat of Clust (B4) ☐ Recent from Re ☐ Iron Deposits (B5) ☐ Thin Muck Sur							
Inundation Visible on Aerial Imagery (B7)							
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)						
Field Observations:							
Surface Water Present? Yes No X Depth (inches	5):						
Water Table Present? Yes No X Depth (inches	s):						
Saturation Present? Yes No Depth (inches	s): Wetland Hydrology Present? Yes No 🔀						
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial phot	os previous inspections) if available:						
besonder Recorded Bata (chedin gauge, mentening weil, denar prot							
Remarks:							

VEGETATION – Use scientific names of plants.

Sampling Point: SP-U1A

Tree Stratum (Plot size: N/A)	Absolute	Dominant Species?		Dominance Test worksheet:
				Number of Dominant Species
1 2				That Are OBL, FACW, or FAC: (A)
3				Total Number of Dominant Species Across All Strata: 3 (B)
45				Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)
5				
6				Prevalence Index worksheet:
7	0	Tatal Car		Total % Cover of: Multiply by:
Carling (Charle Charles (District) 15'		= Total Cov	er	OBL species $x \ 1 = 0$ FACW species $x \ 2 = 0$
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u>) 1. Lonicera tatarica	40	Y	FACU	FACW species $x 2 = 0$ FAC species $x 3 = 0$
2. Rosa multiflora	20	Y	FACU	FACU species $x = 0$
	5	<u> </u>	FACW	UPL species x 5 = 0
3. Cornus amomum	<u> </u>			Column Totals: 0 (A) 0 (B)
4				Provalance Index - P/A -
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				Rapid Test for Hydrophytic Vegetation
	65	= Total Cov	er	Prevalence Index is $\leq 3.0^{1}$
Herb Stratum (Plot size: 5')				Morphological Adaptations ¹ (Provide supporting
1. Phragmites australis	10	N	FACW	data in Remarks or on a separate sheet)
2. Dichanthelium clandestinum	10	Ν	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Onoclea sensibilis	40	Υ	FACW	
_{4.} Symplocarpus foetidus	2	Ν	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Hesperis matronalis	10	Ν	FACU	Definitions of Vegetation Strata:
6. Carex pensylvanica	10	Ν	UPL	
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
12.	82	= Total Cov	or	height.
Woody Vine Stratum (Plot size: N/A)		- 10(0100)	CI	
1				
2				
3				Hydrophytic
4	0			Present? Yes No X
Demarka: (Include abote numbers bars as an a consiste d		= Total Cov	er	
Remarks: (Include photo numbers here or on a separate s	sieel.)			

SOIL

Profile Desc	cription: (Describe	to the de	pth needed to docu	ment the	indicator	or confir	m the absence	e of indicators.)
Depth (inches)	Matrix	04		ox Feature		1 - 2	T t	
<u>(inches)</u> 0 - 5	Color (moist) 10YR 3/5	<u>%</u> 100	Color (moist)	%	Type ¹	Loc ²	Texture SiL	Remarks
5 - 8	10YR 4/3	98	7.5YR 4/6	2	<u> </u>	М	SiL	Gravel
———							·	
							·	
<u> </u>								
				-				
							·	
							·	
——								
		_						
		pletion, RM	I=Reduced Matrix, C	S=Covere	d or Coate	ed Sand G		cation: PL=Pore Lining, M=Matrix.
Hydric Soil			_					s for Problematic Hydric Soils ³ :
Histosol			Polyvalue Belo		e (S8) (LR	R R,		Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2) istic (A3)		MLRA 1498 Thin Dark Surf	,		I DA 1400		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Mucky					Surface (S7) (LRR K, L)
	d Layers (A5)		Loamy Gleyed			-, -,		alue Below Surface (S8) (LRR K, L)
	d Below Dark Surfac	ce (A11)	Depleted Matri					Dark Surface (S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Su					Manganese Masses (F12) (LRR K, L, R)
	Aucky Mineral (S1) Gleyed Matrix (S4)		Depleted Dark					nont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5)			SIULIS (FO)				Parent Material (F21)
	d Matrix (S6)							Shallow Dark Surface (TF12)
Dark Su	ırface (S7) (LRR R, I	MLRA 149	B)				Other	(Explain in Remarks)
2								
	of hydrophytic vegeta Layer (if observed)		etland hydrology mu	st be pres	ent, unles	s disturbe	d or problemati	C.
Type: roo	• • •	•						
							Hydria Sail	l Present? Yes No X
	ches): <u>8+</u>						Hyunc Sol	
Remarks:								

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Geymer Well	City/County: Putnam County Sampling Date: April 21, 2021
Applicant/Owner: SUEZ Water NY	State: PA Sampling Point: SP-U1B
Investigator(s): S. Smith, C. Frey	Section, Township, Range: Town of Carmel
Landform (hillslope, terrace, etc.): upland peninsula	ocal relief (concave, convex, none): <u>convex</u> Slope (%): <u>1</u>
Subregion (LRR or MLRA): LRR R Lat: 41.365054	Long: 73.778025 Datum: NAD83
Soil Map Unit Name: Fluvaquents-Udifluvents complex, frequents	ntly flooded (Ff) NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of y	
Are Vegetation, Soil, or Hydrology significantly	
Are Vegetation, Soil, or Hydrology naturally pr	
· · · · · · · · · · · · · · · · · · ·	
	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No .	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present? Yes No X	
Wetland Hydrology Present? Yes No X Remarks: (Explain alternative procedures here or in a separate reported or in a separate re	If yes, optional Wetland Site ID:
Upland area near existing pump house extend	0
hydrology was noticeably different than the su	irrounding wettand.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)) Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained	Leaves (B9) Drainage Patterns (B10)
High Water Table (A2)	
Saturation (A3)	
Water Marks (B1) Hydrogen Sulf	
	ospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Reduced Iron (C4) Stunted or Stressed Plants (D1)
	eduction in Tilled Soils (C6)
Iron Deposits (B5)	
Inundation Visible on Aerial Imagery (B7)	n in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
	s):
Water Table Present? Yes No Depth (inchest constraints) Saturation Present? Yes No Depth (inchest constraints)	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial phot	tos, previous inspections), if available:
Remarks:	
Saturation was not within the upper 12 inches	

VEGETATION – Use scientific names of plants.

Taxa Chatum (Distaine, 30'	Absolute	Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30'</u>) <u>1.</u> Betula alleghaniensis	<u>% Cover</u> 20	<u>Species?</u> Y	Status FAC	Number of Dominant Species
2 Quercus velutina	20	Y	UPL	That Are OBL, FACW, or FAC: <u>1</u> (A)
				Total Number of Dominant
3				Species Across All Strata: 0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: <u>16.66</u> (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	40	= Total Cov	ver	OBL species x 1 = 0
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 = 0
Ligustrum vulgare	5	Y	FACU	FAC species x 3 = $\frac{0}{2}$
2. Lonicera tatarica	5	Y	FACU	FACU species x 4 =
3. Rosa multiflora	5	Y	FACU	UPL species x 5 =
				Column Totals: 0 (A) 0 (B)
4				
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				Rapid Test for Hydrophytic Vegetation
	15	= Total Cov	ver	Dominance Test is >50%
Herb Stratum (Plot size: 5')				Prevalence Index is $\leq 3.0^{1}$
1. Erythronium rostratum	20	Y	UPL	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2 Symplocarpus foetidus	5	N	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Rosa multiflora	5	N	FACU	
				¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
				of size, and woody plants less than 3.28 ft tall.
11				Woody vines – All woody vines greater than 3.28 ft in
12	30			height.
N//A	50	= Total Cov	ver	
Woody Vine Stratum (Plot size: N/A)				
1				
2				
3				Hydrophytic
4.				Vegetation
	0	= Total Cov	ver	Present? Yes No X
Remarks: (Include photo numbers here or on a separate				
	,			

SUL	S	Ο		L
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		to the de	oth needed to document the indicator or confirm	the absence	of indicators.)
Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist) % Type ¹ Loc ²	Texture	Remarks
(inches) 0 - 8	10YR 2/2	<u>%</u> 100		SiL	Fibrous roots
8 - 16	10YR 4/3	100		CL	
	1011(4/3	100			
		pletion, RN	=Reduced Matrix, CS=Covered or Coated Sand Gra		cation: PL=Pore Lining, M=Matrix.
Hydric Soil					for Problematic Hydric Soils ³ :
Histosol	pipedon (A2)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B)		/luck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R)
	istic (A3)		Thin Dark Surface (S9) (LRR R, MLRA 149B)		Aucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Mucky Mineral (F1) (LRR K, L)		Surface (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surfac	ге (А11)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)		alue Below Surface (S8) (LRR K, L) Park Surface (S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Surface (F6)		anganese Masses (F12) (LRR K, L, R)
	/lucky Mineral (S1)		Depleted Dark Surface (F7)		ont Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4)		Redox Depressions (F8)		Spodic (TA6) (MLRA 144A, 145, 149B) arent Material (F21)
	Redox (S5) I Matrix (S6)				Shallow Dark Surface (TF12)
	rface (S7) (LRR R,	MLRA 149	B)		(Explain in Remarks)
³ Indiactora a	f budropbutio vogoto	tion and w	atland hydrology must be present, uplace disturbed	or problematic	
	Layer (if observed)		etland hydrology must be present, unless disturbed of		
Type:					
Depth (in	ches):			Hydric Soil	Present? Yes No X
Remarks:					

Sodium Hypochlorite (12%) – 50 gallon tank

(545138)

ALLIED UNIVERSAL CORPORATION

Headquarters:

3901 NW 115th Avenue, Miami, Florida 33178 Phone: (305) 888 - 2623

MATERIAL SAFETY DATA SHEET

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR § 1910.1200.

TODAY'S DATE:

MSDS NUMBER: 0001

24 HOUR EMERGENCY CHEMICAL SPILL OR RELEASE PHONE NUMBERS:

Allied Universal Corp. at 1-305-483-7732 (Digital Beeper) and/or CHEMTREC at 1-800-424-9300

SECTION 1 CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Sodium Hypochlorite

Product Names: Aqua Guard Chlorinating Sanitizer, Aqua Guard Bleach, Liquid Chlorine Solution, Liquid Bleach, Hypochlorite, Hypo and Chlorine Bleach.

Listed Strengths: 10.5%, 12.5% and 15%

Date MSDS Revised: August 2007 (previous revision 11/04)

09/06/07

Product Use: Disinfectant and sanitizer, see product label for all approved uses & instructions. **NSF Approval:** Yes. Certified to NSF/ANSI Standard 60. Maximum use in Potable Water is 84 mg/L for 12.5% bleach and 100 mg/L for 10.5% bleach.

NSF Non-Food Compounds Approval: Yes

SECTION 2 HAZARD INGREDIENTS/IDENTITY INFORMATION

Hazardous Ingredient(s	s): % (w/w) as Sodium Hypochlorite :	10.5-16%		
Exposure Standards: 1	None established for Sodium Hypochlorite	, as Chlorine exposure standards are:		
PEL (OSHA):	1 ppm as Cl ₂	STEL (OSHA):	3 ppm as Cl ₂	
TLV (ACGIH):	0.5 ppm as Cl ₂	TWA (ACGIH):	0.5 ppm as Cl ₂	
WEEL (AIHA):	2 mg/m3, 15 minute TWA as Cl ₂	STEL (ACGIH):	1 ppm as Cl ₂	
Emergency Overview:	May cause burns to the eyes, skin and mucous membranes.			

SECTION 3 PHYSICAL/CHEMICAL CHARACTERISTICS

Alternate Name(s):	Bleach			
Chemical Name:	Sodium Hypochlorite			
Chemical Family:	Oxidizing Agent			
Molecular Formula:	Na-O-Cl			
Form:	Liquid			
Appearance:	Water clear to a slight greenish-yellow, or light yellow aqueous solution			
Odor:	Chlorine odor			
pH:	11-14, dependent upon % weight as Sodium Hypochlorite			
Vapor Pressure:	Not available			
Vapor Density (Air=1):	Not available			
Boiling Point:	Approximately 230° F (110° C)			
Freezing Point:	14 F(8% w/w Cl ₂ solution), 7 F(10% w/w Cl ₂ solution), -3 F (12% w/w Cl ₂ solution)			
Solubility (Water):	Completely Soluble			
Solubility (Other):	Reacts with Many Organic Solvents			
Density:	Appx. 10 lbs. per gallon			
Evaporation Rate:	Not Available			
Specific Gravity:	1.126 (8% w/w Cl ₂ solution), 1.163 (10% w/w Cl ₂ solution), 1.202 (12% w/w Cl ₂ solution), 1.25 (15% w/w Cl ₂ solution)			
Molecular Weight:	74.5			

SECTION 4 STABILITY & REACTIVITY DATA

Chemical Stability	Stable X	Unstable				
Incompatibility (Conditions to Avoid): Stability decreases with heat and light exposure.						
caustics ammonia urea reducir	agents, organics, ether and oxidizabl	ong acids. Other incompatibles include strong e materials. Reaction with metals (nickel, iron, n. May react with organohalogen compounds to				

CAS Number: 7681-52-9

	(545156)					
form spontaneously combustible compounds. May react explosively with nitro- and chloro-organic compounds as well as acids and reducing agents. Acidification liberates chlorine gas.						
Hazardous dases/vapors produced a	re hypochlorous acid, chlorine and hy dditional decomposition products, whic	composes with heat and reacts with acids, rdrochloric acid. Composition depends upon ch depend on pH, temperature and time, are				
No Mechanical Shock or Impact	No Static Discharge	Oxidizer: No if <12% by weight, Yes if > than 12% by weight				
Hazardous Polymerization	May Occur	Will Not Occur X				

15151201

Note: Sodium Hypochlorite reacts violently with amines and ammonium salts. Solutions are reactive with common cleaning products such as toilet bowl cleaners, rust removers, vinegar, acids, organics and ammonia products to produce hazardous gases such as chlorine and other chlorinated species.

SECTION 5 POTENTIAL HEALTH EFFECTS AND FIRST AID INFORMATION

GENERAL: May cause immediate pain. Exposure to the skin may cause sensitization or other allergic responses. If the eye is not irrigated immediately after it has been exposed permanent eye damage may occur. Strict adherence to first aid measures following any exposure is essential. SPEED IS ESSENTIAL!

ROUTE(S) OF ENTRY AND POTENTIAL HEALTH EFFECTS	EMERGENCY & FIRST AIDE PROCEDURES
INHALATION: Strong irritating to mucous membranes in the nose, throat and respiratory tract. Prolonged contact can cause chronic irritation, pulmonary edema and central nervous system depression. Repeated inhalation exposure may cause impairment of lung function and permanent lung damage.	If inhaled, move expose person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. If breathing is difficult, have trained person administer oxygen. Call a poison control center or medical physician for further treatment advice. Have the product label or MSDS with you when calling or going for medical treatment.
SKIN CONTACT: Prolonged and repeated exposure to dilute solutions often causes irritation, redness, pain and drying and cracking of the skin. Human evidence has indicated that an ingredient in this product can cause skin sensitization. Depending upon the concentration and how soon after exposure the skin is washed with water, skin contact may cause burns and tissue destruction.	If on skin or clothing, take off all contaminated clothing and rinse skin immediately with plenty of water for 15-20 minutes. If irritation persists, repeat flushing. Do not transport victim unless the recommended irrigation period is completed unless flushing can be continued during transport. Call a poison control center or medical physician for treatment advice. Have the product label or MSDS with you when calling or going for medical treatment.
EYE CONTACT: Strongly irritating to eyes. Exposure to vapor can cause tearing, conjunctivitis and burning of the eyes. Eye contact may cause a corneal injury. The severity of the effects depend on the concentration and how soon after exposure the eyes are washed with water. In severe exposure cases, glaucoma, cataracts and permanent blindness may occur.	If in eyes, hold eye open and rinse slowly and gently with plenty of water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye for 10-15 minutes. Do not transport victim until the recommended flushing period is completed unless irrigation can be continued during transport. Call a poison control center or medical physician for further treatment advice. Have the product label and/or MSDS with you when calling or going to medical treatment.
INGESTION: Corrosive. Can cause severe corrosion of and damage to the gastrointestinal tract (including mouth, throat, and esophagus). Exposure is characterized by nausea, vomiting, abdominal pain, diarrhea, bleeding, and/or tissue ulceration.	If swallowed, call poison control center or medical physician immediately for treatment advice. Have the product label or MSDS with you when calling or going for medical treatment. Have exposed person sip a glass of water if able to swallow, and dilute immediately by giving milk, melted ice cream, starch paste or antacids such as milk of magnesia. Avoid sodium bicarbonate because of carbon dioxide release. DO NOT INDUCE VOMITING, LAVAGE OR ACIDIC ANTIDOTES unless told to do so by poison control center or medical physician. DO NOT give anything by mouth to an unconscious person. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water.

NOTE TO PHYSICIAN(S): Pre-existing medical conditions may be aggravated by exposures affecting target organs. There are no known chronic effects. Probable mucosal damage may contraindicate the use of gastric lavage. In addition to the alkalinity of this product, the continued generation of chlorine gas after ingestion can damage further the stomach mucous, depending on the amount ingested. Consideration may be given to removal of the product from the stomach, taking care to avoid perforation of esophagus or stomach. An ounce of 1% sodium thiosulfate or milk of magnesia is helpful.

SECTION 6 TOXICOLOGICAL DATA

ANIMAL DATA: Inhalation 0.25-hour LC50 - 10.5 mg/L in rats; Acute Dermal LD50 - 10,000 mg/kg in rabbits; Acute Oral LD50 - 8910 mg/kg in rats

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SUMMARY: The concentrated solution is corrosive to skin, and a 5% solution is a severe eye irritant. Solutions containing more than 5% available chlorine are classified by DOT corrosive (please see section 10 of this MSDS). Toxicity described in animals from single exposures by ingestion include muscular weakness, and hypoactivity. Repeated ingestion exposure in animals caused an increase in the relative weight of adrenal glands in one study, but no pathological changes were observed in two other studies. Long-term administration of compound in drinking water of rats caused depression of the immune system. No adverse changes were observed in an eight week dermal study of a 1% solution in guinea pigs. Tests in animals demonstrate no carcinogenic activity by either the oral or dermal routes. Tests in bacterial and mammalian cell cultures demonstrate mutagenic activity.

CARCINOGENICITY: None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as carcinogen.

MUTAGENICITY: Sodium Hypochlorite has been shown to produce damage to genetic material when tested in vitro. Studies in vivo have shown no evidence of mutagenic potential for this material. It is judged that the risk of genetic damage is insignificant for sodium hypochlorite because of its biological activity, lack of mutagenicity in vivo, and failure to produce carcinogenic response.

SECTION 7 FIRE AND EXPLOSION HAZARD DATA

Flash Point: This product does not f	Flammable Limits (Lower): Not Applicable			
Flammable Limits (Upper): Not App		Auto Igni		perature: Not Applicable
Decomposition Temperature: Not			Burning: Not Available	
Explosive Power: Not Available	Mechanical Impact: to be sensitive to actSensitivity to Static DischargeNot expected to be sensitive to static discharge			
Fire and Explosion Hazards: This flammable but is decomposed by heat ar pressure build-up which could result in an heated, it may release chlorine gas or Vigorous reaction with oxidizable or orga result in fire.	surrounding fog or spray.	fire. Foar If leak o the vapors	dia: Use agents appropriate for n, dry chemical, carbon dioxide, water or spill has not ignited, use water spray and to protect persons attempting to	
Fire Fighting Procedures: Water used to cool containers and may be use escaping vapor. Remove storage vess zone.	Fire Fighting Protective Equipment: Full protective clothing, including a NIOSH approved self-contained breathing apparatus, must be worn in a fire involving this material. Toxic gas vapors are produced upon decomposition.			

SECTION 8 ECOLOGICAL INFORMATION

The toxicity and corrosivity of this product is a function of concentration and the concentration's pH. **ECOTOXICOLOGICAL INFORMATION:** Toxic to aquatic life. 96-hour LC50: fathead minnows: 0.090-5.9 mg/L, bluegill sunfish: 0.10-2.48 mg/L, shore crab: 1.418 mg/L, grass shrimp: 52.0 mg/L, scud: 0.145-4.0 mg/L, water flea: 2.1 mg/L. **ENVIRONMENTAL EFFECTS:** Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers. May be an aesthetic nuisance due to color. Mammals and birds, exposed wildlife would be subject to skin irritation and burns due to the corrosive nature of this material.

SECTION 9 DISPOSAL CONSIDERATIONS

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State, and Local regulations. Do not burn. Do not flush to surface water or sanitary sewer system. If pH of material is equal to or greater than a 12.5, the material is a RCRA Hazardous Waste D002, corrosive.

SECTION 10 TRANSPORT INFORMATION

U.S. DOT Basic Shipping Description: Hypochlorite Solutions, 8, UN1791, III

U.S. DOT Hazardous Substance: Yes, RQ 100 pounds (Sodium Hypochlorite)

U.S. DOT Marine Pollutant: No

U.S. DOT Required Label: Corrosive (see column 6, 49 CFR §172.101)

U.S. DOT Packaging Exception: Yes, if package meets the criteria of a limited quantity or consumer commodity as defined by 49 CFR §171.8, §173.144 and .154, and §172.312 and .316

N. AMERICAN EMERGENCY GUIDE PAGE NUMBER: 154

Transportation Emergency Phone Numbers: CHEMTREC 1-800-424-9300

SECTION 11 PRECAUTIONS FOR SAFE HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Take all precautions to avoid personal contact. Keep container closed except when transferring material. Locate safety shower and eyewash station close to chemical handling area. Use normal good industrial hygiene and housekeeping practices, wash thoroughly after handling. Store in a cool, dry, well-ventilated area, away from incompatibles (minimum distance of 20-25 feet per NFPA Code 1) and direct sunlight. Keep container properly labeled at all times. Vented containers must be used and must be kept closed when not

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being used. Long-term storage is impossible without decomposition. Only use containers made from tinted glass, polyethylene & FRP. Keep out of reach of children.

PROCESS HAZARDS: Not Available

STORAGE TEMPERATURE: Store containers below 29°C and above freezing point. Do not expose sealed containers above 40°C. Try to store in the dark at the lowest possible temperature, but keep from freezing, to slow-down decomposition.

SECTION 12 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Full handling precautions should be taken at all times. Provide good room ventilation plus local exhaust at points of emission and low level floor exhaust in immediate handling area. Where engineering controls are not feasible, use adequate local exhaust ventilation wherever mist, spray or vapor may be generated

PERSONAL PROTECTIVE EQUIPMENT:

Eye: Use chemical safety goggles when there is potential for contact (splashing), faceshield recommended – ANSI Z87.1

Skin: Gloves and protective clothing (apron, boots, and bodysuits) made from rubber, vinyl, neoprene or PVC Standard work clothing closed at the neck and wrist while wearing impervious equipment.

Respiratory (Specify Type): A NIOSH/MSHA approved air purifying respirator with an acid gas cartridge or canister may be permissible under circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is potential for uncontrolled releases, exposure levels are not known, or other circumstances where air purifying respirators may not provide adequate protection.

Other: Eyewash, shower station (ANSI Z358.1) must be provided within the immediate work area.

SECTION 13 ACCIDENTAL RELEASE MEASURES

Ventilate enclosed area. Collect product for recovery or disposal. For release to land, contain discharge by constructing dikes or applying inert absorbent; for release to water, utilize damming and/or water diversion to reduce the spread of contamination; and, for release to air, vapors may be suppressed by the use of a water fog. All run-off water must be captured for treatment and disposal. Collect contaminated soil and water, and absorbent for disposal. Notify applicable government authority if release is reportable or could adversely affect the environment. Please follow all Local, State and Federal Laws for clean-up and disposal of all contaminated material. **Deactivating Chemicals:** Sodium Sulfite, Sodium Thiosulfate and Sodium Bisulfite.

SECTION 14 REGULATORY INFORMATION

OSHA CLASSIFICATION, 29 CFR §1900-1910:

Physical Hazards: Reactivity Health Hazards: Acute - Skin Sensitizer, Corrosive

CERCLA AND SARA REGULATIONS, 40 CFR §300-373:

Reportable Quantity = 100 lb. CERCLA Hazardous Material: Yes

Title III Hazard Classifications: Acute - yes, Chronic - no, Fire - yes, Reactivity - yes & Sudden Release of Pressure - No. This product may be reportable under the requirements of 40 CFR §370.

SARA Extremely Hazardous Substance: No SARA Toxic Chemical: No

FDA 21 CFR 178.1010: Yes, Approved as Sanitizer

NSF Whitebook (former USDA Approval) Listing: Aqua Guard Chlorinating Sanitizer 10.5% - 3D, B1, B2, D1, D2, G4, G7, GX, Q4, Aqua Guard Bleach 12.5% - 3D, B1, B2, D1, D2, G4, GX, Q4

EPA "CLEAN AIR ACT": This product does not contain nor is it manufactured with ozone depleting substances. It is not defined as a Hazardous Air Pollutant per 40 CFR 112.

EPA Pesticide: The 10.5% and 12.5% sodium hypochlorite products are registered with the U.S. EPA as a pesticide, as required under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). It is a violation of Federal law to use this product for pesticidal applications in a manner inconsistent with the FIFRA labeling.

NPCA-HMIS RATING: HEALTH: 3 FLAMMABILITY: (

NFPA RATING:NONE AT THIS TIME

SECTION 15 REFERENCES

Suppliers' Material Safety Data Sheets and EPA Labeling Requirements Olin and OxyChem Sodium Hypochlorite Handbook Chlorine Institute Sodium Hypochlorite Pamphlet #96 Chlorine Institute Product Stewardship Bulletins for Sodium Hypochlorite

Chlorine Institute Product Stewardship Bulletins for Sodium Hypochlorite

This information contained herein, while not guaranteed, is offered only as a guide to the handling of this specific material and has been prepared in good faith by product knowledgeable personnel. This information is not intended to be all-inclusive as to the manner and conditions of use, handling and storage. Other factors may involve other or additional safety or performance considerations. Though Allied Universal Corporation is happy to respond to questions regarding safe handling of Allied's products, safe handling and use remains the responsibility of the product's consumers and/or customers. No warranty of merchantability or fitness for purpose, or any other kind, express or implied, is made regarding performance, stability or otherwise. Allied Universal Corp. will not be liable for any damages, losses, injuries or consequential damages that may result from the use of or reliance on any information contained herein. No suggestions for use are intended as, and nothing herein shall be construed as a recommendation to infringe any existing patents or violate any federal, state or local laws, rules, regulations or ordinances.

CA Prop 65: No

REACTIVITY: 2



Phone: (973) 589-0700 Fax: (973) 589-4866

3 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Sodium Hypochlorite

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: KCC – HYPO - 001

MSDS DATE: March 06, 2007

PRODUCT NAME: SODIUM HYPOCHLORITE SOLUTION

24 HOUR EMERGENCY PHONE NUMBER: 973-589-0700

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

HMIS HAZARD RATINGS

HEALTH HAZARD - 3 (Serious) FIRE HAZARD - 0 (Minimal) REACTIVITY - 2 (Slight) WARNING - Corrosive, Oxidizing Agent

Based on Nat'l Paint & Coatings Association HMIS system.

NFPA HAZARD RATINGS

HEALTH HAZARD (Blue) - 2 FLAMMABILITY (Red) - 0 INSTABILITY (Yellow) - 1

Chemical not listed. Ratings based on NFPA guidelines

MANUFACTURERS NAME AND ADDRESS

KUEHNE CHEMICAL COMPANY, INC. 86 HACKENSACK AVENUE NORTH SOUTH KEARNY, NEW JERSEY 07032-4675

CHEMICAL NAME:

SODIUM HYPOCHLORITE SOLUTION

CAS NUMBER: 7681-52-9

SYNONYMS/COMMON NAMES: Chlorine Bleach, Soda Bleach

8

CHEMICAL FORMULA: NAOCI

DOT PROPER SHIPPING NAME: Hypochlorite Solutions

DOT HAZARD CLASS:

DOT ID NUMBER: UN1791

DOT PACKING GROUP: III

DOT HAZARDOUS SUBSTANCE: Kuehne COMPANY

Sodium Hypochlorite

Revision A - 06 March 2007

RQ 100# (Sodium Hypochlorite)





(973) 589-0700 Phone:

5 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

(973) 589-4866 Fax:

Sodium Hypochlorite

CHEMICAL PRODUCT AND COMPANY IDENTIFICATION (Continued) Ι.

NA DOT MARINE POLLUTANT:

NA ADDITIONAL DESCRIPTION:

HEALTH HAZARDS INFORMATION И.

EMERGENCY AND FIRST AID PROCEDURES

EYES:

OBJECT IS TO FLUSH MATERIAL OUT IMMEDIATELY AND THEN SEEK MEDICAL ATTENTION. IMMEDIATELY flush eyes with a directed stream of water for at least 15 minutes while forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. Washing eyes within one (1) minute is essential to achieve maximum effectiveness. SEEK MEDICAL ATTENTION IMMEDIATELY.

SKIN:

Flush thoroughly with cool water under shower while removing contaminated clothing and shoes. Discard non-rubber shoes, Wash clothing before reuse. Continue to flush until medical attention arrives.

SEEK MEDICAL ATTENTION IMMEDIATELY.

INHALATION:

Remove to fresh air. If breathing is difficult, have qualified person administer oxygen. If respiration stops, give mouth-to-mouth resuscitation. GET IMMEDIATE MEDICAL ATTENTION.

INGESTION:

NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. lf swallowed. DO NOT INDUCE VOMITING. Give large quantities of milk. If these are not available, give large quantities of water. If vomiting occurs spontaneously keep airway clear and give more milk or water. GET MEDICAL ATTENTION IMMEDIATELY. Avoid vomiting, lavage or acidic antidotes.

NOTE TO PHYSICIAN:

Sodium Hypochlorite is an alkaline corrosive. For exposure by ingestion do not use emesis, lavage or acidic antidotes. Dilute immediately by giving milk, melted Ice cream, beaten egg white, starch paste or antacids such as milk of magnesia, aluminum hydroxide gel or magnesium trisilicate gel. Avoid sodium bicarbonate because of carbon dioxide release. Sodium thiosulfate solution may prove beneficial by reducing unreacted material.

Kuchne GOMPANY Sodium Hypochlorite Revision A - 06 March 2007







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sodium Hypochlorite

II. HEALTH HAZARDS INFORMATION (Continued)

ROUTES OF EXPOSURE

INHALATION:

Inhalation of hypochlorous acid fumes may cause severe respiratory tract irritation and pulmonary edema.

SKIN:

Skin contact may cause severe irritation and burns.

EYE CONTACT:

Eye contact may cause severe irritation, burns, and/or corrosion.

INGESTION:

Ingestion may cause pain and inflammation of the mouth and digestive system, burns and perforation of the esophagus or stomach, vomiting, circulatory collapse, confusion, delirium and coma.

EFFECTS OF OVEREXPOSURE

ACUTE:

Corrosive and strongly irritating to the eyes, skin, and respiratory tract. Inhalation of fumes may cause pulmonary edema. Ingestion may cause burns to the mouth and digestive tract and abdominal distress.

CHRONIC:

No Data.

TOXICOLOGY DATA:

The toxicity and corrosivity of Sodium Hypochlorite is a function of concentration. Industrial grades of higher concentrations than household bleach are more toxic and corrosive.

Pentahydrate: 45% Concentration

Acute Oral LD₅₀ Acute Dermal LD₅₀ Primary Skin Irritation Primary Eye Irritation (rat) (rabbit) 8,910 mg/kg 10,000 mg/kg Severely irritating Severely irritation

Kuehne COMPANY Sodium Hypochlorite Revision A – 06 March 2007





th Hackensack Avenue, South Kearny, New Jersey 07032-4 Sodium Hypochlori		Fax: (973)	589-486
 III. IMPORTANT COMPONENTS			
<u>CAS Number</u> <u>Name</u> 7732-18-5 Water	PERCEN		
EXPOSURE LIMITS	VOL WT	85 85 - 87	
PEL: Not Established TLV: Not Established	VVI	00 - 07	
Common Names:			
<u>CAS Number</u> 7681-52-9 Hypochlorous Acid, Sodium Salt	PERCEN	TAGE	
EXPOSURE LIMITS	VOL	15 12 - 14	
PEL: 1 ppm (as Cl2) ceiling TLV: 1 ppm (as Cl2) TWA			
Common Names: Sodium Hypochlorite			
CAS NumberName1310-73-2Sodium Hydroxide (NaOH)	PERCEN	TAGE	
EXPOSURE LIMITS	VOL	1	
PEL: 2 ppm ceiling TLV: 2 ppm ceiling		·	
Common Names: Caustic Soda, Lye			
This product has not been listed as carcinogenic by the fol NTP, and OSHA	llowing agenc	ies: IARC,	
IV. FIRE & EXPLOSION DATA			
FLASH POINT: NA			
AUTOIGNITION TEMPERATURE: NA			
FLAMMABLE LIMITS IN AIR - % BY VOLUME - UPPER:	NA	1.00	
Kuehne DOMPANY		3	



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Sodium Hypochlorite

IV. FIRE & EXPLOSION DATA

(Continued)

EXTINGUISHING MEDIA:

Use water spray, fog, foam, dry chemical, or carbon dioxide or agents suitable for materials in surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES:

Use self-contained breathing apparatus and full protective equipment. Acid contamination will produce very irritating fumes similar to chlorine.

UNUSUAL FIRE AND EXPLOSION HAZARD:

Sodium Hypochlorite or its solutions decompose when heated. Decomposition products may cause containers to rupture or explode. Vigorous reaction is possible with organic materials or oxidizing agents and may result in fire.

V. SPECIAL PROTECTION

VENTILATION REQUIREMENTS

Provide good general room ventilation plus local exhaust at points of emission.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY:

NIOSH/MSHA approved respirator, following manufacturer's recommendations should be used as a precautionary measure where airborne contaminants may occur.

EYE:

Wear chemical safety goggles plus full face shleid to protect against splashing when appropriate.

GLOVES:

Wear impervious gloves such as rubber, neoprene or vinyl.

OTHER CLOTHING AND EQUIPMENT:

Wear impervious protective clothing including rubber safety shoes. Eye wash facility and emergency shower should be in close proximity









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Sodium Hypochlorite

VI,	PHYSICAL DATA	
-		_

Boiling Point:	(@760 mm Hg)	De	composes ab	oove 110 °C (230 °F)
Freezing Point:	<u>Wei</u> c 10 12 14	<u>aht %</u>	<u>Freezing</u> 7 - 3 - 14	<u>Point ⁰F</u>	
Vapor Pressure:	<u>Temperature ⁰F</u> 48.2 60.8 68.0 89.6 118.4	<u>mn</u> 3.7 8.0 12.1 31.1 100.0	<u>n Hg</u> 0.071 0.15 0.23 0.60 1.93	<u>PSIA</u>	
Specific Gravity:	(H ₂ O = 1)	1.190 - 1.	215		
Solubility in H2O (by Weight)	100%			
рН		12 @ 100	g/l		

Appearance/Odor: Colorless to light yellow-green liquid with chlorine like odor.

VII. REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY:

Strong Oxidizer, stability decreases with concentration, heat, light, decrease in pH and contamination by metals.

INCOMPATIBILITY:

Avoid contamination with heavy metals, reducing agents, organics, ether, ammonia, and acids.

HAZARDOUS DECOMPOSITION PRODUCTS:

Acid fumes.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION:

Material is not known to polymerize.







Kuehne COMPANY

Phone: (973) 589-0700

(973) 589-4866 Fax:

5 North Hackensack Avenue, South Kearny, New Jersey 07032-4675 sodium Hypochlorite

VIII. **HANDLING & STORAGE**

HANDLING AND STORAGE PRECAUTIONS:

Do not store adjacent to chemicals that may react if spillage occurs. Comply with DOT regulations when shipped. If closed containers become heated, vent to release decomposition products (mainly oxygen under normal decomposition). Do not mix or contaminate with ammonia, hydrocarbons, acids, alcohols or ethers.

DO NOT REUSE CONTAINERS:

Product residues may remain in containers. All labeled precautions must be observed. Dispose of container in a manner meeting government regulations.

PRODUCT DISPOSAL:

Product should be completely removed from containers. Material that cannot be used or chemically reprocessed should be disposed of in a manner meeting government regulations.

ENVIRONMENTAL PROCEDURES IX.

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Do not allow spilled material to enter sewers or streams. Flush with water to dilute as much as possible and pump into polyethylene containers for disposal. Avoid heat and contamination with acid materials. Do not use combustible materials such as sawdust to absorb Sodium Hypochlorite Solution.

WASTE DISPOSAL METHOD:

Reduce with agents such as bisulfites or ferrous salt solutions. Some heat will be produced. Keep on alkaline side and dilute with copious amounts of water. Main end product is salt water. Comply with all applicable governmental regulations.

ADDITIONAL INFORMATION Χ.

Section 311 of The Clean Water Act lists this product as a hazardous substance, which, If discharged to water, may require immediate response to mitigate danger to public health and welfare. Spills of 100 pounds or more must be reported to the National Response Center at the following number: 1-800-424-8802

Material is contained on a composite list as required under 101 (14) of CERCLA.

Kuchne COMPANY Sodium Hypochlorite Revision A - 06 March 2007







(973) 589-0700 Phone: (973) 589-4866 Fax:

5 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Sodium Hypochlorite

ADDITIONAL INFORMATION Х.

(Continued)

Sodium Hypochlorite Solution is regulated by the USEPA under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as a pesticide product.

Sodium Hypochlorite Solution produced by KUEHNE CHEMICAL COMPANY, INC. is registered with the USEPA under Registration Number 35317-20001.

This product has been classified as an approved drinking **NSF CERTIFICATION:** water treatment chemical under ANSI/NSF Standard 60 by Underwriter's Laboratories number: MH17612) (reference

USDA APPROVALS: B-1, D-2, L-1, Q-4 & Fruit and Vegetable washing compounds.

PREPARATION DATA XI.

Safety, Health and Environment Department : 1-973-589-0700 Prepared By:

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and KUEHNE CHEMICAL COMPANY, INC. will not be liable for any damages, losses, injuries or consequential damages that may result from the use of or reliance on any information contained herein.

REFERENCES:

National Institute for Occupational Safety and Health, US Dept. of Health & Human Services, Cincinnati, June, 1994.

Supplier's Material Safety Data Sheets.

Windholz, Martha, Ed, The Merck Index, 11th ed., Merck and Co, Inc., Rahway, New Jersey, 1989.

Chlorine Institute Pamphlet 96 (Sodium Hypochlorite Safety & Handling), Edition I, September, 1992







Phone: Fax:

(973) 589-0700 (973) 589-4866

Sodium Hypochlorite

WARNING LABEL INFORMATION

Sodium Hypochlorite (NaO Inert Ingredients:		(weight per cent)
	-	•

Total

KEEP OUT OF REACH OF CHILDREN

100.0 %

DANGER

FIRST AID

IF CONTACT WITH EYES OCCURS: Hold eye open and rinse slowly and gently with water for 15 -20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue to rinse eye. Call a poison control center or doctor for treatment advice.

IF CONTACT WITH SKIN OCCURS: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF INHALED: Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably month-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

PRECAUTIONARY STATEMENTS HAZARDOUS TO HUMANS AND DOMESTIC ANIMALS

DANGER:

Corrosive, may cause severe skin and eye irritation or chemical burns to broken skin. Causes eye damage. Wear safety glasses or goggles and rubber gloves when handling this product. Wash after handling. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until strong odors have dissipated.

Kuehne COMPANY	
Sodium Hypochlorite	
Revision A - 06 March	2007







Phone: (973) 589-0700 Fax: (973) 589-4866

5 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Sodium Hypochlorite

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

PHYSICAL OR CHEMICAL HAZARDS

STRONG OXIDIZING AGENT:

Mix only with water according to label directions. Mixing this product with chemicals (e.g. ammonia, acids, detergents, etc.) or organic matter (e.g. urine, feces, etc.) will release chlorine gas, which is irritating to eyes, lungs and mucous membranes.

DIRECTION FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING

Reformulators and Repackagers of this product must obtain their own registrations from the United States Environmental Protection Agency (USEPA).

For manufacturing use in the formation of end-use Products:

NOTE: This product degrades with age. Use a Chlorine test kit and increase dosage as necessary, to obtain the required level of available Chlorine.

For specific use directions, see KUEHNE Circular for each particular application.

CIRCULAR NUMBER K586A

sanitizers of surfaces (wooden butcher blocks, stainless steel tops, concrete floors, tile walls)

CIRCULAR NUMBER K586B

sanitizers of commercial laundry

CIRCULAR NUMBER K586C

agents to wash or assist in lye peeling of fruits and vegetables (sodium hypochlorite only), agents to help control microorganisms on mushrooms (pins), potatoes, sweet potatoes (post harvest), agents to help control microorganisms on eggs for human consumption

Kuchne CEMPANY Sodium Hypochlorite Revision A – 06 March 2007







6 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Phone: (973) 589-0700 Fax: (973) 589-4866

Sodium Hypochlorite

CIRCULAR NUMBER K586D

disinfectants of human drinking water (emergency/public & individual), swimming pool water, spas/hot tubs, hydrotherapy pools, human drinking water systems (water mains)

CIRCULAR NUMBER K586E

disinfectants of nonporous hard surfaces (tile, glass, stainless steel, fiberglass)

CIRCULAR NUMBER K586F

agents to help control microorganisms in sewage, waste water, industrial and pulp and paper process water systems

CIRCULAR NUMBER K586G

algicides, slimicides in cooling towers or evaporative condensers

STORAGE AND DISPOSAL

Store this product in a cool dry area away from direct sunlight and heat to prevent deterioration. In case of a spill, flood areas with large quantities of water. Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer. Do not contaminate food or feed by storage, disposal or cleaning of equipment.

Large storage containers should be rinsed thoroughly with water and returned to manufacturer for reconditioning. Large storage containers should be thoroughly rinsed with water before reuse.

IN CASE OF:

FIRE:

Use self-contained breathing apparatus and full protective equipment. Use water spray, foam, dry chemical or C02. Fire may liberate toxic gases.

SPILL:

Get protective equipment. Contain spill and pump into marked container for reclamation for disposal. Avoid discharges to sewers and streams. Spills of 100 pounds or more must be reported to the National Response Center at the following number:

1-800-424-8802

IN CASE OF CHEMICAL EMERGENCIES CALL: 24 HOUR EMERGENCY PHONE (973) 589-0700

Kuehne	COMPANY
Sodium Hype	ochlorite
Revision A -	- 06 March 2007





SODIUM HYPOCHLORITE SOLUTION, 10.5%	DIRECTIONS FOR USE
	IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING
0THER INGREDIENT:	NOTE: This product degrades with age. Use a chlorine test kit and increase dosage as necessary, to obtain the required level of available chlorine.
KEEP OUT OF REACH OF CHILDREN DANGER	For specific use directions, see KUEHNE Circular for each particular application.
FIRST AID IF IN EYES: Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.	CIRCULAR NUMBER K586A sanitizers of hard nonporous surfaces (stainless steel tops) CIRCULAR NUMBER K586B sanitizers of commercial laundry CIRCULAR NUMBER K586C
IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control center or doctor for treatment advice.	agents to wash or assist in lye peeling of fruits and vegetables (sodium hypochlorite only), agents to help control microorganisms on mushrooms (pins), potatoes, sweet potatoes (boost harvest) agents to help control microorganisms on egos for human consumption
IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.	CIRCULAR NUMBER K586D disinfectants of human drinking water (emergency/public & individual) and human drinking water systems (water mains)
IF SWALLOWED: Drink large amounts of water. DO NOT induce vomiting. Call a physician or poison control center immediately.	CIRCULAR NUMBER K586E disinfectants of hard nonporous surfaces (sealed tile and fiberglass, glass, stainless steel) CIRCULAR NUMBER K586F
NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gashric lavage. Have product container or label with you when calling a poison control center or doctor for treatment advice.	agents to help control microorganisms in sewage, waste water, industrial and pulp and paper process water systems CIRCULAR NUMBER K586G
PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS DANGER: Corrosive, Causes irreversible eye and skin damage. Do not get in eyes, on skin or on clothing. Wear face shield or goggles and rubber gloves when handling this product. Wash thoroughly with scap and water after handling and before eating, drinking, chewing gum, using boacco, or using the totlet. Avoid breating vapors. Vacate poorly ventilated areas as soon as pooreible. Do on return unit offore base dired Denome and technic Abetre	algicides, slimicides in cooling towers or evaporative condensers CIRCULAR NUMBER K586H sanitizers of porous food contact surfaces (wooden butcher blocks) CIRCULAR NUMBER K586I sanitizers of porous non-food contact surfaces (tile walls, concrete floors) CIRCULAR NUMBER K586J
	disinfectants of swimming pool water, spas/hot tubs, hydrotherapy pools
ENVIRONMENTAL HAZARDS This pesticide is toxic to fish and equatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your	STORAGE AND DISPOSAL <i>Pesticide Storage:</i> Store this product in a cool dry area away from direct sunlight and heat to prevent deterioration. In case of a spill, flood area with large quantities of water.
state water board or regional office of the EPA. PHYSICAL OR CHEMICAL HAZARDS STRONG OXID/2ING AGENT: Mix only with water according to label directions. Mixing this product with chemicals (e.g., ammonia, adds, detergents, etc.) or organic matter (e.g., urine, feces, etc.) will release chlorine ras which is intribution to eves, indice and removals membranes.	Pesticide Disposal: Do not contaminate food or feed by storage, disposal or cleaning of equipment. Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer.
KUEHNE CHEMICAL COMPANY INC. KUEHNE CHEMICAL COMPANY INC. 86 N. HACKENSACK AVENUE SOUTH KEARNY, NJ 07032-4675	Container Disposal: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling the container is the responsibility of the refiller.
EPA EST, NO. 35317-DE-1 ANSI / NSF 60 DRINKING WATER TREATMENT ADDITIVE Net Contents:	
	12/17/10

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								SWNY PFAS Cor				
0	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names	Note: ?" stands for approximate estima
•		1	SWNY PFAS Compliance	384 days?	Wed 3/31/21	Mon 10/10/22		8%	Wed 3/31/21	NA		
~	-	2	D/B Contract Notice to Proceed	1 day	Mon 4/5/21	Mon 4/5/21		100%	Mon 4/5/21	Mon 4/5/21		
	-	3	Maintain Secure Project Website	365 days	Tue 4/6/21	Mon 9/19/22	2	0%	Tue 4/6/21	NA		
•	-	5	Design Phase	251 days?	Wed 3/31/21	Fri 4/1/22		23%	Wed 3/31/21	NA		
	-	54	Design Construction Services	345 days	Wed 3/31/21	Mon 8/15/22		0%	NA	NA		
•	-	62	Construction Phase	384 days	Wed 3/31/21	Mon 10/10/22		3%	Wed 3/31/21	NA		
	-	63	Administration	233 days	Wed 3/31/21	Tue 3/8/22		4%	Wed 3/31/21	NA		
3 🔶	-	133	Construction Phase	229 days	Mon 11/8/21	Mon 10/10/22	65,66,67,68,78,8	I3 0%	Mon 11/8/21	NA		
4	-	134	Survey-Establish Control	1 day	Mon 3/7/22	Mon 3/7/22	50	0%	Mon 3/7/22	NA		
5	-	135	Test Pit and Verify 6" OD for Tapping Sleeve	1 day	Mon 11/8/21	Mon 11/8/21	50	0%	NA	NA		
5	-	136	Mobilization	2 days	Mon 3/7/22	Tue 3/8/22	53	0%	Mon 3/7/22	NA		
7	-	137	Erosion Control	3 days	Wed 3/9/22	Fri 3/11/22	136	0%	NA	NA		
3	-	138	Site Clearing of Existing Trees/Brush	3 days	Mon 3/14/22	Wed 3/16/22	137	0%	NA	NA		
9	-	139	Strip Topsoil	3 days	Thu 3/17/22	Mon 3/21/22	138	0%	NA	NA		
D	-4	140	Site Grading	3 days	Tue 3/22/22	Thu 3/24/22	139	0%	NA	NA		
1	-4	141	Install fill	1 day	Fri 3/25/22	Fri 3/25/22	140	0%	NA	NA		
2	-4	142	Install Stone Base for Access Road	3 days	Fri 3/25/22	Tue 3/29/22	140	0%	NA	NA		
3	-4	143	Exterior Piping	116 days	Wed 4/6/22	Mon 9/19/22		0%	NA	NA		
4	-	144	Install 6" DIP Influent Piping into building including Tapping 6" Main	2 days	Wed 4/6/22	Thu 4/7/22	142,155FF+1 day,119,120	0%	NA	NA		
5	-	145		1 day	Fri 4/8/22	Fri 4/8/22	144	0%	NA	NA		
5	-	146		5 days	Fri 8/5/22	Thu 8/11/22	122,152	0%	NA	NA		
7	-	147	Chlorinate, Pressure Test and Flush/DOH Appr	10 days	Fri 9/2/22	Fri 9/16/22	175	0%	NA	NA		
3	-	148	Cut & Cap 6" Main After Tie In	1 day	Mon 9/19/22	Mon 9/19/22	147	0%	NA	NA		
9		149	Install 6' DIA Seepage Pit	1 day	Thu 6/23/22	Thu 6/23/22	153	0%	NA	NA		
0	-	150	Electric	84 days	Thu 4/7/22	Thu 8/4/22		0%	NA	NA		
1	-	151	Excavate and Install Underground Electric Feed into building	3 days	Thu 4/7/22	Mon 4/11/22	155	0%	NA	NA		
2	-	152	Install Electrical Appurtenances	30 days	Thu 6/23/22	Thu 8/4/22	166	0%	NA	NA		
3	-	153	Building/Superstructure	60 days	Wed 3/30/22	Wed 6/22/22		0%	NA	NA		
4	-	154	Excavate for Building Footings	1 day	Wed 3/30/22	Wed 3/30/22	142	0%	NA	NA		
5	-	155	Form, Install Rebar and Pour Footings for Build	5 days	Thu 3/31/22	Wed 4/6/22	154	0%	NA	NA		
5	-	156	Form, Install Rebar and Pour Foundation Wall for Building	5 days	Tue 4/12/22	Mon 4/18/22	155,151,145	0%	NA	NA		
7	-	157	Form, Install Rebar and Pour Foundation Wall with Integral Piers for Building	6 days	Tue 4/19/22	Tue 4/26/22	156	0%	NA	NA		
3	-4	158	Backfill Footings	1 day	Wed 4/27/22	Wed 4/27/22	157	0%	NA	NA		
9	-	159	Install GAC Equipment Pad	4 days	Thu 4/28/22	Tue 5/3/22	158	0%	NA	NA		
D	-4	160		3 days		Fri 5/6/22	159	0%	NA	NA		
1	-4	161	Install Stone Base for Slab on Grade	1 day	Mon 5/9/22	Mon 5/9/22	160	0%	NA	NA		
2	-4	162	Install Slab on Grade	5 days	Tue 5/10/22	Mon 5/16/22	161	0%	NA	NA		
3	-4	163	Sawcut Control Joints	1 day	Tue 5/17/22	Tue 5/17/22	162	0%	NA	NA		
4	-	164	Install Equipment Pads- Form, Rebar, Pour, Strip and Rub	3 days	Wed 5/18/22	Fri 5/20/22	163	0%	NA	NA		
5	-4	165	Install Filter Pads- Form, Rebar, Pour, Strip and	3 days	Mon 5/23/22	Wed 5/25/22	164	0%	NA	NA		
5	-	166	Installation of Pre-Engineered Building	25 days	Wed 5/18/22	Wed 6/22/22	163	0%	NA	NA		
7		167		4 days	Thu 6/23/22			0%	NA	NA		
3	-	168	Install Piping for Sodium Hypo and Phosphoric	4 days	Thu 6/23/22	Tue 6/28/22	166	0%	NA	NA		
9	-	169	Treatment Equipment	20 days	Thu 6/9/22	Thu 7/7/22		0%	NA	NA		
0		170	Install 8' DIA GAC Equipment	2 days	Thu 6/9/22	Fri 6/10/22	166FS-10 days	0%	NA	NA		
1	-	171	Install Filters	1 day		Thu 6/23/22	166,170	0%	NA	NA		

								SWNY PFAS Pro	ject F-Chateau		
D ()	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names
172	-4	172	Install Influent, Effluent and Wastewater Flanged Piping	7 days	Thu 6/23/22	Fri 7/1/22	166,170	0%	NA	NA	
73	-4	173	Install Pipe Supports	3 days	Tue 7/5/22	Thu 7/7/22	172	0%	NA	NA	
74		174	Instrumentation	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
75		175	Install Instrumentation Appurtenances	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
76		176	Building HVAC Work	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
77	-	177	Install HVAC	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
78		178	Painting/Coating	5 days	Fri 7/8/22	Thu 7/14/22		0%	NA	NA	
179	-	179	Paint Interior Piping	5 days	Fri 7/8/22	Thu 7/14/22	169	0%	NA	NA	
80	-	180	Site Work	15 days	Fri 7/8/22	Thu 7/28/22		0%	NA	NA	
81		181	Install Site Civil-Gravel Turnaround and Landsc	15 days	Fri 7/8/22	Thu 7/28/22	173	0%	NA	NA	
82	-	182	Start Up and Testing	10 days	Mon 9/19/22	Fri 9/30/22		0%	NA	NA	
83		183	Start up and Test Equipment and Instrumentat	10 days	Mon 9/19/22	Fri 9/30/22	147,152	0%	NA	NA	
84	-	184	Substantial Completion	1 day	Mon 10/3/22	Mon 10/3/22	182	0%	NA	NA	
85		185	DOH Review and Approval	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
86		186	In Service	0 days	Mon 10/10/22	Mon 10/10/22	185	0%	NA	NA	
87	-	187	Demobilization	5 days	Tue 10/4/22	Mon 10/10/22		0%	NA	NA	
88		188	Cleanup/Demobilization	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
89	-	189	Final Completion	0 days	Mon 10/10/22	Mon 10/10/22	188,186	0%	NA	NA	

Page 2 of 2

ATZL, NASHER & ZIGLER P.C.

ENGINEERS-SURVEYORS-PLANNERS 232 North Main Street New City, NY 10956 Tel: (845) 634-4694 Fax: (845) 634-5543

4. The hydrology and the hydraulics study for this project have been undertaken to examine the pre and post construction drainage conditions. The study provides the impact of the proposed impervious area to the drainage system. To attenuate the post-development peak flow to predevelopment peak flow we are proposing a rain garden system. The rain garden system is design per NYSDEC's stormwater management design manual. The drainage system consists of pipes, stone outlet, stone spillway, and a rain garden system. The system it's an above ground practice and is design to store 380 cu.ft. The ponding depth of the system is 6 inches and in order to address the overflow a stone spillway has been proposed. In addition, a list of the approved rain garden landscaping has been provided. Please refer to the site plan (dwg. no 1) and the grading plan (dwg. no 4).

5. The erosion and sediment control measures to be used on the site during the proposed work include silt fences and a construction entrance. In addition, disturbed portions of the site where construction activities permanently cease shall be stabilized no later than 14 days after the last construction activity. The Erosion and Sediment Control (E&SC) Plan is prepared per NYS Standards and Specifications for Erosion and Sediment Control. Please refer to the erosion and sediment control plan (dwg. no 5).

6. Stormwater runoff generated by the proposed site improvement will be routed to the rain garden system in order to provide zero net increase of peak runoff. The rain garden system is design to provide peak flow attenuation up to 100-year storm peak runoff. The rain garden system is design per NYSDEC's stormwater management design manual.

Ramya Ramanathan

From:	Liskovich, Sophia Z. <sliskovich@gfnet.com></sliskovich@gfnet.com>
Sent:	Thursday, January 27, 2022 9:28 AM
То:	Ramya Ramanathan
Subject:	FW: 3-3720-00472 Geymer Well

Geymer

Sophia Liskovich, PE | Project Manager Gannett Fleming, Inc. | 7133 Rutherford Road t 410-907-2682 | c 856-296-3636 | sliskovich@gfnet.com

From: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Sent: Friday, November 12, 2021 12:35 PM
To: Arnold, Jillian N. <jarnold@GFNET.com>; Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z.
<sliskovich@GFNET.com>
Cc: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Subject: RE: 3-3720-00472 Geymer Well

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Sorry, one other item. It appears that some of the work will be on property owned by other landowners. On the Joint Application Form, please provide signatures (on page 4) and information (on page 1) for all landowners. Copies of easements may be provided in lieu of signatures.

Alysse Devine

Environmental Analyst, Division of Environmental Permits New York State Department of Environmental Conservation 21 South Putt Corners Rd, New Paltz, NY 12561 P: (845) 240-7806 | alysse.devine@dec.ny.gov

www.dec.ny.gov | 📭 | 💟 | 🧐



From: Devine, Alysse (DEC) <<u>Alysse.Devine@dec.ny.gov</u>>
Sent: Friday, November 12, 2021 12:01 PM
To: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>>; Smith, Steven C. <<u>scsmith@GFNET.com</u>>; Liskovich, Sophia Z.
<<u>sliskovich@GFNET.com></u>
Cc: Devine, Alysse (DEC) <<u>Alysse.Devine@dec.ny.gov</u>>
Subject: 3-3720-00472 Geymer Well

Good Morning,

The technical review is complete and program staff had the following comments.

• It looks like the building is right next to the wetland. Is it possible to shift the building further off the wetland?

- It is difficult to ascertain how much temporary disturbance is associated with the construction of the building. Can you provide a clearer plan showing temporary impact?
- It also looks like a retaining wall will go through the wetland. Can this be shifted? Please provide a detail of the retaining wall.
- There does not appear to be an existing conditions or erosion and sediment controls plan.

In addition, this is another one that I need the NWP # to make a determination on the Blanket Water Quality Certification. Please let me know when you can.

Please let me know if you have any questions.

Alysse Devine

Environmental Analyst, Division of Environmental Permits New York State Department of Environmental Conservation 21 South Putt Corners Rd, New Paltz, NY 12561

P: (845) 240-7806 | <u>alysse.devine@dec.ny.gov</u>

www.dec.ny.gov | 🕞 | 💟 | 🧐



Department of Environmental Conservation

Liskovich, Sophia Z.

From:	Orzel, Brian A CIV USARMY CENAN (USA) <brian.a.orzel@usace.army.mil></brian.a.orzel@usace.army.mil>
Sent:	Monday, January 10, 2022 12:24 PM
То:	Arnold, Jillian N.
Cc:	Smith, Steven C.; Liskovich, Sophia Z.
Subject:	RE: Submission of Suez Water Permit Applications
Attachments:	NWP Regulations FR 06JAN17.pdf; PN-LRB NAN Final Regional Conditions WQC CZM for NY (dated
	21-MAR-2017).pdf

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Jillian,

We received the pre-construction notification for NWP 3 for the above referenced project on November 16, 2021.

Due to my excessive work load, I was unable to provide a written determination within 45 days of its submission.

In accordance with the current nationwide general permit regulations (Federal Register dated January 6, 2017, pages 1860 to 2008), if the Corps of Engineers district does not respond to a pre-construction notification within 45 days of receipt, then the applicant may proceed with the project as proposed.

That means that the applicant must perform the work as proposed in your pre-construction notification. Any substantive changes to the project would require the applicant to submit a new notification to this office.

If you have any questions, let me know.

Brian

Brian A. Orzel Project Manager, Civil Engineer NY District US Army Corps of Engineers Regulatory Branch 26 Federal Plaza, Room 16-406 New York, New York 10278-0090

Please note in order to ensure our continuity of operations and improve the timeliness of permit application reviews due to the current COVID-19 virus, effective immediately, the New York District, U.S. Army Corps of Engineers is requiring that all new permit applications be submitted to the New York District electronically. Until further notice, the New York District will no longer process any paper permit applications. This electronic processing procedure will increase the efficiency of correspondence, furthering the goal of providing timely decisions. Please see the link below to the Regulatory Branch Operational Modification Special Public Notice describing the instructions for electronic application submittals:

https://www.nan.usace.army.mil/Portals/37/docs/regulatory/publicnotices/Non%20Project%20Specific/2020/CENAN-OP-R%20PN%20Electronic%20Submission%20of%20Permit%20Applications%2027MAR2020.pdf?ver=2020-03-31-163215-913.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, December 13, 2021 1:04 PM
To: Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Brian,

I wanted to touch base to you on the Suez projects in Putnam County. Have you been able to determine of the 5 projects (Archer, Chateau, Geymer, London Bridge and Mahopac) what nationwide permit these projects might fall under? NY DEC is currently waiting USACE's determination of the NWP in order to finalize the state permits.

Thank you very much for your time, we appreciate it!

Jillian

From: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Sent: Monday, November 15, 2021 10:24 AM
To: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>; Orzel, Brian A CIV USARMY CENAN (USA) <<u>Brian.A.Orzel@usace.army.mil</u>>
Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Ms. Arnold,

I have provided the Suez Water permit applications to Mr. Brian Orzel, copied on the email, who is the area project manager for Putnam County. If he has any questions on the submittal, he'll contact you.

R/ Rosie

ROSITA MIRANDA Chief, Western Section Regulatory Branch USACE, New York District Mobile: 347-446-0359

https://www.nan.usace.army.mil/Missions/Regulatory/

EFFECTIVE IMMEADIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: <u>CENAN-R-Permit-App@usace.army.mil</u>.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, November 8, 2021 12:42 PM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Good afternoon, I am following up with this email (below) from the 29th. I tried to submit the files to the site that was in the email from the 28th. However, It requested a code when I clicked the location. I know that USACE has not started reviewing these permits, and I am concerned about timeline for construction. Please let me know how I can get USACE the permits that need to be reviewed.

Thank you, Jillian

From: Arnold, Jillian N.
Sent: Friday, October 29, 2021 7:49 AM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>
Subject: RE: Submission of Suez Water Permit Applications

Good morning Rosie,

I am happy to drop off the files for Suez to the site listed in your email, however, it is asking for a request code? Are you able to send me a drop off request? I have never delivered information to USACE this way. Sorry for all of the questions.

Thank you, Jillian

From: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>> Sent: Thursday, October 28, 2021 3:12 PM To: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>> Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please provide the town and county so we can direct your inquiry to the right permit section.

Please use - https://safe.apps.mil/ for file transfer.

R/ Rosie

ROSITA MIRANDA Chief, Western Section Regulatory Branch USACE, New York District Mobile: 347-446-0359 https://www.nan.usace.army.mil/Missions/Regulatory/

EFFECTIVE IMMEADIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: <u>CENAN-R-Permit-App@usace.army.mil</u>.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Thursday, October 28, 2021 12:12 PM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Could you please tell me how to submit packages to the FTP site? I have not received a response if you received the SUEZ packages for review. I do not want to lose too much time as NYSDEC is review these packages at this time.

Thank you very much for your help! Jillian

From: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>> Sent: Tuesday, October 12, 2021 4:54 PM To: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>> Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please note that you have to use DOD Safe as the ftp site for large files.

What Town and County is this project in?

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Friday, October 8, 2021 1:02 PM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>; Liskovich, Sophia Z. <<u>sliskovich@GFNET.com</u>>
Subject: [Non-DoD Source] Submission of Suez Water Permit Applications

Good afternoon,

Please find the electronic versions of the Archer, Chateau and London Bridge Joint Permit Applications for SUEZ Water NY. These applications have been sent to NYSDEC for Joint Permit approvals. Below are the list of DEC IDs for these applications:

- Archer Well 3-3720-00471/00001
- London Bridge Well 3-3720-00469/00001
- Chateau Well 3-3720-00470/00001

The file sizes on each pdf is large making emailing cumbersome. Here is the link to download the 3 Joint Permit Applications.

Download Link: <u>SUEZ - Archer, Chateau and London Bridge JPA Packages</u>

Please let me know if there are any restrictions with accessing the link above.

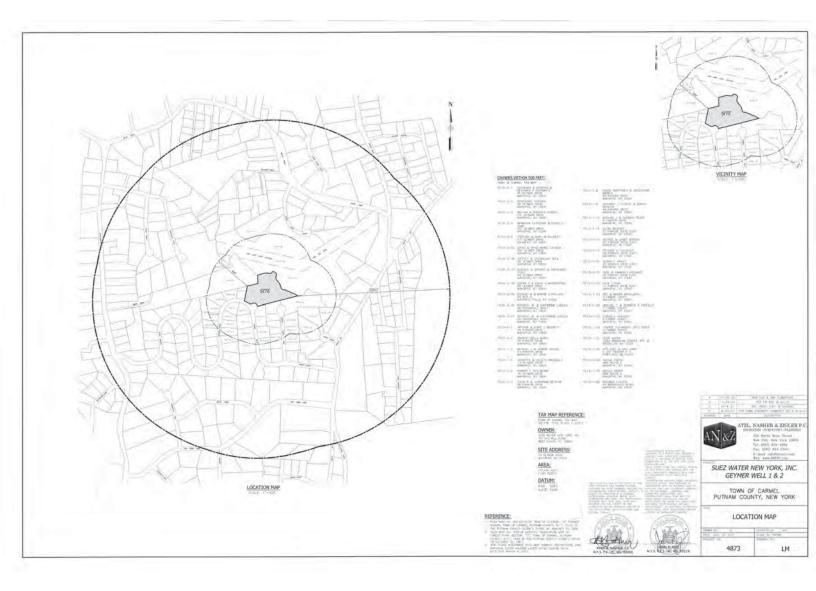
Any additional questions, please do not hesitate to let us know.

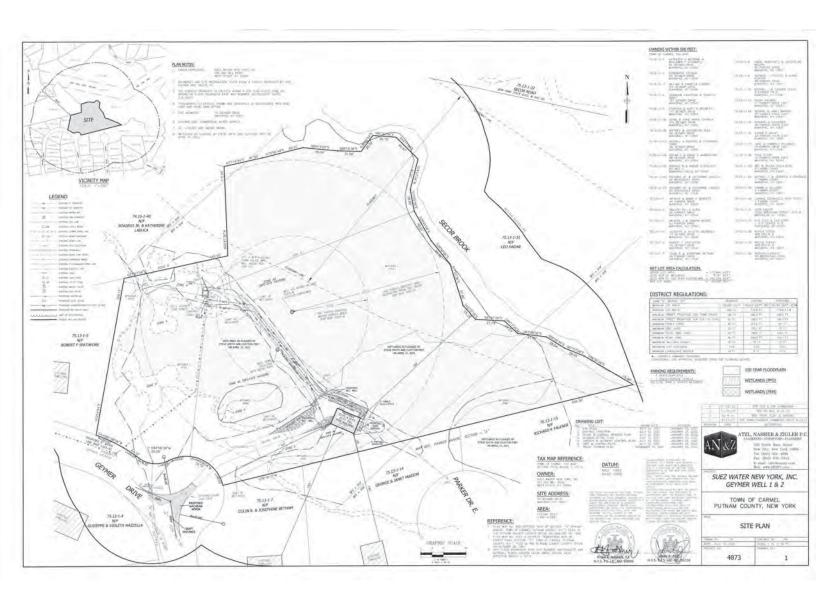
Thank you, Jill

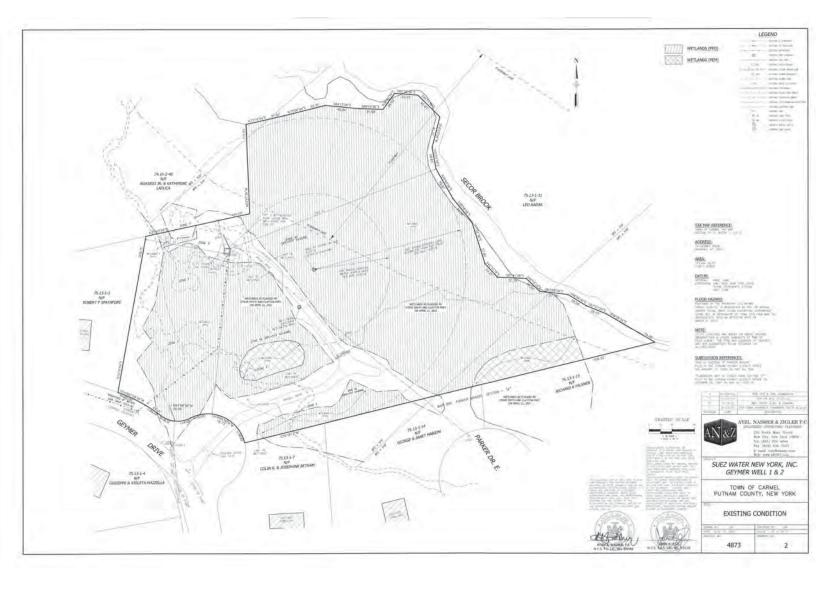
Jillian Arnold, PWS | Senior Environmental Scientist Gannett Fleming | 207 Senate Avenue, Camp Hill, PA 17011 t 717.886.5402 | c 717.422.6229 | jarnold@gfnet.com Excellence Delivered As Promised Gannett Fleming is ISO 9001:2008 Certified. www.gannettfleming.com | Stay connected: Twitter | Facebook | LinkedIn | YouTube

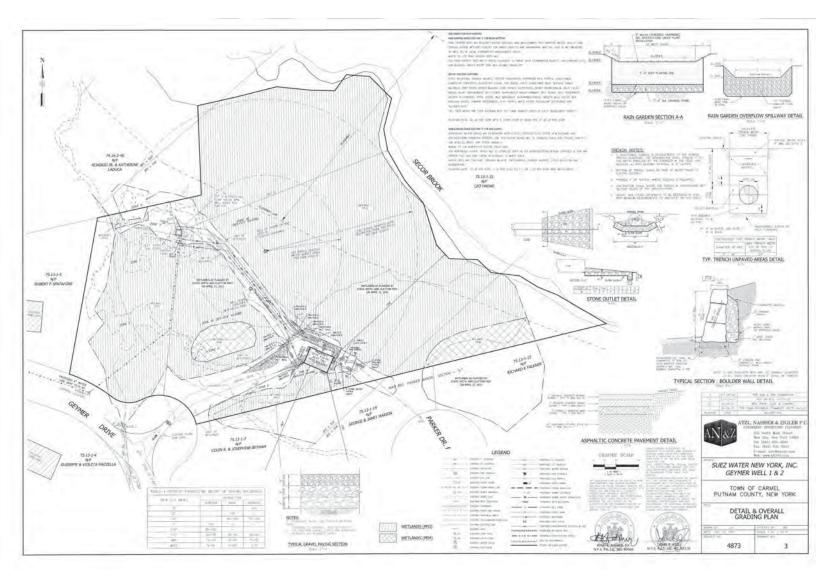
PRINTING SUSTAINABILITY STATEMENT: Gannett Fleming is committed to conserving natural resources and minimizing adverse environmental impacts in projects. Accordingly, project documentation will be provided in electronic format only unless clients specifically request hard copies. Visit our <u>website</u> to read more about our sustainability commitment.

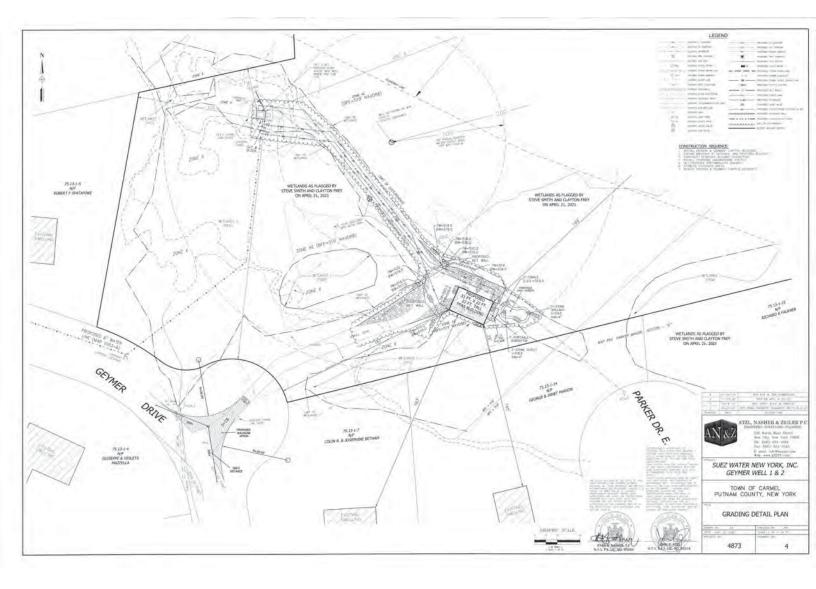
CONFIDENTIALITY NOTICE: This email and any attachments may contain confidential information for the use of the named addressee. If you are not the intended recipient, you are hereby notified that you have received this communication in error and that any review, disclosure, dissemination, distribution or copying of it or its contents is prohibited.

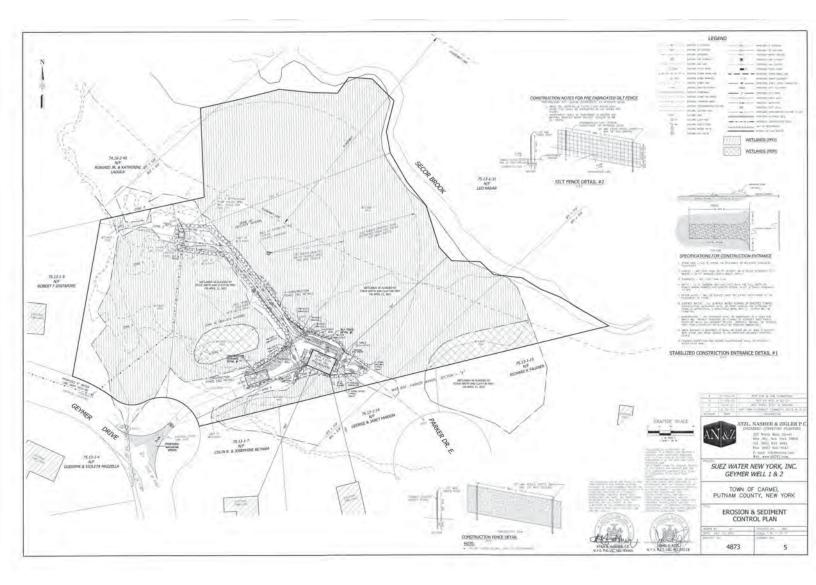


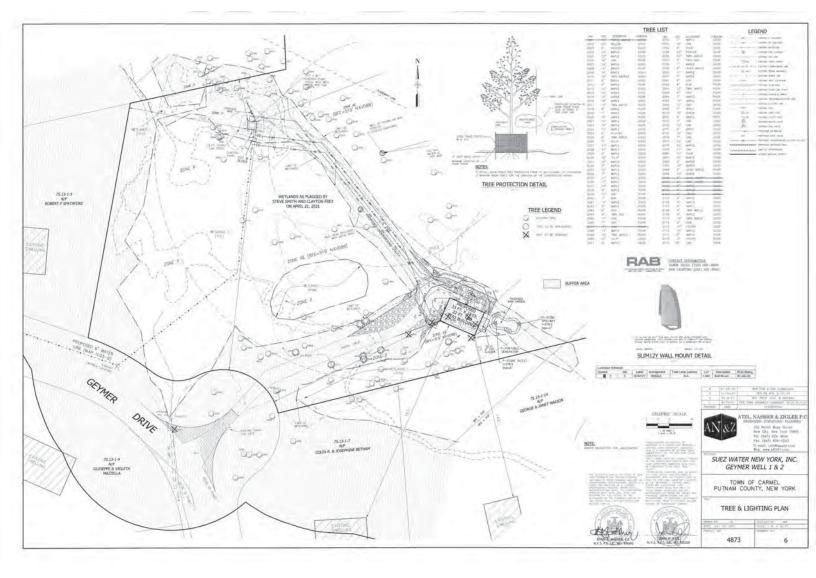


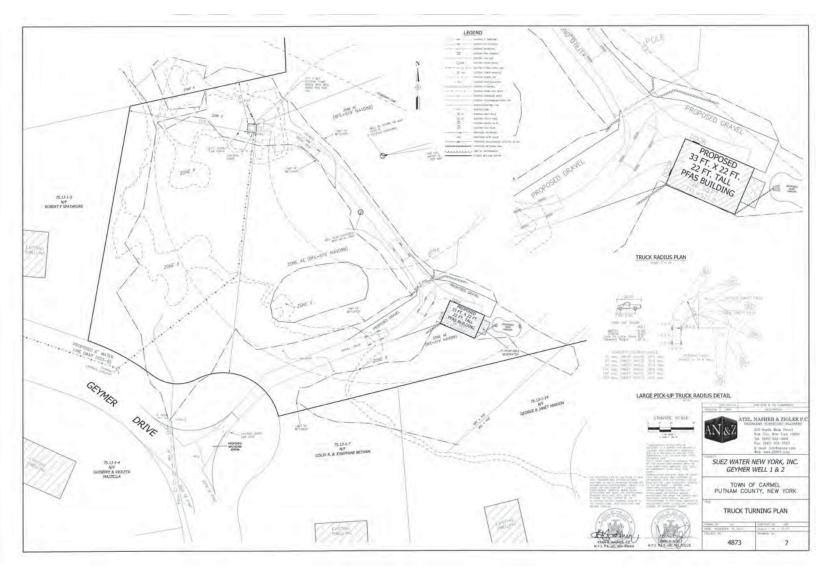












ROBERT LAGA Chairman

NICHOLAS FANNIN Vice Chairman

RICHARD FRANZETTI Wetland Inspector

ROSE TROMBETTA Secretary

TOWN OF CARMEL ENVIRONMENTAL CONSERVATION BOARD

BOARD MEMBERS

Edward Barnett Anthony Federice Nicole Sedran

60 McAlpin Avenue Mahopac, New York 10541 Tel. (845) 628-1500 - Ext. 190 www.ci.carmel.ny.us

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

Name of Applicant: SUEZ Water New York, Inc.

Address of Applicant: 162 Old Mill Road, West Nyack, NY 10994 Email: steven.garabed@suez.com

Name and Address of Owner if different from Applicant: 845-620-3319 Telephone#

APPLICANT IS THE SAME AS OWNER

Tax Map # 75.20-1-16 Property Address: 59 McNair Drive, Mahopac, NY 10541

Agency Submitting Application if Applicable: Atzl, Nasher & Zigler, P.C.

Location of Wetland: Shown on Site Plan

Size of Work Section & Specific Location: See attached description.

Will Project Utilize State Owned Lands? If Yes, Specify: No

Type and extent of work (feet of new channel, yards of material to be removed, draining, dredging, filling, etc). A brief description of the regulated activity (attach supporting details).

See attached description

Proposed Start Date: MARCE 2022 Anticipated Completion Date: October 2022 Fee Paid \$ 1,000 *****

CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief, false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. As a condition to the issuance of a permit, the applicant accepts full legal responsibility for all damage, direct or indirect, or whatever nature, and by whomever suffered, arising out of the project described here-in and agrees to indemnify and save harmless the Town of Carmel from suits, actions, damages and costs of every name and description resulting from the said project.

SIGNATURE

1-26-22 DATE

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 1 is accurate and complete.

A. Project and Applicant/Sponsor Information.

& 2 site. The proposed upgrades w will add treatment for PFAS to rema FOA) and Perfluorooctane sulfonate	ain below the New York	
Telephone: 845-620-3319		
E-mail: steven.garabed@suez.com		
State: NY	Zip Code: 10994	
Telephone: 845-634-4694		
State:	Zip Code:	
NY	10956	
Telephone:		
E-Mail:		
·		
State:	Zip Code:	
	will add treatment for PFAS to rema OA) and Perfluorooctane sulfonate DA) and Perfluorooctane sulfonate E-Mail: steven.garabed@suez.o State: NY Telephone: 845-634-4694 E-Mail: jatzl@anzny.com State: NY Telephone: E-Mail:	

B. Government Approvals

Government En	tity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustee			
b. City, Town or Village Planning Board or Commiss	⊉ Yes □ No sion	Town of Carmel Planning Board - Site Plan and Conditional Use Approval	August 2021
c. City, Town or Village Zoning Board of Ap	☑Yes□No opeals	Town of Carmel Zoning Board - variance	August 2021
d. Other local agencies	⊉ Yes □ No	Town of Carmel Building Department - Building Permit, Sewer Connection Permit	August 2021
e. County agencies	∑ Yes⊡No	Putnam County Department of Health	August 2021
f. Regional agencies	□Yes□No		
g. State agencies	□Yes□No		
h. Federal agencies	□Yes□No		
i. Coastal Resources.<i>i.</i> Is the project site within	a Coastal Area, o	or the waterfront area of a Designated Inland W	/aterway? □Yes ☑No

□ Yes **Z**No

ii.	Is the project site located in a community with an approved Local Waterfront Revitalization Program?
iii.	Is the project site within a Coastal Erosion Hazard Area?

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? 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 	□ Yes ☑ No
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?) 	ℤ Yes □ No
If Yes, identify the plan(s): NYC Watershed Boundary	
 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? If Yes, identify the plan(s): 	∐Yes Z No

C.3. Zoning		
 a. Is the site of the proposed action located in a municipality with an ad If Yes, what is the zoning classification(s) including any applicable over Residential District 		ℤ Yes □ No
b. Is the use permitted or allowed by a special or conditional use permit	t?	☐ Yes Z No
c. Is a zoning change requested as part of the proposed action?If Yes,<i>i</i>. What is the proposed new zoning for the site?		☐ Yes Ø No
C.4. Existing community services.		
a. In what school district is the project site located? Mahopac Central Sch	hool District	
b. What police or other public protection forces serve the project site? <u>Town of Carmel Police Department</u>		
c. Which fire protection and emergency medical services serve the proje Mahopac Volunteer Fire Department	ect site?	
d. What parks serve the project site? Airport Field, Sycamore Town Park		
D. Project Details		
D.1. Proposed and Potential Development		
a. What is the general nature of the proposed action (e.g., residential, in components)? Industrial Water Treatment and Supply	dustrial, commercial, recreational; if m	ixed, include all
b. a. Total acreage of the site of the proposed action?b. Total acreage to be physically disturbed?	1.61 acres 0.26 acres	
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor?	1.61 acres	

1 1		n expansion of an exis proximate percentage of			and identify the	e units (e.g., acres, n	✓ Yes No niles, housing units,
square feet)?		194	Units		726 sq. ft.		
d. Is the proposed	action a	subdivision, or does it	t include a subdivision	on?			🗌 Yes 🗾 No
If Yes,							
<i>i</i> . Purpose or typ	e of sub	division? (e.g., resider	tial, industrial, com	mercial	l; if mixed, spo	ecify types)	
	<u> </u>	1 10					
		on layout proposed?					□Yes □No
iii. Number of lot	s propo	sed?					
iv. Minimum and	maxim	um proposed lot sizes?	Minimum]	Maximum		
e. Will the propose	ed action	n be constructed in mu	ltiple phases?				🗌 Yes 🔽 No

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

* Calculation: [Proposed building expansion (sq ft)/ Existing building (sq ft)] X 100 (928 sq. ft. proposed building /272 sq. ft. existing building) X 100

f. Does the proje	ct include new resid	lential uses?			☐ Yes 7 No
	nbers of units propo	osed.			
	One Family	<u>Two</u> Family	Three Family	Multiple Family (four or more)	
Initial Phase					
At completion					
of all phases					
g. Does the prop	osed action include	new non-residenti	al construction (inclu	uding expansions)?	∠ Yes No
If Yes,					—
<i>i</i> . Total number	r of structures	1			
<i>ii.</i> Dimensions ((in feet) of largest p	roposed structure:	22_height;	22 width; and 33 length 726 square feet	
				l result in the impoundment of any agoon or other storage?	☐Yes Z No
If Yes,	18 Creation of a wate	suppry, reserven	., ponu, iako, wasto n	agoon of other storage:	
	e impoundment:				
<i>ii</i> . If a water imp	poundment, the prin	cipal source of the	water:	Ground water Surface water stream	ns Other specify:
<i>iii</i> . If other than v	water, identify the ty	ype of impounded	contained liquids and	d their source.	
iv. Approximate	size of the propose	d impoundment.	Volume:	million gallons; surface area:	acres
v. Dimensions of	of the proposed dam	ı or impounding st	ructure:	million gallons; surface area: height;length ructure (e.g., earth fill, rock, wood, cond	
vi. Construction	method/materials	for the proposed da	am or impounding st	ructure (e.g., earth fill, rock, wood, cond	crete):
D.2. Project Op	oerations				
a. Does the prope	osed action include	any excavation, m	ining, or dredging, d	uring construction, operations, or both?	Yes√ No
(Not including	general site prepara			or foundations where all excavated	— —
materials will	remain onsite)				
If Yes:		ation or dradging?			
	urpose of the excava aterial (including ro			o be removed from the site?	
				o be removed from the site?	
	hat duration of time				
			be excavated or dred	ged, and plans to use, manage or dispose	e of them.
iv. Will there be	e onsite dewatering	or processing of e	xcavated materials?		Yes No
	· 1 · · · · · · h - dd.	1			
v. What is the u	otal area to be dredg	ged or excavated?		acres	
vii What would	be the maximum de	worked at any on onth of excavation	or dredging?	feet	
	avation require blas		or areaging		Yes No
ix. Summarize si	te reclamation goals	s and plan:			
				-	
			ion of, increase or de ach or adjacent area?	crease in size of, or encroachment	☐ Yes √ No
If Yes:	ing worana,	<i>ouj, morena, c</i> .	aon or aujacent art		
<i>i</i> . Identify the v				water index number, wetland map numb	er or geographic
description):					

<i>ii</i> . Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placeme alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in squ	
<i>iii.</i> Will the proposed action cause or result in disturbance to bottom sediments? If Yes, describe:	□Yes □No
<i>iv.</i> 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):	
<i>v</i> . 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>i</i> . Total anticipated water usage/demand per day: gallons/day	
<i>ii.</i> Will the proposed action obtain water from an existing public water supply?	□Yes □No
If Yes:	
Name of district or service area:	
• 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? Do quicting lines some the project site? 	□ Yes□ No □ Yes□ No
• Do existing lines serve the project site? <i>iii.</i> Will line extension within an existing district be necessary to supply the project?	$\Box Y es \Box No$
If Yes:	
Describe extensions or capacity expansions proposed to serve this project:	
• Source(s) of supply for the district:	·····
<i>iv.</i> Is a new water supply district or service area proposed to be formed to serve the project site? If, Yes:	☐ Yes ☐No
 Applicant/sponsor for new district:	
	·····
Proposed source(s) of supply for new district:	
<i>v</i> . If a public water supply will not be used, describe plans to provide water supply for the project:	
<i>vi</i> . 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>i</i> . Total anticipated liquid waste generation per day: gallons/day	1
<i>ii.</i> Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all approximate volumes or proportions of each):	components and
<i>iii.</i> 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:	
<i>iv.</i> 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 spec	ifying 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	□Yes 2 No
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?	
If Yes:	
<i>i</i> . How much impervious surface will the project create in relation to total size of project parcel?	
<i>i</i> . How much impervious surface will the project create in relation to total size of project parcer.	
Square feet or acres (impervious surface) Square feet or acres (parcel size)	
Square feet or acres (parcel size)	
<i>ii.</i> Describe types of new point sources.	
iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent pr	coperties,
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
<i>iv.</i> 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	⊿ Yes □ No
combustion, waste incineration, or other processes or operations?	
If Yes, identify:	
•	
<i>i</i> . Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)	
Construction equipment and vehicles	
<i>ii.</i> Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)	
Power generation	
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,	□Yes ∠ No
or Federal Clean Air Act Title IV or Title V Permit?	
If Yes:	
<i>i</i> . Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet	□Yes□No
ambient air quality standards for all or some parts of the year)	
<i>ii.</i> 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 ₂ O)	
•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)	
I Onsi year (Short tons) of Hazardous All I Onutants (ITAT S)	

If Yes:	h. Will the proposed action generate or emit methane (inclu landfills, composting facilities)?	ding, but not limited to, sewage treatment plants,	☐Yes ∕ No
<i>ii</i> . Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): <i>i</i> . Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry of ranffil operations? Yes No <i>j</i> . Will the proposed action result in a substantial increase in traffic above present levels or generate substantial generations? Yes No <i>j</i> . Will the proposed action result in a substantial increase in traffic above present levels or generate substantial generations? Yes No <i>j</i> . Will the proposed action result in a substantial increase in traffic above present levels or generate substantial generations? Yes No <i>j</i> . When is the peak traffic expected (Check all that apply): Morning Evening Weekend <i>ii</i> . For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks):			
electricity, flaring): i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quary or landfill operations? IY es[No if Yes:	<i>i</i> . Estimate methane generation in tons/year (metric):		
i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? If Yes If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):	<i>ii</i> . Describe any methane capture, control or elimination me	easures included in project design (e.g., combustion to g	enerate heat or
quarry or landfill operations? If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):	electricity, flaring):		
quarry or landfill operations? If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):			
quarry of landfill operations? If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):	i. Will the proposed action result in the release of air polluta	ants from open-air operations or processes, such as	Yes No
j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantialYesNo i. When is the peak traffic expected (Check all that apply):MormingEveningWeekendRadomly between hours of to ii. When is the peak traffic expected (Check all that apply):MormingEveningWeekendRadomly between hours of 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 iii. Parking spaces: action include any shared use parking? Net increase/decrease v. If the proposed action include any shared use parking? Net increase/decrease v. If the proposed action include access to public transportation or accommodations for use of hybrid, electric Net increase/decrease viii. Will the proposed action include plans for pedestrian or bicycle accommodations for use of hybrid, electric No viii. Will the proposed action (for commercial or industrial projects only) generate new or additional demand k. Will the proposed action require a new, or an upgrade, to an existing substation? will the proposed action require a new, or an upgrade, to an existing substation? wey onk State Electric & Gas Corporation . </td <td></td> <td></td> <td></td>			
new demand for transportation facilities or services? If Yes: if Wes i. When is the peak traffic expected (Check all that apply): Morning Evening Weekend iii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks):	If Yes: Describe operations and nature of emissions (e.g., di	iesel exhaust, rock particulates/dust):	
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new demand for transportation facilities or services? If Yes: if Wes i. When is the peak traffic expected (Check all that apply): Morning Evening Weekend iii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks):			
new demand for transportation facilities or services? If Yes: if Wes i. When is the peak traffic expected (Check all that apply): Morning Evening Weekend iii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks):			
If Yes: i. When is the peak traffic expected (Check all that apply):		traffic above present levels or generate substantial	Y es No
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 iii. Parking spaces: Existing Proposed Net increase/decrease iv. Does the proposed action includes any shared use parking? Net increase/decrease vi. 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 viii Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? If Yes: i. Estimate annual electricity demand during operation of the proposed action:			
Randomly between hours of to		· Morning DEvening DWeekend	
<i>iii.</i> Parking spaces: Existing	\square Randomly between hours of to		
<i>iii.</i> Parking spaces: Existing	<i>ii.</i> For commercial activities only, projected number of true	 uck trips/day and type (e.g. semi trailers and dump truck	s).
 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 viii Will the proposed action include access to public transportation or accommodations for use of hybrid, electricYes_No viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? If Yes: i. Estimate annual electricity demand during operation of the proposed action:			
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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: 16,335 kWH* Yes No ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): New York State Electric & Gas Corporation Yes No iii. Will the proposed action require a new, or an upgrade, to an existing substation? Yes No 1. Hours of operation. Answer all items which apply. i. During Operations: i. During Operations: i. Monday - Friday: 8AM - 6PM Monday - Friday: 24 hours/day i. Saturday: 8AM - 6PM Saturday: 24 hours/day	<i>iv.</i> Does the proposed action include any shared use parkin	ng?	LYes No
vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric □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:	v. If the proposed action includes any modification of exi	sting roads, creation of new roads or change in existing	access, describe:
vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric □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:	vi Ara public/private transportation corrigo(g) or facilities	available within 1/ mile of the proposed site?	
or other alternative fueled vehicles? iii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ivestication (for commercial or industrial projects only) generate new or additional demand for energy? ivestication (for commercial or industrial projects only) generate new or additional demand for energy? ivestication (for commercial or industrial projects only) generate new or additional demand for energy? ivestication (for commercial or industrial projects only) generate new or additional demand for energy? If Yes: i. Estimate annual electricity demand during operation of the proposed action:			
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k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand of renergy? Yes No If Yes: i. Estimate annual electricity demand during operation of the proposed action:		r bicycle accommodations for connections to existing	□Ves□No
k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? If Yes: if Yes: i. Estimate annual electricity demand during operation of the proposed action:			
for energy? If Yes: <i>i</i> . Estimate annual electricity demand during operation of the proposed action:			
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If Yes: i. Estimate annual electricity demand during operation of the proposed action: 16,335 kWh* ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): New York State Electric & Gas Corporation New York State Electric & Gas Cor		ojects only) generate new or additional demand	√ Yes No
 <i>i.</i> Estimate annual electricity demand during operation of the proposed action:			
16,335 kWh* <i>ii.</i> Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): New York State Electric & Gas Corporation <i>iii.</i> Will the proposed action require a new, or an upgrade, to an existing substation? I. Hours of operation. Answer all items which apply. <i>i.</i> During Construction: • Monday - Friday: 8AM - 6PM • Saturday: 8AM - 6PM • Sunday: 24 hours/day			
 <i>ii.</i> Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): New York State Electric & Gas Corporation <i>iii.</i> Will the proposed action require a new, or an upgrade, to an existing substation? <i>iii.</i> During Construction: Monday - Friday: 8AM - 6PM Saturday: 8AM - 6PM Saturday: 8AM - 6PM Saturday: 8AM - 6PM Saturday: 8AM - 6PM Sunday: 8AM - 6PM Sunday: 8AM - 6PM Sunday: 24 hours/day 		he proposed action:	
other): New York State Electric & Gas Corporation iii. Will the proposed action require a new, or an upgrade, to an existing substation? □Yes ☑ No 1. Hours of operation. Answer all items which apply. i. During Construction: ii. During Operations: • Monday - Friday: 8AM - 6PM • Monday - Friday: 24 hours/day • Saturday: 8AM - 6PM • Saturday: 24 hours/day • Sunday: 8AM - 6PM • Sunday: 24 hours/day			1 (*1*)
New York State Electric & Gas Corporation iii. Will the proposed action require a new, or an upgrade, to an existing substation? □Yes ✓ No 1. Hours of operation. Answer all items which apply. i. During Construction: ii. During Operations: • Monday - Friday: 8AM - 6PM • Monday - Friday: 24 hours/day • Saturday: 8AM - 6PM • Saturday: 24 hours/day • Sunday: 8AM - 6PM • Sunday: 24 hours/day		ct (e.g., on-site combustion, on-site renewable, via grid/I	ocal utility, or
 iii. Will the proposed action require a new, or an upgrade, to an existing substation? I. Hours of operation. Answer all items which apply. i. During Construction: Monday - Friday: <u>8AM - 6PM</u> Saturday: <u>8AM - 6PM</u> Sunday: <u>8AM - 6PM</u> Sunday: <u>8AM - 6PM</u> Sunday: <u>24 hours/day</u> Sunday: <u>24 hours/day</u> 			
1. Hours of operation. Answer all items which apply. i. During Construction: • Monday - Friday: 8AM - 6PM • Saturday: 8AM - 6PM • Sunday: 24 hours/day • Sunday: 24 hours/day		an existing substation?	V es Z No
i. During Construction: ii. During Operations: • Monday - Friday: 8AM - 6PM • Saturday: 8AM - 6PM • Sunday: 24 hours/day • Sunday: 24 hours/day	<i>iii.</i> with the proposed action require a new, or an upgrade, w		
i. During Construction: ii. During Operations: • Monday - Friday: 8AM - 6PM • Saturday: 8AM - 6PM • Sunday: 24 hours/day • Sunday: 24 hours/day	1 Hours of operation Answer all items which apply		
 Monday - Friday: <u>8AM - 6PM</u> Saturday: <u>8AM - 6PM</u> Sunday: <u>8AM - 6PM</u> Monday - Friday: <u>24 hours/day</u> Sunday: <u>24 hours/day</u> Sunday: <u>24 hours/day</u> 		<i>ii</i> During Operations:	
• Saturday: 8AM - 6PM • Saturday: 24 hours/day • Sunday: 8AM - 6PM • Sunday: 24 hours/day			
Sunday: <u>8AM - 6PM</u> Sunday: <u>24 hours/day</u>		Saturday: 24 hours/day	
	Sunday: <u>Sunday</u>	Sunday: 24 hours/day	
• Hondays • Hondays • Hondays	Holidays: CLOSED		

*The average number of kilowatt hours per square foot for a commercial building is approximately 22.5. (Source: lota Communications.com). The proposed building is 928 sq. ft.

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both?	☑ Yes □No
If yes:	
<i>i</i> . Provide details including sources, time of day and duration:	
The operation of construction equipment will increase local daytime ambient noise levels. This will only occur during permitted hours or resulting noise will cease upon completion of the project.	of operation and the
<i>ii.</i> 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>i</i> . Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:	
See Lighting Plan	
<i>ii.</i> Will proposed action remove existing natural barriers that could act as a light barrier or screen?	Yes No
Describe:	
	Yes No
o. Does the proposed action have the potential to produce odors for more than one hour per day? 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)	🗌 Yes 💋 No
or chemical products 185 gallons in above ground storage or any amount in underground storage? If Yes:	
<i>ii.</i> Volume(s) (e.g., month, year)	
<i>iii</i> . 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>i</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>i</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) <i>ii.</i> Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waster	
Construction:	
Operation:	
<i>iii</i> . 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?
If Yes:
<i>i</i> . Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or
other disposal activities):
<i>ii.</i> 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 Yes V No
t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous $\Box Yes \square No$
waste? If Yes:
<i>i</i> . Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility:
<i>i</i> . Traine(s) of an nazardous wastes of constituents to be generated, nandred of managed at facinity.
<i>ii.</i> Generally describe processes or activities involving hazardous wastes or constituents:
<i>iii</i> . Specify amount to be handled or generated tons/month <i>iv</i> . Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents:
<i>iv.</i> Describe any proposals for on-site minimization, recycling or reuse of nazardous constituents:
v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility?
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>i</i> . Check all uses that occur on, adjoining and near the project site.
Urban 🛛 Industrial 🔲 Commercial 🖾 Residential (suburban) 🗌 Rural (non-farm)
Forest Agriculture Aquatic <i>ii</i> If min of was comprelly described
<i>ii.</i> 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	0.07	0.2	+ 0.13
Forested	1.34	1.21	- 0.13
Meadows, grasslands or brushlands (non- agricultural, including abandoned agricultural)	0.02	0.02	0
Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
Surface water features (lakes, ponds, streams, rivers, etc.)	0.05	0.05	0
Wetlands (freshwater or tidal)	0.13	0.13	0
Non-vegetated (bare rock, earth or fill)	0	0	0
Other Describe:			

c. Is the project site presently used by members of the community for public recreation?<i>i.</i> If Yes: explain:	□Yes☑No
 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? If Yes, i. Identify Facilities: 	∐Yes ∑ No
e. Does the project site contain an existing dam?If Yes:<i>i</i>. Dimensions of the dam and impoundment:	∐Yes ∏ No
 Dam height: feet Dam length: feet 	
Surface area: acres	
Volume impounded:	
<i>ii.</i> Dam's existing hazard classification:	
<i>iii.</i> 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 fees:	☐Yes ∑ No ility?
<i>i</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:	
<i>iii.</i> Describe any development constraints due to the prior solid waste activities:	
<i>iii.</i> 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	☐ Yes 7 No
property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste?	
If Yes:	
<i>i</i> . Describe waste(s) handled and waste management activities, including approximate time when activities occur	red:
 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? If Yes: 	☐Yes No
<i>i</i> . Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply:	☐ Yes 7 No
Yes – Spills Incidents database Provide DEC ID number(s): Yes – Environmental Site Remediation database Provide DEC ID number(s):	· · · · · · · · · · · · · · · · · · ·
□ Neither database	
<i>ii</i> . If site has been subject of RCRA corrective activities, describe control measures:	
<i>iii.</i> Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? If yes, provide DEC ID number(s):	☐ Yes <mark>∕</mark> No
<i>iv.</i> 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 2No
 If yes, DEC site ID number: Describe the type of institutional control (e.g., deed restriction or easement): 	
Describe any use limitational control (c.g., decu restriction of casement).	
Describe any engineering controls:	
 Will the project affect the institutional or engineering controls in place? Explain:	☐ Yes ☐ No
E.2. Natural Resources On or Near Project Site	
a. What is the average depth to bedrock on the project site? <u>>6</u> feet	
b. Are there bedrock outcroppings on the project site? If Yes, what proportion of the site is comprised of bedrock outcroppings?%	Yes Vo
c. Predominant soil type(s) present on project site: Ce - Catden muck 86% %	
NdA - Natchaug and Catden mucks11% %PnC - Paxton fine sandy loam3% %	
d. What is the average depth to the water table on the project site? Average: <u>1.83</u> feet	
e. Drainage status of project site soils: Well Drained:	
 ☐ Moderately Well Drained:% of site ✓ Very Poorly Drained97 % of site 	
f. Approximate proportion of proposed action site with slopes: $\boxed{0.10\%}$ 0-10%: 62 % of site	
$\boxed{10.15\%}$	
$\boxed{28}$ % of site	
g. Are there any unique geologic features on the project site? If Yes, describe:	Yes No
 h. Surface water features. i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, 	₽ Yes No
ponds or lakes)? <i>ii.</i> Do any wetlands or other waterbodies adjoin the project site?	V es No
If Yes to either <i>i</i> or <i>ii</i> , continue. If No, skip to E.2.i.	
<i>iii.</i> Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal,	V Yes No
state or local agency? <i>iv.</i> For each identified regulated wetland and waterbody on the project site, provide the following information:	
Streams: Name <u>864-160</u> Classification <u>C</u>	
Lakes or Ponds: Name Classification	
Wetlands: Name Federal Waters, NYS Wetland Approximate Size Wetland No. (if regulated by DEC) CF-1	
v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired	Yes ZNo
waterbodies?	
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 Z No
k. Is the project site in the 500-year Floodplain?	∐Yes ∏ No
 Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? If Yes: i. Name of aquifer: 	Yes No

m. Identify the predominant wildlife species	that approximition use the majoritation		
Squirrel	Raccoon		
Deer	Possum		· · · · · · · · · · · · · · · · · · ·
Rabbit	Fox		
n. Does the project site contain a designated s	ignificant natural community?		☐ Yes √ No
If Yes:			
<i>i</i> . Describe the habitat/community (compos	ition, function, and basis for desig	gnation):	· · · · · · · · · · · · · · · · · · ·
<i>ii.</i> Source(s) of description or evaluation:			
<i>iii</i> . 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 pla		- land - NVC	
			Yes No
endangered or threatened, or does it contain	any areas identified as nabitat to	r an endangered or inreatened spec	1es?
If Yes:			
<i>i</i> . Species and listing (endangered or threatened	l):		
p. Does the project site contain any species of	f plant or animal that is listed by]	NYS as rare, or as a species of	☐ Yes √ No
special concern?	1	1	
If Yes:			
<i>i</i> . Species and listing:			
<i>i</i> . Species and listing			
q. Is the project site or adjoining area current			□Yes √ No
If yes, give a brief description of how the pro	posed action may affect that use:		
E.3. Designated Public Resources On or N			
a. Is the project site, or any portion of it, loca	ted in a designated agricultural dis	strict certified pursuant to	∐ Yes ∑ No
Agriculture and Markets Law, Article 25-	AA, Section 303 and 304?	-	
If Yes, provide county plus district name/nur			
b. Are agricultural lands consisting of highly			□Yes √ No
<i>i</i> . If Yes: acreage(s) on project site?			
<i>ii.</i> 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	∐ Yes ∑ No
Natural Landmark?	of is it substantiany contiguous to	s, a registered reational	
If Yes:			
	Biological Community	Geological Feature	
<i>ii.</i> Provide brief description of landmark, in	cluding values behind designation		
	endening values benind designation		
d. Is the project site located in or does it adjo	n a state listed Critical Environme	ental Area?	☐ Yes ∑ No
If Yes:			
<i>i</i> . CEA name:			
<i>ii</i> . Basis for designation:			
<i>iii.</i> Designating agency and date:			
0 0 0 ··· J ·····			· · · · · · · · · · · · · · · · · · ·

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 Commis Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic If Yes:	
 i. Nature of historic/archaeological resource: Archaeological Site 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? If Yes: i. Describe possible resource(s): ii. Basis for identification: 	□Yes 2No
 h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? If Yes: i. Identify resource: State Scenic Byway 	☑Yes ☐No
ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail etc.): Taconic State Parkway	or scenic byway,
iii. Distance between project and resource: <u>3.2</u> miles.	
 i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? If Yes: 	☐ Yes No
<i>i</i> . Identify the name of the river and its designation: <i>ii</i> . Is the activity consistent with development restrictions contained in 6NYCRR Part 666?	□Yes□No

F. Additional Information

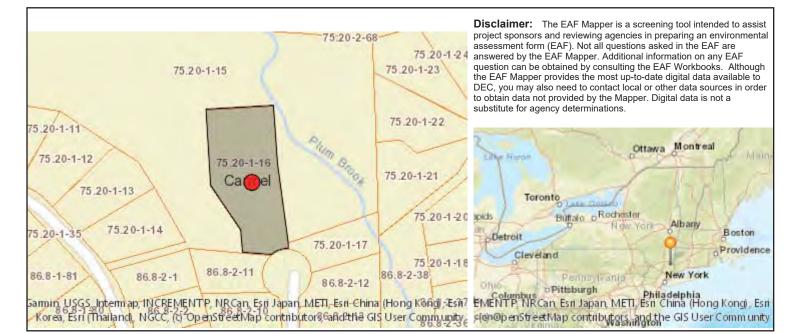
Attach any additional information which may be needed to clarify your project.

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.

pplicant/Sponsor Name John Atzi	Date_August 27, 2021	
gnature	Title Land Surveyor	

PRINT FORM

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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]	NYC Watershed Boundary
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Stream Name]	864-160
E.2.h.iv [Surface Water Features - Stream Classification]	С
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters, NYS Wetland
E.2.h.iv [Surface Water Features - Wetlands Size]	NYS Wetland (in acres):25.5
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	CF-1

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.I. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Northern Long-eared Bat
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]	No
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]	No
E.3.i. [Designated River Corridor]	No

Project Description

General Project Information

Applicant:	SUEZ Water New York, Inc.
Project:	PFAS Compliance Project F – Chateau Well
Location:	Town of Carmel Putnam County, New York
Consultant:	Gannett Fleming, Inc. 207 Senate Avenue Camp Hill, PA 17011

Introduction

SUEZ is proposing the construction of upgrades at their existing Chateau well site. The proposed study area (41° 21' 24.528" N, 73° 44' 24.195" W) is located in the Town of Carmel, Putnam County, New York. The project study area for this project encompassed the entire SUEZ property. During delineation efforts an additional 300-foot buffer was reviewed around the project study area and is referred to in the permit application as the action area. Refer to the Topographic Location Map and Aerial Layout Map for the location and project limits located in **Section A**.

Project Purpose and Need

The State of New York has adopted a new drinking water standard that set a Maximum Contaminant Level (MCL) of 10 parts per trillion (ppt) for Perfluorooctanoic Acid (PFOA) and Perfluoroctane Sulfonate (PFOS) in drinking water. Some PFAS do not breakdown easily and persist for a long time in the environment, especially in water. The concern of PFAS chemicals having toxic effects on public health has resulted in new regulations for the New York State Drinking Water Standard.

In order to comply with these new MCLs, SUEZ plans to construct a treatment facility at the existing Chateau Well Site.

Necessary upgrades were identified based on the water quality sampling results. The site upgrades include upsizing of the existing well pumps, installation of a prefiltration system consisting of bag filters, and installation of a GAC treatment system. The planned upgrades will not increase the firm capacity of the wells.

Architectural, civil, electrical, structural, HVAC and plumbing upgrades will also be implemented to accommodate the new treatment system at the existing location.

Project Description Details

Improvements at the Chateau Well site shall include the construction of a new PFAS treatment building, a 6" influent pipe, a 6" effluent pipe, a 4" PVC drain, an underground electrical conduit, and a 12' gravel driveway off of McNair Drive. Erosion and sediment controls will be installed to protect the regulated features. Disturbance will be kept to a minimum and avoidance measures have been considered during the design phase of the project.

Project Area Description

The proposed PFAS upgrades will be installed within the existing SUEZ property located at the northern extent of McNair Drive in the Town of Carmel, New York. The proposed project study area is approximately 0.45 acres. The action area surrounding the project study area is approximately 12 acres. The project study area and action area consist of a gravel parking lot, pump house, residential properties, forested tracts, a sewer and overhead electric right-of-way, Plum Brook and a large marsh/wetland area to the north.

Water resources within or adjacent to the project area include Plum Brook and its unnamed tributaries as identified by NYSDEC freshwater mapping, National Wetland Inventory mapping, and U.S. Geological Survey topographical mapping. Additional water resources were identified during field investigations.

Project Impacts

One parcel was impacted by the SUEZ PFAS project. Project design will impact one regulated feature and the intent of this package is to obtain approval from the Town to encroach upon the resource. No USACE regulated features shall be impacted as a result of the project. Refer to the Wetland Delineation Report provided **Section B** for more information regarding the resource.

The proposed project limit of disturbance overlaps a regulated NYSDEC Freshwater Wetland Adjacent Area. There are both permanent and temporary impacts to the Adjacent Area associated with construction of the PFAS structure, driveway and pipelines. Reclamation to the portion of the Adjacent Area with temporary impacts will take place as soon as construction is complete.

No mitigation is proposed since all permanent impacts occur only within the NYSDEC regulated Freshwater Wetland Adjacent Area.

Please see **Section** C for a typical diagram of construction.

Regulated Activities

Wetland Impacts

Impacts at the Chateau Well site involve temporary and permanent impacts to the Wetland Adjacent Area. No impacts shall occur to wetlands. The temporary Adjacent Area impacts include the areas required for installation of temporary erosion and sediment controls. All controls shall be removed once construction is complete and the area shall be restored and allowed to revegetate back to pre-construction conditions. Permanent impacts shall occur as a result of site clearing, grading/filling, building construction, and underground piping and electrical conduits associated the new PFAS treatment system. Below are the calculated impacts to the area within 100 feet adjacent to the wetlands.

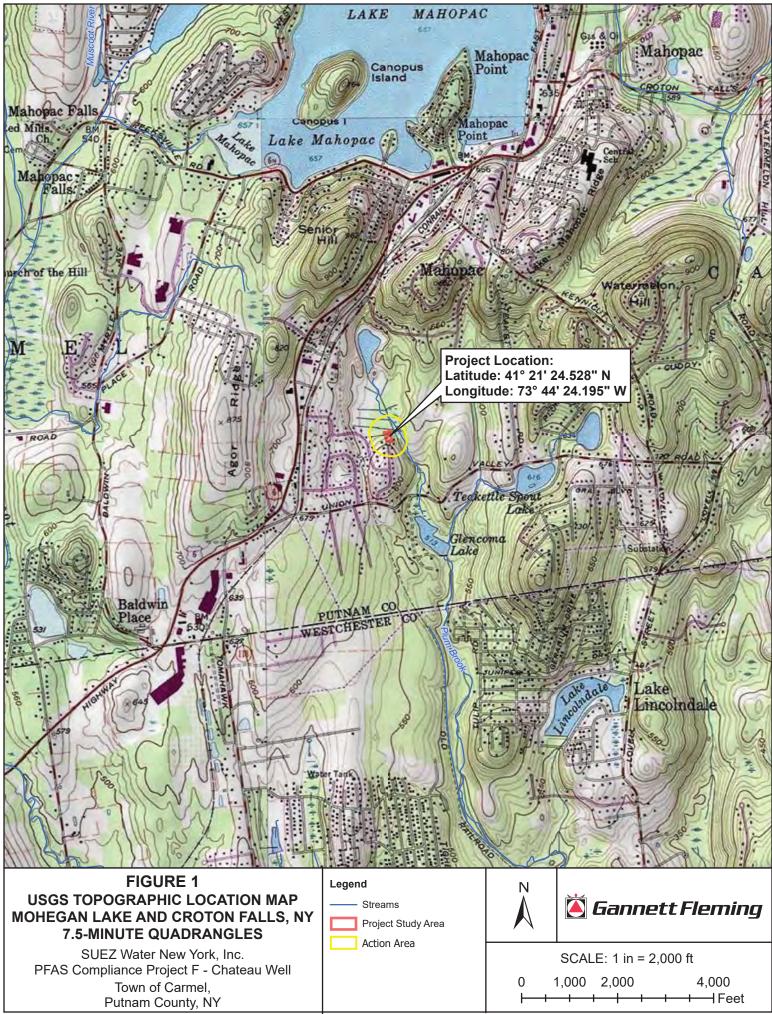
Wetland Impacts

Impacts to 100' Buffer

• 14,747.23 ft²; 0.339 ac

^{• 0} ft²; 0 ac

Section A: Topographic Location Map and Aerial Layout Map



Data Source: Topographic mapping provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April2021.



Data Source: Aerial Imagery provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April 2021.

Section C: Typical diagram of construction

Note: Please refer to the attached Site Plan set.

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT



SUEZ Water New York, Inc. PFAS Compliance Project F – Chateau Well

Town of Carmel, Putnam County, New York

Prepared for:

SUEZ Water New York, Inc. 162 Old Mill Rd West Nyack, NY 10994

Prepared by:



207 Senate Avenue Camp Hill, PA 17011

May 2021

GF Project No. 068577

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT

SUEZ Water New York Inc. PFAS Compliance Project F – Chateau Well

Town of Carmel, Putnam County, New York

Prepared for: SUEZ WATER NEW YORK, INC.

Prepared by:



May 2021

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APPENDICES

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1.0 Executive Summary

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing Chateau well site. The proposed study area (41° 21' 24.528"N, 73° 44' 24.195"W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for perand polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), the regulated compounds.

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with U.S. Fish and Wildlife Service (USFWS). The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area and action area. This report was prepared to satisfy the regulatory requirements of the U.S. Army Corps of Engineers (USACE) under the purview of Section 404 of the Clean Water Act and New York State Department of Environmental Conservation (NYSDEC) under Article 24, Freshwater Wetlands Act.

On April 21, 2021, Gannett Fleming, Inc. (GF) conducted a field investigation to delineate wetlands and waterways within the 0.45-acre project study area and 12-acre action area for use in project planning and permitting efforts for PFAS Compliance Project F – Chateau Well. Two (2) wetlands and two (2) waterways were delineated within the project study area and action area (**Table 1**). Wetland and waterway boundaries were mapped in the field and are presented in **Appendix A**. Photographs were taken of the wetlands and waterways and are provided in **Appendix B**. Wetland data forms were completed to document the hydrology, vegetation, and soil conditions of the delineated wetlands and are provided in **Appendix C**.

PROJECT TOTALS			
WETLANDS			
Feature Type	Number Present	Total Acres (AC)	
 PFO/PSS/PEM Wetland Complex 	1	2.54+	
 PEM Wetland 	1	0.005	
WATERWAYS			
Feature Type	Number Present	Total Linear Feet (LF)	
 Perennial Waterway 	1	330+	
 Ephemeral Waterway 	1	28	

Table 1. Wetland and Waterway Summary

Wetlands

- Wetland 1 PFO/PSS/PEM wetland complex, 2.54+ acres
- Wetland 2 PEM wetland, 0.005 acre

Waterways

- Stream 1 (Plum Brook)– Perennial, 330+ linear feet
- Stream 2 (UNT to Plum Brook) Ephemeral, 28 linear feet

*Area or length in acres or linear feet represents delineated values, "+" indicates that the resource continues off-site

2.0 **Project Description**

SUEZ is proposing the construction of upgrades at their existing Chateau well site. The proposed study area (41° 21' 24.528"N, 73° 44' 24.195"W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for perand polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both PFOA and PFOS, the regulated compounds

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with USFWS. The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

3.0 Purpose

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area. This report was prepared to satisfy the regulatory requirements of the USACE under the purview of Section 404 of the Clean Water Act and NYSDEC under Article 24, Freshwater Wetlands Act.

4.0 Study Area Description

A 300- foot buffer was used surrounding the project study area to create the action area. The project study area encompassed approximately 0.45-acre and the action area is approximately 12-acres consisting of a parking lot, pump house, residential properties, forested tracts, a sewer and overhead electric right-of-way, and Plum Brook. The project study area to the north is a large marsh/wetland area. Residential properties along with Bloomer Road, McNair and Dahlia Drives are located to the west, south and east (respectively). The action area is also shown on the mapping within this report. The action area depicts the 300-foot bog turtle survey area buffer included during field investigations.

4.1 Topography

According to the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Mohegan Lake and Croton Falls, New York), the elevation of the project study area ranged from approximately 560 to 620 feet above mean sea level (amsl). An excerpt from the USGS Topographic Quadrangle Map is provided as **Figure 1**. A Project Location and Study Area Map is provided as **Figure 2**.

4.2 Soils

According to the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey, six (6) soil series were mapped within the project study area and action area: Catden muck, 0 to 2 percent slopes (Ce); Natchaug and Catden mucks, ponded, 0 to 2

percent slopes (NdA); Paxton fine sandy loam, 3 to 8 percent slopes (PnB); Paxton fine sandy loam, 8 to 15 percent slopes (PnC); Sun loam, extremely stony (Sm); and Woodbridge loam, 3 to 8 percent slopes(WdB). NdA, Ce and Sm are listed as 98% and 100% hydric soils. PnB, PnC, WdB soil units are listed as having hydric inclusions. An excerpt from the soil survey mapping is provided as **Figure 3**.

4.3 Geology

The project is located in the Hudson Highlands Section of the Physiographic Provinces of New York (NYSM, 1995). The project study area is underlain by the Biotite granite gneiss (bg) unit of bedrock; the bg unit that underlays the project study area consists of "biotite granitic gneiss, overprint signifies inequigranular texture" assumed to be from the Middle Proterozoic period (NYSM, 1995). The project study area is underlain by the Biotite quartz plagioclase gneiss (bqpc) unit of bedrock; the bqpc unit that underlays the project study area consists of "biotite granitic gneiss, amphibolite, calcsilicate rock" assumed to be from the Middle Proterozoic period (NYSM, 1995).

4.4 Surface Waters

The USGS map identified the Plum Brook as a perennial waterway within the project area. The USGS also identified the Teakettle Spout Lake east and Glencoma Lake to the south of the project study area (**Figure 1**). No other streams or waterbodies were identified on USGS mapping within or immediately adjacent to the project study area.

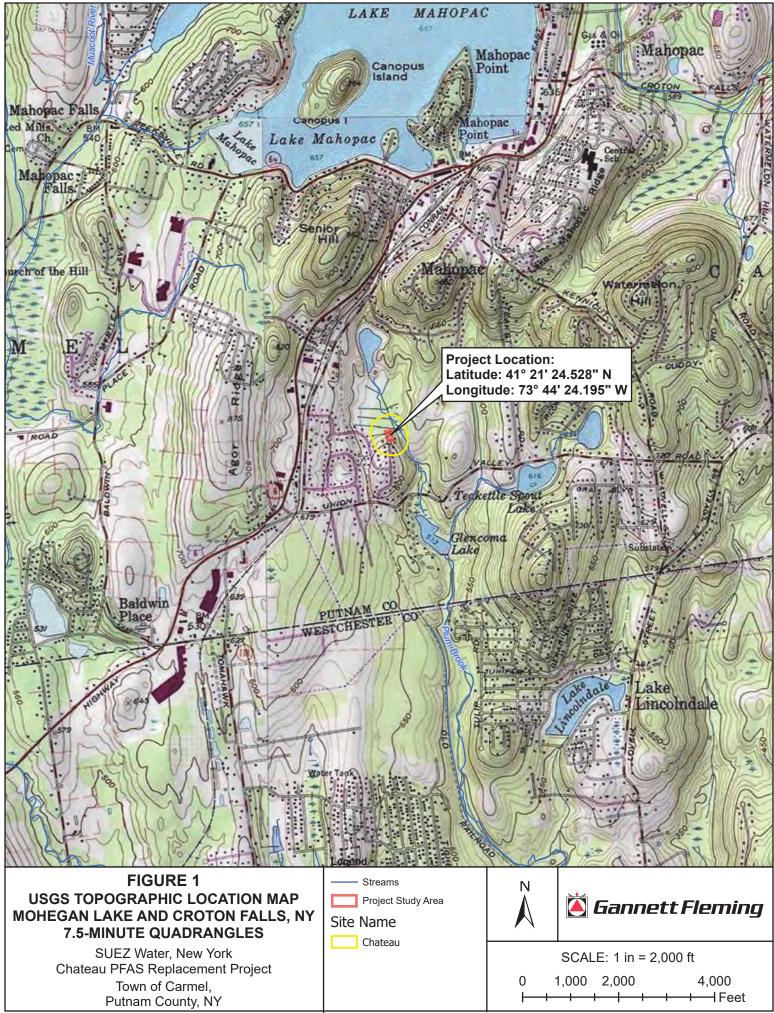
NYSDEC has designated this portion of the Stone Hill River as water quality classification "C". This classification indicates that the water resource is best used for fishing and non-contact activities. A "C" classification is not considered protected waters of the state.

4.5 National Wetlands Inventory

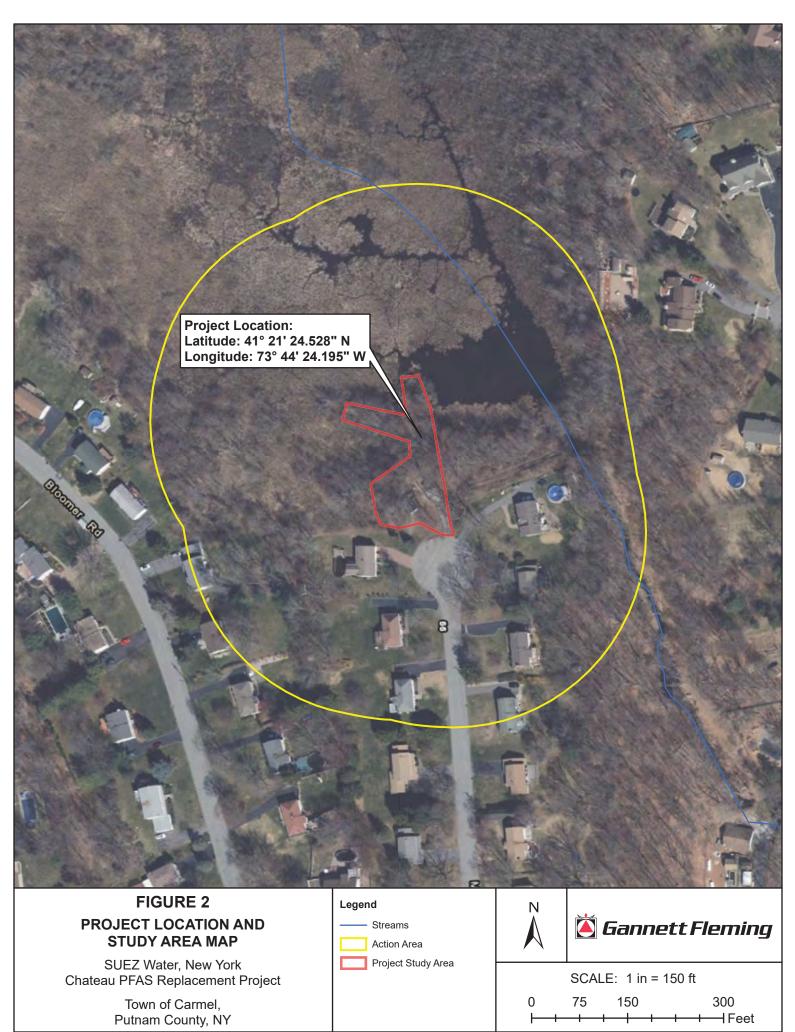
The National Wetlands Inventory (NWI) online mapping tool identified one (1) feature within the project study area. NWI identified a palustrine, emergent, persistent, scrub-shrub, broad-leaved deciduous, seasonally flooded/saturated, nontidal, partially drained/ditched (PEM1/SS1Ed) feature. Within the action area the NWI identified three (3) riverine features. Plum Brook was identified as an upper perennial, unconsolidated bottom (R3UBH). A riverine intermittent streambed (R4SBC) and a riverine unknown perennial unconsolidated bottom (R5UBH) were identified west of the project study area. The NWI map for the project study area is provided as **Figure 4**.

4.6 NYSDEC Wetlands

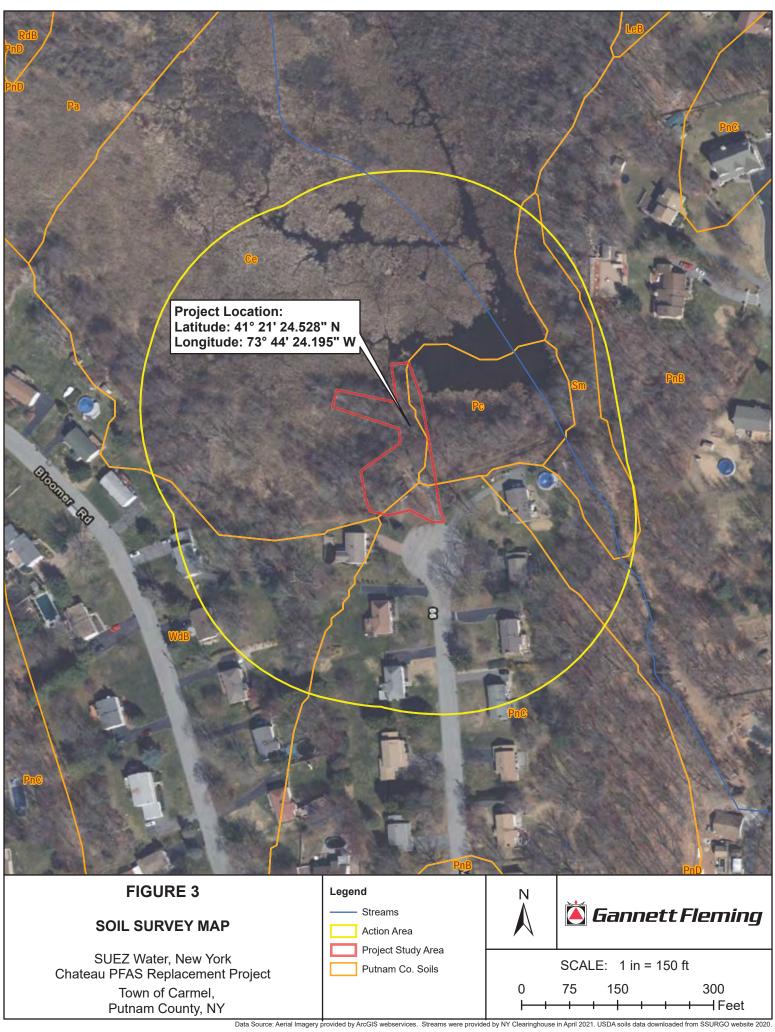
NYSDEC identified one (1) state regulated wetland within the project study area. Wetland CF-1 is a Class 2 wetland totaling 25.5 acres located within the project study area. The southern half of the project study area is within the 100-foot buffer of this wetland. The action area includes the 500-foot wetland checkzone. The NYSDEC wetlands map for the project study area is provided as **Figure 5**.

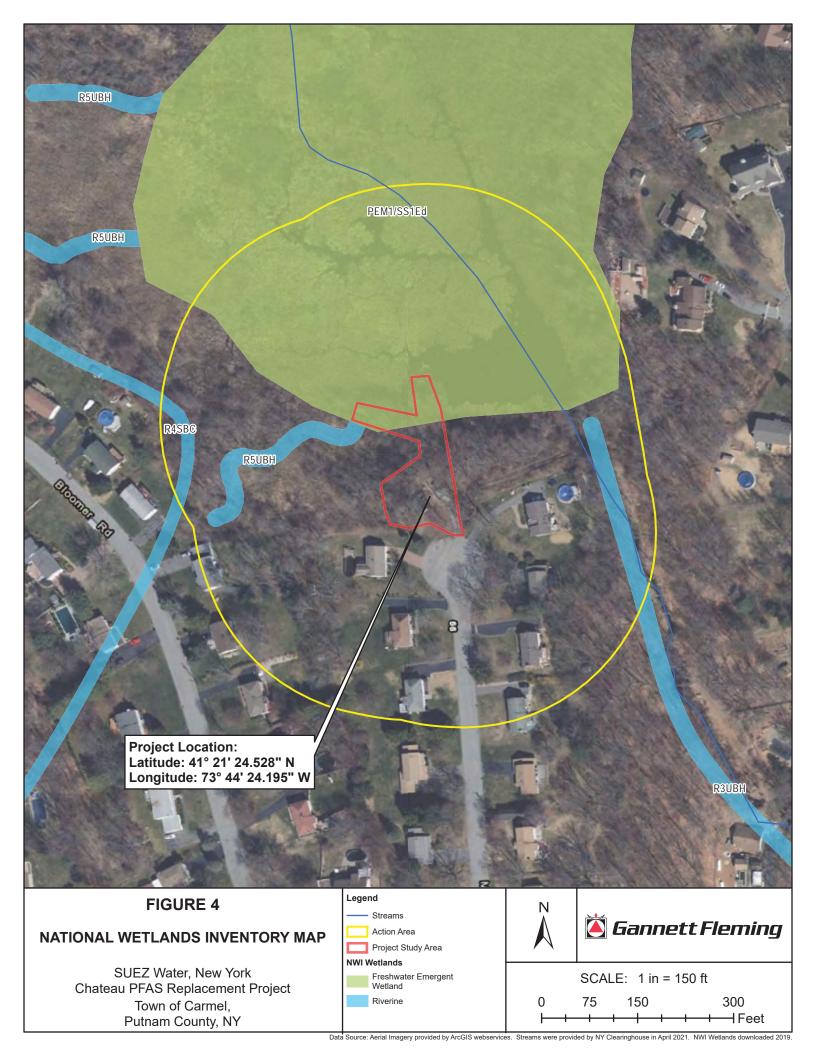


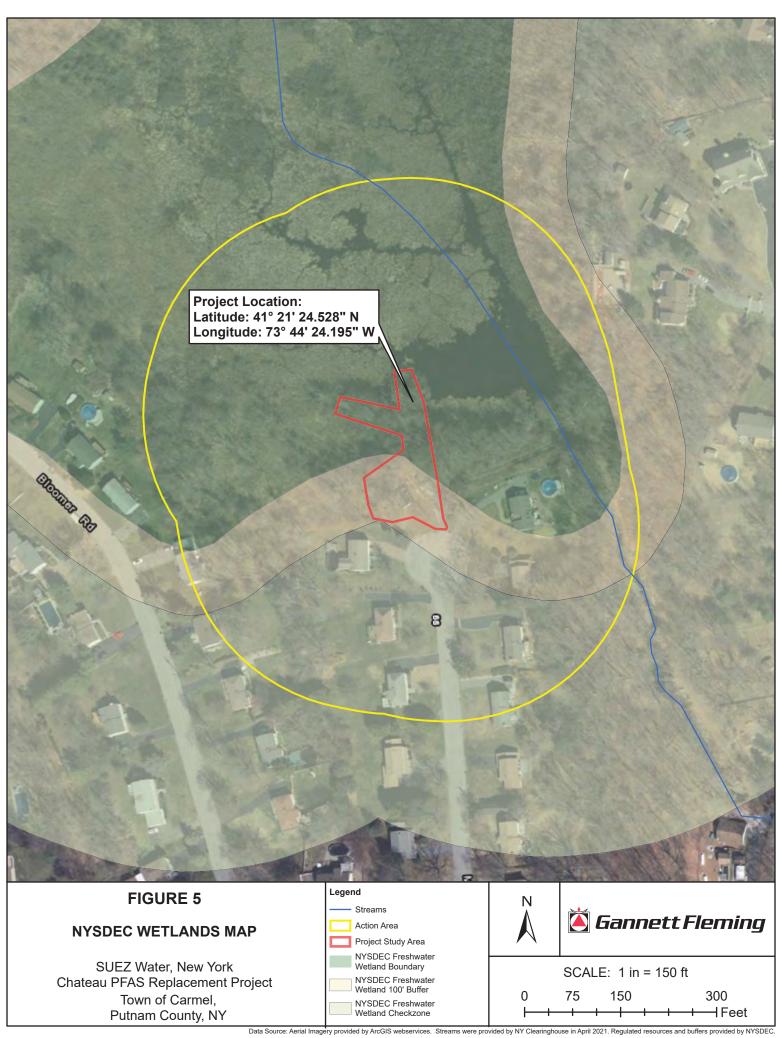
Data Source: Topographic mapping provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April2021.



Data Source: Aerial Imagery provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April 2021.







5.0 Methods

The 0.45-acre project study area was investigated for palustrine wetland indicators of vegetative composition, soil development, and hydrology. The action area was walked for wetland indicators, however, wetlands that were not extended from within the project study area were only identified and not delineated with soil test pits. The investigation was conducted in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (U.S. Army Corps of Engineers, 2012). Wetland field data forms were completed to document wetland or non-wetland data points. If present, wetlands within and directly adjacent to the study area were delineated so that their presence could be shown on project mapping to aid in impact avoidance and/or minimization during engineering design.

Soils were characterized by evaluating the upper horizons of the soil profile. Soil pits were dug using a "sharpshooter" spade with a 16-inch blade. Soil horizons were evaluated using normal field protocols for determining texture and nomenclature. The *Munsell Soil Color Charts* (Kollmorgen Instruments Corporation, 1994) were used to determine the colors of horizons and redoximorphic features. Soil observations of reducing conditions were determined in the field using presence/absence determinations of redoximorphic concretions and oxidized rhizospheres and identifying low chroma matrices according to *Field Indicators of Hydric Soils in the United States (Version 7.0)* (USDA-NRCS, 2010).

Vegetation was identified using A Field Guide to Trees and Shrubs (Petrides, 1986), Newcomb's Wildflower Guide (Newcomb, 1977), and Grasses: An Identification Guide (Brown, 1979). Plant species were assigned an indicator status [i.e., Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), or Obligate Wetland (OBL)] based on the 2018 National Wetland Plant List (Version 3.4) (USACE, 2018).

Data point locations were investigated for primary and secondary wetland hydrology indicators. If present, wetland boundaries were marked using pink wetland flagging. Wetland boundary data points were located using a Trimble Yuma 2 Global Positioning System (GPS) with Trimble Pro 6T receiver. The Trimble Yuma 2 and the Pro 6T are capable of attaining sub-meter accuracy. The GPS data were then transferred onto relevant project mapping using the U.S. State Plane NY East coordinate system.

Wetland type classifications were assigned to each wetland following the Cowardin et al methods (1979). Hydrogeomorphic classifications were assigned to each wetland based on the *Hydrogeomorphic Wetland Classification: HGM Classification for Wetlands of the Mid-Atlantic Region, USA* (Brooks, 2017). Palustrine plant community classifications were assigned to each wetland based on *Ecological Communities of New York State* (Edinger et al, 2014). Color photographs were taken of all relevant features to document site conditions during the time of the investigation.

Waterways were identified through a review of available mapping and field investigation. Topographic and engineering maps were reviewed for the presence of streams within the project study area. A field investigation for waterways was performed in conjunction with the wetland field investigation and included the field verification of mapped watercourses and the identification and delineation of streams, springs, and seeps that were not shown on existing engineering plans. Waterways were identified by the presence of bed and banks and/or ordinary

high-water marks. The flow regime of each identified waterway was characterized based upon field indicators of hydrologic, floral, and faunal character at the time of the investigation. All identified waterways were photographed and located using GPS.

6.0 Field Observations and Delineated Features

On April 21, 2021, GF investigated the 0.45-acre project study area and the 12-acre action area for wetlands and waterways. The weather conditions were cloudy with a high temperature of 65°F. Precipitation fell (0.17 inches) during the investigation of this project location as a passing storm. The previous 48 hours did not have any precipitation recorded. Weather data were recorded at Danbury Municipal Airport Station in Danbury, CT, approximately 16 miles northeast of the project study area.

The dominant land-uses within and surrounding the project study area included the pump house and parking area, paved roads, wetlands, residential properties, mixed forests, the overhead electric and sewer right-of-way, and Plum Brook. Dominant vegetation observed within the project study area is summarized in **Table 2**.

Table 2. Dominant Frant Speeces List								
Scientific Name	Indicator Status							
Tree Species								
Acer rubrum	Red Maple	FAC						
Quercus rubra	Northern Red Oak	FACU						
Salix discolor	Pussy Willow	FACW						
Shrub Species								
Rosa multiflora	Multiflora Rose	FACU						
Rubus phoenicolasius	Wineberry	FACU						
Berberis thunbergii	Japanese Barberry	FACU						
Spiraea alba	White Meadowsweet	FACW						
Herb Species								
Alliaria petiolata	Garlic Mustard	FACU						
Carex stricta	Upright Sedge	OBL						
Impatiens capensis	Spotted Touch-Me-Not	FACW						
Phragmites australis	Common Reed	FACW						
Symplocarpus foetidus	Skunk Cabbage	OBL						
	Vine Species							
Lonicera japonica	Japanese Honeysuckle	FACU						

 Table 2. Dominant Plant Species List

6.1 Waterbodies & Wetlands

During the field investigation, one (1) palustrine wetland complex was delineated within the project study area and flagged in the field. One (1) additional wetland, Wetland 2, was identified on the eastern extent of the action area but was not delineated with a soil pit as it was within the bog turtle action area and would not be affected by the project. Based upon field observations, the

area was assumed to meet hydric soil, hydrophytic vegetation, and wetland hydrology indicators. Delineated wetlands are listed in **Table 3** with their respective delineated area, Cowardin Classification, hydrogeomorphic (HGM) wetland classification, and Ecological Community of New York State. Wetland boundaries were mapped and are presented in **Appendix A**. Photographs were taken of the wetlands and are provided in **Appendix B**. The Wetland Determination Data Forms are provided in **Appendix C**.

Wetland ID	Area (acre)	Cowardin Classification	HGM Wetland Classification	Ecological Community
Wetland 1	2.54+	PFO/PSS/ PEM	Riverine lower perennial	Floodplain forest, Shrub swamp
Wetland 2	0.005	PEM	Depression, human impounded	Palustrine emergent

Table 3. Delineated Wetland Resource Summary

6.2 Waterways

During the field investigation, no waterways were delineated within the project study area, however, two (2) waterways were identified and delineated within the action area. Plum Brook and its unnamed tributary (Stream 2), were confirmed as a perennial and ephemeral (respectively) waterways during the investigation.

Stream 1 - (Plum Brook), perennial, 330+ linear feet*

Stream 1 was identified in the field immediately in the southeast portion of the action area. Stream 1 flows from the wetland complex (Wetland 1) off site to the southeast.

Channel Width	Bank Height	Water Depth	Substrate
12 feet	1-2 feet	24 inches	Silt, Cobble, Boulder, Woody Debris

*Length in linear feet represents delineated length, "+" indicates that the resource continues off-site

Stream 2 - (UNT to Plum Brook), ephemeral, 28 linear feet

Stream 2 was identified within the western extent of the action area. Hydrology was provided to the stream through a stormwater pipe coming from an adjacent residential property. Water flows from Stream 2 into Wetland 1.

Channel Width	Bank Height	Water Depth	Substrate
3 feet	12 feet	2-3 inches	Sand, Muck, Leaf Litter

7.0 Wetland & Waterway Resource Summary

The field investigation conducted by GF on April 21, 2021, identified and delineated two (2) wetlands and two (2) waterways in conjunction with the PFAS Compliance Project F – Chateau Well . The following features were identified on mapping and/or delineated in the field:

Wetlands (Field Delineated/Identified)

- Wetland 1 PFO/PSS/PEM wetland, 2.54+ acre
- Wetland 2 PEM wetland, 0.005 acre

Waterways (Field Delineated)

- Stream 1 (Plum Brook) Perennial, 330+ linear feet
- Stream 2 (UNT to Plum Brook) Ephemeral, 28 linear feet

*Area and length in acres and linear feet represents delineated length, "+" indicates that the resource continues offsite

8.0 References

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9.0 List of Contributors

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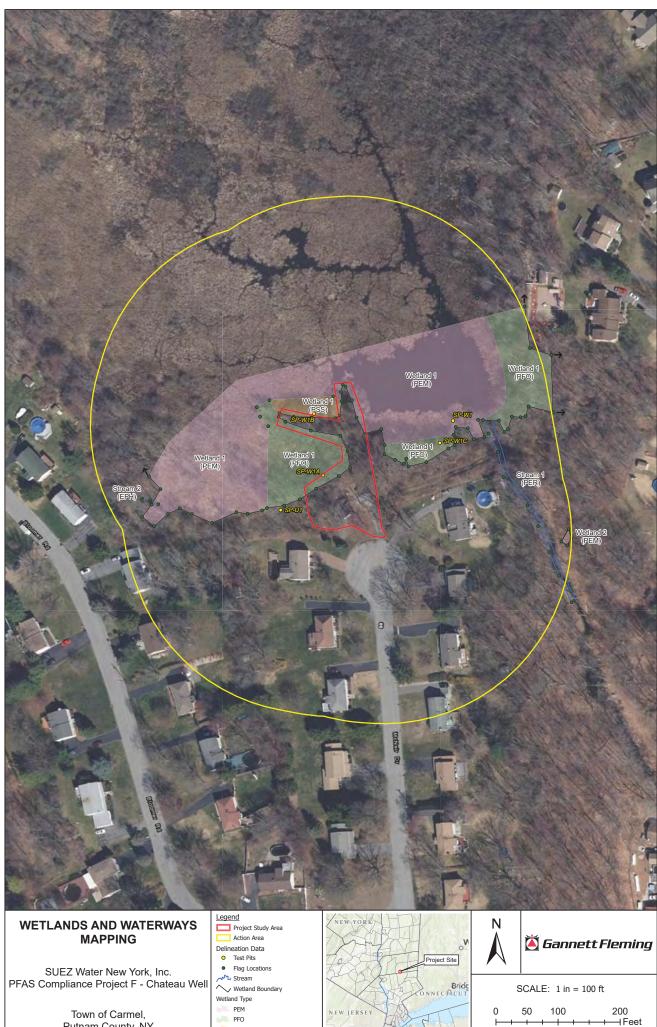
Steven Smith, Senior Environmental Scientist: (Level 2 Review)
38 Hour U.S. Army Corps of Engineers Wetland Delineator Certification Training Program Society of Wetland Scientists, Wetland Profession In Training
PennDOT Phase I Bog Turtle Habitat Evaluation Training
Professional Experience: 21 years
Education: B.S. Geoenvironmental Studies

Clayton D. Frey, Environmental Scientist (Level 1 Review) 36-Hour Swamp School Wetland Delineation and Regional Supplement Training 24-Hour OSHA Hazardous Waste Operations and Emergency Response Certification Professional Experience: 3 years Education: B.S., Wildlife and Fisheries Science

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APPENDIX A

WETLANDS AND WATERWAYS MAPPING



Town of Carmel, Putnam County, NY

PFO PSS



APPENDIX B SITE PHOTOGRAPHS AND PHOTOGRAPH LOCATION MAP





Photograph 1: Overview of test pit SP-W1A, recorded within the PFO portion of Wetland 1. (facing north; 4/21/2021)



Photograph 2: Overview of the PSS portion of the Wetland 1 complex documented by test pit SP-W1B. (facing southwest; 4/21/2021)



Photograph 3: Overview of SP-W1C, a wetland test pit recorded within a PFO portion of Wetland 1. (facing west; 4/21/2021)



Photograph 4: Overview of SP-W1, the wetland test recorded within the PEM portion of the complex. The PEM habitat comprises a majority of the wetland area. (facing north; 4/21/2021)



Photograph 5: Overview of Wetland 1 taken near the PFO/PEM wetland boundary east of the project study area. (facing north; 4/21/2021)



Photograph 6: Overview of Wetland 1 from the eastern edge of the complex. (facing west; 4/21/2021)



Photograph 7: Overview of Wetland 2, a PEM resource located adjacent to Stream 1 (Plum Brook). Wetland 2 was identified within the action area. (facing south; 4/21/2021)



Photograph 8: Stream 1, Plum Brook, looking upstream toward the Wetland 1 complex. Stream 1 drains south out of Wetland 1. (facing north; 4/21/2021)



Photograph 9: Looking downstream at perennial Stream 1, Plum Brook, as it flows south through the action area. The stream was bordered by forested uplands on both banks. (facing southeast; 4/21/2021)



Photograph 10: Overview of ephemeral Stream 2 as it flows into Wetland 1 at its western extent. The stream flows from a culvert within the action area. View is upstream. (facing west; 4/21/2021)



Photograph 11: Looking downstream at Stream 2 as it flows into Wetland 1 and dissipates. (facing east; 4/21/2021)



Photograph 12: Overview of the existing structure and parking area at the Chateau site. (facing southwest; 4/21/2021)



Photograph 13: Driveway entrance to the Chateau site off of McNair Drive. (facing north; 4/21/2021)



Photograph 14: Looking upslope at the portion of the action area along McNair Drive. (facing south; 4/21/2021)





Photograph 15: Overview of a typical residential property located within the action area of the Chateau site. (facing southwest; 4/21/2021)



Photograph 16: Existing access path to the Chateau wells from the driveway off of McNair Drive. (facing south; 4/21/2021)

APPENDIX C WETLAND FIELD DATA FORMS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chateau Well	City/County: Putnam	County	Sampling Date: 04/21/2021
Applicant/Owner: SUEZ Water NY			Sampling Point: SP-W1
Investigator(s): J.Arnold PWS 2736, C.Myers	Section, Township, Ra	nge: Town of Carmel	
Landform (hillslope, terrace, etc.): depression	Local relief (concave, con	vex, none): <u>concave</u>	
Subregion (LRR or MLRA): LRR R Lat: 4	1° 21' 25.264" N Lon	ng: <u>73° 44' 21.825" W</u>	Datum: NAD83
Soil Map Unit Name: Natchaug and Catden mucks, p			ation: PEM1/SS1Ed
Are climatic / hydrologic conditions on the site typical for the	nis time of year? Yes 🔀 No	(If no, explain in Re	emarks.)
			resent? Yes 🔀 No 🦲
Are Vegetation, Soil, or Hydrology	naturally problematic? (If ne	eeded, explain any answer	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing sampling point I	ocations, transects	, important features, etc.
Hydric Soil Present? Yes	No Is the Sampled within a Wetlan No If yes, optional v		
Wetland 1 is palustrine emergent (PEI	M) wetland.		
HYDROLOGY			
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check al	Il that apply)	_	tors (minimum of two required)
	ater-Stained Leaves (B9)	Surface Soil (
	juatic Fauna (B13)	Moss Trim Li	
	arl Deposits (B15)		Water Table (C2)
	drogen Sulfide Odor (C1)	Crayfish Burr	
	kidized Rhizospheres on Living Root		sible on Aerial Imagery (C9)
	esence of Reduced Iron (C4)		ressed Plants (D1)
	ecent Iron Reduction in Tilled Soils (
	in Muck Surface (C7)	Shallow Aqui	
	her (Explain in Remarks)	— · · ·	phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral	Test (D5)
Field Observations: Surface Water Present? Yes No	epth (inches): 0		
	repth (inches): <u>16</u>		
	· · · · · · · · · · · · · · · · · · ·	etland Hydrology Presen	t? Yes X No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well	, aerial photos, previous inspections	s), if available:	
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:		
Acer rubrum	<u>% Cover</u> 10	Y	FAC	Number of Dominant Species		
				That Are OBL, FACW, or FAC: <u>3</u> (A)		
2				Total Number of Dominant		
3				Species Across All Strata: <u>3</u> (B)		
4				Percent of Dominant Species		
5				That Are OBL, FACW, or FAC: 100.00 (A/B)		
6						
				Prevalence Index worksheet:		
7	10			Total % Cover of: Multiply by:		
451	10	= Total Cov	/er	OBL species $x = 0$		
Sapling/Shrub Stratum (Plot size: 15')				FACW species $x = \frac{0}{0}$		
_{1.} Rosa palustris	10	Υ	OBL	FAC species $x_3 = \frac{0}{0}$		
2				FACU species $x 4 = 0$		
3				UPL species $x = 0$		
4				Column Totals: 0 (A) 0 (B)		
				Prevalence Index = B/A =		
5						
6				Hydrophytic Vegetation Indicators:		
7				Rapid Test for Hydrophytic Vegetation		
	10	= Total Cov	/er	Dominance Test is >50%		
Herb Stratum (Plot size: 5')				Prevalence Index is $\leq 3.0^{1}$		
Lemna minor	10	Ν	OBL	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
2. Phragmites australis	50	Y	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)		
3. Typha angustifolia	5	N	OBL			
				¹ Indicators of hydric soil and wetland hydrology must		
4. Carex stricta	5	N	OBL	_ be present, unless disturbed or problematic.		
_{5.} Filipendula ulmaria	5	Ν	FAC	Definitions of Vegetation Strata:		
6				_		
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
9						
10				Herb – All herbaceous (non-woody) plants, regardless		
11				of size, and woody plants less than 3.28 ft tall.		
12				Woody vines – All woody vines greater than 3.28 ft in		
	75	= Total Cov	/er	height.		
Woody Vine Stratum (Plot size:)						
1.						
	·					
2						
3				Hydrophytic		
4				Vegetation Present? Yes X No		
	0	= Total Cov	/er			
Remarks: (Include photo numbers here or on a separate	sheet.)					

SUIL

Profile Desc	ription: (Describe	to the de	pth needed to docun	nent the indica	tor or confirm	n the absence	of indicato	ors.)
Depth	Matrix	~ ~ ~		x Features	1. 2	- ·		
<u>(inches)</u> 0-6	Color (moist)	<u>%</u>	Color (moist)	<u>% Тур</u>	pe ¹ Loc ²	<u>Texture</u>	Libraria	Remarks
	10YR 2/1	100		·		Si	Fibrous	ROOIS
6-16	10YR 2/1	100				S		
				·				
		-		·				
						. <u> </u>		
				. <u> </u>				
		-		·				
						·		<u> </u>
		pletion, RM	I=Reduced Matrix, CS	S=Covered or C	oated Sand G			Pore Lining, M=Matrix.
Hydric Soil			_					matic Hydric Soils ³ :
Histosol			Polyvalue Belov		(LRR R,			(LRR K, L, MLRA 149B)
Histic Ep	bipedon (A2)		MLRA 149B)					ox (A16) (LRR K, L, R) or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Mucky M				Surface (S7)	
	d Layers (A5)		Loamy Gleyed I					Surface (S8) (LRR K, L)
	d Below Dark Surfac	ce (A11)	Depleted Matrix					(S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Sur				-	Masses (F12) (LRR K, L, R)
	Aucky Mineral (S1) Gleyed Matrix (S4)		Depleted Dark S					ain Soils (F19) (MLRA 149B) 6) (MLRA 144A, 145, 149B)
	Redox (S5)						arent Materi	
	Matrix (S6)							Surface (TF12)
X Dark Su	rface (S7) (LRR R, I	MLRA 149	B)			Other	(Explain in F	Remarks)
2								
	f hydrophytic vegeta Layer (if observed)		etland hydrology mus	it be present, ur	nless disturbed	d or problematio	C.	
		•						
Туре:						Hydric Soil	Dree ent?	Yes X No
	ches):					Hydric Soli	Present?	
Remarks: H	vdric soils we	ere met	by dark surfac	e				
	yano sono we		by dank bunde					

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chateau Well	City/County: Putnam County	Sampling Date: 04/21/2021
Applicant/Owner: SUEZ Water NY	State: <u>NY</u>	Sampling Point: SP-W1A
Investigator(s): J.Arnold PWS 2736, C.Myers	Section, Township, Range: Town of Carmel	
Landform (hillslope, terrace, etc.): depression Local Lat: 41° 21' 24.4	ocal relief (concave, convex, none): <u>concave</u>	Slope (%): 0-2
Subregion (LRR or MLRA): LRR R Lat: 41° 21' 24.4	15" N Long: 73° 44' 24.579" W	Datum: NAD83
Soil Map Unit Name: Catden muck, 0 to 2 percent slopes (Ce)	NWI classific	
Are climatic / hydrologic conditions on the site typical for this time of yo	ear? Yes 🔀 No 🦲 (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significantly	/ disturbed? Are "Normal Circumstances"	present? Yes 🗙 No 🦲
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes X No Remarks: (Explain alternative procedures here or in a separate reportion of the wetland is a palustrine fores	•	
HYDROLOGY		
Wetland Hydrology Indicators:	Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil	Cracks (B6)
Surface Water (A1) Water-Stained	Leaves (B9) Drainage Pa	tterns (B10)
High Water Table (A2)	(B13) 📃 Moss Trim L	ines (B16)
Saturation (A3) Marl Deposits		Water Table (C2)
Water Marks (B1)		
	· · · · · · · · · · · · · · · · · · ·	isible on Aerial Imagery (C9)
		tressed Plants (D1) Position (D2)
☐ Algal Mat of Clust (B4) ☐ Recent from R		
Inundation Visible on Aerial Imagery (B7)		aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral	
Field Observations:		
Surface Water Present? Yes No X Depth (inches		
Water Table Present? Yes No Depth (inches		
Saturation Present? Yes X No Depth (inches (includes capillary fringe)	b): 0 Wetland Hydrology Preser	nt? Yes X No
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if available:	
Remarks:		
Nomano.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. Salix discolor	30	Y	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>4</u> (B)
4				Percent of Dominant Species That Are OBL EACW, or EAC: 100.00 (A/B)
5				That Are OBL, FACW, or FAC: (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of:Multiply by:
	30	= Total Cov	/er	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)				FACW species x 2 =
1				FAC species $x 3 = \frac{0}{2}$
				FACU species x 4 =
2				UPL species x 5 =
3				Column Totals: 0 (A) 0 (B)
4				Prevalence Index = B/A =
5				
6				Hydrophytic Vegetation Indicators:
7	-			Rapid Test for Hydrophytic Vegetation
	0	= Total Cov	/er	Dominance Test is >50%
Herb Stratum (Plot size: 5')				Prevalence Index is $\leq 3.0^1$
1. Carex stricta	3	Ν	OBL	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Scirpus cyperinus	5	Y	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3 Onoclea sensibilis	10	Y	FACW	
4 Symplocarpus foetidus	5	Y	OBL	¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
12.	23	= Total Cov		height.
		= 10(a) COV	/ei	
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes X No
	0	= Total Cov	/er	
Remarks: (Include photo numbers here or on a separate	sheet.)			

SUIL

Profile Desc	ription: (Describe	to the dep	th needed to document the indicator or confirm	the absence	of indicators.)
Depth (inchoo)	Matrix Color (moist)	%	<u>Redox Features</u> Color (moist) % Type ¹ Loc ²	Taytura	Demerke
(inches) 0-6	10YR 2/1	100	<u>Color (moist)</u> <u>%</u> <u>Type¹</u> Loc ²	Texture Si	Remarks Organics and Detritus
———					
Hydric Soil Histosol Histic Ep Black Hi Hydroge Stratified Depleted Thick Da Sandy M	Indicators: (A1) bipedon (A2) stic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surfac ark Surface (A12) Mucky Mineral (S1)		Reduced Matrix, CS=Covered or Coated Sand Gra Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Mucky Mineral (F1) (LRR K, L) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Depleted Dark Surface (F7)	Indicators 2 cm M Coast 5 cm M Dark S Polyva Thin D Iron-M Piedm	Organics
	Bleyed Matrix (S4) Redox (S5)		Redox Depressions (F8)		Spodic (TA6) (MLRA 144A, 145, 149B) arent Material (F21)
Stripped	Matrix (S6)			Very S	hallow Dark Surface (TF12)
🔀 Dark Su	rface (S7) (LRR R, I	MLRA 149I	3)	Other	(Explain in Remarks)
	f hydrophytic vegeta L ayer (if observed)		etland hydrology must be present, unless disturbed	or problematio	2.
Type:		•			
	ches):			Hydric Soil	Present? Yes X No
Domarks			with dark surface indicator.		

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chateau Well	City/County: Putnam County Sampling Date: 04/21/2021
Applicant/Owner: SUEZ Water NY	State: NY Sampling Point: SP-W1B
Investigator(s): J.Arnold PWS 2736, C.Myers	Section, Township, Range: Town of Carmel
Landform (hillslope, terrace, etc.): depression	cal relief (concave, convex, none): concave Slope (%): 0-2
Subregion (LRR or MLRA): LRR R Lat: 41° 21' 25.3	Socal relief (concave, convex, none): concave Slope (%): 0-2 394" N Long: 73° 44' 24.760" W Datum: NAD83
Soil Map Unit Name: Catden muck, 0 to 2 percent slopes (Ce)	NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of y	ear? Yes 🔀 No 🦲 (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly	y disturbed? Are "Normal Circumstances" present? Yes 🔀 No 🦲
Are Vegetation, Soil, or Hydrology naturally p	roblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes X No Remarks: (Explain alternative procedures here or in a separate reportion of Wetland 1 was a palustrine for the second secon	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
Surface Water (A1)	
High Water Table (A2)	
X Saturation (A3) Marl Deposits	
Water Marks (B1) Hydrogen Sulf	ospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
	Reduced Iron (C4) Stunted or Stressed Plants (D1)
	eduction in Tilled Soils (C6) X Geomorphic Position (D2)
Iron Deposits (B5)	
Inundation Visible on Aerial Imagery (B7)	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches	s): <u>NA</u>
Water Table Present? Yes X No Depth (inches	
Saturation Present? Yes X No Depth (inches	s): 0 Wetland Hydrology Present? Yes X No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial phot	tos previous inspections) if available:
Describe Recorded Data (stream gauge, monitoring well, achar pro-	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. Salix discolor	15	Y	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)
2. Acer rubrum	20	Y	FAC	
3. Ulmus rubra	10	Y	FAC	Total Number of Dominant Species Across All Strata: 6 (B)
4 5				Percent of Dominant Species That Are OBL, FACW, or FAC: 83.33 (A/B)
6				Prevalence Index worksheet:
7	45			Total % Cover of: Multiply by:
15'	+0	= Total Cov	/er	OBL species $x 1 = 0$ FACW species $x 2 = 0$
Sapling/Shrub Stratum (Plot size: 15') 1 Rosa multiflora	5	V	FACU	FAC species $x 2 = 0$ FAC species $x 3 = 0$
		Y		FACU species $x 4 = \frac{0}{2}$
2				UPL species $x 5 = 0$
3				Column Totals: 0 (A) 0 (B)
4				
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				Rapid Test for Hydrophytic Vegetation
	5	= Total Cov	/er	Dominance Test is >50%
Herb Stratum (Plot size: 5')				Prevalence Index is $\leq 3.0^1$
1. Carex stricta	5	Y	OBL	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Symplocarpus foetidus	5	Y	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Poa pratensis	2	N	FACU	
4				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				
				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12	40			Woody vines – All woody vines greater than 3.28 ft in height.
	12	= Total Cov	/er	
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes X No
	0	= Total Cov	/er	
Remarks: (Include photo numbers here or on a separate s	sheet.)			1

SOIL

Depth	cription: (Describe Matrix	e to the de		ument the indicator or confi lox Features	irm the absence	of indicators.)
(inches)	Color (moist)	%	Color (moist)	<u>% Type¹ Loc²</u>	Texture	Remarks
0-14	10YR 2/1	100			Si	Fibrous Roots
14-16	2.5Y 3/1	95	10YR 3/6	5	SiS	
		pletion, RN	1=Reduced Matrix, C	CS=Covered or Coated Sand		cation: PL=Pore Lining, M=Matrix.
Black H Hydrogo Stratifie Deplete Thick D Sandy N Sandy G Sandy F Stripped Dark Su	I (A1) pipedon (A2) istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surfa ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) urface (S7) (LRR R,	MLRA 149	MLRA 1499 Thin Dark Sur Loamy Mucky Loamy Gleyed Depleted Matr Redox Dark S Depleted Dark Redox Depres	face (S9) (LRR R, MLRA 145 Mineral (F1) (LRR K, L) d Matrix (F2) rix (F3) urface (F6) s Surface (F7)	2 cm I Coast 5 cm I Dark S Polyva Thin I Iron-M Piedm Red P Very S Other	s for Problematic Hydric Soils ³ : Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B) Parent Material (F21) Shallow Dark Surface (TF12) (Explain in Remarks) c.
Restrictive Type: Depth (in	Layer (if observed):			Hydric Soi	I Present? Yes X No
Remarks:	lydric soil indi	cator w	vas met with d	lark surface.		

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Chateau Well	City/County: Putnam C	ounty	Sampling Date: 04/21/2021
Applicant/Owner: SUEZ Water NY		State: NY	Sampling Point: SP-U1
Investigator(s): J.Arnold PWS 2736, C.Myers	Section, Township, Ranç		
Landform (hillslope, terrace, etc.): terrace	Local relief (concave, conve	x, none): convex	Slope (%): 0-2
Subregion (LRR or MLRA): LRR R Lat: 41°	21' 23.865" N Long:	73° 44' 25.481" W	Datum: NAD83
Soil Map Unit Name: Catden muck, 0 to 2 percent slop		NWI classifica	ation:
Are climatic / hydrologic conditions on the site typical for this	time of year? Yes X No	(If no, explain in Re	emarks.)
		ormal Circumstances" p	resent? Yes X No
Are Vegetation, Soil, or Hydrology na	aturally problematic? (If nee	ded, explain any answer	s in Remarks.)
SUMMARY OF FINDINGS – Attach site map s	howing sampling point lo	cations transects	important features etc
		`	important louteroo, oto.
Hydrophytic Vegetation Present? Yes No	within a Wotland		
Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes No			
Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separation of the separation of		etland Site ID:	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicat	tors (minimum of two required)
Primary Indicators (minimum of one is required; check all the	iat apply)	Surface Soil (Cracks (B6)
	r-Stained Leaves (B9)	Drainage Pat	
	tic Fauna (B13)	Moss Trim Lir	
	Deposits (B15)		Vater Table (C2)
	ogen Sulfide Odor (C1)	(Ca) Crayfish Burr	
	zed Rhizospheres on Living Roots (ence of Reduced Iron (C4)	_	sible on Aerial Imagery (C9) ressed Plants (D1)
	nt Iron Reduction in Tilled Soils (C6		
	Muck Surface (C7)	Shallow Aquit	
	r (Explain in Remarks)		phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral	
Field Observations:			. ,
	th (inches): 0		
	th (inches): 0		
Saturation Present? Yes No Dep (includes capillary fringe)	th (inches): 0 Wetla	and Hydrology Presen	t? Yes No
Describe Recorded Data (stream gauge, monitoring well, a	erial photos, previous inspections),	if available:	
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute	Dominant Species?		Dominance Test worksheet:
1 Gleditsia triacanthos	<u>20</u>	Y	FAC	Number of Dominant Species
				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant Species Across All Strata: 5 (P)
3				Species Across All Strata: <u>5</u> (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 20.00 (A/B)
6				
7				Prevalence Index worksheet:
	20			Total % Cover of:Multiply by:OBL species 2 $x \ 1 = 2$
15'		= Total Cov	ver	
Sapling/Shrub Stratum (Plot size: 15')	20	V		FACW species $x 2 = 0$ FAC species 20 $x 3 = 60$
1. Rosa multiflora	20		FACU	FACU species $\frac{1}{87}$ $x 4 = \frac{348}{1}$
2. Elaeagnus umbellata	15	Y	UPL	$\begin{array}{c} \text{PACU Species} & \underline{15} \\ \text{UPL species} & \underline{15} \\ \text{x} 5 = \underline{75} \\ \end{array}$
3				Column Totals: 124 (A) 485 (B)
4				
5				Prevalence Index = $B/A = \frac{3.91}{2}$
				Hydrophytic Vegetation Indicators:
6				Rapid Test for Hydrophytic Vegetation
7				Dominance Test is >50%
	35	= Total Cov	ver	Prevalence Index is $\leq 3.0^1$
Herb Stratum (Plot size: 5')				Morphological Adaptations ¹ (Provide supporting
_{1.} Rosa multiflora	5	Ν	FACU	data in Remarks or on a separate sheet)
2. Plantago major	2	Ν	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Symplocarpus foetidus	2	Ν	OBL	
4 Alliaria petiolate	35	Y	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Petiolata indica	20	Y	FACU	
6. Solidago altissima	5	N	FACU	Definitions of Vegetation Strata:
				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
12.	69	= Total Cov		height.
			ei .	
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No
	0	= Total Cov	ver	
Remarks: (Include photo numbers here or on a separate :	sheet.)			
	·			

SO	L
----	---

Profile Desc	cription: (Describe	e to the de	pth needed to docu	ment the	indicato	or confirm	n the absence	of indicators.)
Depth	Matrix			ox Feature		. ,	·	
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-2	10YR 2/1	100					SL	
2-5	10YR 2/2	85	7.5YR 3/4	15	С	М	SL	
5-12	10YR 3/1	80	10YR 3/6	20	С	PL	SL	Gravel
<u> </u>								
					_			
		<u> </u>						
¹ Type: C=C	oncentration. D=De	pletion. RN	I=Reduced Matrix, C	S=Covere	ed or Coat	ed Sand G	rains. ² Lo	cation: PL=Pore Lining, M=Matrix.
Hydric Soil								for Problematic Hydric Soils ³ :
Histosol			Polyvalue Belo	w Surface	e (S8) (LR	RR,		Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)			,				Prairie Redox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)		Loamy Mucky					Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)
	d Layers (A5)		Loamy Gleyed			(, _/		alue Below Surface (S8) (LRR K, L)
	d Below Dark Surfac	ce (A11)	X Depleted Matri					oark Surface (S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Su					langanese Masses (F12) (LRR K, L, R)
	Aucky Mineral (S1) Gleyed Matrix (S4)		Redox Depress		-			ont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5)							arent Material (F21)
	l Matrix (S6)							Shallow Dark Surface (TF12)
Dark Su	rface (S7) (LRR R,	MLRA 149	B)				Other	(Explain in Remarks)
³ Indicators o	f hydrophytic vegeta	ation and v	etland hydrology mu	st be pres	ent, unles	s disturbed	d or problematio	С.
Restrictive	Layer (if observed)		,		.,			-
Type: Ro	ock							
	ches): <u>12+</u>						Hydric Soil	Present? Yes X No
Remarks:	vdric soils we	ere met	with depleted	matrix	. Bas	ed on th	ne proximi	ty to the wetland and the
	•		le within the w				•	.,
	0 0 1							

								SWNY PFAS Cor				
0	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names	Note: ?" stands for approximate estima
•		1	SWNY PFAS Compliance	384 days?	Wed 3/31/21	Mon 10/10/22		8%	Wed 3/31/21	NA		
~	-	2	D/B Contract Notice to Proceed	1 day	Mon 4/5/21	Mon 4/5/21		100%	Mon 4/5/21	Mon 4/5/21		
	-	3	Maintain Secure Project Website	365 days	Tue 4/6/21	Mon 9/19/22	2	0%	Tue 4/6/21	NA		
•	-	5	Design Phase	251 days?	Wed 3/31/21	Fri 4/1/22		23%	Wed 3/31/21	NA		
	-	54	Design Construction Services	345 days	Wed 3/31/21	Mon 8/15/22		0%	NA	NA		
•	-	62	Construction Phase	384 days	Wed 3/31/21	Mon 10/10/22		3%	Wed 3/31/21	NA		
	-	63	Administration	233 days	Wed 3/31/21	Tue 3/8/22		4%	Wed 3/31/21	NA		
3 🔶	-	133	Construction Phase	229 days	Mon 11/8/21	Mon 10/10/22	65,66,67,68,78,8	I3 0%	Mon 11/8/21	NA		
4	-	134	Survey-Establish Control	1 day	Mon 3/7/22	Mon 3/7/22	50	0%	Mon 3/7/22	NA		
5	-	135	Test Pit and Verify 6" OD for Tapping Sleeve	1 day	Mon 11/8/21	Mon 11/8/21	50	0%	NA	NA		
5	-	136	Mobilization	2 days	Mon 3/7/22	Tue 3/8/22	53	0%	Mon 3/7/22	NA		
7	-	137	Erosion Control	3 days	Wed 3/9/22	Fri 3/11/22	136	0%	NA	NA		
3	-	138	Site Clearing of Existing Trees/Brush	3 days	Mon 3/14/22	Wed 3/16/22	137	0%	NA	NA		
9	-	139	Strip Topsoil	3 days	Thu 3/17/22	Mon 3/21/22	138	0%	NA	NA		
D	-4	140	Site Grading	3 days	Tue 3/22/22	Thu 3/24/22	139	0%	NA	NA		
1	-4	141	Install fill	1 day	Fri 3/25/22	Fri 3/25/22	140	0%	NA	NA		
2	-4	142	Install Stone Base for Access Road	3 days	Fri 3/25/22	Tue 3/29/22	140	0%	NA	NA		
3	-4	143	Exterior Piping	116 days	Wed 4/6/22	Mon 9/19/22		0%	NA	NA		
4	-	144	Install 6" DIP Influent Piping into building including Tapping 6" Main	2 days	Wed 4/6/22	Thu 4/7/22	142,155FF+1 day,119,120	0%	NA	NA		
5	-	145		1 day	Fri 4/8/22	Fri 4/8/22	144	0%	NA	NA		
5	-	146		5 days	Fri 8/5/22	Thu 8/11/22	122,152	0%	NA	NA		
7	-	147	Chlorinate, Pressure Test and Flush/DOH Appr	10 days	Fri 9/2/22	Fri 9/16/22	175	0%	NA	NA		
3	-	148	Cut & Cap 6" Main After Tie In	1 day	Mon 9/19/22	Mon 9/19/22	147	0%	NA	NA		
9		149	Install 6' DIA Seepage Pit	1 day	Thu 6/23/22	Thu 6/23/22	153	0%	NA	NA		
0	-	150	Electric	84 days	Thu 4/7/22	Thu 8/4/22		0%	NA	NA		
1	-	151	Excavate and Install Underground Electric Feed into building	3 days	Thu 4/7/22	Mon 4/11/22	155	0%	NA	NA		
2	-	152	Install Electrical Appurtenances	30 days	Thu 6/23/22	Thu 8/4/22	166	0%	NA	NA		
3	-	153	Building/Superstructure	60 days	Wed 3/30/22	Wed 6/22/22		0%	NA	NA		
4	-	154	Excavate for Building Footings	1 day	Wed 3/30/22	Wed 3/30/22	142	0%	NA	NA		
5	-	155	Form, Install Rebar and Pour Footings for Build	5 days	Thu 3/31/22	Wed 4/6/22	154	0%	NA	NA		
5	-	156	Form, Install Rebar and Pour Foundation Wall for Building	5 days	Tue 4/12/22	Mon 4/18/22	155,151,145	0%	NA	NA		
7	-	157	Form, Install Rebar and Pour Foundation Wall with Integral Piers for Building	6 days	Tue 4/19/22	Tue 4/26/22	156	0%	NA	NA		
3	-4	158	Backfill Footings	1 day	Wed 4/27/22	Wed 4/27/22	157	0%	NA	NA		
9	-	159	Install GAC Equipment Pad	4 days	Thu 4/28/22	Tue 5/3/22	158	0%	NA	NA		
D	-4	160		3 days		Fri 5/6/22	159	0%	NA	NA		
1	-4	161	Install Stone Base for Slab on Grade	1 day	Mon 5/9/22	Mon 5/9/22	160	0%	NA	NA		
2	-4	162	Install Slab on Grade	5 days	Tue 5/10/22	Mon 5/16/22	161	0%	NA	NA		
3	-4	163	Sawcut Control Joints	1 day	Tue 5/17/22	Tue 5/17/22	162	0%	NA	NA		
4	-	164	Install Equipment Pads- Form, Rebar, Pour, Strip and Rub	3 days	Wed 5/18/22	Fri 5/20/22	163	0%	NA	NA		
5	-4	165	Install Filter Pads- Form, Rebar, Pour, Strip and	3 days	Mon 5/23/22	Wed 5/25/22	164	0%	NA	NA		
5	-	166	Installation of Pre-Engineered Building	25 days	Wed 5/18/22	Wed 6/22/22	163	0%	NA	NA		
7		167		4 days	Thu 6/23/22			0%	NA	NA		
3	-	168	Install Piping for Sodium Hypo and Phosphoric	4 days	Thu 6/23/22	Tue 6/28/22	166	0%	NA	NA		
9	-	169	Treatment Equipment	20 days	Thu 6/9/22	Thu 7/7/22		0%	NA	NA		
0		170	Install 8' DIA GAC Equipment	2 days	Thu 6/9/22	Fri 6/10/22	166FS-10 days	0%	NA	NA		
1	-	171	Install Filters	1 day		Thu 6/23/22	166,170	0%	NA	NA		

								SWNY PFAS Pro	ject F-Chateau		
D ()	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names
172	-4	172	Install Influent, Effluent and Wastewater Flanged Piping	7 days	Thu 6/23/22	Fri 7/1/22	166,170	0%	NA	NA	
73	-4	173	Install Pipe Supports	3 days	Tue 7/5/22	Thu 7/7/22	172	0%	NA	NA	
74		174	Instrumentation	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
75		175	Install Instrumentation Appurtenances	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
76		176	Building HVAC Work	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
77	-	177	Install HVAC	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
78		178	Painting/Coating	5 days	Fri 7/8/22	Thu 7/14/22		0%	NA	NA	
179	-	179	Paint Interior Piping	5 days	Fri 7/8/22	Thu 7/14/22	169	0%	NA	NA	
80		180	Site Work	15 days	Fri 7/8/22	Thu 7/28/22		0%	NA	NA	
81		181	Install Site Civil-Gravel Turnaround and Landsc	15 days	Fri 7/8/22	Thu 7/28/22	173	0%	NA	NA	
82	-	182	Start Up and Testing	10 days	Mon 9/19/22	Fri 9/30/22		0%	NA	NA	
83		183	Start up and Test Equipment and Instrumentat	10 days	Mon 9/19/22	Fri 9/30/22	147,152	0%	NA	NA	
84	-	184	Substantial Completion	1 day	Mon 10/3/22	Mon 10/3/22	182	0%	NA	NA	
85		185	DOH Review and Approval	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
86		186	In Service	0 days	Mon 10/10/22	Mon 10/10/22	185	0%	NA	NA	
87	-	187	Demobilization	5 days	Tue 10/4/22	Mon 10/10/22		0%	NA	NA	
88		188	Cleanup/Demobilization	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
89	-	189	Final Completion	0 days	Mon 10/10/22	Mon 10/10/22	188,186	0%	NA	NA	

Page 2 of 2

ATZL, NASHER & ZIGLER P.C.

ENGINEERS-SURVEYORS-PLANNERS 232 North Main Street New City, NY 10956 Tel: (845) 634-4694 Fax: (845) 634-5543

4. The hydrology and the hydraulics study for this project have been undertaken to examine the pre and post construction drainage conditions. The study provides the impact of the proposed impervious area to the drainage system. To attenuate the post-development peak flow to predevelopment peak flow we are proposing a rain garden system. The rain garden system is design per NYSDEC's stormwater management design manual. The drainage system consists of pipes, stone outlet, stone spillway, and a rain garden system. The system it's an above ground practice and is design to store 646 cu.ft. The ponding depth of the system is 6 inches and in order to address the overflow a stone spillway has been proposed. In addition, a list of the approved rain garden landscaping has been provided. Please refer to the site plan (dwg. no 1) and the grading plan (dwg. no 3).

5. The erosion and sediment control measures to be used on the site during the proposed work include silt fences and a construction entrance. In addition, disturbed portions of the site where construction activities permanently cease shall be stabilized no later than 14 days after the last construction activity. The Erosion and Sediment Control (E&SC) Plan is prepared per NYS Standards and Specifications for Erosion and Sediment Control. Please refer to the erosion and sediment control plan (dwg. no 4).

6. Stormwater runoff generated by the proposed site improvement will be routed to the rain garden system in order to provide zero net increase of peak runoff. The rain garden system is design to provide peak flow attenuation up to 100-year storm peak runoff. The rain garden system is design per NYSDEC's stormwater management design manual.

Ramya Ramanathan

From:	Liskovich, Sophia Z. <sliskovich@gfnet.com></sliskovich@gfnet.com>
Sent:	Thursday, January 27, 2022 9:27 AM
То:	Ramya Ramanathan
Subject:	FW: 3-3720-00470/00001 > Chateau Well

DEC's comments on Chateau

Sophia Liskovich, PE | Project Manager Gannett Fleming, Inc. | 7133 Rutherford Road t 410-907-2682 | c 856-296-3636 | sliskovich@gfnet.com

From: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Sent: Friday, November 12, 2021 10:52 AM
To: Arnold, Jillian N. <jarnold@GFNET.com>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>; Devine, Alysse (DEC)
<Alysse.Devine@dec.ny.gov>
Subject: RE: 3-3720-00470/00001 > Chateau Well

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Jillian,

The technical review is complete and program staff had the following comments.

- It is unclear what the width of the gravel driveway is. The driveway should be the minimum width necessary.
- Is it possible to plant some shrubs behind the PFAS building and gravel drive to act as a small buffer to the wetland?

Please let me know if you have any questions.

Alysse Devine

Environmental Analyst, Division of Environmental Permits New York State Department of Environmental Conservation 21 South Putt Corners Rd, New Paltz, NY 12561 P: (845) 240-7806 | alysse.devine@dec.ny.gov

P: (845) 240-7806 | <u>alysse.devine@dec.ny.gc</u>

www.dec.ny.gov | 🕌 | 💟 | 🧐



Department of Environmental Conservation

From: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>>
Sent: Friday, October 8, 2021 3:10 PM
To: Devine, Alysse (DEC) <<u>Alysse.Devine@dec.ny.gov</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>; Liskovich, Sophia Z. <<u>sliskovich@GFNET.com</u>>
Subject: RE: 3-3720-00470/00001 > Chateau Well

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Alysse,

The long forms were completed. They are attached to this email. Please let me know if these are not sufficient.

Thanks, Jillian

From: Devine, Alysse (DEC) <<u>Alysse.Devine@dec.ny.gov</u>>
Sent: Friday, October 8, 2021 2:05 PM
To: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>; Liskovich, Sophia Z. <<u>sliskovich@GFNET.com</u>>; Devine, Alysse (DEC)
<<u>Alysse.Devine@dec.ny.gov</u>>
Subject: 3-3720-00470/00001 > Chateau Well

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Good Afternoon,

Could you please provide the Short Environmental Assessment Form Part I?

Alysse Devine

Environmental Analyst, Division of Environmental Permits **New York State Department of Environmental Conservation** 21 South Putt Corners Rd, New Paltz, NY 12561 P: (845) 240-7806 | <u>alysse.devine@dec.ny.gov</u>

www.dec.ny.gov | 📭 | 💟 | 🮯



From: Devine, Alysse (DEC)
Sent: Wednesday, October 6, 2021 3:00 PM
To: 'Arnold, Jillian N.' <<u>jarnold@GFNET.com</u>>
Cc: dec.sm.DEP.R3 <<u>DEP.R3@dec.ny.gov</u>>; Petronella, John W (DEC) <<u>john.petronella@dec.ny.gov</u>>; Pawliczak, Sarah
A (DEC) <<u>sarah.pawliczak@dec.ny.gov</u>>; 'Smith, Steven C.' <<u>scsmith@GFNET.com</u>>; 'Liskovich, Sophia Z.'
<<u>sliskovich@GFNET.com</u>>; Devine, Alysse (DEC) <<u>Alysse.Devine@dec.ny.gov</u>>
Subject: RE: SUEZ Joint Permit Applications for Archer, London Bridge and Chateau

Good Afternoon,

I was able to access the files. These applications have been received and assigned the following DEC IDs:

Archer Well – 3-3720-00471/00001 London Bridge Well – 3-3720-00469/00001 Chateau Well – 3-3720-00470/00001

We will review the documents and let you know if we have any questions moving forward.

Alysse Devine

Environmental Analyst, Division of Environmental Permits New York State Department of Environmental Conservation 21 South Putt Corners Rd, New Paltz, NY 12561

P: (845) 240-7806 | <u>alysse.devine@dec.ny.gov</u>



NEW YORK STATE Environmental Conservation

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Wednesday, October 6, 2021 2:36 PM
To: dec.sm.DEP.R3 <<u>DEP.R3@dec.ny.gov</u>>; Devine, Alysse (DEC) <<u>Alysse.Devine@dec.ny.gov</u>>
Cc: Petronella, John W (DEC) <<u>john.petronella@dec.ny.gov</u>>; Pawliczak, Sarah A (DEC)
<<u>Sarah.Pawliczak@dec.ny.gov</u>>; Smith, Steven C. <<u>scsmith@GFNET.com</u>>; Liskovich, Sophia Z.<<<u>sliskovich@GFNET.com</u>>

Subject: SUEZ Joint Permit Applications for Archer, London Bridge and Chateau

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Good afternoon,

I copied everyone from the email sent to Steve Smith requesting the electronic versions of the Archer, Chateau and London Bridge Joint Permit Applications. I sent this link to the regional email address and hope that is not too redundant or causes confusion.

The file sizes on each pdf is large making emailing cumbersome. Here is the link to download the 3 Joint Permit Applications.

Download Link: SUEZ - Archer, Chateau and London Bridge JPA Packages

Please let me know if there are any restrictions with accessing the link above. Any additional questions, please do not hesitate to let us know.

Thank you, Jill Jillian Arnold, PWS | Senior Environmental Scientist Gannett Fleming | 207 Senate Avenue, Camp Hill, PA 17011 t 717.886.5402 | c 717.422.6229 | jarnold@gfnet.com Excellence Delivered As Promised Gannett Fleming is ISO 9001:2008 Certified. www.gannettfleming.com | Stay connected: <u>Twitter | Facebook | LinkedIn | YouTube</u>

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Liskovich, Sophia Z.

From:	Orzel, Brian A CIV USARMY CENAN (USA) <brian.a.orzel@usace.army.mil></brian.a.orzel@usace.army.mil>
Sent:	Monday, January 10, 2022 12:24 PM
То:	Arnold, Jillian N.
Cc:	Smith, Steven C.; Liskovich, Sophia Z.
Subject:	RE: Submission of Suez Water Permit Applications
Attachments:	NWP Regulations FR 06JAN17.pdf; PN-LRB NAN Final Regional Conditions WQC CZM for NY (dated
	21-MAR-2017).pdf

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Jillian,

We received the pre-construction notification for NWP 3 for the above referenced project on November 16, 2021.

Due to my excessive work load, I was unable to provide a written determination within 45 days of its submission.

In accordance with the current nationwide general permit regulations (Federal Register dated January 6, 2017, pages 1860 to 2008), if the Corps of Engineers district does not respond to a pre-construction notification within 45 days of receipt, then the applicant may proceed with the project as proposed.

That means that the applicant must perform the work as proposed in your pre-construction notification. Any substantive changes to the project would require the applicant to submit a new notification to this office.

If you have any questions, let me know.

Brian

Brian A. Orzel Project Manager, Civil Engineer NY District US Army Corps of Engineers Regulatory Branch 26 Federal Plaza, Room 16-406 New York, New York 10278-0090

Please note in order to ensure our continuity of operations and improve the timeliness of permit application reviews due to the current COVID-19 virus, effective immediately, the New York District, U.S. Army Corps of Engineers is requiring that all new permit applications be submitted to the New York District electronically. Until further notice, the New York District will no longer process any paper permit applications. This electronic processing procedure will increase the efficiency of correspondence, furthering the goal of providing timely decisions. Please see the link below to the Regulatory Branch Operational Modification Special Public Notice describing the instructions for electronic application submittals:

https://www.nan.usace.army.mil/Portals/37/docs/regulatory/publicnotices/Non%20Project%20Specific/2020/CENAN-OP-R%20PN%20Electronic%20Submission%20of%20Permit%20Applications%2027MAR2020.pdf?ver=2020-03-31-163215-913.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, December 13, 2021 1:04 PM
To: Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Brian,

I wanted to touch base to you on the Suez projects in Putnam County. Have you been able to determine of the 5 projects (Archer, Chateau, Geymer, London Bridge and Mahopac) what nationwide permit these projects might fall under? NY DEC is currently waiting USACE's determination of the NWP in order to finalize the state permits.

Thank you very much for your time, we appreciate it!

Jillian

From: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Sent: Monday, November 15, 2021 10:24 AM
To: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>; Orzel, Brian A CIV USARMY CENAN (USA) <<u>Brian.A.Orzel@usace.army.mil</u>>
Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Ms. Arnold,

I have provided the Suez Water permit applications to Mr. Brian Orzel, copied on the email, who is the area project manager for Putnam County. If he has any questions on the submittal, he'll contact you.

R/ Rosie

ROSITA MIRANDA Chief, Western Section Regulatory Branch USACE, New York District Mobile: 347-446-0359

https://www.nan.usace.army.mil/Missions/Regulatory/

EFFECTIVE IMMEADIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: <u>CENAN-R-Permit-App@usace.army.mil</u>.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, November 8, 2021 12:42 PM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Good afternoon, I am following up with this email (below) from the 29th. I tried to submit the files to the site that was in the email from the 28th. However, It requested a code when I clicked the location. I know that USACE has not started reviewing these permits, and I am concerned about timeline for construction. Please let me know how I can get USACE the permits that need to be reviewed.

Thank you, Jillian

From: Arnold, Jillian N.
Sent: Friday, October 29, 2021 7:49 AM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>
Subject: RE: Submission of Suez Water Permit Applications

Good morning Rosie,

I am happy to drop off the files for Suez to the site listed in your email, however, it is asking for a request code? Are you able to send me a drop off request? I have never delivered information to USACE this way. Sorry for all of the questions.

Thank you, Jillian

From: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>> Sent: Thursday, October 28, 2021 3:12 PM To: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>> Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please provide the town and county so we can direct your inquiry to the right permit section.

Please use - https://safe.apps.mil/ for file transfer.

R/ Rosie

ROSITA MIRANDA Chief, Western Section Regulatory Branch USACE, New York District Mobile: 347-446-0359 https://www.nan.usace.army.mil/Missions/Regulatory/

EFFECTIVE IMMEADIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: <u>CENAN-R-Permit-App@usace.army.mil</u>.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Thursday, October 28, 2021 12:12 PM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Could you please tell me how to submit packages to the FTP site? I have not received a response if you received the SUEZ packages for review. I do not want to lose too much time as NYSDEC is review these packages at this time.

Thank you very much for your help! Jillian

From: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>> Sent: Tuesday, October 12, 2021 4:54 PM To: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>> Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please note that you have to use DOD Safe as the ftp site for large files.

What Town and County is this project in?

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Friday, October 8, 2021 1:02 PM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>; Liskovich, Sophia Z. <<u>sliskovich@GFNET.com</u>>
Subject: [Non-DoD Source] Submission of Suez Water Permit Applications

Good afternoon,

Please find the electronic versions of the Archer, Chateau and London Bridge Joint Permit Applications for SUEZ Water NY. These applications have been sent to NYSDEC for Joint Permit approvals. Below are the list of DEC IDs for these applications:

- Archer Well 3-3720-00471/00001
- London Bridge Well 3-3720-00469/00001
- Chateau Well 3-3720-00470/00001

The file sizes on each pdf is large making emailing cumbersome. Here is the link to download the 3 Joint Permit Applications.

Download Link: <u>SUEZ - Archer, Chateau and London Bridge JPA Packages</u>

Please let me know if there are any restrictions with accessing the link above.

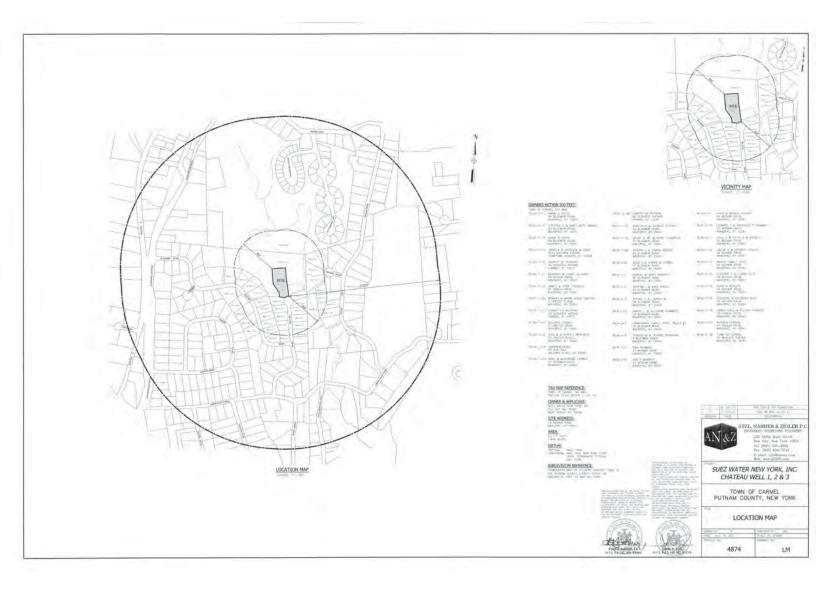
Any additional questions, please do not hesitate to let us know.

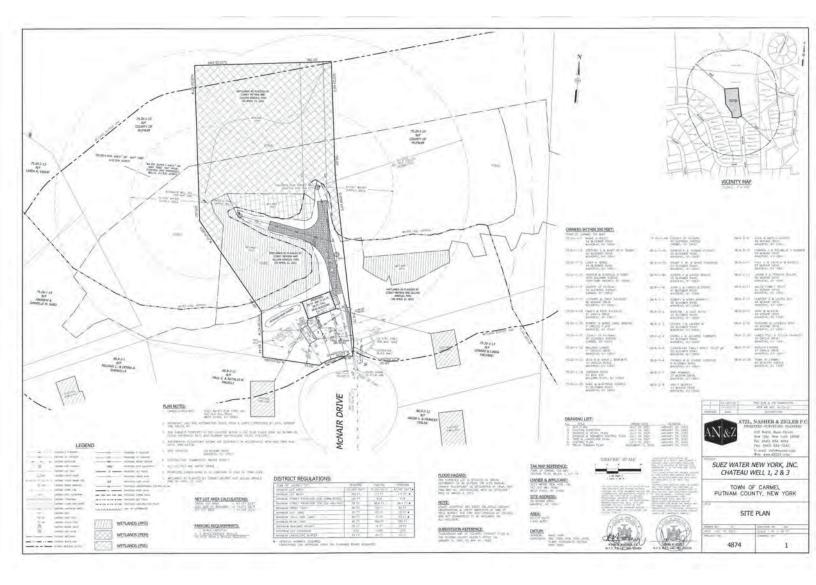
Thank you, Jill

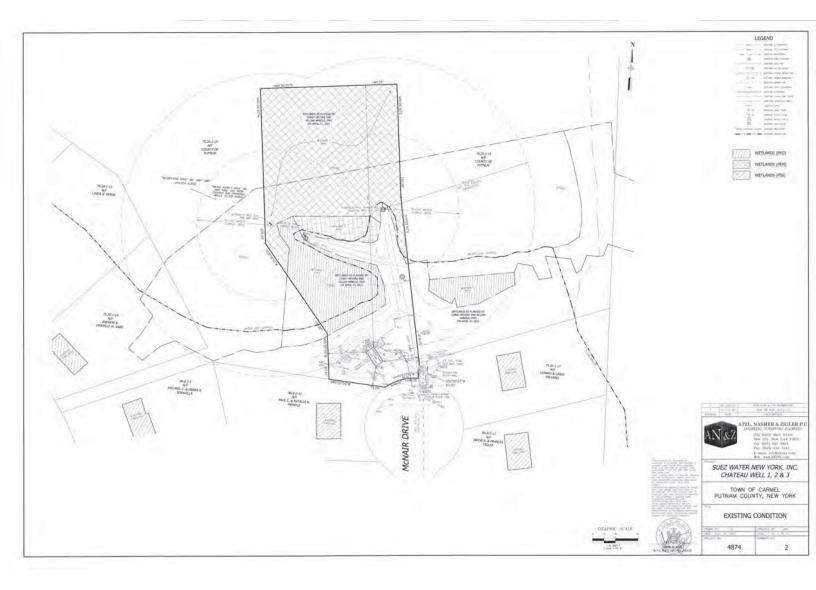
Jillian Arnold, PWS | Senior Environmental Scientist Gannett Fleming | 207 Senate Avenue, Camp Hill, PA 17011 t 717.886.5402 | c 717.422.6229 | jarnold@gfnet.com Excellence Delivered As Promised Gannett Fleming is ISO 9001:2008 Certified. www.gannettfleming.com | Stay connected: Twitter | Facebook | LinkedIn | YouTube

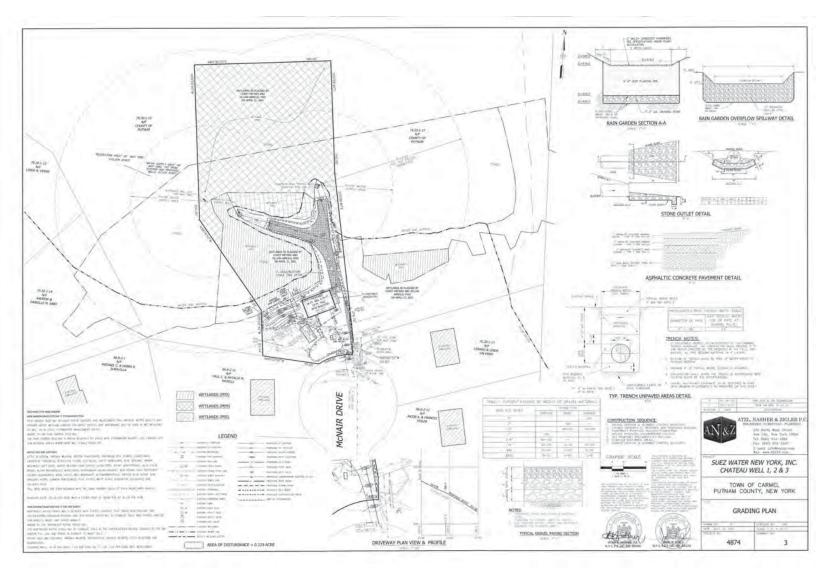
PRINTING SUSTAINABILITY STATEMENT: Gannett Fleming is committed to conserving natural resources and minimizing adverse environmental impacts in projects. Accordingly, project documentation will be provided in electronic format only unless clients specifically request hard copies. Visit our <u>website</u> to read more about our sustainability commitment.

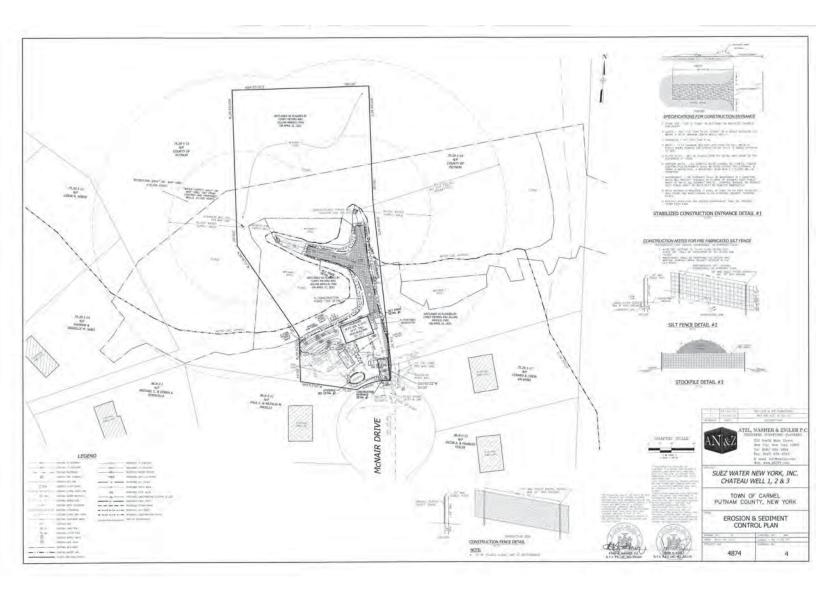
CONFIDENTIALITY NOTICE: This email and any attachments may contain confidential information for the use of the named addressee. If you are not the intended recipient, you are hereby notified that you have received this communication in error and that any review, disclosure, dissemination, distribution or copying of it or its contents is prohibited.

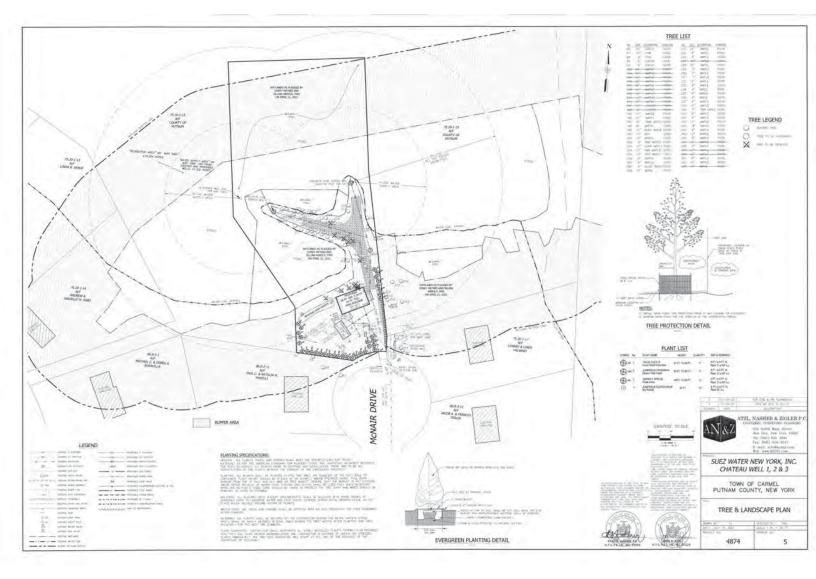


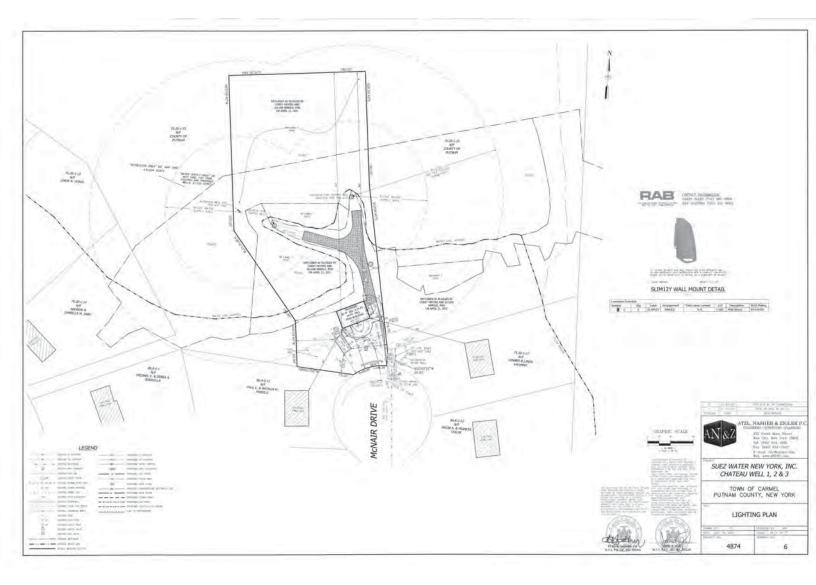


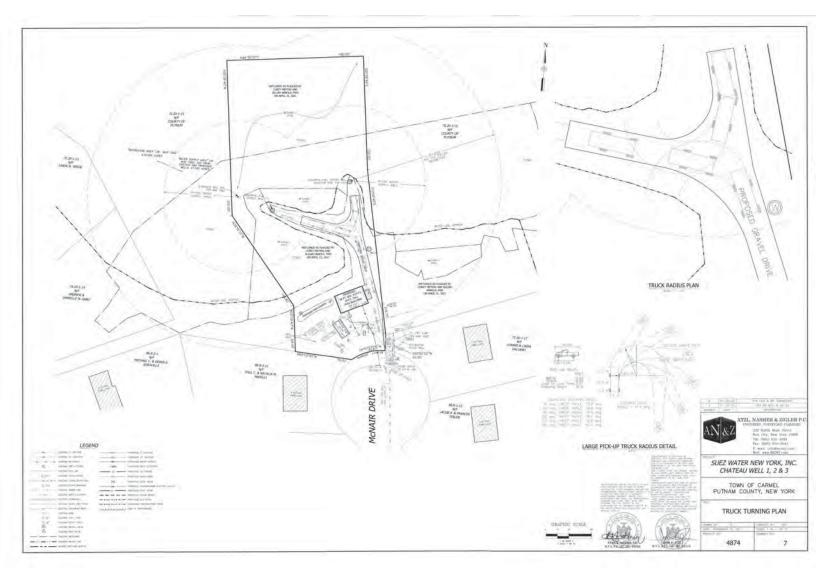












ROBERT LAGA Chairman

NICHOLAS FANNIN Vice Chairman

RICHARD FRANZETTI Wetland Inspector

ROSE TROMBETTA Secretary

TOWN OF CARMEL ENVIRONMENTAL CONSERVATION BOARD

BOARD MEMBERS

Edward Barnett Anthony Federice Nicole Sedran

60 McAlpin Avenue Mahopac, New York 10541 Tel. (845) 628-1500 - Ext. 190 www.ci.carmel.ny.us

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

Name of Applicant: SUEZ Water New York, Inc.

Address of Applicant: 162 Old Mill Road, West Nyack, NY 10994 Email: steven.garabed@suez.com

Name and Address of Owner if different from Applicant: 845-620-3319 Telephone#_

APPLICANT IS THE SAME AS OWNER

Property Address: Coventry Circle, Mahopac, NY 10541 Tax Map # 75.20-2-68

Agency Submitting Application if Applicable: Atzl, Nasher & Zigler, P.C.

Location of Wetland: Shown on Site Plan

Size of Work Section & Specific Location: See attached description. Will Project Utilize State Owned Lands? If Yes, Specify:_No.

Type and extent of work (feet of new channel, yards of material to be removed, draining, dredging, filling, etc). A brief description of the regulated activity (attach supporting details).

See attached description.

Proposed Start Date MRGH 2022 Anticipated Completion Date: October 2022 Fee Paid \$ 1,000 *****

CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief, false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. As a condition to the issuance of a permit, the applicant accepts full legal responsibility for all damage, direct or indirect, or whatever nature, and by whomever suffered, arising out of the project described here-in and agrees to indemnify and save harmless the Town of Carmel from suits, actions, damages and costs of every name and description resulting from the said project.

SIGNATURE

1-26-22 DATE

Note: The Long EAF Part 1 was accepted by the Planning Board in September 2021. *Full Environmental Assessment Form* The project is classified as a Type II Action. *Part 1 - Project and Setting*

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 1 is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project:		
Project Location (describe, and attach a general location map):		
Brief Description of Proposed Action (include purpose or need):		
Name of Applicant/Sponsor:	Telephone:	
	E-Mail:	
Address:		
City/PO:	State:	Zip Code:
Project Contact (if not same as sponsor; give name and title/role):	Telephone:	1
	E-Mail:	
Address:		
City/PO:	State:	Zip Code:
		1
Property Owner (if not same as sponsor):	Telephone:	
	E-Mail:	
Address:		
City/PO:	State:	Zip Code:
	I	Į

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship.	("Funding"	'includes grants,	loans, ta:	x relief, a	and any o	ther forms	of financial
assistance.)							

Government	Entity	If Yes: Identify Agency and Approval(s) Required		ation Date r projected)
a. City Counsel, Town Boa or Village Board of Trus				
b. City, Town or Village Planning Board or Comm	□ Yes □ No nission			
c. City, Town or Village Zoning Board of	□ Yes □ No Appeals			
d. Other local agencies	\Box Yes \Box No			
e. County agencies	\Box Yes \Box No			
f. Regional agencies	□ Yes □ No			
g. State agencies	\Box Yes \Box No			
h. Federal agencies	\Box Yes \Box No			
i. Coastal Resources.<i>i</i>. Is the project site with	nin a Coastal Area, c	or the waterfront area of a Designated Inland Wate	erway?	□ Yes □ No
<i>ii</i> . Is the project site loca <i>iii</i> . Is the project site with		with an approved Local Waterfront Revitalization Hazard Area?	n Program?	□ Yes □ No □ 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? 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 	□ Yes □ No
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?) If Yes, identify the plan(s): 	□ Yes □ No
 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. If Yes, what is the zoning classification(s) including any applicable overlay district?	□ Yes □ No
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?If Yes,<i>i</i>. What is the proposed new zoning for the site?	□ Yes □ No
C.4. Existing community services.	
a. In what school district is the project site located?	
b. What police or other public protection forces serve the project site?	

d. What parks serve the project site?

D. Project Details

D.1. Proposed and Potential Development

c. Which fire protection and emergency medical services serve the project site?

a. What is the general nature of the proposed action (e.g., residential, industrial components)?	l, commercial, recreational; if mixed, include all
b. a. Total acreage of the site of the proposed action?	acres
b. Total acreage to be physically disturbed?	acres
c. Total acreage (project site and any contiguous properties) owned	
or controlled by the applicant or project sponsor?	acres
c. Is the proposed action an expansion of an existing project or use? **	\Box Yes \Box No
<i>i</i> . If Yes, what is the approximate percentage of the proposed expansion and square feet)? % Units:	identify the units (e.g., acres, miles, housing units,
d. Is the proposed action a subdivision, or does it include a subdivision?	\Box Yes \Box No
If Yes,	
<i>i</i> . Purpose or type of subdivision? (e.g., residential, industrial, commercial; if	Emixed, specify types)
<i>ii.</i> Is a cluster/conservation layout proposed?	\Box Yes \Box No
iii. Number of lots proposed?	
<i>iv.</i> Minimum and maximum proposed lot sizes? Minimum Max	ximum
e. Will the proposed action be constructed in multiple phases?	\Box Yes \Box No
<i>i</i> . If No, anticipated period of construction:	months
<i>ii</i> . If Yes:	
 Total number of phases anticipated 	
• Anticipated commencement date of phase 1 (including demolition)	month year
 Anticipated completion date of final phase 	monthyear
Generally describe connections or relationships among phases, includ determine timing or duration of future phases:	ing any contingencies where progress of one phase may

* Calculation: [Proposed building expansion (sq ft)/ Existing building (sq ft)] X 100 (1,305 sq. ft. proposed building /456 sq. ft. existing building) X 100

	t include new resid				□ Yes □ No
If Yes, show num	bers of units propo				
	One Family	<u>Two Family</u>	Three Family	Multiple Family (four or more)	
Initial Phase					
At completion					
of all phases					
a Dees the prope	and nation include	now non residentia	ll construction (inclu	ding avanaions)?	□ Yes □ No
If Yes,	seu action menude	new non-residentia	ii constituction (met	iding expansions):	
<i>i</i> . Total number	of structures				
<i>ii.</i> Dimensions (in feet) of largest p	roposed structure:	height;	width; andlength	
iii. Approximate	extent of building	space to be heated	or cooled:	square feet	
				l result in the impoundment of any	□ Yes □ No
				agoon or other storage?	
If Yes,			1		
<i>i</i> . Purpose of the	impoundment:			□ Ground water □ Surface water stream	
<i>ii</i> . If a water imp	oundment, the prin	cipal source of the	water:	□ Ground water □ Surface water stream	ms \Box Other specify:
<i>iii</i> . If other than w	vater, identify the ty	ype of impounded/o	contained liquids and	d their source.	
iv. Approximate	size of the propose	d impoundment.	Volume:	million gallons: surface area:	acres
v. Dimensions o	f the proposed dam	or impounding str	ucture:	million gallons; surface area: height; length	
vi. Construction	method/materials	for the proposed da	m or impounding st	ructure (e.g., earth fill, rock, wood, cond	crete):
D.2. Project Op	erations				
				uring construction, operations, or both?	\Box Yes \Box No
		ation, grading or in	stallation of utilities	or foundations where all excavated	
materials will r	emain onsite)				
If Yes:	C .1	. 1 1 . 0			
i. What is the pu	rpose of the excave	ation or dredging?	1 d	o be removed from the site?	
<i>ii.</i> How much ma	(analify tong on av	ck, earth, sediments	s, etc.) is proposed t	o be removed from the site?	
	at dynation of times	0			
• Over wh	re and characteristi	: cs of materials to b	e excavated or dred	ged, and plans to use, manage or dispos	e of them
				sea, and plans to use, manage of alspos	
iv Will there be	onsite dewatering	or processing of ex	cavated materials?		□ Yes □ No
v. What is the to	tal area to be dredg	ged or excavated?	time?	acres	
<i>vi.</i> What is the life	aximum area to be	worked at any one of exception of	unie:	acres	
	vation require blas		n dreuging:	leet	□ Yes □ No
b. Would the prop	oosed action cause	or result in alteration	on of, increase or de	crease in size of, or encroachment	□ Yes □ No
into any existi			ch or adjacent area?		
If Yes:					
				vater index number, wetland map numb	
description):					

<i>i</i> . Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placem alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in sq	
<i>ii.</i> Will the proposed action cause or result in disturbance to bottom sediments? If Yes, describe:	Yes □ No
<i>v</i> . Will the proposed action cause or result in the destruction or removal of aquatic vegetation?	\Box Yes \Box No
If Yes:	
 acres of aquatic vegetation proposed to be removed:	
 expected acteage of aquate 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):	
Describe any proposed reclamation/mitigation following disturbance:	
Will the proposed action use, or create a new demand for water?	□ Yes □ No
Yes:	
<i>i</i> . Total anticipated water usage/demand per day: gallons/day	
<i>i</i> . Will the proposed action obtain water from an existing public water supply?	\Box Yes \Box No
Yes:	
Name of district or service area:	
• Does the existing public water supply have capacity to serve the proposal?	\Box Yes \Box No
• Is the project site in the existing district?	\Box Yes \Box No
• Is expansion of the district needed?	\Box Yes \Box No
• Do existing lines serve the project site?	\Box Yes \Box No
<i>ii.</i> Will line extension within an existing district be necessary to supply the project?	\Box Yes \Box No
 Yes: Describe extensions or capacity expansions proposed to serve this project:	
• Source(s) of supply for the district:	
<i>v</i> . Is a new water supply district or service area proposed to be formed to serve the project site? , Yes:	□ Yes □ No
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:	
<i>i</i> . If water supply will be from wells (public or private), what is the maximum pumping capacity:	gallons/minute.
Will the proposed action generate liquid wastes?	□ Yes □ No
Yes:	
. Total anticipated liquid waste generation per day: gallons/day	
<i>i</i> . Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe al	ll components and
approximate volumes or proportions of each):	
. Will the proposed action use any existing public wastewater treatment facilities?	□ Yes □ No
If Yes:	- 105 - 110
Name of wastewater treatment plant to be used:	
Name of district:	
• Does the existing wastewater treatment plant have capacity to serve the project?	\Box Yes \Box No
 Is the project site in the existing district? Is expansion of the district needed?	\Box Yes \Box No
	□ Yes □ No

• Do existing sewer lines serve the project site?	\Box Yes \Box No
• Will a line extension within an existing district be necessary to serve the project?	\Box Yes \Box No
If Yes:	100 110
 Describe extensions or capacity expansions proposed to serve this project: 	
• Describe extensions of capacity expansions proposed to serve this project.	
	<u> </u>
<i>iv.</i> 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 speci 	fying proposed
receiving water (name and classification if surface discharge or describe subsurface disposal plans):	
<i>vi.</i> 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	\Box Yes \Box No
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?	
If Yes:	
<i>i</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)	
<i>ii</i> . Describe types of new point sources.	
<i>iii.</i> Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent pr	operties,
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?	\Box Yes \Box No
<i>iv.</i> Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater?	\Box Yes \Box No
f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel	\Box Yes \Box No
combustion, waste incineration, or other processes or operations?	
If Yes, identify:	
<i>i</i> . Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)	
<i>ii.</i> 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,	\Box Yes \Box No
or Federal Clean Air Act Title IV or Title V Permit?	
If Yes:	
<i>i</i> . Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet	\Box Yes \Box No
ambient air quality standards for all or some parts of the year)	
<i>ii</i> . 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 ₂ O)	
Tons/year (short tons) of Perfluorocarbons (PFCs)	
• Tons/year (short tons) of Sulfur Hexafluoride (SF ₆)	

h. Will the proposed action generate or emit methane (including, but n landfills, composting facilities)?If Yes:	not limited to, sewage treatment plants,	□ Yes □ No
 <i>i.</i> Estimate methane generation in tons/year (metric):		enerate heat or
 i. Will the proposed action result in the release of air pollutants from quarry or landfill operations? If Yes: Describe operations and nature of emissions (e.g., diesel exhamination of emissions) 		□ Yes □ No
 j. Will the proposed action result in a substantial increase in traffic ab new demand for transportation facilities or services? If Yes: <i>i</i>. When is the peak traffic expected (Check all that apply): □ Model and the peak traffic expected is a substantial increase in traffic ab new demand for transportation facilities or services? If Yes: <i>i</i>. For commercial activities only, projected number of truck trips/demanded 	orning DEvening DWeekend	□ Yes □ No s):
iii. Parking spaces: Existing Proposed	Net increase/decrease	
 <i>iv.</i> Does the proposed action include any shared use parking? <i>v.</i> If the proposed action includes any modification of existing road 		Yes No
 <i>vi.</i> Are public/private transportation service(s) or facilities available vii Will the proposed action include access to public transportation or or other alternative fueled vehicles? <i>viii.</i> Will the proposed action include plans for pedestrian or bicycle a pedestrian or bicycle routes? 	r accommodations for use of hybrid, electric	□ Yes □ No □ Yes □ No □ Yes □ No
 k. Will the proposed action (for commercial or industrial projects only for energy? If Yes: <i>i</i>. Estimate annual electricity demand during operation of the propos <i>k</i> <i>ii</i>. Anticipated sources/suppliers of electricity for the project (e.g., on 	ed action:	
other): <i>iii.</i> Will the proposed action require a new, or an upgrade, to an existing	ng substation?	□ Yes □ No
1. Hours of operation. Answer all items which apply. ii. During Construction: iii. During Construction: • Monday - Friday: • • Saturday: • • Sunday: • • Holidays: •	uring Operations: Monday - Friday: Saturday: Sunday: Holidays:	

*The average number of kilowatt hours per square foot for a commercial building is approximately 22.5. (Source: lota Communications.com). The proposed building is 456 sq. ft.

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction,	\Box Yes \Box No
operation, or both? If yes:	
<i>i.</i> Provide details including sources, time of day and duration:	
<i>ii.</i> 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? If yes:	\Box Yes \Box No
<i>i</i> . Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:	
<i>ii.</i> 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?	\Box Yes \Box 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)	\Box Yes \Box No
or chemical products 185 gallons in above ground storage or any amount in underground storage? If Yes:	
<i>i</i> . Product(s) to be stored	
<i>iii</i> . Generally, describe the proposed storage facilities:	
q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides,	□ Yes □ No
insecticides) during construction or operation?	
If Yes: <i>i</i> . Describe proposed treatment(s):	
i. Desende proposed treatment(s).	
<i>ii.</i> 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	□ Yes □No
of solid waste (excluding hazardous materials)? If Yes:	
<i>i</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) <i>ii.</i> 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? \Box Yes	□ No
If Yes:<i>i</i>. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities):	or
<i>ii.</i> Anticipated rate of disposal/processing:	
• Tons/month, if transfer or other non-combustion/thermal treatment, or	
Tons/hour, if combustion or thermal treatment	
<i>iii.</i> If landfill, anticipated site life: years	
 t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous □ Yes □ waste? If Yes: i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: 	
<i>ii.</i> Generally describe processes or activities involving hazardous wastes or constituents:	
<i>iii.</i> Specify amount to be handled or generated tons/month <i>iv.</i> Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents:	
 <i>v</i>. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? If Yes: provide name and location of facility:	□ No
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	

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

□ Urban □ Industrial □ Co

□ Industrial □ Commercial □ Residential (suburban)

□ Forest □ Agriculture □ Aquatic

□ Residential (suburban)
 □ Rural (non-farm)
 □ Other (specify): ______

ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site. Land use or Current Acreage After Change Covertype Acreage Project Completion (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)*pond is included* • Non-vegetated (bare rock, earth or fill) • • Other Describe:

c. Is the project site presently used by members of the community for public recreation?<i>i.</i> If Yes: explain:	□ Yes □ No
 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? If Yes, i. Identify Facilities: 	□ Yes □ No
e. Does the project site contain an existing dam?If Yes:<i>i</i>. Dimensions of the dam and impoundment:	□ Yes □ No
Dam height:feet Dam length:feet Surface grade	
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 facil If Yes:	□ Yes □ No lity?
<i>i</i> . Has the facility been formally closed?	□ Yes □ No
• If yes, cite sources/documentation:	
<i>iii</i> . 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? If Yes:	□ Yes □ No
<i>i</i> . Describe waste(s) handled and waste management activities, including approximate time when activities occurre	ed:
 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? If Yes: 	□ Yes □ No
<i>i</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 □ Yes – Environmental Site Remediation database □ Neither database Provide DEC ID number(s): Provide DEC ID number(s): 	
<i>ii</i> . If site has been subject of RCRA corrective activities, describe control measures:	
<i>iii</i> . Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? If yes, provide DEC ID number(s):	□ Yes □ No
<i>iv.</i> 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:	
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? >5.7 feet	
b. Are there bedrock outcroppings on the project site?	☐ Yes 7 No
If Yes, what proportion of the site is comprised of bedrock outcroppings?%	
c. Predominant soil type(s) present on project site: CrC - Charlton-Chatfield complex 15 %	
SEE ATTACHED SOIL TABLE FOR ALL SOILS W-Water 14 %	
ON PROJECT SITE Ce- Catden muck 13 %	
d. What is the average depth to the water table on the project site? Average: >3,5 feet	
e. Drainage status of project site soils: Well Drained:47 % of site Poorly drained:	3 % of site
Very poorly drained <u>29</u> % of site Moderately well drained	$\frac{3}{3}$ % of site
Somewhat poorly drained 5% of site Water:	13 % of site
f. Approximate proportion of proposed action site with slopes: 🔽 0-10%:72_% of site	
Note: Slope information is based on the area surveyed 10-15%: 11 % of site	
which was 4.096 acres \Box 15% or greater: <u>17</u> % 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,	V Yes No
ponds or lakes)?	V Yes No
<i>ii.</i> Do any wetlands or other waterbodies adjoin the project site?	
If Yes to either <i>i</i> or <i>ii</i> , continue. If No, skip to E.2.i. <i>iii</i> . Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal,	V Yes No
state or local agency?	
iv. For each identified regulated wetland and waterbody on the project site, provide the following information:	
• Streams: Name <u>864-160</u> Classification <u>C</u>	
Lakes or Ponds: Name Classification Classification	
Wetland No. (if regulated by DEC) <u>CF-1</u> Approximate size	
v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired	🗆 Yes 🖉 No
waterbodies?	
If yes, name of impaired water body/bodies and basis for listing as impaired:	
i. Is the project site in a designated Floodway?	☐ Yes 7 No
j. Is the project site in the 100-year Floodplain?	Yes No
k. Is the project site in the 500-year Floodplain?	Yes ZNo
1. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer?	Yes No
If Yes:	
<i>i</i> . Name of aquifer:	

m. Identify the predominant wildlife species that occupy or use the project site:	
	·····
n. Does the project site contain a designated significant natural community? If Yes:	□ Yes □ No
<i>i</i> . Describe the habitat/community (composition, function, and basis for designation):	·····
<i>ii.</i> Source(s) of description or evaluation:	
<i>iii</i> . 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. If Yes: i. Species and listing (endangered or threatened): 	ecies?
p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of	\Box Yes \Box No
special concern?	
If Yes: <i>i</i> . Species and listing:	
i. Species and insting	······
q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? If yes, give a brief description of how the proposed action may affect that use:	□ Yes □ No
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? If Yes, provide county plus district name/number: 	□ Yes □ No
b. Are agricultural lands consisting of highly productive soils present?	\Box Yes \Box No
<i>i.</i> If Yes: acreage(s) on project site?	
<i>ii.</i> 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? If Yes: 	□ Yes □ No
<i>i</i> . Nature of the natural landmark:	
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?	\Box Yes \Box No
If Yes:	
<i>i.</i> CEA name:	
iii. Designating agency and date:	

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 Commis Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic	
If Yes: <i>i</i> . Nature of historic/archaeological resource: Archaeological Site Historic Building or District <i>ii</i> . 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?*	Ves No
 g. Have additional archaeological or historic site(s) or resources been identified on the project site? If Yes: i. Describe possible resource(s): ii. Basis for identification: 	☐Yes Ø No
 h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? If Yes: i. Identify resource: <u>State Scenic Byway</u> 	ØYes <u>No</u>
 ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trailect.): Taconic State Parkway iii. Distance between project and resource: 3.3 miles. 	or scenic byway,
 i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? If Yes: i. Identify the name of the river and its designation: 	∏ Yes ZNo
<i>ii.</i> Is the activity consistent with development restrictions contained in 6NYCRR Part 666?	☐ Yes ☐No

*A submission has been made to the State Historic Preservation Office (SHPO) to gain input.

F. Additional Information

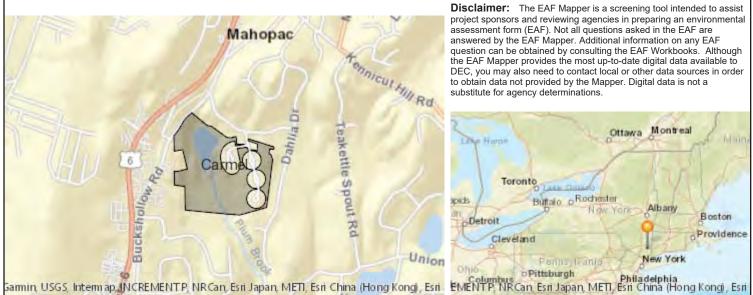
Attach any additional information which may be needed to clarify your project.

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 John Atzl	Date_August 27, 2021
Signature	Title_Land Surveyor
\bigcirc	



Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community clon@penStreetMap contributors, and the GIS User Community

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]	NYC Watershed Boundary
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Stream Name]	864-160
E.2.h.iv [Surface Water Features - Stream Classification]	С
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters, NYS Wetland
E.2.h.iv [Surface Water Features - Wetlands Size]	NYS Wetland (in acres):25.5
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	CF-1

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.I. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Northern Long-eared Bat
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]	No
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

Mahopac Wells 1, 2, & 3 – Soil Types		
Soil Types	Soil Description	Percent of Site
Се	Catden muck, 0 to 2 percent slopes	12.8%
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	5.8%
ChC	Charlton fine sandy loam, 8 to 15 percent slopes	0.5%
ChD	Charlton fine sandy loam, 15 to 25 percent slopes	2.4%
ChE	Charlton loam, 25 to 35 percent slopes	6.3%
CrC	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	15.3%
CsD	Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky	3.2%
LcB	Leicester loam, 3 to 8 percent slopes, stony	1.4%
LeB	Leicester loam, 2 to 8 percent slopes, very stony	3.4%
NcA	Natchaug muck, 0 to 2 percent slopes	10.7%
PnB	Paxton fine sandy loam, 3 to 8 percent slopes	2.0%
PnC	Paxton fine sandy loam, 8 to 15 percent slopes	1.3%
PnD	Paxton fine sandy loam, 15 to 25 percent slopes	7.6%
PoC	Paxton fine sandy loam, 8 to 15 percent slopes, very stony	0.7%
RdB	Ridgebury complex, 3 to 8 percent slopes	2.7%
Sh	Sun loam	1.2%
Sm	Sun loam, extremely stony	4.3%
Ub	Udorthents, smoothed	4.8%
W	Water	13.6%
WdB	Woodbridge loam, 3 to 8 percent slopes	0.0%
Totals f	or Area of Interest	100.0%

Project Description

General Project Information

Applicant:	SUEZ Water New York, Inc.
Project:	PFAS Compliance Project H – Mahopac Well
Location:	Town of Carmel Putnam County, New York
Consultant:	Gannett Fleming, Inc. 207 Senate Avenue Camp Hill, PA 17011

Introduction

SUEZ is proposing the construction of upgrades at their existing Mahopac well site. The proposed study area (41° 21' 36.380" N, 73° 44' 24.186" W) is located in the Town of Carmel, Putnam County, New York. The project study area for this project encompassed the entire SUEZ property. During delineation efforts an additional 300-foot buffer was reviewed around the project study area and is referred to in the permit application as the action area. Refer to the Topographic Location Map and Aerial Layout Map for the location and project limits located in **Section A**.

Project Purpose and Need

The State of New York has adopted a new drinking water standard that sets a Maximum Contaminant Level (MCL) of 10 parts per trillion (ppt) for Perfluorooctanoic Acid (PFOA) and Perfluoroctane Sulfonate (PFOS) in drinking water. Some PFAS do not breakdown easily and persist for a long time in the environment, especially in water. The concern of PFAS chemicals having toxic effects on public health has resulted in new regulations for the New York State Drinking Water Standard.

In order to comply with these new MCLs, SUEZ plans to construct a treatment facility at the existing Mahopac Well Site.

Necessary upgrades were identified based on the water quality sampling results. The Mahopac water quality results also showed elevated levels of iron and manganese which will also be treated with new facility. The site upgrades include upsizing of the existing well pumps and installation of a treatment building with a greensand iron and manganese removal system as well as the installation of a granular activated carbon (GAC) treatment system. The planned upgrades will not increase the firm capacity of the wells.

Architectural, civil, electrical, structural, HVAC and plumbing upgrades will also be implemented to accommodate the new treatment system at the existing location.

Project Description Details

Improvements at the Mahopac Well site include the construction of a GAC building, iron and manganese removal system, a 6" influent pipe, a 6" effluent pipe, an underground electrical conduit, and a 12' gravel driveway. SUEZ also proposes to replace the existing submersible well pumps at the three wells. Erosion and sediment controls will be installed to protect the regulated features. Disturbance will be kept to a minimum and avoidance measures have been considered during the design phase of the project.

Project Area Description

The proposed PFAS upgrades will be installed within the existing SUEZ property located on the east side of Buckshollow Road in the Town of Carmel, New York. The proposed project study area is approximately 2.3 acres and is located immediately south of Bloomer Pond. The action area surrounding the project study area is approximately 37 acres. The project study area and action area consist of predominantly forested area, gravel access roads, existing well infrastructure, residential properties, and local roads.

Water resources within or adjacent to the project area include Plum Brook and Bloomer Pond as identified by NYSDEC freshwater mapping, National Wetland Inventory mapping, and U.S. Geological Survey topographical mapping. Additional water resources were identified during field investigations.

Project Impacts

One parcel was impacted by the SUEZ PFAS project. Project design will impact one regulated feature and the intent of this package is to obtain approvals from the Town. Refer to the Wetland Delineation Report provided in **Section B** for more information regarding these resources.

The proposed project limit of disturbance overlaps NYSDEC regulated freshwater wetlands, regulated freshwater wetland buffers and USACE regulated wetlands. As per the site visit conducted on June 7, 2021, NYSDEC has accepted the USACE regulated wetland boundary as the NYSDEC freshwater wetland boundary. Therefore, the USACE regulated wetland boundary and NYSDEC freshwater wetland boundary coincide with one another.

There are both permanent and temporary impacts that are associated with the construction of the GAC building, influent and effluent pipelines, electrical conduit, and 12' gravel driveway. Reclamation to the portion of the wetlands with temporary impacts will take place as soon as

construction is complete. No mitigation is proposed since permanent impacts total less than one square foot.

Please see **Section** C for a typical diagram of construction.

Regulated Activities

Wetland Impacts

The Town of Carmel will regulate impacts at the Mahopac Well site that involve temporary and permanent impacts to Wetland 1. The temporary impacts include areas required for the installation of temporary erosion and sediment controls around the perimeter of the limit of disturbance. All controls shall be removed once construction is complete and the area shall be restored and allowed to revegetate back to pre-construction conditions. There is a minimal permanent wetland impact associated with fill due to construction of the 12' gravel driveway. Below are the calculated impacts to the wetland and within 100 feet adjacent to the wetlands.

Wetland Impacts

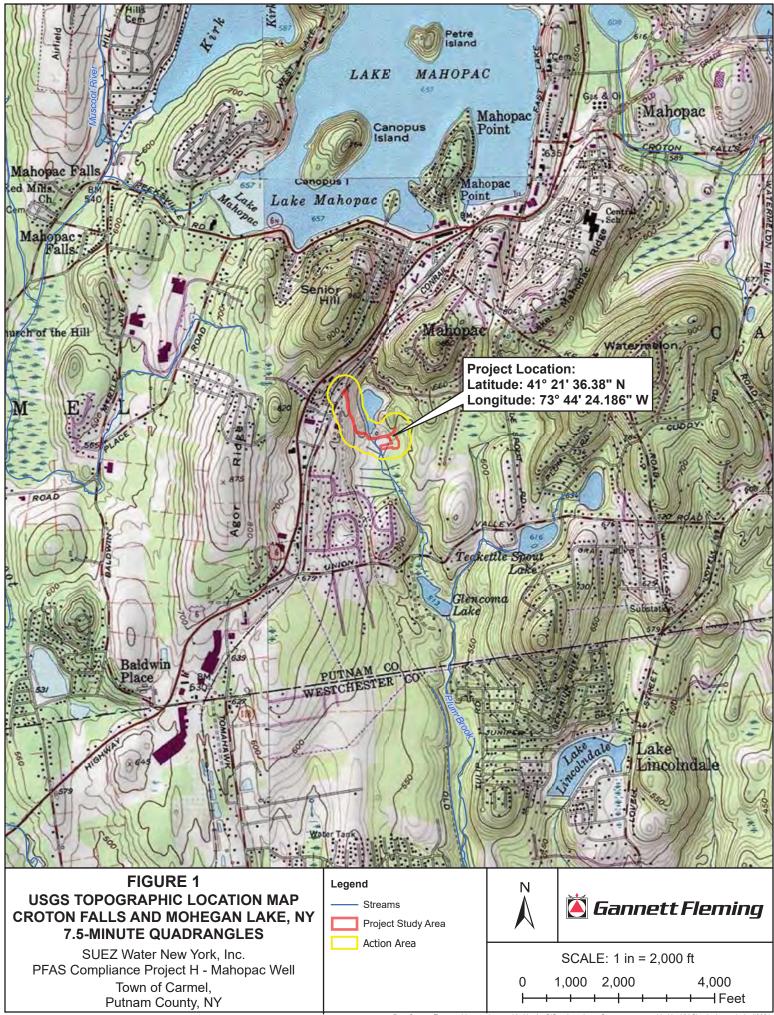
• 1,538.92 ft²; 0.033 ac

Impacts 100' Buffer

• 28,227.39 ft²; 0.648 ac

There are no stream impacts associated with this project.

Section A: Topographic Location Map and Aerial Layout Map



Data Source: Topographic mapping provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April2021.



Data Source: Aerial Imagery provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April 2021.

Section C: Typical diagram of construction

Note: Please refer to the attached Site Plan set.

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT



SUEZ Water New York Inc. PFAS Compliance Project H – Mahopac Well No. 1, 2, & 3

Town of Carmel, Putnam County, New York

Prepared for:

SUEZ Water New York, Inc. 162 Old Mill Rd West Nyack, NY 10994

Prepared by:

Gannett Fleming

207 Senate Avenue Camp Hill, PA 17011

May 2021

GF Project No. 068577

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT

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Town of Carmel, Putnam County, New York

Prepared for:

SUEZ Water New York Inc.

Prepared by:



May 2021

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1.0 Executive Summary

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing Mahopac well site. The proposed study area (41°21'36.380"N, 73°44'24.186"W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for perand polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), the regulated compounds.

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with U.S. Fish and Wildlife Service (USFWS). The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area and action area. This report was prepared to satisfy the regulatory requirements of the U.S. Army Corps of Engineers (USACE) under the purview of Section 404 of the Clean Water Act and New York State Department of Environmental Conservation (NYSDEC) under Article 24, Freshwater Wetlands Act.

On April 20, 2021, Gannett Fleming, Inc. (GF) conducted a field investigation to delineate wetlands and waterways within the 2.3-acre project study area and 37-acre action area for use in project planning and permitting efforts for the PFAS Compliance Project H – Mahopac Well No. 1, 2, & 3. One (1) palustrine wetland and one (1) waterway were delineated within the project study area (**Table 1**). Plum Brook was confirmed in the field as a perennial waterway within the project study area. Bloomer Pond was also confirmed adjacent to the project study area. Wetland and waterway boundaries were mapped in the field and are presented in **Appendix A**. Photographs were taken of the wetlands and waterways and are provided in **Appendix B**. Wetland data forms were completed to document the hydrology, vegetation, and soil conditions of the delineated wetlands and are provided in **Appendix C**.

Table 1. Wetland and Waterway Summary							
PROJECT TOTALS							
WETLANDS							
Feature Type	Number Present	Total Acres (AC)					
 PFO Wetland 	1	4.74+					
WATERWAYS							
Feature Type	Number Present	Total Linear Feet (LF)					
 Perennial Waterway 	1	186					

Table 1. Wetland and Waterway Summary

Wetlands

• Wetland 1 – PFO wetland, 4.74+ acres (Open-Ended)

Waterways

• Stream 1 (Plum Brook) – Perennial, 186 linear feet

2.0 **Project Description**

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing Mahopac well site. The proposed study area (41°21'36.380"N, 73°44'24.186"W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for perand polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both PFOA and PFOS, the regulated compounds

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with USFWS. The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The proposed PFAS upgrades will be installed within the existing SUEZ property located on the east side of Buckshollow Road in the Town of Carmel, New York. The proposed project study area is approximately 2.3 acres and is located immediately south of Bloomer Pond. The action area surrounding the project study area is approximately 37 acres. The project study area and action area consist of predominantly forested area, gravel access roads, existing well infrastructure, residential properties, and local roads.

3.0 Purpose

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area. This report was prepared to satisfy the regulatory requirements of the USACE under the purview of Section 404 of the Clean Water Act and NYSDEC under Article 24, Freshwater Wetlands Act.

4.0 Study Area Description

A 300-foot buffer or action area was used surrounding the project study area. The action area was investigated as part of the Phase I bog turtle habitat survey. The 2.3-acre project study area and 37-acre action area consisted of forested wetlands, Plum Brook, Bloomer Pond, the existing wells, adjacent residential properties, and upland forest along the quarter-mile access road.

4.1 Topography

According to the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Croton Falls and Mohegan Lake, New York), the elevation of the project study area ranged from approximately 560 to 600 feet above mean sea level (amsl). The access road entrance from Buckshollow Road has an elevation of 650 feet amsl. An excerpt from the USGS Topographic Quadrangle Map is provided as **Figure 1**. A Project Location and Study Area Map is provided as **Figure 2**.

4.2 Soils

According to the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey, thirteen (13) soil series were mapped within the project study area, action area, and along the access road: Catden muck, 0 to 2 percent slopes (Ce), Charlton fine sandy loam, 3 to 8 percent slopes (ChB), Charlton fine sandy loam, 8 to 15 percent slopes (ChC), Charlton loam, 25 to 35 percent slopes (ChE), Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky (CrC), Leicester loam, 2 to 8 percent slopes, very stony (LeB), Natchaug muck, 0 to 2 percent slopes (NcA), Paxton fine sandy loam, 15 to 25 percent slopes (PnD), Paxton fine sandy loam, 8 to 15 percent slopes, very stony (PoC), Ridgebury complex, 3 to 8 percent slopes (RdB), Sun loam (Sh), Sun loam, extremely stony (Sm), and Udorthents, smoothed (Ub). Ce, NcA, Sh and Sm are nationally listed hydric soils (100%). RdB and LeB have hydric ratings of 58 and 35%, respectively. CrC is listed as having 5% hydric inclusions. PoC and Ub soils are listed as having 2% hydric inclusions. ChB and PnD are listed as having 1% hydric inclusions. The remaining soil units are listed as non-hydric. An excerpt from the soil survey mapping is provided as **Figure 3**.

4.3 Geology

The project is located in the Hudson Highlands Section of the Physiographic Provinces of New York (NYSM, 1995). The project study area is underlain by the Biotite granite gneiss (bg) unit of bedrock; the bg unit that underlays the project study area consists of "biotite granitic gneiss, overprint signifies inequigranular texture" assumed to be from the Middle Proterozoic period (NYSM, 1995). The project is also underlain by the surficial geologic unit till (t) defined by "variable texture (e.g. clay, silt-clay, boulder clay), usually poorly sorted diamict, deposition beneath glacier ice, relatively impermeable (loamy matrix), variable clast content...potential land instability on steep slopes, thickness variable (1-50 meters)" (NYSM, 1989).

4.4 Surface Waters

The USGS map identified Plum Brook as a perennial waterway within the project area (**Figure 1**). No other streams or waterbodies were identified on USGS mapping within or immediately adjacent to the project study area or action area.

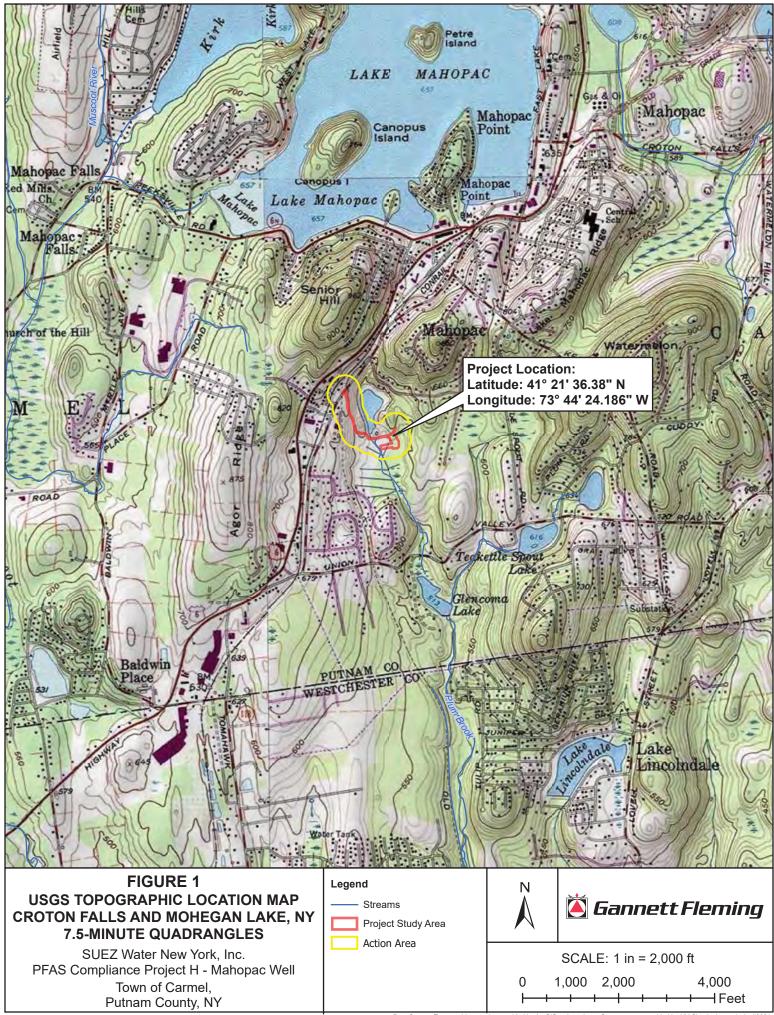
NYSDEC has designated Plum Brook as water quality classification 'C'. This classification indicates that the water resource supports fisheries and non-contact activities. A 'C' classification is not considered protected waters of the state.

4.5 National Wetlands Inventory

The National Wetlands Inventory (NWI) online mapping tool identified multiple features within the project study area and action area. NWI identified Bloomer Pond as a palustrine, unconsolidated bottom, permanently flooded, diked/impounded (PUBHh) feature. Plum Brook was identified as a riverine, intermittent, streambed, seasonally flooded (R4SBC) watercourse. A second R4SBC feature was mapped within and adjacent to the access road. This feature flowed into a mapped riverine, unknown perennial, unconsolidated bottom, permanently flooded (R5UBH) feature along the southern edge of the action area. NWI mapped wetlands included a 0.27 acre palustrine emergent, persistent, scrub-shrub, broad-leaved deciduous, seasonally flooded (PEM1/SS1C) complex near the proposed project site, and a larger 12.64 acre palustrine emergent, persistent, scrub-shrub, broad-leaved deciduous, seasonally flooded/saturated, partially drained/ditched (PEM1/SS1Ed) complex and 0.09 acre palustrine, unconsolidated bottom, semipermanently flooded, beaver (PUBFb) within the action area. The NWI map for the project study area is provided as **Figure 4**.

4.6 NYSDEC Wetlands

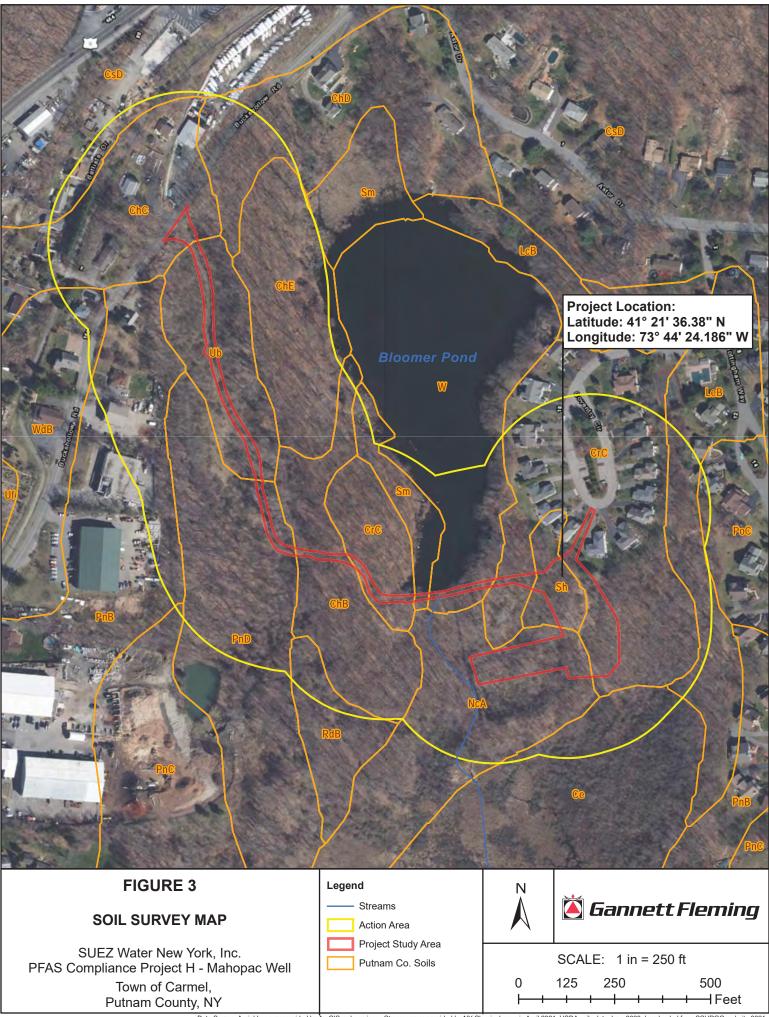
NYSDEC identified one (1) state regulated freshwater wetland within the project study area. Wetland CF-1 is a Class 2 wetland totaling 25.5 acres located within the project study area and action area. The project study area and action area are within the wetland, the 100-foot buffer, and the 500-foot checkzone of this wetland. The NYSDEC wetlands map for the project study area is provided as **Figure 5**.



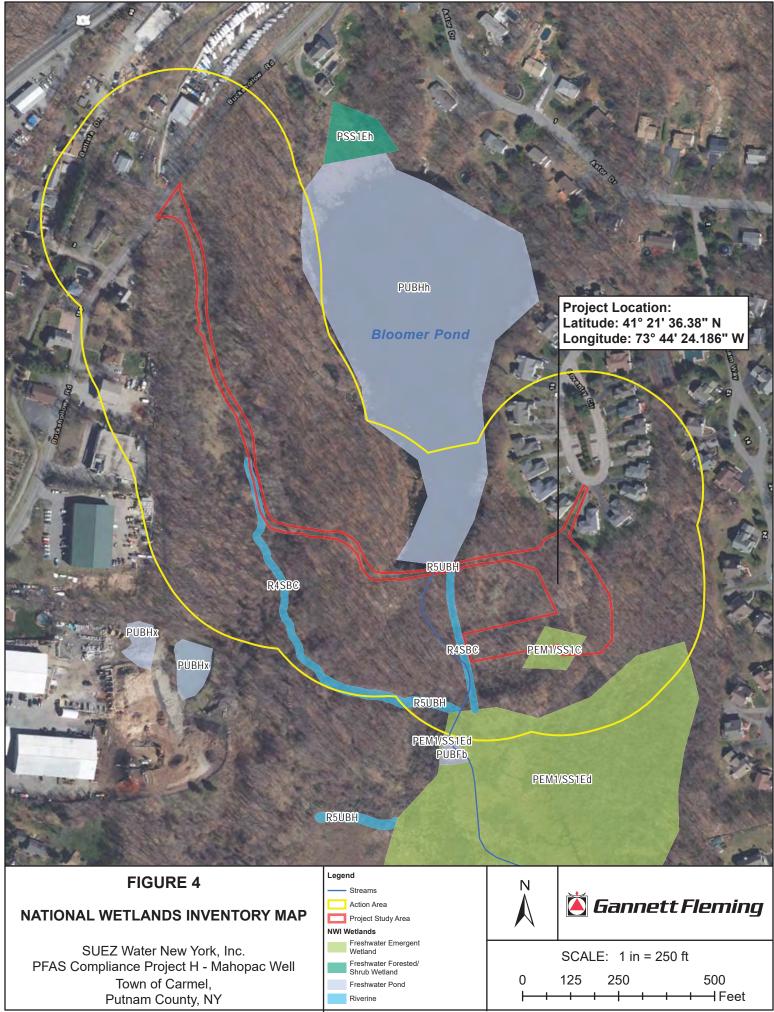
Data Source: Topographic mapping provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April2021.



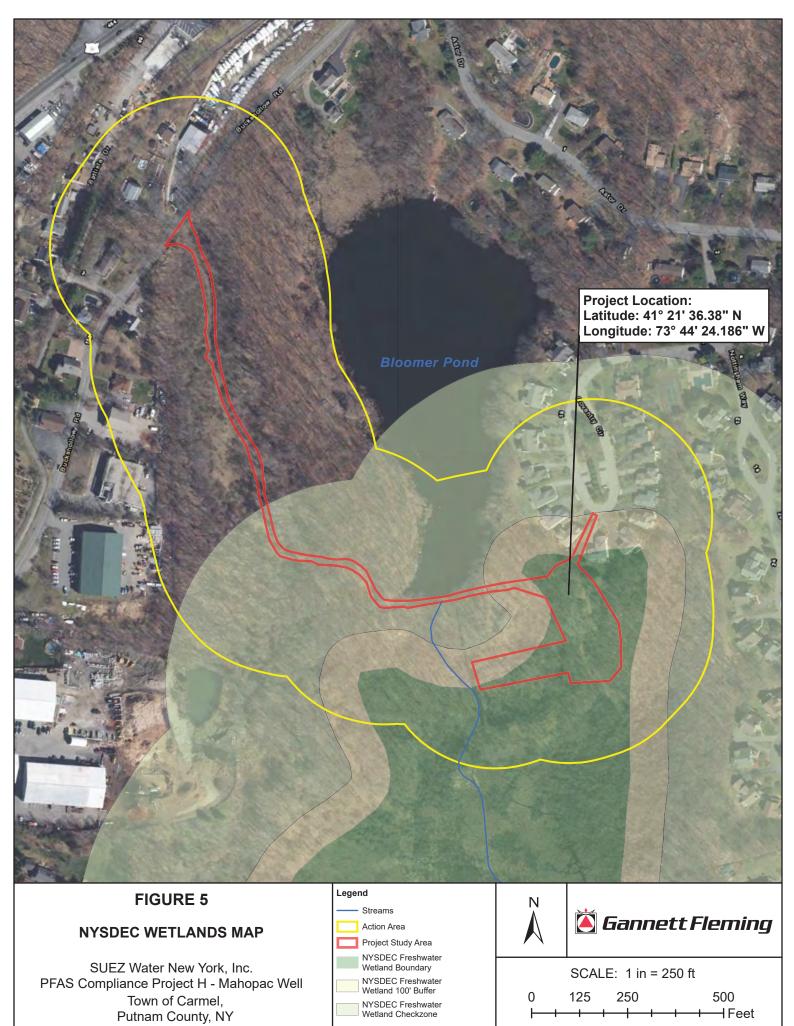
Data Source: Aerial Imagery provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April 2021.



Data Source: Aerial Imagery provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April 2021. USDA soils data June 2020 downloaded from SSURGO website 2021.



Data Source: Aerial Imagery provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April 2021. NWI Wetlands downloaded 2019.



Data Source: Aerial Imagery provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April 2021. Regulated resources and buffers provided by NYSDEC.

5.0 Methods

The 2.3-acre project study area and 37-acre action area was investigated for palustrine wetland indicators of vegetative composition, soil development, and hydrology. The investigation was conducted in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (U.S. Army Corps of Engineers, 2012). Wetland field data forms were completed to document wetland or non-wetland data points. If present, wetlands within and directly adjacent to the study area were delineated so that their presence could be shown on project mapping to aid in impact avoidance and/or minimization during engineering design.

Soils were characterized by evaluating the upper horizons of the soil profile. Soil pits were dug using a "sharpshooter" spade with a 16-inch blade. Soil horizons were evaluated using normal field protocols for determining texture and nomenclature. The *Munsell Soil Color Charts* (Kollmorgen Instruments Corporation, 1994) were used to determine the colors of horizons and redoximorphic features. Soil observations of reducing conditions were determined in the field using presence/absence determinations of redoximorphic concretions and oxidized rhizospheres, and identifying low chroma matrices according to *Field Indicators of Hydric Soils in the United States (Version 7.0)* (USDA-NRCS, 2010).

Vegetation was identified using A Field Guide to Trees and Shrubs (Petrides, 1986), Newcomb's Wildflower Guide (Newcomb, 1977), and Grasses: An Identification Guide (Brown, 1979). Plant species were assigned an indicator status [i.e., Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), or Obligate Wetland (OBL)] based on the 2018 National Wetland Plant List (Version 3.4) (USACE, 2018).

Data point locations were investigated for primary and secondary wetland hydrology indicators. If present, wetland boundaries were marked using pink wetland flagging. Wetland boundary data points were located using a Trimble Geo7X Global Positioning System (GPS) with Trimble Tornado receiver. The Trimble Geo7X and Tornado are capable of attaining sub-meter accuracy. The GPS data were then transferred onto relevant project mapping using the U.S. State Plane NY East coordinate system.

Wetland type classifications were assigned to each wetland following the Cowardin et al methods (1979). Hydrogeomorphic classifications were assigned to each wetland based on the *Hydrogeomorphic Wetland Classification: HGM Classification for Wetlands of the Mid-Atlantic Region, USA* (Brooks, 2017). Palustrine plant community classifications were assigned to each wetland based on *Ecological Communities of New York State* (Edinger et al, 2014). Color photographs were taken of all relevant features to document site conditions during the time of the investigation.

Waterways were identified through a review of available mapping and field investigation. Topographic and engineering maps were reviewed for the presence of streams within the project study area. A field investigation for waterways was performed in conjunction with the wetland field investigation and included the field verification of mapped watercourses and the identification and delineation of streams, springs, and seeps that were not shown on existing engineering plans. Waterways were identified by the presence of bed and banks and/or ordinary high-water marks. The flow regime of each identified waterway was characterized based upon

field indicators of hydrologic, floral, and faunal character at the time of the investigation. All identified waterways were photographed and located using GPS.

6.0 Field Observations and Delineated Features

On April 20, 2021, GF investigated the 2.3-acre project study area and 37-acre action area for wetlands and waterways. The weather conditions were sunny with a high temperature of 74°F. Precipitation data indicated no precipitation occurred on the day of the investigation and no precipitation fell across the region within the 48 hours prior to the field investigation. Weather data was recorded at Danbury Municipal Airport Station in Danbury, CT, approximately 14 miles east of the project study area.

The dominant land-uses within and surrounding the project study area included gravel access roads and parking areas, residential properties, mixed forests, Bloomer Pond, Plum Brook and existing well infrastructure. Dominant vegetation observed within the project study area is summarized in **Table 2**.

Scientific Name	Common Name	Indicator Status					
Tree Species							
Acer rubrum	Red Maple	FAC					
Quercus velutina	Black Oak	NL					
Betula alleghaniensis	Yellow Birch	FAC					
Fagus grandifolia	American Beech	FACU					
Carpinus caroliniana	American Hornbeam	FAC					
	Shrub Species						
Lindera benzoin	Northern Spicebush	FACW					
Rosa multiflora	Multiflora Rose	FACU					
Berberis thunbergii	Japanese Barberry	FACU					
Vaccinium corymbosum	Highbush Blueberry	FACW					
Viburnum lentago	Nannyberry	FAC					
Elaeagnus umbellata	Autumn Olive	NL					
Herb Species							
Alliaria petiolata	Garlic Mustard	FACU					
Symplocarpus foetidus	Skunk Cabbage	OBL					
Equisetum arvense	Field Horsetail	FAC					
Carex stricta	Tussock Sedge	OBL					
Phragmites australis	Common Reed	FACW					

Table 2. Dominant Plant Species List

6.1 Waterbodies & Wetlands

During the field investigation, one (1) palustrine wetland complex was delineated within the project study area and action area. Delineated wetlands are listed in **Table 3** with their respective delineated area, Cowardin Classification, hydrogeomorphic (HGM) wetland classification, and

Ecological Community of New York State. Wetland boundaries were mapped and are presented in **Appendix A**. Photographs were taken of the wetlands and are provided in **Appendix B**. The Wetland Determination Data Forms are provided in **Appendix C**.

Wetland ID	Area (acre)	Cowardin Classification	HGM Wetland Classification	Ecological Community			
Wetland 1	4.74+ (Open-Ended)	PFO	Depression Perennial (DFH)	Red Maple- Hardwood Swamp			

Table 3. Delineated Wetland Resource Summary

6.2 Waterways

During the field investigation, one (1) waterway was identified and delineated within the project study area and action area. This waterway was confirmed as perennial Plum Brook during the investigation.

Stream 1 (Plum Brook) - perennial, 186 linear feet

Plum Brook was confirmed within the project study area and action area. Plum Brook flows under the existing access road through a culvert from Bloomer Pond. This waterway flows from north to south and ends in diffuse flow within Wetland 1.

Channel Width	Bank Height	Water Depth	Substrate
5-8 feet	1 foot	2-4 inches	Silt, Sand, Small Cobble, Woody Debris

7.0 Wetland & Waterway Resource Summary

The field investigation conducted by GF on April 20, 2021 identified and delineated one (1) wetland and one (1) waterway in conjunction with the PFAS Compliance Project H – Mahopac Well No. 1, 2, & 3. Bloomer Pond was confirmed in the field adjacent to the project study area but was not delineated. The pond was mapped by traditional land survey and will be added to the project construction drawings. The following features were identified on mapping and delineated in the field:

Wetlands (Field Delineated)

• Wetland 1 – PFO wetland, 4.74+ acres (Open-Ended)

Waterways (Field Delineated)

• Stream 1 (Plum Brook) – Perennial, 186 linear feet

8.0 References

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9.0 List of Contributors

Steven C. Smith, Senior Environmental Scientist 38 Hour U.S. Army Corps of Engineers Wetland Delineator Certification Training Program PennDOT Phase I Bog Turtle Habitat Evaluation Training Professional Experience: 21 years Education: B.S. Geoenvironmental Studies

Jillian Arnold, Senior Environmental Scientist 36-Hour Swamp School Wetland Delineation & Regional Supplement Training Society of Wetland Scientists, Professional Wetland Scientist (PWS) #2736 PennDOT Phase I Bog Turtle Habitat Evaluation Training Professional Experience: 17 years Education: B.S., Geoenvironmental Studies, GIS Certificate M.S., Biology

Clayton D. Frey, Environmental Scientist

36-Hour Swamp School Wetland Delineation and Regional Supplement Training
24-Hour OSHA Hazardous Waste Operations and Emergency Response Certification
Professional Experience: 3 years
Education: B.S., Wildlife and Fisheries Science

Kayla Briggs, Environmental Scientist ESRI MOOC Do it Yourself Geo Apps (6-Week Course) ESRI Web Courses and Online Training Seminars Professional Experience: 11 years Education: B.S., Geoenvironmental Studies, GIS Certificate

APPENDIX A

WETLANDS AND WATERWAYS MAPPING



APPENDIX B SITE PHOTOGRAPHS AND PHOTOGRAPH LOCATION MAP





Photograph 1: Overview of SP-W1A, a wetland test pit recorded within Wetland 1 (PFO). (facing south; 4/20/2021)



Photograph 2: Overview of SP-W1B, a wetland test pit recorded within Wetland 1 (PFO). (facing northeast; 4/20/2021)



Photograph 3:Overview of SP-W1C, a wetland test pit recorded within Wetland 1
(PFO), looking towards Well No. 2. (facing southwest; 4/20/2021)



Photograph 4: Overview of Wetland 1 (PFO), looking toward Well No. 1. (facing northwest; 4/20/2021)



Photograph 5: Overview of Wetland 1 (PFO), taken west of Well No. 1. (facing north; 4/20/2021)



Photograph 6: Overview Wetland 1 (PFO), taken near the southern extent of the action area. (facing south; 4/20/2021)



Photograph 7: Overview of perennial Stream 1 (Plum Brook), looking upstream towards culvert under access road from Bloomer Pond. (facing north; 4/20/2021)



Photograph 8: Downstream view of Stream 1 (Plum Brook), taken south of culvert from Bloomer Pond. Stream 1 dissipates and loses definition beyond this area within Wetland 1 (facing south; 4/20/2021)

Appendix B – Site Photographs



Photograph 9: Overview of Bloomer Pond from the access road. Culvert feeding Stream 1 (Plum Brook) is visible in bottom right of photo. (facing north; 4/20/2021)



Photograph 10: View of SP-U1, an upland test pit taken to document conditions surrounding Wetland 1, looking towards the existing gravel parking area. (facing north; 4/20/2021)



Photograph 11: View of SP-UA, an upland test pit taken within a well-drained depression on the north side of the access road. (facing north; 4/20/2021)



Photograph 12: Overview of the access road near the gate along Buckshollow Road. (facing south; 4/20/2021)

Appendix B – Site Photographs



Photograph 13: Overview of existing access road. Bloomer Pond is visible on left side of photo, Wetland 1 is visible on right side of photo. (facing east; 4/20/2021)



Photograph 14: Overview of existing gravel parking area at southeastern terminus of access road. Well No. 3 is visible on right side of photo. (facing north; 4/20/2021)

Appendix B – Site Photographs



Photograph 15: View of Well No. 1 with Well No. 2 visible in the background. Wells were located on an elevated berm that is surrounded by Wetland 1(facing east; 4/20/2021)

APPENDIX C WETLAND FIELD DATA FORMS

Project/Site: Mahopac	City/County: Putnam	County	Sampling Date: 04/20/2021
Applicant/Owner: SUEZ Water NY		State: NY	Sampling Point: SP-W1
Investigator(s): S. Smith, C. Frey	Section, Township, Ra	ange: Town of Carmel	
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, cor	nvex, none): <u>concave</u>	Slope (%): 1
Subregion (LRR or MLRA): LRR R Lat: 41.3	5 9528 Lo	_{ng:} 73.739425	Datum: NAD83
Soil Map Unit Name: Charlton-Chatfield complex, 0 to 1	5 percent slopes, very rock	(CrC) NWI classific	ation:
Are climatic / hy <u>drolog</u> ic conditions on the site typical for this t	ime of year? Yes 🔀 No	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrologysig	nificantly disturbed? Are	"Normal Circumstances" p	oresent? Yes X No
Are Vegetation, Soil, or Hydrology nat	urally problematic? (If n	eeded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map sl	nowing sampling point	locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separ Near the proposed turn-around area. We	within a Wetla If yes, optional rate report.)	nd? Yes X Wetland Site ID: Wetlan	d 1
HYDROLOGY			
Wetland Hydrology Indicators:			tors (minimum of two required)
Primary Indicators (minimum of one is required; check all that Surface Water (A1)	-Stained Leaves (B9)	Surface Soil	
	c Fauna (B13)	Moss Trim Li	
	eposits (B15)		Water Table (C2)
	gen Sulfide Odor (C1)	Crayfish Burr	
Sediment Deposits (B2)	ed Rhizospheres on Living Roc	its (C3) 🔲 Saturation Vi	sible on Aerial Imagery (C9)
	nce of Reduced Iron (C4)	=	ressed Plants (D1)
	t Iron Reduction in Tilled Soils		
	Nuck Surface (C7)	Shallow Aqui	
 Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) 	(Explain in Remarks)	FAC-Neutral	phic Relief (D4)
Field Observations:			
Surface Water Present? Yes No X Depth	n (inches):		
	n (inches): 0		
	n (inches): 0	etland Hydrology Presen	t? Yes 🔀 No 📃
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, ae	rial photos, previous inspection	s) if available:	
Describe Recorded Data (stream gadge, monitoring weil, de	nai protos, previous inspection	<i>5);</i> if available.	
Remarks:			

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:			
Acer rubrum	<u>50</u>	Y	FAC	Number of Dominant Species			
				That Are OBL, FACW, or FAC: 2 (A)			
2			·	Total Number of Dominant			
3				Species Across All Strata: <u>3</u> (B)			
4				Percent of Dominant Species			
5				That Are OBL, FACW, or FAC: <u>66.66</u> (A/B)			
6				Prevalence Index worksheet:			
7			<u> </u>	Total % Cover of: Multiply by:			
	50	= Total Cov	/er	OBL species x 1 =			
Sapling/Shrub Stratum (Plot size: 15')				FACW species $x 2 = \frac{0}{2}$			
1. Rosa multiflora	5	Υ	FACU	FAC species $x_3 = 0$			
				FACU species $x 4 = \frac{0}{2}$			
2				UPL species x 5 =			
3				Column Totals: 0 (A) 0 (B)			
4			. <u> </u>				
5				Prevalence Index = B/A =			
6				Hydrophytic Vegetation Indicators:			
7				Rapid Test for Hydrophytic Vegetation			
1	5		·	Dominance Test is >50%			
	5	= Total Cov	/er	Prevalence Index is $\leq 3.0^1$			
Herb Stratum (Plot size: 5')				Morphological Adaptations ¹ (Provide supporting			
1. Symplocarpus foetidus	20	Y	OBL	data in Remarks or on a separate sheet)			
2. Equisetum arvense	2	Ν	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)			
3. Berberis thunbergii	2	N	FACU				
⁴ Carex stricta	5	N	OBL	¹ Indicators of hydric soil and wetland hydrology must			
	<u> </u>			be present, unless disturbed or problematic.			
5				Definitions of Vegetation Strata:			
6				Tree Mondy plants 2 in (7.6 cm) or more in diameter			
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
8							
				Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
9							
10	·			Herb – All herbaceous (non-woody) plants, regardless			
11				of size, and woody plants less than 3.28 ft tall.			
12				Woody vines – All woody vines greater than 3.28 ft in			
	29	= Total Cov	/er	height.			
Woody Vine Stratum (Plot size:)							
1			·				
2							
3				Hydrophytic			
4				Vegetation			
	0	= Total Cov	/er	Present? Yes X No			
Remarks: (Include photo numbers here or on a separate s		- 10101 00					
	sneet.)						

SOIL	

Profile Des	cription: (Describe	to the de	pth needed to docur	nent the i	ndicator	or confirm	n the absence	of indicate	ors.)
Depth	Matrix	~ ~ ~		x Features		. 2	- ·		Damad
(inches) 0-6	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
	10YR 2/1	100							
6-10	10YR 3/3	100					L	Organio	CS
			. <u> </u>						
¹ Type: C=C	oncentration, D=Dep	letion, RN	I=Reduced Matrix, CS	S=Covered	d or Coate	ed Sand G	rains. ² Lo	cation: PL=	Pore Lining, M=Matrix.
Hydric Soil	Indicators:						Indicators	for Proble	matic Hydric Soils ³ :
Histoso			Polyvalue Belov		(S8) (LR	RR,			(LRR K, L, MLRA 149B)
	pipedon (A2)			·					ox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)		Thin Dark Surfa						or Peat (S3) (LRR K, L, R) (LRR K, L)
	d Layers (A5)		Loamy Gleyed			, ⊑/			Surface (S8) (LRR K, L)
	d Below Dark Surfac	e (A11)	Depleted Matrix						e (S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Su					-	Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)		Depleted Dark	-	7)				ain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4) Redox (S5)		Redox Depress	sions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)		
	d Matrix (S6)								k Surface (TF12)
	urface (S7) (LRR R, I	MLRA 149	B)					(Explain in	
			etland hydrology mus	st be prese	ent, unless	s disturbed	l or problemati	С.	
Type: R	Layer (if observed)								
	ches): <u>10+</u>						Hydric Soil	Present?	Yes X No
Remarks:									
L									

Project/Site: Mahopac	City/County: Putnam County	_ Sampling Date: 04/20/2021
Applicant/Owner: SUEZ Water NY	State: <u>NY</u>	Sampling Point: SP-W1B
	Section, Township, Range: Town of Carmel	
Landform (hillslope, terrace, etc.): depression	Local relief (concave, convex, none): <u>concave</u>	Slope (%): 1
Subregion (LRR or MLRA): LRR R Lat:		
Soil Map Unit Name: Natchaug muck, 0 to 2 percent	t slopes (NcA) NWI classifie	
Are climatic / hydrologic conditions on the site typical for		Remarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed? Are "Normal Circumstances"	present? Yes X No
Are Vegetation, Soil, or Hydrology	naturally problematic? (If needed, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site ma	p showing sampling point locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes Remarks: (Explain alternative procedures here or in a second to the peninsula that the peninsula the peninsula that the peninsula the peninsula that the peninsula the penin		
HYDROLOGY Wetland Hydrology Indicators:	Secondary Indic.	ators (minimum of two required)
Primary Indicators (minimum of one is required; check a	all that apply) Surface Soil	Cracks (B6)
		atterns (B10)
	quatic Fauna (B13)	
	Iarl Deposits (B15) Dry-Season Iydrogen Sulfide Odor (C1) Crayfish Bui	Water Table (C2)
		/isible on Aerial Imagery (C9)
		Stressed Plants (D1)
Algal Mat or Crust (B4)	ecent Iron Reduction in Tilled Soils (C6)	Position (D2)
	hin Muck Surface (C7)	
		aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutra	l Test (D5)
Field Observations: Surface Water Present? Yes No		
	Depth (inches): Depth (inches): _6	
	Depth (inches): 0 Wetland Hydrology Prese	nt? Yes 🗙 No
(includes capillary fringe)	· · · · · · · · · · · · · · · · · · ·	
Describe Recorded Data (stream gauge, monitoring we	II, aerial photos, previous inspections), if available:	
Remarks:		

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:	
Acer rubrum	60	Y	FAC	Number of Dominant Species	
···			·	That Are OBL, FACW, or FAC: 2	(A)
2				Total Number of Dominant Species Across All Strata 3	
3				Species Across All Strata: <u>5</u>	(B)
4				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: <u>66.66</u>	(A/B)
6				Prevalence Index worksheet:	
7					
	60	Tatal Car		Total % Cover of: Multiply b	-
15'		= Total Cov	ver	OBL species $x = 0$	
Sapling/Shrub Stratum (Plot size: 15')	-	N/	FAOL	FACW species $x = 0$	
1. Rosa multiflora	5	Y	FACU	FAC species $x_3 = \frac{0}{0}$	
2. Carpinus caroliniana	1	N	FAC	· · · · · · · · · · · · · · · · · · ·	
3				UPL species $x 5 = \frac{0}{0}$	
				Column Totals: 0 (A) 0	(B)
4				Prevalence Index = B/A =	
5					
6				Hydrophytic Vegetation Indicators:	
7				Rapid Test for Hydrophytic Vegetation	
	6	= Total Cov	ver	Dominance Test is >50%	
Herb Stratum (Plot size: 5')				Prevalence Index is $\leq 3.0^1$	
1. Symplocarpus foetidus	40	Y	OBL	Morphological Adaptations ¹ (Provide su data in Remarks or on a separate sh	pporting
2. Equisetum arvense	2	N	FAC	Problematic Hydrophytic Vegetation ¹ (E	-
	5		FACW		лріант)
3. Phragmites australis		N		¹ Indicators of hydric soil and wetland hydrold	pav must
4. Carex stricta	1	N	OBL	be present, unless disturbed or problematic.	
5				Definitions of Vegetation Strata:	
6				_	
7				Tree – Woody plants 3 in. (7.6 cm) or more at breast height (DBH), regardless of height.	in diameter
				at breast height (DDH), regulatess of height.	
8				Sapling/shrub – Woody plants less than 3 i	n. DBH
9				and greater than 3.28 ft (1 m) tall.	
10				Herb – All herbaceous (non-woody) plants,	regardless
11				of size, and woody plants less than 3.28 ft ta	all.
12				Woody vines - All woody vines greater than	n 3.28 ft in
	48	= Total Cov	/er	height.	
Woody Vine Stratum (Plot size: N/A)		rotar oot			
1					
2					
3				Hydrophytic	
4.				Vegetation	7
	0	= Total Cov	or	Present? Yes X No	
Remarks: (Include photo numbers here or on a separate s		- 10101000			
	sileet.)				

SOIL	

Profile Desc		to the dep	th needed to docun	nent the ir	dicator	or confirm	n the absenc	e of indicato	ors.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	x Features %	Type ¹	Loc ²	Texture		Remarks
<u>0-16</u>	10YR 2/1	100		70	туре	LUC		roots ar	nd organics
0-10	1011(2/1	100		·			L	10013 81	
								·	
				·				·	
				·					
								·	
				·					
								·	
¹ Type: C=Co	oncentration, D=Dep	letion, RM=	Reduced Matrix, CS	S=Covered	or Coate	d Sand G	rains. ² Lo	cation: PL=	Pore Lining, M=Matrix.
Hydric Soil									matic Hydric Soils ³ :
Histosol	(A1)		Polyvalue Below	v Surface ((LR	RR,	🔲 2 cm	Muck (A10)	(LRR K, L, MLRA 149B)
	oipedon (A2)		MLRA 149B)						ox (A16) (LRR K, L, R)
Black Hi			Thin Dark Surfa						or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Mucky N			, L)		Surface (S7)	
	d Layers (A5) d Below Dark Surfac	o (A11)	Loamy Gleyed I Depleted Matrix						Surface (S8) (LRR K, L) e (S9) (LRR K, L)
	ark Surface (A12)	e (ATT)	Redox Dark Su						Masses (F12) (LRR K, L, R)
	lucky Mineral (S1)		Depleted Dark S		7)			-	ain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4)		Redox Depress		,				6) (MLRA 144A, 145, 149B)
Sandy R	Redox (S5)						Red I	Parent Materi	ial (F21)
	Matrix (S6)								< Surface (TF12)
Dark Su	rface (S7) (LRR R, I	MLRA 149E	3)				Other	(Explain in F	Remarks)
³ Indicators of	f bydropbytic yogota	tion and wo	tland hydrology mus	the proces	nt unloca	disturbos	l or problomat	ic	
	Layer (if observed)		alianu nyurology mus	t be preser	nt, uniess	sustuibet		IC.	
Type:									
							Hydric So	I Present?	Yes X No
	ches):						injune oo		
Remarks:									

Project/Site: Mahopac	_ City/County: Putnam County Sampling Date: 04/20/2021
Applicant/Owner: SUEZ Water NY	State: NY Sampling Point: SP-W1C
Investigator(s): S. Smith, C. Frey	_ Section, Township, Range: Town of Carmel
Landform (hillslope, terrace, etc.): depression	_ocal relief (concave, convex, none): <u>concave</u> Slope (%): <u>1</u>
Subregion (LRR or MLRA): LRR R Lat: 41.359815	Long: 73.740004 Datum: NAD83
Soil Map Unit Name: Natchaug muck, 0 to 2 percent slopes (N	IcA) NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificant	tly disturbed? Are "Normal Circumstances" present? Yes 🔀 No
Are Vegetation, Soil, or Hydrology naturally r	
SUMMARY OF FINDINGS – Attach site map showin	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland 1
Remarks: (Explain alternative procedures here or in a separate rep	port.)
Sample site located adjacent to the peninsula	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	y) Surface Soil Cracks (B6)
	d Leaves (B9) Drainage Patterns (B10)
High Water Table (A2)	
Saturation (A3)	
	Ifide Odor (C1) Crayfish Burrows (C8)
	zospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Reduced Iron (C4) Stunted or Stressed Plants (D1)
	Reduction in Tilled Soils (C6) States and the State
Iron Deposits (B5)	
	in in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inche	
Water Table Present? Yes No Depth (inche	
Saturation Present? Yes No Depth (inche (includes capillary fringe)	es): 10 Wetland Hydrology Present? Yes X No No
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), if available:
Remarks:	

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:	
Acer rubrum	<u>50</u>	Y	FAC	Number of Dominant Species	
				That Are OBL, FACW, or FAC: 4 ((A)
2				Total Number of Dominant	
3				Species Across All Strata: 4 ((B)
4				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 100.00	(A/B)
6				Prevalence Index worksheet:	
7					
<u></u>	50	Tatal Car		Total % Cover of: Multiply by:	
15'		= Total Cov	/er	OBL species $x = 0$	
Sapling/Shrub Stratum (Plot size: 15')	00	V		FACW species $x 2 = 0$ FAC species $x 3 = 0$	
1. Lindera benzoin	20	Y	FACW	-	
2. Viburnum lentago	10	Y	FAC	FACU species $x = 0$	
3				UPL species $x 5 = 0$	
4				Column Totals: 0 (A) 0	(B)
				Prevalence Index = B/A =	
5					
6				Hydrophytic Vegetation Indicators:	
7				Rapid Test for Hydrophytic Vegetation	
	30	= Total Cov	/er	Dominance Test is $>50\%$	
Herb Stratum (Plot size: 5')				Prevalence Index is $\leq 3.0^1$	
1. Symplocarpus foetidus	40	Y	OBL	Morphological Adaptations ¹ (Provide supportin data in Remarks or on a separate sheet)	ng
2. Alliaria petiolate	10	N	FACU	Problematic Hydrophytic Vegetation ¹ (Explain))
3 Carex stricta	5	N	OBL		/
				¹ Indicators of hydric soil and wetland hydrology mu	ust
4				be present, unless disturbed or problematic.	
5				Definitions of Vegetation Strata:	
6				-	4
7				Tree – Woody plants 3 in. (7.6 cm) or more in dian at breast height (DBH), regardless of height.	neter
8					
				Sapling/shrub – Woody plants less than 3 in. DBI and greater than 3.28 ft (1 m) tall.	Η
9					
10				Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall.	less
11					
12				Woody vines – All woody vines greater than 3.28 height.	ft in
	55	= Total Cov	/er	neight.	
Woody Vine Stratum (Plot size: N/A)					
1					
2.					
3				Hydrophytic Vegetation	
4				Present? Yes X No	
	0	= Total Cov	/er		
Remarks: (Include photo numbers here or on a separate	sheet.)				

SUIL

Profile Desc	ription: (Describe	to the dept	h needed to docun	nent the i	ndicator	or confirm	m the absence of indicat	ors.)
Depth	Matrix			x Features		0		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-12	10YR 2/1	100					L	
						. <u> </u>	· ·	
							· · · · · · · · · · · · · · · · · · ·	
							· ·	
						<u> </u>	· ·	
						·		
							· ·	
							· ·	
	oncentration, D=Dep	letion, RM=	Reduced Matrix, CS	=Covered	l or Coate	ed Sand G		=Pore Lining, M=Matrix.
Hydric Soil	Indicators:							ematic Hydric Soils ³ :
Histosol	(A1)]	Polyvalue Below	v Surface	(S8) (LRI	RR,	2 cm Muck (A10)	(LRR K, L, MLRA 149B)
Histic Ep	bipedon (A2)	-	MLRA 149B)					dox (A16) (LRR K, L, R)
Black Hi	stic (A3)	[Thin Dark Surfa	ce (S9) (L	RR R, M	LRA 149B		t or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)	[Loamy Mucky N	lineral (F1) (LRR K	, L)	Dark Surface (S7	
Stratified	d Layers (A5)	[Loamy Gleyed I	Matrix (F2))		Polyvalue Below	Surface (S8) (LRR K, L)
Depleted	d Below Dark Surfac	e (A11)	Depleted Matrix	(F3)			Thin Dark Surfac	e (S9) (LRR K, L)
Thick Da	ark Surface (A12)	[Redox Dark Sur	face (F6)			Iron-Manganese	Masses (F12) (LRR K, L, R)
Sandy N	lucky Mineral (S1)	[Depleted Dark S	Surface (F	7)		Piedmont Floodp	lain Soils (F19) (MLRA 149B)
Sandy G	Bleyed Matrix (S4)	[Redox Depress	ions (F8)			Mesic Spodic (TA	A6) (MLRA 144A, 145, 149B)
Sandy R	edox (S5)						Red Parent Mate	rial (F21)
Stripped	Matrix (S6)						Very Shallow Da	rk Surface (TF12)
Dark Su	rface (S7) (LRR R, M	MLRA 149B)				Other (Explain in	Remarks)
	f hydrophytic vegeta		land hydrology mus	t be prese	nt, unless	s disturbec	d or problematic.	
	Layer (if observed):	:						
Type: RC	OCK							
	ches): <u>12+</u>						Hydric Soil Present?	Yes X No
-								
Remarks: N	ot as strongly	hydric a	as W1A and V	V1R bi	it it wa	s nart	of the same com	nlex
	or as shorigiy	inyuno e				is part	or the same com	piex.
μ								

Project/Site: Mahopac	City/County: Putnam County	Sampling Date: 04/22/2021
Applicant/Owner: SUEZ Water NY		State: NY Sampling Point: SP-U1
Investigator(s): S. Smith, C. Frey	Section, Township, Range: Town	of Carmel
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): _C	Convex Slope (%): 0
Subregion (LRR or MLRA): LRR R Lat: 41.359		
Soil Map Unit Name: Charlton-Chatfield complex, 0 to 15	percent slopes, very rocky (CrC)	IWI classification:
Are climatic / hydrologic conditions on the site typical for this tim		explain in Remarks.)
		mstances" present? Yes 🔀 No
Are Vegetation, Soil, or Hydrology natur		any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sho	wing sampling point locations	ransects important features etc
Hydrophytic Vegetation Present? Yes No	X Is the Sampled Area X within a Wetland?	Yes No X
Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No		
Remarks: (Explain alternative procedures here or in a separat		D
Location of proposed turn-around area. Sp		rained sandy soils
HYDROLOGY		
Wetland Hydrology Indicators:	Seco	ndary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	apply)	Surface Soil Cracks (B6)
		Drainage Patterns (B10)
		Aoss Trim Lines (B16)
		Dry-Season Water Table (C2)
		Crayfish Burrows (C8)
		Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
		Geomorphic Position (D2)
		Shallow Aquitard (D3)
		Aicrotopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		AC-Neutral Test (D5)
Field Observations:		
	inches):	
	inches): 0	
Saturation Present? Yes No C Depth ((includes capillary fringe)	inches): 0 Wetland Hydrol	ogy Present? Yes No X
Describe Recorded Data (stream gauge, monitoring well, aeria	I photos, previous inspections), if available	
Remarks:		
Area appears to well drained.		

Tree Stratum (Plot size: 30')	Absolute	Dominant		Dominance Test worksheet:	
1. Betula alleghaniensis	<u>% Cover</u> 60	Species? Y	FAC	Number of Dominant Species	
				That Are OBL, FACW, or FAC: 1 (A)	
2				Total Number of Dominant	
3				Species Across All Strata: <u>3</u> (B)	
4				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: <u>33.33</u> (A/	B)
6					
7				Prevalence Index worksheet:	
·	60			Total % Cover of: Multiply by:	
15'		= Total Cov	/er	OBL species $x = 0$	
Sapling/Shrub Stratum (Plot size: 15')	10	V		FACW species $x 2 = 0$	
1. Rosa multiflora	10	Y	FACU	FAC species $x 3 = \frac{0}{0}$ FACU species $x 4 = \frac{0}{0}$	
2				$\begin{array}{c} \text{PACU species} \\ \text{UPL species} \\ \text{X 5 = } \\ \end{array}$	
3				Column Totals: 0 (A) 0 (E	2
4					5)
5				Prevalence Index = B/A =	
				Hydrophytic Vegetation Indicators:	
6				Rapid Test for Hydrophytic Vegetation	
7	40			Dominance Test is >50%	
	10	= Total Cov	/er	Prevalence Index is $\leq 3.0^{1}$	
Herb Stratum (Plot size: 5')				Morphological Adaptations ¹ (Provide supporting	
1. Symplocarpus foetidus	2	Ν	OBL	data in Remarks or on a separate sheet)	
2. Alliaria petiolata	70	Y	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
3. Berberis thunbergii	15	N	FACU		
				¹ Indicators of hydric soil and wetland hydrology must	
4				be present, unless disturbed or problematic.	
5				Definitions of Vegetation Strata:	
6				Tree – Woody plants 3 in. (7.6 cm) or more in diamet	ter
7				at breast height (DBH), regardless of height.	
8				Sapling/shrub – Woody plants less than 3 in. DBH	
9				and greater than 3.28 ft (1 m) tall.	
10				Herb – All herbaceous (non-woody) plants, regardles	
				of size, and woody plants less than 3.28 ft tall.	55
11		. <u> </u>		Woody vines – All woody vines greater than 3.28 ft i	in
12	87			height.	
	07	= Total Cov	ver		
Woody Vine Stratum (Plot size: N/A)					
1					
2					
3				Hydrophytic	
4				Vegetation	
	0	= Total Cov		Present? Yes No X	
Remarks: (Include photo numbers here or on a separate			l		
Remarks. (include proto numbers here of on a separate	Sheet.)				

SUL	S	Ο		L
-----	---	---	--	---

Depth	Matrix	e to the de	pth needed to document the indicator or confirm Redox Features	the absence of indicators.)
(inches)	Color (moist)	%	Color (moist) % Type ¹ Loc ²	Texture Remarks
0-2	10YR 3/3	100		SiL
2-7	10YR 3/3	100		SL
	-		·	
			·	
			·	
		_		
			·	
			·	
			·	
			·	
¹ Type: $C = C$	oncentration D=De	nletion PM	 	ains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil		piction, rea		Indicators for Problematic Hydric Soils ³ :
Histosol	I (A1)		Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
	istic (A3)		Thin Dark Surface (S9) (LRR R, MLRA 149B)	
	en Sulfide (A4) d Layers (A5)		Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2)	Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L)
	d Below Dark Surfa	ce (A11)	Depleted Matrix (F3)	Thin Dark Surface (S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Surface (F6)	Iron-Manganese Masses (F12) (LRR K, L, R)
	Aucky Mineral (S1)		Depleted Dark Surface (F7)	Piedmont Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4) Redox (S5)		Redox Depressions (F8)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)
	d Matrix (S6)			Very Shallow Dark Surface (TF12)
	urface (S7) (LRR R,	MLRA 149	B)	Other (Explain in Remarks)
2				
	<pre>if hydrophytic vegeta Layer (if observed)</pre>		retland hydrology must be present, unless disturbed	or problematic.
Type: RC)-		
	ches): <u>7+</u>			Hydric Soil Present? Yes No X
Remarks:	cnes):			
Remarks:				

Project/Site: Mahopac	City/County: Putnam Cou	inty	Sampling Date: 04/20/2021
Applicant/Owner: SUEZ Water NY			Sampling Point: SP-UA
	Section, Township, Range:		
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, convex,	none): concave	Slope (%): 2
Subregion (LRR or MLRA): LRR R Lat: 4	1.360399 Long: 7	3.740131	Datum: NAD83
Soil Map Unit Name: Sun Ioam (Sh)			ation:
Are climatic / hydrologic conditions on the site typical for t	his time of year? Yes 🔀 No 🦲	(If no, explain in R	emarks.)
			resent? Yes 🗙 No 🦲
Are Vegetation, Soil, or Hydrology		d, explain any answei	
SUMMARY OF FINDINGS – Attach site map	o showing sampling point loca	tions, transects	, important features, etc.
	nd the residential properties / make this area wet enoug	Yes and Site ID: S. Drains to pip	
HYDROLOGY			
Wetland Hydrology Indicators:		_	tors (minimum of two required)
Primary Indicators (minimum of one is required; check a		_ U Surface Soil	
	ater-Stained Leaves (B9)	Drainage Pat	
	juatic Fauna (B13) arl Deposits (B15)	Moss Trim Li	Water Table (C2)
	/drogen Sulfide Odor (C1)	Crayfish Burr	
	kidized Rhizospheres on Living Roots (C3		sible on Aerial Imagery (C9)
	esence of Reduced Iron (C4)		ressed Plants (D1)
Algal Mat or Crust (B4)	ecent Iron Reduction in Tilled Soils (C6)	🔀 Geomorphic	Position (D2)
Iron Deposits (B5)	in Muck Surface (C7)	Shallow Aqui	tard (D3)
	her (Explain in Remarks)		phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral	Test (D5)
Field Observations:			
	epth (inches): 0 epth (inches): 0		
		d Hydrology Drocon	t? Yes No X
(includes capillary fringe)		d Hydrology Presen	
Describe Recorded Data (stream gauge, monitoring wel	l, aerial photos, previous inspections), if a	available:	
Remarks:			
Area is well drained			

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. Betula alleghaniensis	40	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
2. Fagus grandifolia	20	Y	FACU	That Are OBL, FACW, or FAC: 3 (A)
2. Carpinus caroliniana	40	Y	FAC	Total Number of Dominant
	· <u> </u>			Species Across All Strata: <u>5</u> (B)
4				Percent of Dominant Species That are OBL EACW or EAC: 60.00 (A/B)
5	·	. <u> </u>		That Are OBL, FACW, or FAC: 60.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	100	= Total Cov	rer	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =
_{1.} Rosa multiflora	10	Υ	FACU	FAC species x 3 =
2				FACU species x 4 = $\frac{0}{2}$
3				UPL species x 5 = $\frac{0}{2}$
				Column Totals: 0 (A) 0 (B)
4				Prevalence Index = B/A =
5				
6				Hydrophytic Vegetation Indicators:
7	·			Rapid Test for Hydrophytic Vegetation
	10	= Total Cov	er	Dominance Test is >50% Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: 5')				
1. Symplocarpus foetidus	50	Υ	OBL	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Alliaria petiolata	5	Ν	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3				
				¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6	·			Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7	·			at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	55	= Total Cov	or	height.
Weady Vine Stratum (Distrize)		- 10(0100)	CI	
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes X No
	0	= Total Cov	rer	
Remarks: (Include photo numbers here or on a separate s	sheet.)			

SC)IL

Profile Desc	ription: (Describe	to the dep	th needed to docur	nent the i	ndicator	or confirm	rm the absence of indicators.)	
Depth	Matrix	0/		x Features		1 2	- Tautura Di l	
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture Remarks	_
0-6	10YR 2/1	100					<u>Si</u>	_
								_
								_
								_
					·			_
					. <u> </u>			_
								_
								_
		·						
					·			_
								_
		letion, RM	=Reduced Matrix, CS	S=Covered	l or Coate	ed Sand G		
Hydric Soil							Indicators for Problematic Hydric Soils ³ :	
Histosol	(A1)		Polyvalue Belov	w Surface	(S8) (LRI	R R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)	
	oipedon (A2)		MLRA 1498				Coast Prairie Redox (A16) (LRR K, L, R)	
Black Hi			Thin Dark Surfa					
	n Sulfide (A4)		Loamy Mucky Mucky			., L)	Dark Surface (S7) (LRR K, L)	
	l Layers (A5) d Below Dark Surfac	o (A11)	Loamy Gleyed)		Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L)	
	ark Surface (A12)	e (ATT)	Redox Dark Su				Iron-Manganese Masses (F12) (LRR K, L, R)
	lucky Mineral (S1)		Depleted Dark		7)		Piedmont Floodplain Soils (F19) (MLRA 149	
	Gleyed Matrix (S4)		Redox Depress	-	,,		Mesic Spodic (TA6) (MLRA 144A, 145, 149E	
	edox (S5)		_	(-)			Red Parent Material (F21)	,
	Matrix (S6)						Very Shallow Dark Surface (TF12)	
Dark Su	rface (S7) (LRR R, N	/ILRA 149	3)				Other (Explain in Remarks)	
2								
			etland hydrology mus	st be prese	ent, unless	s disturbed	ed or problematic.	
	_ayer (if observed):							
Type: RC								1
Depth (ind	ches): <u>6+</u>						Hydric Soil Present? Yes No X	<u>_</u>
Remarks:								

		_						SWNY PFAS Cor				
0	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names	Note: ?" stands for approximate estima
•	-	1	SWNY PFAS Compliance	384 days?	Wed 3/31/21	Mon 10/10/22		8%	Wed 3/31/21	NA		
\checkmark	-	2	D/B Contract Notice to Proceed	1 day	Mon 4/5/21	Mon 4/5/21		100%	Mon 4/5/21	Mon 4/5/21		
	-	3	Maintain Secure Project Website	365 days	Tue 4/6/21	Mon 9/19/22	2	0%	Tue 4/6/21	NA		
•	-	5	Design Phase	251 days?	Wed 3/31/21	Fri 4/1/22		23%	Wed 3/31/21	NA		
		54	Design Construction Services	345 days	Wed 3/31/21	Mon 8/15/22		0%	NA	NA		
•	-	62	Construction Phase	384 days	Wed 3/31/21	Mon 10/10/22		3%	Wed 3/31/21	NA		
	-	63	Administration	233 days	Wed 3/31/21	Tue 3/8/22		4%	Wed 3/31/21	NA		
3 🔶		133	Construction Phase	229 days	Mon 11/8/21	Mon 10/10/22	65,66,67,68,78,8	30%	Mon 11/8/21	NA		
4	-	134	Survey-Establish Control	1 day	Mon 3/7/22	Mon 3/7/22	50	0%	Mon 3/7/22	NA		
5	-	135	Test Pit and Verify 6" OD for Tapping Sleeve	1 day	Mon 11/8/21	Mon 11/8/21	50	0%	NA	NA		
5		136	Mobilization	2 days	Mon 3/7/22	Tue 3/8/22	53	0%	Mon 3/7/22	NA		
7	-	137	Erosion Control	3 days	Wed 3/9/22	Fri 3/11/22	136	0%	NA	NA		
3		138	Site Clearing of Existing Trees/Brush	3 days	Mon 3/14/22	Wed 3/16/22	137	0%	NA	NA		
9	-	139	Strip Topsoil	3 days	Thu 3/17/22	Mon 3/21/22	138	0%	NA	NA		
D		140	Site Grading	3 days	Tue 3/22/22	Thu 3/24/22	139	0%	NA	NA		
1	-	141	Install fill	1 day	Fri 3/25/22	Fri 3/25/22	140	0%	NA	NA		
2	-	142	Install Stone Base for Access Road	3 days	Fri 3/25/22	Tue 3/29/22	140	0%	NA	NA		
3		143	Exterior Piping	116 days	Wed 4/6/22	Mon 9/19/22		0%	NA	NA		
4	-	144	Install 6" DIP Influent Piping into building including Tapping 6" Main	2 days	Wed 4/6/22	Thu 4/7/22	142,155FF+1 day,119,120	0%	NA	NA		
5	-	145		1 day	Fri 4/8/22	Fri 4/8/22	144	0%	NA	NA		
5	-	146		5 days	Fri 8/5/22	Thu 8/11/22	122,152	0%	NA	NA		
7	-	147	Chlorinate, Pressure Test and Flush/DOH Appr	10 days	Fri 9/2/22	Fri 9/16/22	175	0%	NA	NA		
3	-	148	Cut & Cap 6" Main After Tie In	1 day	Mon 9/19/22	Mon 9/19/22	147	0%	NA	NA		
9	-	149	Install 6' DIA Seepage Pit	1 day	Thu 6/23/22	Thu 6/23/22	153	0%	NA	NA		
0	-	150	Electric	84 days	Thu 4/7/22	Thu 8/4/22		0%	NA	NA		
1	-4	151	Excavate and Install Underground Electric Feed into building	3 days	Thu 4/7/22	Mon 4/11/22	155	0%	NA	NA		
2		152	Install Electrical Appurtenances	30 days	Thu 6/23/22	Thu 8/4/22	166	0%	NA	NA		
3	-	153	Building/Superstructure	60 days	Wed 3/30/22	Wed 6/22/22		0%	NA	NA		
4	-	154	Excavate for Building Footings	1 day	Wed 3/30/22	Wed 3/30/22	142	0%	NA	NA		
5	-	155	Form, Install Rebar and Pour Footings for Build	15 days	Thu 3/31/22	Wed 4/6/22	154	0%	NA	NA		
5	-	156	Form, Install Rebar and Pour Foundation Wall for Building	5 days	Tue 4/12/22	Mon 4/18/22	155,151,145	0%	NA	NA		
7	-	157	Form, Install Rebar and Pour Foundation Wall with Integral Piers for Building	6 days	Tue 4/19/22	Tue 4/26/22	156	0%	NA	NA		
3	-	158	Backfill Footings	1 day	Wed 4/27/22	Wed 4/27/22	157	0%	NA	NA		
9	-	159	Install GAC Equipment Pad	4 days	Thu 4/28/22	Tue 5/3/22	158	0%	NA	NA		
D	-	160		3 days		Fri 5/6/22	159	0%	NA	NA		
1	-	161	Install Stone Base for Slab on Grade	1 day	Mon 5/9/22	Mon 5/9/22	160	0%	NA	NA		
2	-	162	Install Slab on Grade	5 days	Tue 5/10/22	Mon 5/16/22	161	0%	NA	NA		
3	-	163		1 day		Tue 5/17/22	162	0%	NA	NA		
4	-	164	Install Equipment Pads- Form, Rebar, Pour, Strip and Rub	3 days	Wed 5/18/22	Fri 5/20/22	163	0%	NA	NA		
5	-	165	Install Filter Pads- Form, Rebar, Pour, Strip and	days	Mon 5/23/22	Wed 5/25/22	164	0%	NA	NA		
5	-	166	Installation of Pre-Engineered Building	25 days	Wed 5/18/22	Wed 6/22/22	163	0%	NA	NA		
7		167	Chemical Feed System	4 days	Thu 6/23/22	Tue 6/28/22		0%	NA	NA		
3	-	168	Install Piping for Sodium Hypo and Phosphoric	4 days	Thu 6/23/22	Tue 6/28/22	166	0%	NA	NA		
9	-	169	Treatment Equipment	20 days	Thu 6/9/22	Thu 7/7/22		0%	NA	NA		
0	-	170	Install 8' DIA GAC Equipment	2 days	Thu 6/9/22	Fri 6/10/22	166FS-10 days	0%	NA	NA		
1	-	171	Install Filters	1 day	Thu 6/23/22	Thu 6/23/22	166,170	0%	NA	NA		

								SWNY PFAS Pro	ject F-Chateau		
D ()	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names
172	-4	172	Install Influent, Effluent and Wastewater Flanged Piping	7 days	Thu 6/23/22	Fri 7/1/22	166,170	0%	NA	NA	
73	-4	173	Install Pipe Supports	3 days	Tue 7/5/22	Thu 7/7/22	172	0%	NA	NA	
74		174	Instrumentation	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
75		175	Install Instrumentation Appurtenances	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
76		176	Building HVAC Work	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
77	-	177	Install HVAC	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
78		178	Painting/Coating	5 days	Fri 7/8/22	Thu 7/14/22		0%	NA	NA	
179	-	179	Paint Interior Piping	5 days	Fri 7/8/22	Thu 7/14/22	169	0%	NA	NA	
80	-	180	Site Work	15 days	Fri 7/8/22	Thu 7/28/22		0%	NA	NA	
81		181	Install Site Civil-Gravel Turnaround and Landsc	15 days	Fri 7/8/22	Thu 7/28/22	173	0%	NA	NA	
82	-	182	Start Up and Testing	10 days	Mon 9/19/22	Fri 9/30/22		0%	NA	NA	
83		183	Start up and Test Equipment and Instrumentat	10 days	Mon 9/19/22	Fri 9/30/22	147,152	0%	NA	NA	
84	-	184	Substantial Completion	1 day	Mon 10/3/22	Mon 10/3/22	182	0%	NA	NA	
85		185	DOH Review and Approval	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
86		186	In Service	0 days	Mon 10/10/22	Mon 10/10/22	185	0%	NA	NA	
87	-	187	Demobilization	5 days	Tue 10/4/22	Mon 10/10/22		0%	NA	NA	
88		188	Cleanup/Demobilization	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
89	-	189	Final Completion	0 days	Mon 10/10/22	Mon 10/10/22	188,186	0%	NA	NA	

Page 2 of 2

4. The hydrology and the hydraulics study for this project have been undertaken to examine the pre and post construction drainage conditions. The study provides the impact of the proposed impervious area to the drainage system. To attenuate the post-development peak flow to predevelopment peak flow we are proposing a rain garden system. The rain garden system is design per NYSDEC's stormwater management design manual. The drainage system consists of pipes, stone outlet, rain garden system, and a 12" riser. The system it's an above ground practice and is design to store 1,571 cu.ft.. The ponding depth of the system is 6 inches and in order to address the overflow a 12-inch riser has been proposed. In addition, a list of the approved rain garden landscaping has been provided. Please refer to the site plan (dwg. no 1) and the grading plan (dwg. no 4).

5. The erosion and sediment control measures to be used on the site during the proposed work include silt fences and a construction entrance. In addition, disturbed portions of the site where construction activities permanently cease shall be stabilized no later than 14 days after the last construction activity. The Erosion and Sediment Control (E&SC) Plan is prepared per NYS Standards and Specifications for Erosion and Sediment Control. Please refer to the erosion and sediment control plan (dwg. no 5).

6. Stormwater runoff generated by the proposed site improvement will be routed to the rain garden system in order to provide zero net increase of peak runoff. The rain garden system is design to provide peak flow attenuation up to 100-year storm peak runoff. The rain garden system is design per NYSDEC's stormwater management design manual.

Ramya Ramanathan

From:	Liskovich, Sophia Z. <sliskovich@gfnet.com></sliskovich@gfnet.com>
Sent:	Thursday, January 27, 2022 9:28 AM
То:	Ramya Ramanathan
Subject:	FW: 3-3720-00473 Mahopac Well

Mahopac.

Sophia Liskovich, PE | Project Manager Gannett Fleming, Inc. | 7133 Rutherford Road t 410-907-2682 | c 856-296-3636 | sliskovich@gfnet.com

From: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Sent: Friday, November 12, 2021 12:44 PM
To: Arnold, Jillian N. <jarnold@GFNET.com>; Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Cc: Devine, Alysse (DEC) <Alysse.Devine@dec.ny.gov>
Subject: 3-3720-00473 Mahopac Well

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Good Morning,

The technical review is complete and program staff had the following comments.

- It is not evident where the permanent wetland impact will occur on the plan. Please identify the area on the plans.
- An erosion and sediment control plan is missing.

In addition, please let me know which Nationwide Permit # this project will fall under.

Please let me know if you have any questions.

Alysse Devine

Environmental Analyst, Division of Environmental Permits **New York State Department of Environmental Conservation** 21 South Putt Corners Rd, New Paltz, NY 12561 P: (845) 240-7806 <u>alysse.devine@dec.ny.gov</u>

www.dec.ny.gov | 📭 | 💟 | 🮯



Liskovich, Sophia Z.

From:	Orzel, Brian A CIV USARMY CENAN (USA) <brian.a.orzel@usace.army.mil></brian.a.orzel@usace.army.mil>
Sent:	Monday, January 10, 2022 12:24 PM
То:	Arnold, Jillian N.
Cc:	Smith, Steven C.; Liskovich, Sophia Z.
Subject:	RE: Submission of Suez Water Permit Applications
Attachments:	NWP Regulations FR 06JAN17.pdf; PN-LRB NAN Final Regional Conditions WQC CZM for NY (dated
	21-MAR-2017).pdf

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Jillian,

We received the pre-construction notification for NWP 3 for the above referenced project on November 16, 2021.

Due to my excessive work load, I was unable to provide a written determination within 45 days of its submission.

In accordance with the current nationwide general permit regulations (Federal Register dated January 6, 2017, pages 1860 to 2008), if the Corps of Engineers district does not respond to a pre-construction notification within 45 days of receipt, then the applicant may proceed with the project as proposed.

That means that the applicant must perform the work as proposed in your pre-construction notification. Any substantive changes to the project would require the applicant to submit a new notification to this office.

If you have any questions, let me know.

Brian

Brian A. Orzel Project Manager, Civil Engineer NY District US Army Corps of Engineers Regulatory Branch 26 Federal Plaza, Room 16-406 New York, New York 10278-0090

Please note in order to ensure our continuity of operations and improve the timeliness of permit application reviews due to the current COVID-19 virus, effective immediately, the New York District, U.S. Army Corps of Engineers is requiring that all new permit applications be submitted to the New York District electronically. Until further notice, the New York District will no longer process any paper permit applications. This electronic processing procedure will increase the efficiency of correspondence, furthering the goal of providing timely decisions. Please see the link below to the Regulatory Branch Operational Modification Special Public Notice describing the instructions for electronic application submittals:

https://www.nan.usace.army.mil/Portals/37/docs/regulatory/publicnotices/Non%20Project%20Specific/2020/CENAN-OP-R%20PN%20Electronic%20Submission%20of%20Permit%20Applications%2027MAR2020.pdf?ver=2020-03-31-163215-913.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, December 13, 2021 1:04 PM
To: Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Brian,

I wanted to touch base to you on the Suez projects in Putnam County. Have you been able to determine of the 5 projects (Archer, Chateau, Geymer, London Bridge and Mahopac) what nationwide permit these projects might fall under? NY DEC is currently waiting USACE's determination of the NWP in order to finalize the state permits.

Thank you very much for your time, we appreciate it!

Jillian

From: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Sent: Monday, November 15, 2021 10:24 AM
To: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>; Orzel, Brian A CIV USARMY CENAN (USA) <<u>Brian.A.Orzel@usace.army.mil</u>>
Subject: RE: Submission of Suez Water Permit Applications

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Ms. Arnold,

I have provided the Suez Water permit applications to Mr. Brian Orzel, copied on the email, who is the area project manager for Putnam County. If he has any questions on the submittal, he'll contact you.

R/ Rosie

ROSITA MIRANDA Chief, Western Section Regulatory Branch USACE, New York District Mobile: 347-446-0359

https://www.nan.usace.army.mil/Missions/Regulatory/

EFFECTIVE IMMEADIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: <u>CENAN-R-Permit-App@usace.army.mil</u>.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, November 8, 2021 12:42 PM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Good afternoon, I am following up with this email (below) from the 29th. I tried to submit the files to the site that was in the email from the 28th. However, It requested a code when I clicked the location. I know that USACE has not started reviewing these permits, and I am concerned about timeline for construction. Please let me know how I can get USACE the permits that need to be reviewed.

Thank you, Jillian

From: Arnold, Jillian N.
Sent: Friday, October 29, 2021 7:49 AM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>
Subject: RE: Submission of Suez Water Permit Applications

Good morning Rosie,

I am happy to drop off the files for Suez to the site listed in your email, however, it is asking for a request code? Are you able to send me a drop off request? I have never delivered information to USACE this way. Sorry for all of the questions.

Thank you, Jillian

From: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>> Sent: Thursday, October 28, 2021 3:12 PM To: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>> Subject: RE: Submission of Suez Water Permit Applications

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Please provide the town and county so we can direct your inquiry to the right permit section.

Please use - https://safe.apps.mil/ for file transfer.

R/ Rosie

ROSITA MIRANDA Chief, Western Section Regulatory Branch USACE, New York District Mobile: 347-446-0359 https://www.nan.usace.army.mil/Missions/Regulatory/

EFFECTIVE IMMEADIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: <u>CENAN-R-Permit-App@usace.army.mil</u>.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Thursday, October 28, 2021 12:12 PM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Could you please tell me how to submit packages to the FTP site? I have not received a response if you received the SUEZ packages for review. I do not want to lose too much time as NYSDEC is review these packages at this time.

Thank you very much for your help! Jillian

From: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>> Sent: Tuesday, October 12, 2021 4:54 PM To: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>> Subject: RE: Submission of Suez Water Permit Applications

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Please note that you have to use DOD Safe as the ftp site for large files.

What Town and County is this project in?

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Friday, October 8, 2021 1:02 PM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>; Liskovich, Sophia Z. <<u>sliskovich@GFNET.com</u>>
Subject: [Non-DoD Source] Submission of Suez Water Permit Applications

Good afternoon,

Please find the electronic versions of the Archer, Chateau and London Bridge Joint Permit Applications for SUEZ Water NY. These applications have been sent to NYSDEC for Joint Permit approvals. Below are the list of DEC IDs for these applications:

- Archer Well 3-3720-00471/00001
- London Bridge Well 3-3720-00469/00001
- Chateau Well 3-3720-00470/00001

The file sizes on each pdf is large making emailing cumbersome. Here is the link to download the 3 Joint Permit Applications.

Download Link: <u>SUEZ - Archer, Chateau and London Bridge JPA Packages</u>

Please let me know if there are any restrictions with accessing the link above.

Any additional questions, please do not hesitate to let us know.

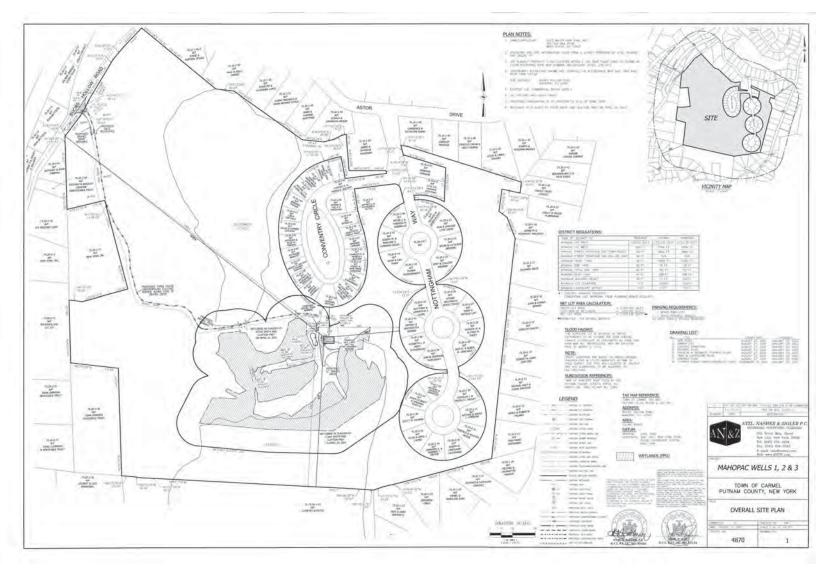
Thank you, Jill

Jillian Arnold, PWS | Senior Environmental Scientist Gannett Fleming | 207 Senate Avenue, Camp Hill, PA 17011 t 717.886.5402 | c 717.422.6229 | jarnold@gfnet.com Excellence Delivered As Promised Gannett Fleming is ISO 9001:2008 Certified. www.gannettfleming.com | Stay connected: Twitter | Facebook | LinkedIn | YouTube

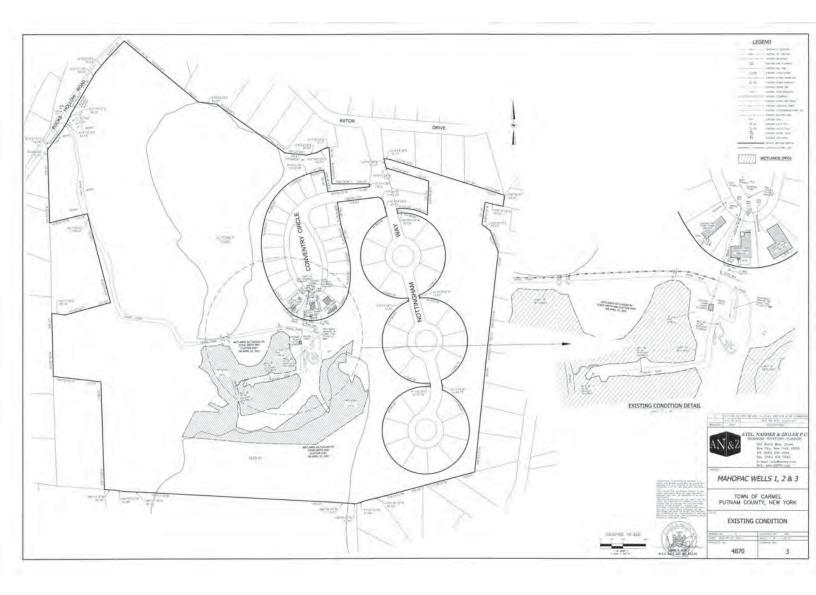
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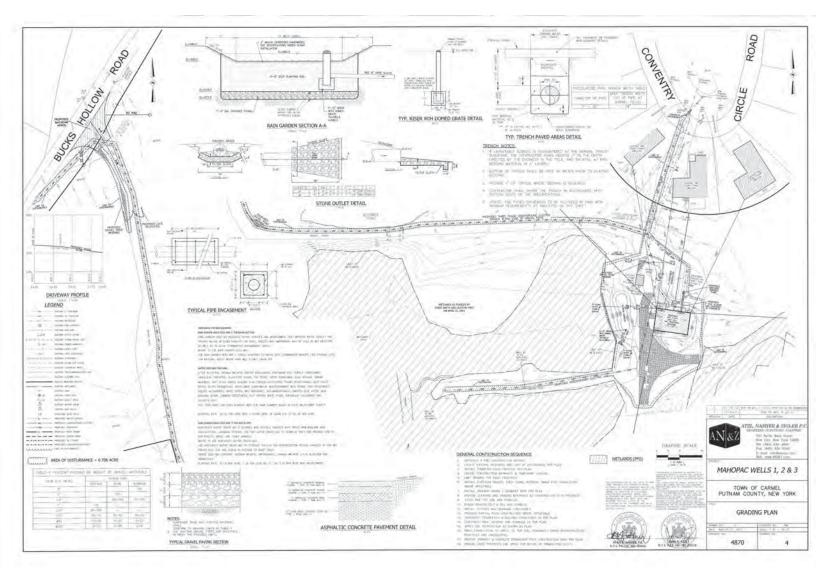
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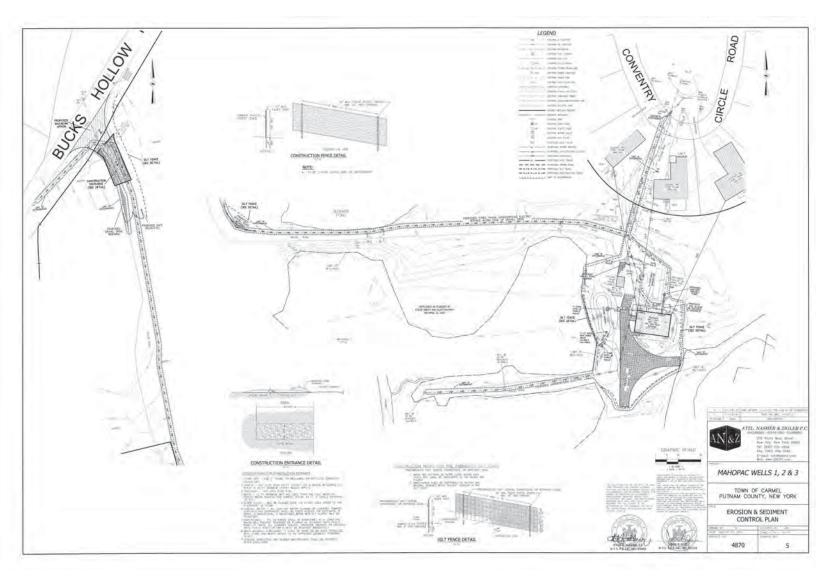
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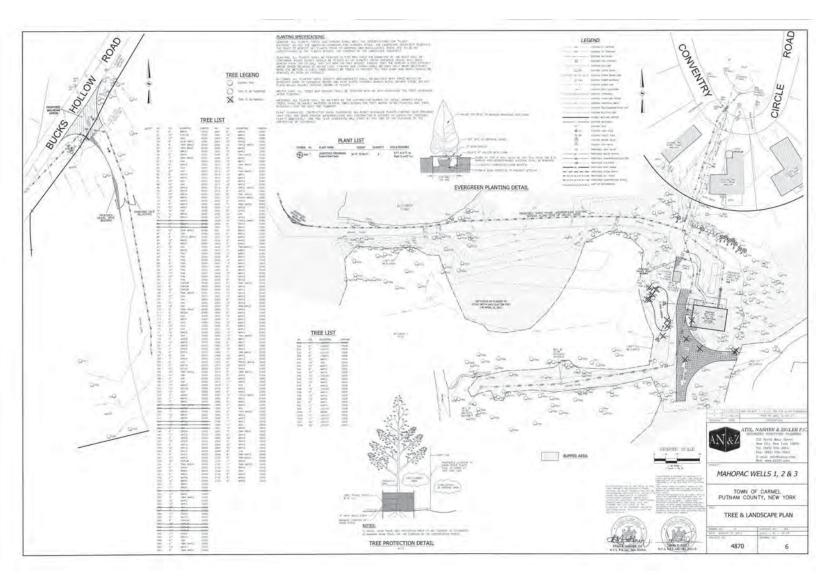


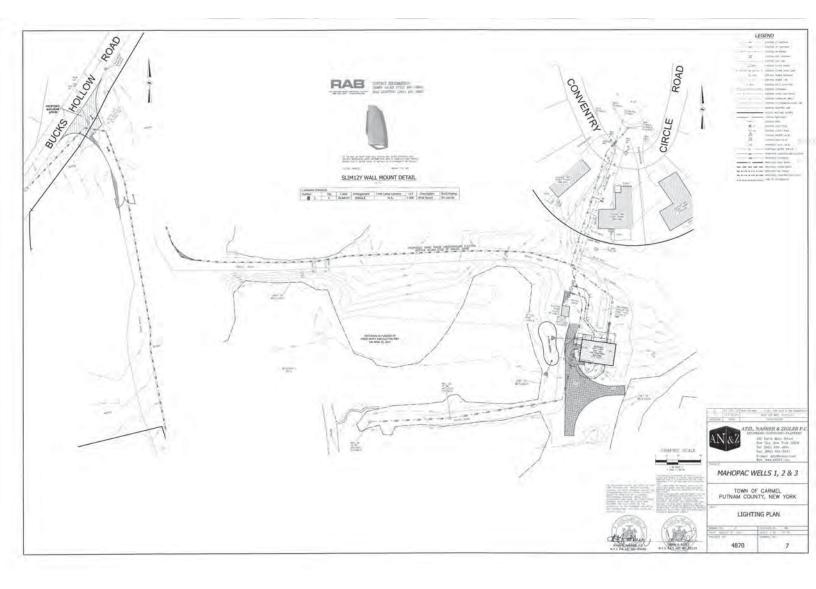
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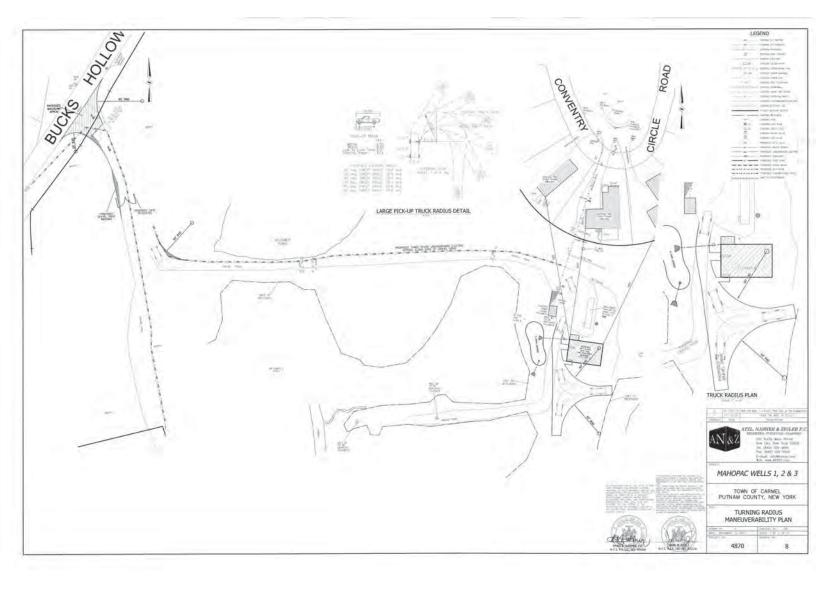












ROBERT LAGA Chairman

NICHOLAS FANNIN Vice Chairman

RICHARD FRANZETTI Wetland Inspector

ROSE TROMBETTA Secretary

TOWN OF CARMEL ENVIRONMENTAL CONSERVATION BOARD

BOARD MEMBERS

Edward Barnett Anthony Federice Nicole Sedran

60 McAlpin Avenue Mahopac, New York 10541 Tel. (845) 628-1500 - Ext. 190 www.ci.carmel.ny.us

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

Name of Applicant: SUEZ Water New York, Inc

Address of Applicant: 162 Old Mill Road, West Nyack, NY 10994 Email: steven.garabed@suez.com

Telephone#____845-620-3319____Name and Address of Owner if different from Applicant:

APPLICANT IS THE SAME AS OWNER

Property Address:_ 9 Colton Road, Mahopac, NY 10541______Tax Map # <u>85.12-1-8</u>____

Agency Submitting Application if Applicable: Atz, Nasher & Zigl &, P.C

Location of Wetland: Shown on Site Plan

Size of Work Section & Specific Location: <u>See attached description.</u> Will Project Utilize State Owned Lands? If Yes, Specify: <u>No</u>

Type and extent of work (feet of new channel, yards of material to be removed, draining, dredging, filling, etc). A brief description of the regulated activity (attach supporting details).

See attached description.

Proposed Start Date: 10 Acturn 2022 Anticipated Completion Date: October 2022 Fee Paid \$ 1,000

CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief, false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. As a condition to the issuance of a permit, the applicant accepts full legal responsibility for all damage, direct or indirect, or whatever nature, and by whomever suffered, arising out of the project described here-in and agrees to indemnify and save harmless the Town of Carmel from suits, actions, damages and costs of every name and description resulting from the said project.

SIGNATURE

<u>|-26-22</u>

Note: The Long EAF Part 1 was accepted by the Planning Board in September 2021. The project is classified as a Type II Action. Full Environmental Assessment Form Part 1 - Project and Setting

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 1 is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project:		
SUEZ Water New York, Inc. – London Bridge Well 1 & 2		
Project Location (describe, and attach a general location map):		
39 Brook Street in the Town of Carmel, Putnam County		
Brief Description of Proposed Action (include purpose or need):		
SUEZ Water is proposing the construction of upgrades at their existing London Bridge Well 1 & 2 site. The proposed upgrades will comply with the new state drinking water regulations for polyfluoroalkyl substances (PFAS). The planned upgrade will add treatment for PFAS to remain below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonate (PFOS), the regulated compounds.		
See the attached narrative for details.		
Name of Applicant/Sponsor:	Telephone: 845-620-3319	
SUEZ Water New York, Inc.	E-Mail: steven.garabed@suez.com	
Address: 162 Old Mill Road		
City/PO: West Nyack	State: NY	Zip Code: 10994
Project Contact (if not same as sponsor; give name and title/role):	Telephone: 845-634-4694	
John Atzl - Atzl, Nasher & Zigler, PC	E-Mail: jatzl@anzny.com	
Address:		
234 North Main Street		
City/PO:	State:	Zip Code:
New City	NY	10956
Property Owner (if not same as sponsor):	Telephone:	
PROPERTY OWNER IS THE SAME AS APPLICANT	E-Mail:	
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)			
Government En	tity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustee			
b. City, Town or Village Planning Board or Commis	✓Yes No sion	Town of Carmel Planning Board - Site Plan and Conditional Use Approval	August 2021
c. City, Town or Village Zoning Board of Aj	☑Yes□No ppeals	Town of Carmel Zoning Board - variance	August 2021
d. Other local agencies	ℤ Yes □ No	Town of Carmel Building Department - Building Permit, Sewer Connection Permit	August 2021
e. County agencies	∏ Yes □ No	Putnam County Department of Health	August 2021
f. Regional agencies	□Yes□No		
g. State agencies	□Yes□No		
h. Federal agencies	□Yes□No		
	-	r the waterfront area of a Designated Inland W with an approved Local Waterfront Revitaliza	_

□ Yes **Z**No

ii.	Is the project site located in a community with an approved Local Waterfront Revitalization Program
iii.	Is the project site within a Coastal Erosion Hazard Area?

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? 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 	☐ Yes Ø No
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?) If Yes, identify the plan(s): 	∠ Yes No
NYC Watershed Boundary	
 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? If Yes, identify the plan(s): 	∐Yes Z No

C.3. Zoning	
 a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. If Yes, what is the zoning classification(s) including any applicable overlay district? Residential District 	∠ Yes No
b. Is the use permitted or allowed by a special or conditional use permit?	☐ Yes 7 No
c. Is a zoning change requested as part of the proposed action?If Yes,<i>i</i>. What is the proposed new zoning for the site?	☐ Yes Z No
C.4. Existing community services.	
a. In what school district is the project site located? <u>Mahopac Central School District</u>	
b. What police or other public protection forces serve the project site? <u>Town of Carmel Police Department</u>	
c. Which fire protection and emergency medical services serve the project site? <u>Mahopac Volunteer Fire Department</u>	
d. What parks serve the project site? Airport Field, Sycamore Town Park	
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 m components)? Industrial Water Treatment and Supply	ixed, include all
b. a. Total acreage of the site of the proposed action?1.61acresb. Total acreage to be physically disturbed?0.26acres	

b. I otal acreage to be physically disturbed?	0.26 acres	
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor?	1.61 acres	
c. Is the proposed action an expansion of an existing project or use? *		☑ Yes□ No
<i>i</i> . If Yes, what is the approximate percentage of the proposed expansion	n and identify the units (e.g., acres, 1	
square feet)? % 194 Units:	726 sq. ft.	
d. Is the proposed action a subdivision, or does it include a subdivision?		□Yes ∠ No
If Yes,		
<i>i</i> . Purpose or type of subdivision? (e.g., residential, industrial, commerc	ial; if mixed, specify types)	
<i>ii.</i> Is a cluster/conservation layout proposed?		□Yes □No
<i>iii</i> . Number of lots proposed?		
iv. Minimum and maximum proposed lot sizes? Minimum	Maximum	
e. Will the proposed action be constructed in multiple phases?		☐ Yes Z No
<i>i</i> . If No, anticipated period of construction:	12 months	
<i>ii.</i> If Yes:		
• Total number of phases anticipated		
• Anticipated commencement date of phase 1 (including demoliti	on) month year	
• Anticipated completion date of final phase	month vear	
 Generally describe connections or relationships among phases, it 		rogress of one phase may
determine timing or duration of future phases:	include any containgenerous where p	105.000 of one phase may
determine mining of datation of future phases.		

* Calculation: [Proposed building expansion (sq ft)/ Existing building (sq ft)] X 100 (792 sq. ft. proposed building /235 sq. ft. existing building) X 100

Page 3 of 13

f. Does the proje	ct include new resid	lential uses?			☐ Yes 7 No
	nbers of units propo	osed.			
	One Family	<u>Two</u> Family	Three Family	Multiple Family (four or more)	
Initial Phase					
At completion					
of all phases					
g. Does the prop	osed action include	new non-residenti	al construction (inclu	uding expansions)?	∠ Yes No
If Yes,					—
<i>i</i> . Total number	r of structures	1			
<i>ii.</i> Dimensions ((in feet) of largest p	roposed structure:	22_height;	22 width; and 33 length 726 square feet	
				l result in the impoundment of any agoon or other storage?	☐Yes Z No
If Yes,	18 Creation of a wate	suppry, reserven	., ponu, iako, wasto n	agoon of other storage:	
	e impoundment:				
<i>ii</i> . If a water imp	poundment, the prin	cipal source of the	water:	Ground water Surface water stream	ns Other specify:
<i>iii</i> . If other than v	water, identify the ty	ype of impounded	contained liquids and	d their source.	
iv. Approximate	size of the propose	d impoundment.	Volume:	million gallons; surface area:	acres
v. Dimensions of	of the proposed dam	ı or impounding st	ructure:	million gallons; surface area: height;length ructure (e.g., earth fill, rock, wood, cond	
vi. Construction	method/materials	for the proposed da	am or impounding st	ructure (e.g., earth fill, rock, wood, cond	crete):
D.2. Project Op	oerations				
a. Does the prope	osed action include	any excavation, m	ining, or dredging, d	uring construction, operations, or both?	Yes√ No
(Not including	general site prepara			or foundations where all excavated	— —
materials will	remain onsite)				
If Yes:		ation or dradging?			
	urpose of the excava aterial (including ro			o be removed from the site?	
				o be removed from the site?	
	hat duration of time				
			be excavated or dred	ged, and plans to use, manage or dispose	e of them.
iv. Will there be	e onsite dewatering	or processing of e	xcavated materials?		Yes No
	· 1 · · · · · · h - dd.	1			
v. What is the u	otal area to be dredg	ged or excavated?		acres	
vii What would	be the maximum de	worked at any on onth of excavation	or dredging?	feet	
	avation require blas		of areaging		Yes No
ix. Summarize si	te reclamation goals	s and plan:			
				-	
			ion of, increase or de ach or adjacent area?	crease in size of, or encroachment	☐ Yes √ No
If Yes:	ing worana,	<i>ouj, morena, c</i> .	aon or aujacent art		
<i>i</i> . Identify the v				water index number, wetland map numb	er or geographic
description):					

<i>ii</i> . Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placeme alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in squ	
<i>iii.</i> Will the proposed action cause or result in disturbance to bottom sediments? If Yes, describe:	□Yes □No
<i>iv.</i> 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):	
<i>v</i> . Describe any proposed reclamation/mitigation following disturbance:	
c. Will the proposed action use, or create a new demand for water?	Yes V No
If Yes:	
<i>i</i> . Total anticipated water usage/demand per day: gallons/day	
<i>ii.</i> Will the proposed action obtain water from an existing public water supply?	□Yes □No
If Yes:	
Name of district or service area:	
• 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? Do quicting lines some the project site? 	□ Yes□ No □ Yes□ No
• Do existing lines serve the project site? <i>iii.</i> Will line extension within an existing district be necessary to supply the project?	$\Box Y es \Box No$
If Yes:	
Describe extensions or capacity expansions proposed to serve this project:	
• Source(s) of supply for the district:	·····
<i>iv.</i> Is a new water supply district or service area proposed to be formed to serve the project site? If, Yes:	☐ Yes ☐No
 Applicant/sponsor for new district:	
	·····
Proposed source(s) of supply for new district:	
<i>v</i> . If a public water supply will not be used, describe plans to provide water supply for the project:	
<i>vi</i> . 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>i</i> . Total anticipated liquid waste generation per day: gallons/day	1
<i>ii.</i> Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all approximate volumes or proportions of each):	components and
<i>iii.</i> 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:		
<i>iv.</i> Will a new wastewater (sewage) treatment district be formed to serve the project site?	□Yes 2 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 spec	ifying proposed	1
receiving water (name and classification if surface discharge or describe subsurface disposal plans):		
		_
		_
<i>vi.</i> 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	☐Yes Z No	
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?		
If Yes:		
<i>i</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 (impervious surface) Square feet or acres (parcel size)		
ii Describe transport active galactic size)		
<i>ii</i> . Describe types of new point sources.		
<i>iii.</i> Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent provided in the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent provided in the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent provided in the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent provided in the stormwater management facility/structures, adjacent provided in the stormwater management facility (i.e. on-site stormwater management facility) (i.e.		
	operties,	
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	
<i>iv.</i> Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater?		
f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel	∠ Yes □ No	
combustion, waste incineration, or other processes or operations?		
If Yes, identify:		
<i>i</i> . Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)		
Construction equipment and vehicles		
<i>ii.</i> Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)		
Power generation		
<i>iii.</i> 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,	☐Yes Z No	
or Federal Clean Air Act Title IV or Title V Permit?		
If Yes:		
<i>i</i> . Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet	□Yes□No	
ambient air quality standards for all or some parts of the year)		
<i>ii.</i> 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 ₂ O)		
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)? If Yes: <i>i</i>. Estimate methane generation in tons/year (metric): 	s 🖌 No
 <i>ii.</i> Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate electricity, flaring): 	heat or
i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):	s 🖌 No
new demand for transportation facilities or services? If Yes: <i>i</i> . When is the peak traffic expected (Check all that apply):	
iii. Parking spaces: Existing Proposed Net increase/decrease iv. Does the proposed action include any shared use parking? DYe v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access,	s□No describe:
<i>vii</i> Will the proposed action include access to public transportation or accommodations for use of hybrid, electric Ye or other alternative fueled vehicles?	s∏No s∏No s∏No
for energy? If Yes: <i>i</i> . Estimate annual electricity demand during operation of the proposed action: <u>16,335 kWh*</u> <i>ii</i> . Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local ution other):	
New York State Electric & Gas Corporation iii. Will the proposed action require a new, or an upgrade, to an existing substation?	s 🔽 No
1. Hours of operation. Answer all items which apply. i. During Construction: ii. During Operations: • Monday - Friday: 8AM - 6PM • Monday - Friday: 24 hours/day • Saturday: 8AM - 6PM • Saturday: 24 hours/day • Sunday: 8AM - 6PM • Sunday: 24 hours/day • Holidays: CLOSED • Holidays: 24 hours/day	

* The average number of kilowatt hours per square foot for a commercial building is approximately 22.5. (Source: lota Communications.com). The proposed building is 792 sq. ft.

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both?	☑ Yes □No
If yes:	
<i>i</i> . Provide details including sources, time of day and duration:	
The operation of construction equipment will increase local daytime ambient noise levels. This will only occur during permitted hours or resulting noise will cease upon completion of the project.	of operation and the
<i>ii.</i> 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>i</i> . Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:	
See Lighting Plan	
<i>ii.</i> Will proposed action remove existing natural barriers that could act as a light barrier or screen?	Yes No
Describe:	
	Yes No
o. Does the proposed action have the potential to produce odors for more than one hour per day? 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)	🗌 Yes 💋 No
or chemical products 185 gallons in above ground storage or any amount in underground storage? If Yes:	
<i>ii.</i> Volume(s) (e.g., month, year)	
<i>iii</i> . 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>i</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>i</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) <i>ii.</i> Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waster	
Construction:	
Operation:	
<i>iii</i> . 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):
<i>ii.</i> 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 Yes VNo
t Will the proposed action at the site involve the commercial generation treatment storage or disposal of hazardous \Box Yes ∇ No
waste?
If Yes:
<i>i</i> . Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility:
······································
<i>ii.</i> Generally describe processes or activities involving hazardous wastes or constituents:
<i>iii</i> . Specify amount to be handled or generated tons/month
<i>iv.</i> 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?
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:
In two. deserve proposed management of any nazardous wastes which will not be sent to a nazardous waste facility.
E. Site and Setting of Proposed Action
E.1. Land uses on and surrounding the project site
a. Existing land uses.
<i>i</i> . Check all uses that occur on, adjoining and near the project site.
🗌 Urban 🗹 Industrial 🔲 Commercial 🗹 Residential (suburban) 🗌 Rural (non-farm)
Forest Agriculture Aquatic Industrial Water Treatment and Supply
<i>ii.</i> If mix of uses, generally describe:

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
Roads, buildings, and other paved or impervious surfaces	0.07	0.2	+ 0.13
Forested, brushlands	1.34	1.21	- 0.13
Meadows, grasslands or brushlands (non- agricultural, including abandoned agricultural)	0.02	0.02	0
Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
Surface water features (lakes, ponds, streams, rivers, etc.)	0.05	0.05	0
Wetlands (freshwater or tidal)	0.13	0.13	0
Non-vegetated (bare rock, earth or fill)	0	0	0
Other Describe:			

c. Is the project site presently used by members of the community for public recreation? <i>i</i> . If Yes: explain:	☐ Yes 2 No
 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? If Yes, <i>i</i>. Identify Facilities: 	∏Yes ∏ No
e. Does the project site contain an existing dam?If Yes:<i>i</i>. Dimensions of the dam and impoundment:	☐ Yes ⁄ No
 Dam height: feet Dam length: feet 	
Surface area:acres Volume impounded:gallons OR acre-feet	
<i>ii.</i> Dam's existing hazard classification:	
<i>iii.</i> 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:	∐Yes ∏ No lity?
<i>i</i> . Has the facility been formally closed?	□Yes□ No
• If yes, cite sources/documentation:	
<i>ii.</i> Describe the location of the project site relative to the boundaries of the solid waste management facility:	
<i>iii</i> . 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? If Yes:	☐ Yes ⁄ No
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurr	ed:
 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? If Yes: 	Yes 🖌 No
<i>i</i> . Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply:	☐ Yes Z No
Yes - Spills Incidents database Provide DEC ID number(s):	
 Yes – Environmental Site Remediation database Provide DEC ID number(s):	
<i>ii</i> . If site has been subject of RCRA corrective activities, describe control measures:	
<i>iii.</i> Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? If yes, provide DEC ID number(s):	☐ Yes 2 No
<i>iv.</i> 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 Z No
 If yes, DEC site ID number:		
Describe any use limitations:		
Describe any engineering controls:		
 Will the project affect the institutional or eng Explain: 		☐ Yes ☐ No
E.2. Natural Resources On or Near Project Site		
a. What is the average depth to bedrock on the project	site? <u>2.1</u> feet	
b. Are there bedrock outcroppings on the project site?		☐ Yes Z No
If Yes, what proportion of the site is comprised of bed	rock outcroppings?%	
c. Predominant soil type(s) present on project site:	RdB- Ridgebury complex	37 %
······································		63 %
		%
d. What is the average depth to the water table on the	project site? Average:1 feet	
e. Drainage status of project site soils: Well Drained	d:% of site	
	Well Drained: <u>63</u> % of site	
Poorly Drain		
f. Approximate proportion of proposed action site with		
	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
		☐ Yes √ No
g. Are there any unique geologic features on the project If Yes, describe:		<u>res</u> no
h. Surface water features.		
<i>i</i> . Does any portion of the project site contain wetland	ls or other waterbodies (including streams, rivers,	☐Yes ∑ No
ponds or lakes)?		
<i>ii.</i> Do any wetlands or other waterbodies adjoin the pr	oject site?	∑ Yes □ No
If Yes to either <i>i</i> or <i>ii</i> , continue. If No, skip to E.2.i. <i>iii</i> . Are any of the wetlands or waterbodies within or a	diaining the project site regulated by any federal	√ Yes □ No
state or local agency?	ajoining the project site regulated by any rederal,	V I es Ino
iv. For each identified regulated wetland and waterbo	dy on the project site, provide the following information Classification	
• Wetlands: Name	Approximate Size	
• Wetland No. (if regulated by DEC)v. Are any of the above water bodies listed in the mos	t recent compilation of NVS water quality impaired	☐ Yes ∑ No
waterbodies?	t recent compliation of N 13 water quanty-imparted	
	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 adjoi	ning, a primary, principal or sole source aquifer?	☐Yes √ No
If Yes: <i>i</i> Name of aquifer:		

m. Identify the predominant wildlife species	that approximition use the majoritation		
Squirrel	Raccoon	·····	
Deer	Possum		· · · · · · · · · · · · · · · · · · ·
Rabbit	Fox		
n. Does the project site contain a designated s	ignificant natural community?		☐ Yes √ No
If Yes:			
<i>i</i> . Describe the habitat/community (compos	ition, function, and basis for desig	gnation):	· · · · · · · · · · · · · · · · · · ·
<i>ii.</i> Source(s) of description or evaluation:			
<i>iii</i> . 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 pla		And an NVC	
			Yes No
endangered or threatened, or does it contain	any areas identified as nabitat to	or an endangered or inreatened spec	1es?
If Yes:			
<i>i</i> . Species and listing (endangered or threatened	l):		
p. Does the project site contain any species of	f plant or animal that is listed by	NYS as rare, or as a species of	☐ Yes √ No
special concern?	1 5		
If Yes:			
<i>i</i> . Species and listing:			
<i>i</i> . Species and listing			
q. Is the project site or adjoining area current			□Yes √ No
If yes, give a brief description of how the pro	posed action may affect that use:		
E.3. Designated Public Resources On or N			
a. Is the project site, or any portion of it, loca	ted in a designated agricultural dis	strict certified pursuant to	∐ Yes ∑ No
Agriculture and Markets Law, Article 25-	AA, Section 303 and 304?	-	
If Yes, provide county plus district name/nur			
b. Are agricultural lands consisting of highly			□Yes √ No
<i>i</i> . If Yes: acreage(s) on project site?			
<i>ii.</i> 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	∐ Yes ∑ No
Natural Landmark?	of is it substantianty contiguous a	s, a registered reational	
If Yes:			
	Biological Community	Geological Feature	
<i>ii.</i> Provide brief description of landmark, in	cluding values behind designation		
	endening values benind designation		
d. Is the project site located in or does it adjo	n a state listed Critical Environme	ental Area?	☐ Yes √ No
If Yes:			
<i>i</i> . CEA name:			
<i>ii</i> . Basis for designation:			
<i>iii.</i> Designating agency and date:			

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 Commis Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic	
If Yes: <i>i</i> . Nature of historic/archaeological resource: Archaeological Site Historic Building or District <i>ii</i> . 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 Ø No
 g. Have additional archaeological or historic site(s) or resources been identified on the project site? If Yes: i. Describe possible resource(s): ii. Basis for identification: 	□Yes 2No
 h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? If Yes: i. Identify resource: State Scenic Byway 	ØYes □ No
ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail etc.): Taconic State Parkway	or scenic byway,
iii. Distance between project and resource: 1.1 miles. i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers	Yes No
Program 6 NYCRR 666? If Yes: <i>i</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

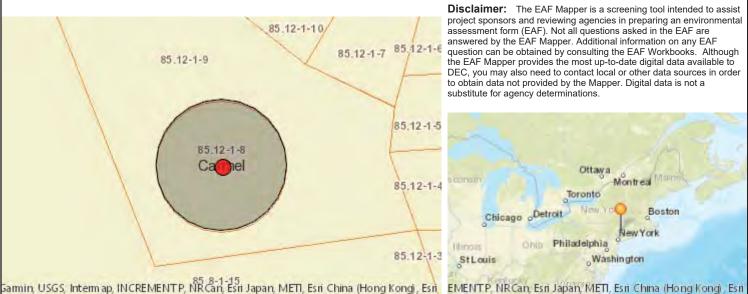
Attach any additional information which may be needed to clarify your project.

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 John Atz	Date_September 10, 2021
Signature	Title Land Surveyor
\bigcirc '	



Samin, USGS, Internap, INCREMENTP, NR Can, Esri Japan, METI, Esri China (Hong Kong), Esri EMENTP, NR Can, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	No
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
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.I. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No
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]	No
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]	No
E.3.i. [Designated River Corridor]	No

Project Description

General Project Information

Applicant:	SUEZ Water New York, Inc.
Project:	PFAS Compliance Project F – Archer Well
Location:	Town of Carmel Putnam County, New York
Consultant:	Gannett Fleming, Inc. 207 Senate Avenue Camp Hill, PA 17011

Introduction

SUEZ is proposing the construction of upgrades at their existing Archer well site. The proposed study area (41° 21' 01.477" N, 73° 47' 07.451" W) is located in the Town of Carmel, Putnam County, New York. The project study for this project encompassed the entire SUEZ property. During delineation efforts an additional 300-foot buffer was reviewed around the project study area and is referred to in the permit application as the action area. Refer to the Topographic Location Map and Aerial Layout Map for the location and project limits located in **Section A**.

Project Purpose and Need

The State of New York has adopted a new drinking water standard that set a Maximum Contaminant Level (MCL) of 10 parts per trillion (ppt) for Perfluorooctanoic Acid (PFOA) and Perfluoroctane Sulfonate (PFOS) in drinking water. Some PFAS do not breakdown easily and persist for a long time in the environment, especially in water. The concern of PFAS chemicals having toxic effects on public health has resulted in new regulations for the New York State Drinking Water Standard.

In order to comply with these new MCLs, SUEZ plans to construct a treatment facility at the existing Archer Well Site.

Necessary upgrades were identified based on the water quality sampling results. The site upgrades include upsizing of the existing well pumps, installation of a prefiltration system consisting of bag filters, and installation of a GAC treatment system. The planned upgrades will not increase the firm capacity of the wells.

Architectural, civil, electrical, structural, HVAC and plumbing upgrades will also be implemented to accommodate the new treatment system at the existing location.

Project Description Details

Improvements at the Archer Well site shall include the construction of a new PFAS treatment building, a 6" influent pipe, a 6" effluent pipe, an underground electrical conduit, and a 12' permanent access road off of Colton Road to the new PFAS treatment building. There will be a temporary construction access road used from Archer Road across a farmer's field to the PFAS location. This temporary access road will be reclaimed up completion of construction. Erosion and sediment controls will be installed to protect the regulated features. Disturbance will be kept to a minimum and avoidance measures have been considered during the design phase of the project.

Project Area Description

The proposed PFAS upgrades will be installed within the existing SUEZ property located on the west side of Colton Road in the Town of Carmel, New York. The proposed project study area is approximately 1 acre and is located west of the Colton Road and Archer Road intersection. The action area surrounding the project study area is approximately 10 acres. The project study area and action area consist of forested hillslopes, forested stream valley, grass access roads, residential properties, and local roads.

Water resources within or adjacent to the project area include an unnamed tributary to Shrub Oak Brook as identified by NYSDEC freshwater mapping, National Wetland Inventory mapping, and U.S. Geological Survey topographical mapping. Additional water resources were identified during field investigations.

Project Impacts

One parcel was impacted by the SUEZ PFAS project. Project design will impact one regulated feature and the intent of this package is to obtain approvals from the Town. Refer to the Wetland Delineation Report provided **Section B** for more information regarding the resource.

The proposed project limit of disturbance overlaps one USACE regulated wetland. Permanent and temporary impacts shall occur as a result of the proposed 12' access road from Colton Road to the new PFAS building. Reclamation to the portion of the wetlands with temporary impacts will take place as soon as construction is complete.

Please see **Section** C for a typical diagram of construction.

Regulated Activities

Wetland Impacts

The Town of Carmel will regulate impacts at the Archer Well site involve temporary and permanent impacts to Wetland 3. Impacts shall occur as a result of the grading of the PFAS facility, construction of piping to connect to the well and from the 12' permanent access road being constructed from Colton Road to the new PFAS treatment building. The temporary wetland impacts will be contained within the location of permanent impacts. No additional temporary impacts will take place. All erosion and sediment controls shall be removed once construction is complete. Permanent impacts shall occur as a result of fill being placed in Wetland 3 associated with the project. Below are the calculated impacts to the wetland and within 100 feet adjacent to the wetlands.

Wetland Impacts

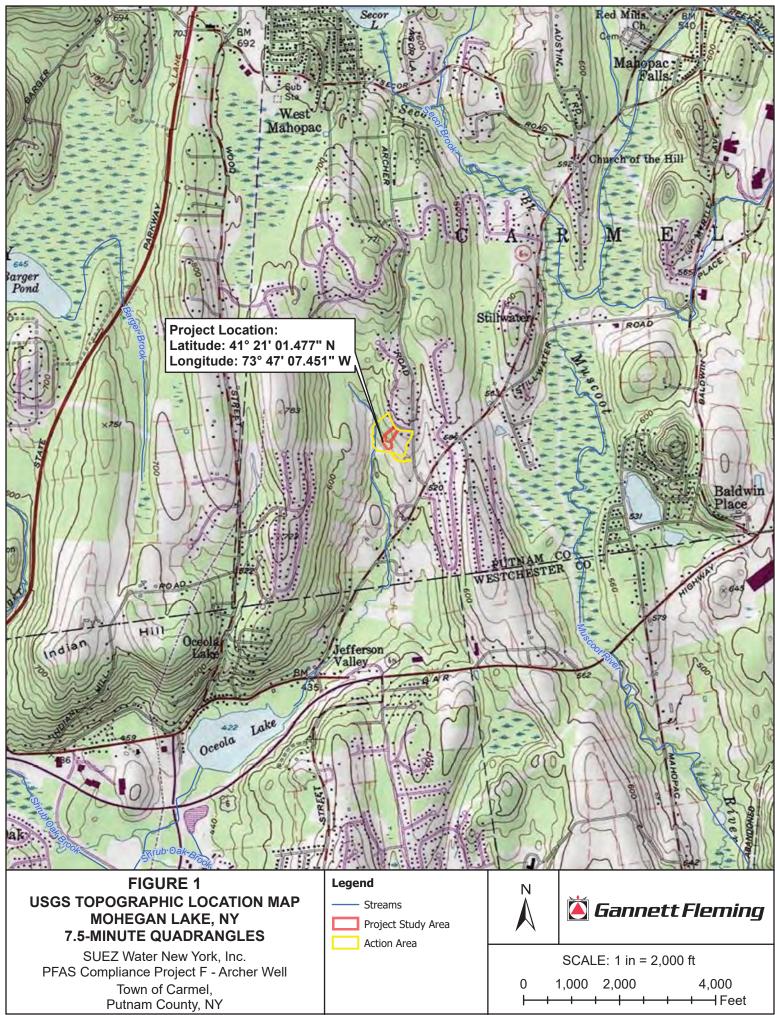
• 3,339.32 ft²; 0.077 ac

Impacts to the 100' Buffer

• 14,617.94 ft²; 0.404 ac

There are no stream impacts associated with this project.

Section A: Topographic Location Map and Aerial Layout Map



Data Source: Topographic mapping provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April2021.



Data Source: Aerial Imagery provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April 2021.

Section C: Typical diagram of construction

Note: Please refer to the attached Site Plan set.

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT



SUEZ Water New York Inc. PFAS Compliance Project F – Archer Well

Town of Carmel, Putnam County, New York

Prepared for:

SUEZ Water New York, Inc. 162 Old Mill Rd West Nyack, NY 10994

Prepared by:

Gannett Fleming 207 Senate Avenue Camp Hill, PA 17011

May 2021

GF Project No. 068577

WETLAND AND WATERWAY IDENTIFICATION AND DELINEATION REPORT

SUEZ Water New York Inc. PFAS Compliance Project F – Archer Well

Town of Carmel, Putnam County, New York

Prepared for:

SUEZ Water New York Inc.

Prepared by:



May 2021

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1.0 Executive Summary

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing Archer well site. The proposed study area (41° 21' 01.477" N, 73° 47' 07.451" W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for perand polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), the regulated compounds.

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with U.S. Fish and Wildlife Service (USFWS). The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area and action area. This report was prepared to satisfy the regulatory requirements of the U.S. Army Corps of Engineers (USACE) under the purview of Section 404 of the Clean Water Act and New York State Department of Environmental Conservation (NYSDEC) under Article 24, Freshwater Wetlands Act.

On April 22, 2021, Gannett Fleming, Inc. (GF) conducted a field investigation to delineate wetlands and waterways within the 1-acre project study area and 10-acre Action area for use in project planning and permitting efforts for the PFAS Compliance Project F – Archer Well. Three (3) wetlands and one (1) waterway were delineated within the project study area and action area (**Table 1**). An unnamed tributary (UNT) to Shrub Oak Brook was confirmed in the field as a perennial waterway flowing through the western portion of the action area. Wetland and waterway boundaries were mapped in the field and are presented in **Appendix A**. Photographs were taken of the wetlands and waterways and are provided in **Appendix B**. Wetland data forms were completed to document the hydrology, vegetation, and soil conditions of the delineated wetlands and are provided in **Appendix C**.

I able 1. Wetland and Waterway Summary				
PROJECT TOTALS				
WETLANDS				
Feature TypeNumber PresentTotal Acres (AC)				
PFO Wetland	2	0.569+		
 PFO/PSS/PEM 	1	0.817+		
WATERWAYS				
Feature Type	Number Present	Total Linear Feet (LF)		
Perennial Waterway	1	689		

Table 1. Wetland and Waterway Summary

Wetlands

- Wetland 1 PFO wetland, 0.564+ acres (Open-Ended)
- Wetland 2 PFO wetland, 0.005 acres
- Wetland 3 PFO/PSS/PEM wetland, 0.817+ acres (Open-Ended)

Waterways

• Stream 1– Perennial, 689 linear feet

*Length in linear feet represents delineated length

A "+" indicates the delineated resource extends beyond the Project Study Area or Action area.

2.0 **Project Description**

SUEZ Water New York, Inc. (SUEZ) is proposing the construction of upgrades at their existing Archer well site. The proposed study area (41° 21' 01.477" N, 73° 47' 07.451" W) is located in the Town of Carmel, Putnam County, New York.

SUEZ proposes to construct upgrades to comply with the state drinking water regulations for perand polyfluoroalkyl substances (PFAS). Some PFAS do not break down easily and persist for a long time in the environment. The planned upgrade will add treatment for PFAS to below the New York State Drinking Water Standard of 10 parts per trillion (ppt) for both PFOA and PFOS, the regulated compounds

The project study area for this project encompassed the entire SUEZ parcel. A 300-foot buffer surrounding the project study area was used to create an action area for a Phase I Bog Turtle Survey in coordination with USFWS. The action area was investigated for wetlands and watercourses in addition to the project study area and results are included within this report.

The proposed PFAS upgrades will be installed within the existing SUEZ property located on the west side of Colton Road in the Town of Carmel, New York. The proposed project study area is approximately 1 acre and is located west of the Colton Road and Archer Road intersection. The action area surrounding the project study area is approximately 10 acres. The project study area and action area consisted of forested hillslopes, forested stream valley, grass access roads, residential properties, and local roads.

3.0 Purpose

The purpose of this report is to present the results of the wetlands and waterways investigation performed within the proposed project study area. This report was prepared to satisfy the regulatory requirements of the USACE under the purview of Section 404 of the Clean Water Act and NYSDEC under Article 24, Freshwater Wetlands Act.

4.0 Study Area Description

A 300-foot buffer was used surrounding the project study area to create the action area. The action area was investigated as part of the Phase I bog turtle habitat survey. The 1-acre project study area and 10-acre action area consisted of forested hillslopes, forested stream valley, grass access roads, residential properties, and local roads.

4.1 Topography

According to the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Mohegan Lake, New York), the elevation of the project study area ranged from approximately 500 to 580 feet above mean sea level (amsl). An excerpt from the USGS Topographic Quadrangle Map is provided as **Figure 1**. A Project Location and Study Area Map is provided as **Figure 2**.

4.2 Soils

According to the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey, eight (8) soil series were mapped within the project study area and Action area: Charlton-Chatfield complex, 0-15% slopes (CrC), Chatfield-Charlton complex, 15-35% slopes (CsD), Paxton fine sandy loam, 3-8% slopes (PnB), Paxton fine sandy loam, 8-15% slopes (PnC), Paxton fine sandy loam, 15-25% slopes (PnD), Ridgebury complex, 3-8% slopes (RdB), Ridgebury complex, 0-8% slopes, very stony (RgB), Woodbridge loam, 8-15% slopes (WdC). CrC was listed with 5% hydric inclusions. CsD was listed with 6% hydric inclusions. PnB was listed with 6% hydric inclusions. PnC was listed with 2% hydric inclusions. PnD was listed with 1% hydric inclusions. RdB was listed as 58% hydric. RgB was listed as 58% hydric. WdC was listed with 7% hydric inclusions. An excerpt from the soil survey mapping is provided as **Figure 3**.

4.3 Geology

The project is located in the Hudson Highlands Section of the Physiographic Provinces of New York (NYSM, 1995). The project study area is underlain by the Biotite-quartz-plagioclase paragneiss (bqpc) unit of bedrock; the bqpc unit that underlays the project study area consists of "biotite-quartz-plagioclase gneiss with subordinate biotite grantic gneiss, amphibolite, calcsilicate rock" assumed to be from the Middle Proterozoic period (NYSM, 1995). The project is also underlain by the surficial geologic unit till (t) defined by "variable texture (e.g. clay, silt-clay, boulder clay), usually poorly sorted diamict, deposition beneath glacier ice, relatively impermeable (loamy matrix), variable clast content...potential land instability on steep slopes, thickness variable (1-50 meters)" (NYSM, 1989).

4.4 Surface Waters

The USGS map identified a perennial UNT to Shrub Oak Brook flowing through the western portion of the Action area (**Figure 1**). No other streams or waterbodies were identified on USGS mapping within or immediately adjacent to the project study area or Action area.

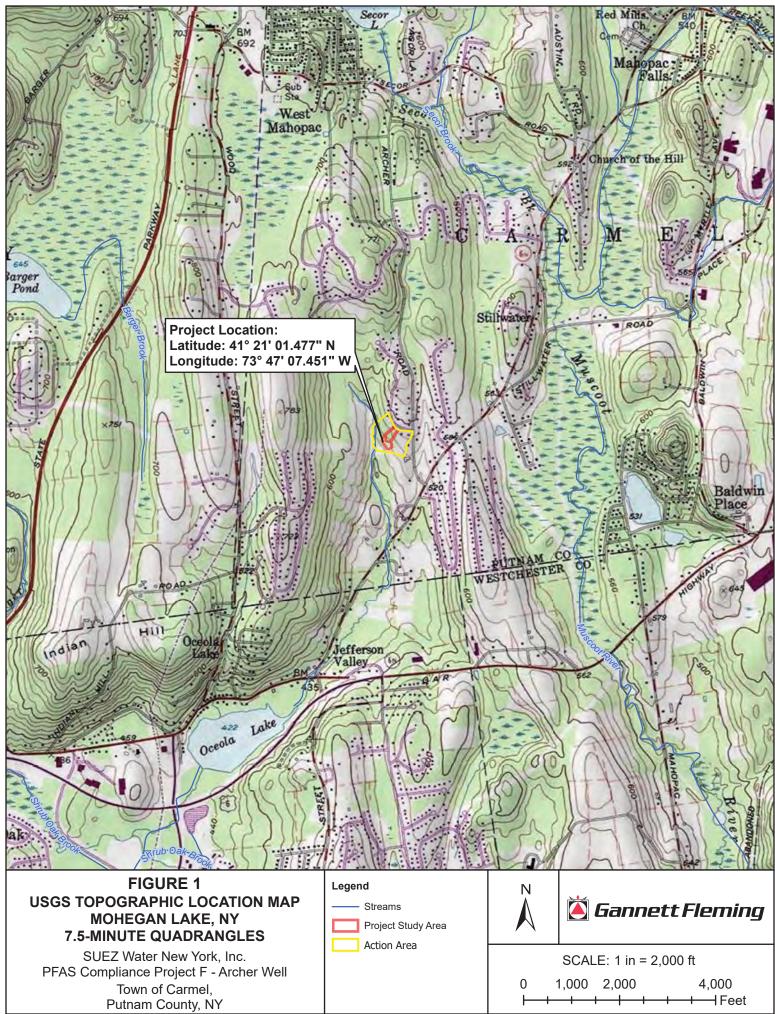
NYSDEC has designated the UNT to Shrub Oak Brook as water quality classification 'C'. This classification indicates that the water resource is best used for fishing. A 'C' classification is not considered protected waters of the state.

4.5 National Wetlands Inventory

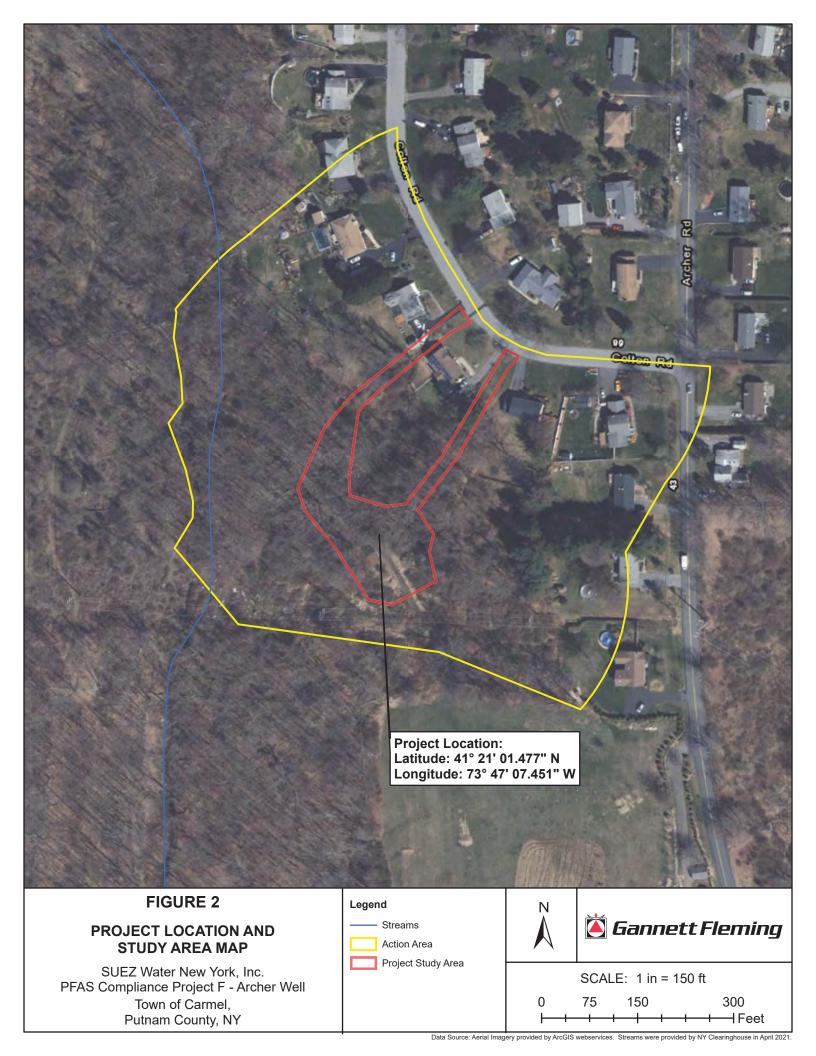
The National Wetlands Inventory (NWI) online mapping tool identified one (1) feature within the action area. NWI identified the UNT to Shrub Oak Brook as a riverine, upper perennial, unconsolidated bottom, permanently flooded (R3UBH). The NWI map for the project study area is provided as **Figure 4**.

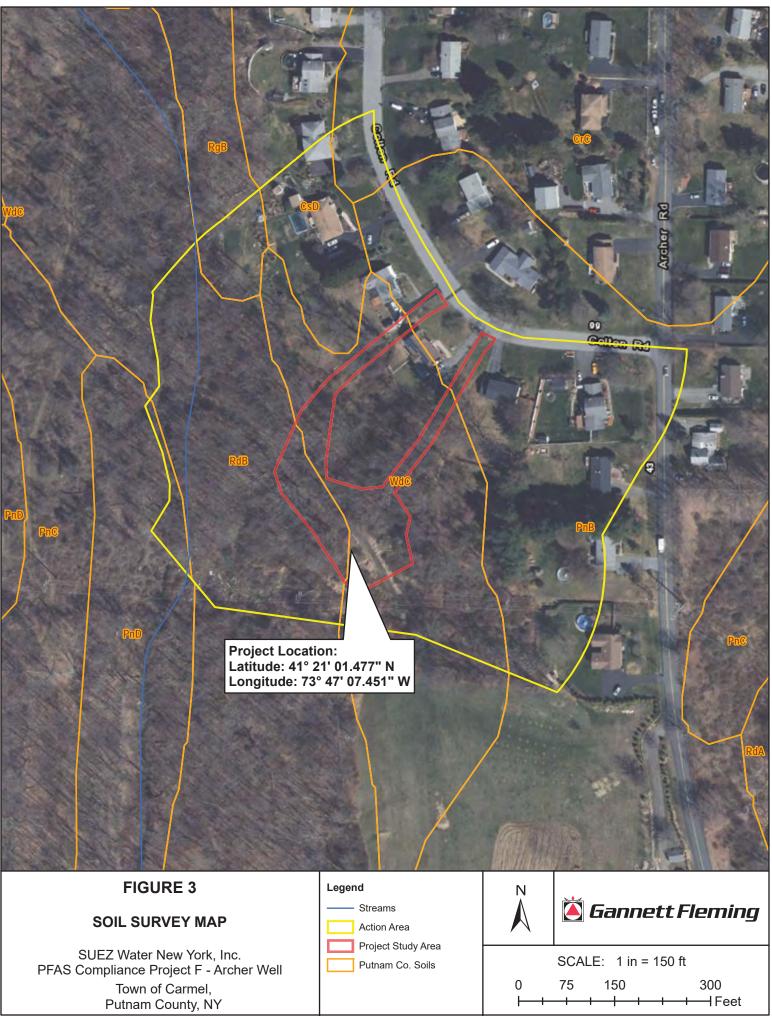
4.6 NYSDEC Wetlands

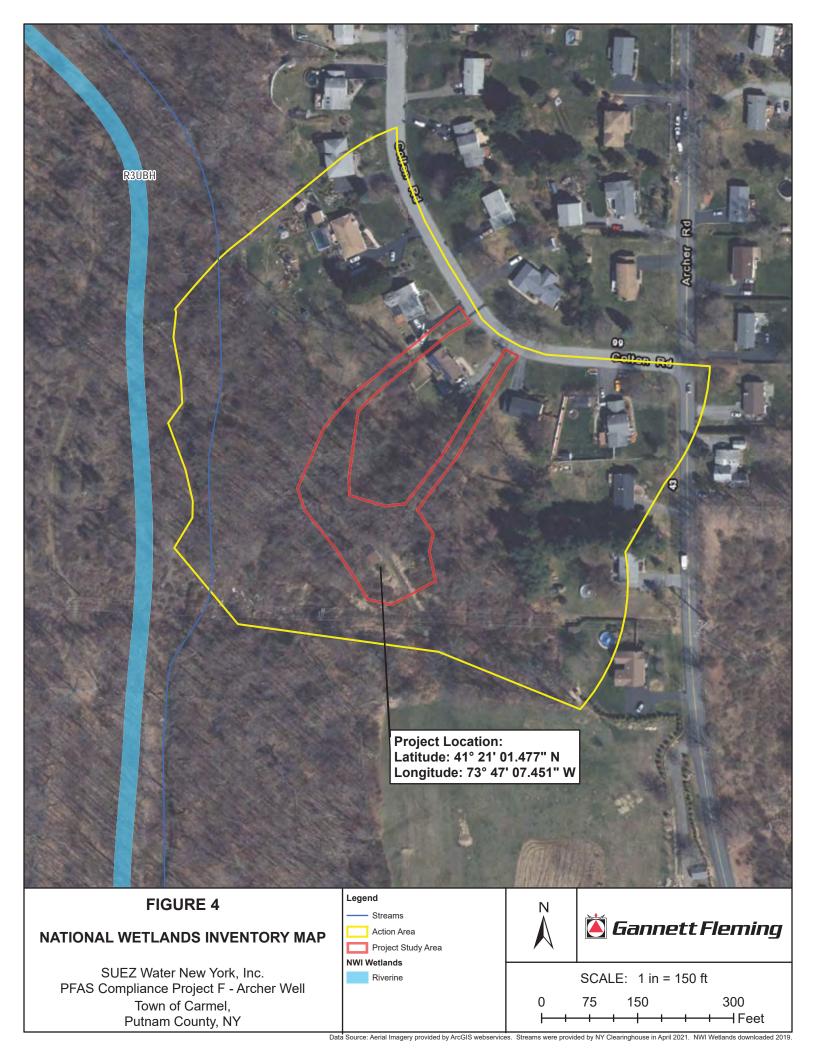
There were no NYSDEC freshwater or tidial wetlands identified within either the project study area or the action area. The NYSDEC wetland map for the project study area is provided as **Figure 5**.

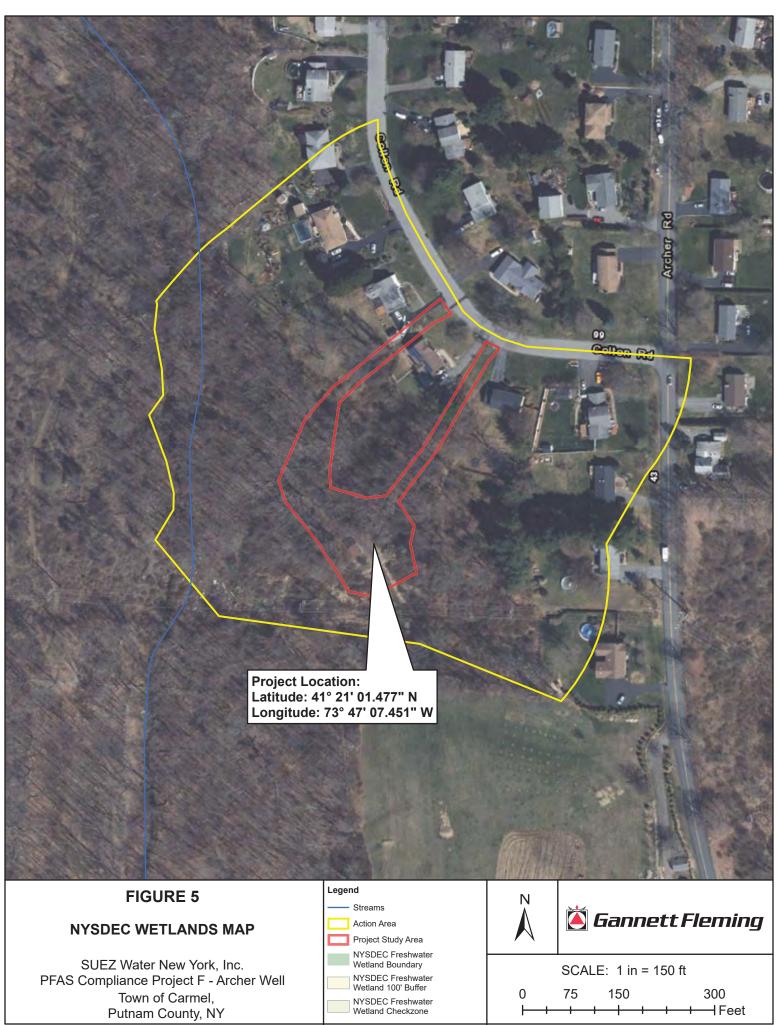


Data Source: Topographic mapping provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April2021.









Data Source: Aerial Imagery provided by ArcGIS webservices. Streams were provided by NY Clearinghouse in April 2021. Regulated resources and buffers provided by NYSDEC.

5.0 Methods

The 1-acre project study area and 10-acre action area were investigated for palustrine wetland indicators of vegetative composition, soil development, and hydrology. Portions of the action area located west of the UNT to Shrub Oak Brook and south of the overhead electric line were not able to be investigated due to site access issues. The investigation was conducted in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (U.S. Army Corps of Engineers, 2012). Wetland field data forms were completed to document wetland or non-wetland data points. If present, wetlands within and directly adjacent to the study area were delineated so that their presence could be shown on project mapping to aid in impact avoidance and/or minimization during engineering design.

Soils were characterized by evaluating the upper horizons of the soil profile. Soil pits were dug using a "sharpshooter" spade with a 16-inch blade. Soil horizons were evaluated using normal field protocols for determining texture and nomenclature. The *Munsell Soil Color Charts* (Kollmorgen Instruments Corporation, 1994) were used to determine the colors of horizons and redoximorphic features. Soil observations of reducing conditions were determined in the field using presence/absence determinations of redoximorphic concretions and oxidized rhizospheres, and identifying low chroma matrices according to *Field Indicators of Hydric Soils in the United States (Version 7.0)* (USDA-NRCS, 2010).

Vegetation was identified using A Field Guide to Trees and Shrubs (Petrides, 1986), Newcomb's Wildflower Guide (Newcomb, 1977), and Grasses: An Identification Guide (Brown, 1979). Plant species were assigned an indicator status [i.e., Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), or Obligate Wetland (OBL)] based on the 2018 National Wetland Plant List (Version 3.4) (USACE, 2018).

Data point locations were investigated for primary and secondary wetland hydrology indicators. If present, wetland boundaries were marked using pink wetland flagging. Wetland boundary data points were located using a Trimble Yuma 2 Global Positioning System (GPS) with Trimble Pro 6T receiver. The Trimble Yuma 2 and the Pro 6T are capable of attaining sub-meter accuracy. The GPS data were then transferred onto relevant project mapping using the U.S. State Plane NY East coordinate system.

Wetland type classifications were assigned to each wetland following the Cowardin et al methods (1979). Hydrogeomorphic classifications were assigned to each wetland based on the *Hydrogeomorphic Wetland Classification: HGM Classification for Wetlands of the Mid-Atlantic Region, USA* (Brooks, 2017). Palustrine plant community classifications were assigned to each wetland based on *Ecological Communities of New York State* (Edinger et al, 2014). Color photographs were taken of all relevant features to document site conditions during the time of the investigation.

Waterways were identified through a review of available mapping and field investigation. Topographic and engineering maps were reviewed for the presence of streams within the project study area. A field investigation for waterways was performed in conjunction with the wetland field investigation and included the field verification of mapped watercourses and the identification and delineation of streams, springs, and seeps that were not shown on existing engineering plans. Waterways were identified by the presence of bed and banks and/or ordinary

high-water marks. The flow regime of each identified waterway was characterized based upon field indicators of hydrologic, floral, and faunal character at the time of the investigation. All identified waterways were photographed and located using GPS.

6.0 Field Observations and Delineated Features

On April 22, 2021, GF investigated the 1-acre project study area and 10-acre Action area for wetlands and waterways. The weather conditions on April 22, 2021 were partly cloudy with a high temperature of 46°F. Precipitation data indicated 0.17 inches of rain fell on April 21, 2021. Weather data was recorded at Danbury Municipal Airport Station in Danbury, CT, approximately 16 miles east of the project study area.

The dominant land-uses within and surrounding the project study area included forested stream valley, forested hillslopes, grass access roads and parking areas, residential properties, local roads, and existing well infrastructure. Dominant vegetation observed within the project study area is summarized in **Table 2**.

Scientific Name	Common Name	Indicator Status	
Tree Species			
Acer rubrum	Red Maple	FAC	
Betula alleghaniensis	Yellow Birch	FAC	
Carpinus caroliniana	American Hornbeam	FAC	
Quercus velutina	Black Oak	NL	
	Shrub Species		
Berberis thunbergii	Japanese Barberry	FACU	
Cornus amomum	Silky Dogwood	FACW	
Ligustrum vulgare	European Privet	FACU	
Lindera benzoin	Northern Spicebush	FACW	
Lonicera tatarica	Tartarian Honeysuckle	FACU	
Rosa multiflora	Multiflora Rose	FACU	
	Herb Species		
Alliaria petiolata	Garlic Mustard	FACU	
Equisetum arvense	Field Horsetail	FAC	
Erythronium rostratum	Yellow Troutlily	NL	
Phragmites australis	Common Reed	FACW	
Symplocarpus foetidus	Skunk Cabbage	OBL	

Table 2. Dominant Plant Species List

6.1 Waterbodies & Wetlands

During the field investigation, three (3) palustrine wetlands were delineated within the project study area and action area. Delineated wetlands are listed in **Table 3** with their respective delineated area, Cowardin Classification, hydrogeomorphic (HGM) wetland classification, and Ecological Community of New York State. Wetland boundaries were mapped and are presented

in **Appendix A**. Photographs were taken of the wetlands and are provided in **Appendix B**. The Wetland Determination Data Forms are provided in **Appendix C**.

Table 5. Defineated Wethand Resource Summary							
Wetland ID	Area (acre)	Cowardin Classification	HGM Wetland Classification	Ecological Community			
Wetland 1	0.564+	PFO	Riverine headwater complex (R3c)	Red Maple- Hardwood Swamp			
Wetland 2	0.005	PFO	Riverine headwater complex (R3c)	Red Maple- Hardwood Swamp			
Wetland 3	1.02+	PFO/PSS/PEM	Slope mineral soil (SLn)	Red Maple- Hardwood Swamp/Shrub Swamp			

Table 3. Delineated Wetland Resource Summary

6.2 Waterways

During the field investigation, one (1) waterway was identified and delineated within the project study area and action area. Stream 1 was confirmed as a perennial UNT to Shrub Oak Brook during the investigation.

Stream 1 - perennial, 689 linear feet

The UNT to Shrub Oak Brook was confirmed within the western portion of the action area flowing from north to south. It is conveyed under an existing access road via culvert and continues off-site.

Channel Width	Bank Height	Water Depth	Substrate
6-20 feet	0.5-2.0 feet	2-4 inches	Boulders, Cobble, Sand, Silt, Woody Debris

7.0 Wetland & Waterway Resource Summary

The field investigation conducted by GF on April 22, 2021 identified and delineated three (3) wetlands and one (1) waterway in conjunction with the PFAS Compliance Project F – Archer Well. The following features were identified on mapping and delineated in the field:

Wetlands (Field Delineated)

- Wetland 1 0.564+ acres (Open-Ended)
- Wetland 2 PFO wetland, 0.005 acres
- Wetland 3 PFO/PSS/PEM wetland, 1.02+ acres (Open-Ended)

Waterways (Field Delineated)

• Stream 1– Perennial, 689 linear feet

8.0 References

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9.0 List of Contributors

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Corey Myers, Project Environmental Scientist 36-Hour Rutgers University Wetland Delineator Certification Program 40-Hour OSHA Hazardous Waste Operations and Emergency Response Certification Wetland Delineation, Wetland Training Institute Professional Experience: 10 years Education: B.S., Environmental Technology Management

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APPENDIX A

WETLANDS AND WATERWAYS MAPPING



APPENDIX B SITE PHOTOGRAPHS AND PHOTOGRAPH LOCATION MAP







Photograph 1: Overview of Wetland 1 (PFO), located adjacent to Stream 1. Wetland 1 was identified within the action area of the Archer site. (facing north; 4/22/2021)



Photograph 2: Overview of Wetland 2 (PFO), which was a small resource identified adjacent to Stream 1 within the action area. (facing southwest; 4/22/2021)

Appendix B – Site Photographs



Photograph 3: Overview of SP-W3, a wetland test pit recorded in the PEM portion of Wetland 3. The area was dominated by reed canary grass and skunk cabbage. (facing east; 4/22/2021)



Photograph 4: Overview of wetland test pit SP-W3A, which was recorded in the PSS section of Wetland 3. (facing south; 4/22/2021)

Appendix B – Site Photographs



Photograph 5: Overview of wetland test pit SP-W3B, which was recorded in the PFO portion of Wetland 3. The PFO portion of the wetland was dominated by skunk cabbage and red maple. (facing north; 4/22/2021)



Photograph 6: Overview of Wetland 3 near the PSS/PFO wetland boundary along the overhead electric line. (facing south; 4/22/2021)

Appendix B – Site Photographs



Photograph 7: View of the PSS portion of Wetland 3 located within the overhead electric line right-of-way. (facing east; 4/22/2021)



Photograph 8: Stream 1 was a perennial watercourse which flowed from northwest to southeast through the action area. Photo is looking upstream. (facing northwest; 4/22/2021)

Appendix B – Site Photographs



Photograph 9: Looking downstream at Stream 1. A 3-inch pipe was observed in the channel throughout the entire delineated reach. Stream 1 is conveyed under the overhead electric line right-of-way via culvert. (facing southwest; 4/22/2021)



Photograph 10: Typical upland hillside observed during the wetland investigation at the Archer site. (facing northwest; 4/22/2021)

Appendix B – Site Photographs



Photograph 11: Overview of the upland forest adjacent to Stream 1 and Wetland 3. Photo taken from existing access road. (facing southwest; 4/22/2021)



Photograph 12: View of the existing structure and generator located at the Archer site. (facing northwest; 4/22/2021)





Photograph 13: View of the potential access route to the proposed project area. (facing southeast; 4/22/2021)



Photograph 14: Image of typical residential property observed along Colton Road bordering the Archer site. (facing north; 4/22/2021)



Photograph 15: Existing path from Colton Road to the Archer site. (facing southwest; 4/22/2021)



Photograph 16: Overview of the easement from Colton Road, through a residential property to reach the access path shown in Photograph 15. (facing southwest; 4/22/2021)

APPENDIX C WETLAND FIELD DATA FORMS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Archer Well	City/County: Putnam County Sampling Date: 04/22/2021
Applicant/Owner: SUEZ Water NY	State: NY Sampling Point: SP-W3
Investigator(s): J.Arnold (PWS #2736), C.Myers	
	Local relief (concave, convex, none): Concave Slope (%): 3-5
Subregion (LRR or MLRA): LRR R Lat: 41° 2	1' 00.33" N Long: 73° 47' 07.15" W Datum: NAD83
Soil Map Unit Name: Woodbridge loam, 8-15% slopes (V	
Are climatic / hy <u>drolog</u> ic cond <u>itions</u> on the site typic <u>al for t</u> his ti	
	ificantly disturbed? Are "Normal Circumstances" present? Yes 🔀 No
Are Vegetation, Soil, or Hydrology natu	urally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sh	owing sampling point locations, transects, important features, etc.
•	Is the Sampled Area within a Wetland? Yes No If yes, optional Wetland Site ID: Wetland 3 Decated within the project study area. SP-W3 is the wetland of the wetland. The test pit was recorded within a ditch
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all tha	
	Stained Leaves (B9) Drainage Patterns (B10)
	E Fauna (B13) Moss Trim Lines (B16)
	eposits (B15) Dry-Season Water Table (C2)
	en Sulfide Odor (C1) Crayfish Burrows (C8) ed Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
	ce of Reduced Iron (C4) Stunted or Stressed Plants (D1)
	Firon Reduction in Tilled Soils (C6) Geomorphic Position (D2)
	uck Surface (C7) Shallow Aquitard (D3)
	Explain in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes X No Depth	(inches): <u>1</u>
Water Table Present? Yes X No Depth	(inches): <u>10</u>
	(inches): 0 Wetland Hydrology Present? Yes X No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aer	ial photos, previous inspections), if available:
Demorker	
Remarks:	

VEGETATION – Use scientific names of plants.

	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: N/A)		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2	. <u></u>		<u> </u>	Total Number of Dominant
3				Species Across All Strata: <u>2</u> (B)
4				Percent of Dominant Species
5	. <u> </u>			That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cov	ver	OBL species $x = 0$
Sapling/Shrub Stratum (Plot size: N/A)				FACW species $x = 0$
1				FAC species x 3 = 0
				FACU species x 4 =
2				UPL species x 5 =
3				Column Totals: 0 (A) 0 (B)
4	·			Developer Index D/A
5			<u> </u>	Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				Rapid Test for Hydrophytic Vegetation
	0	= Total Cov	ver	Dominance Test is >50%
Herb Stratum (Plot size: 5')				Prevalence Index is $\leq 3.0^{1}$
1 Phalaris arundinacea	50	Y	FACW	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Symplocarpus foetidus	25	Y	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Solidago spp	5	N	FAC	
4. Impatiens capensis	10	N	FACW	¹ Indicators of hydric soil and wetland hydrology must
	·			be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7	·			at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	90	= Total Cov	/er	height.
Woody Vine Stratum (Plot size: N/A)				
1				
2				
3	·		·	Hydrophytic Vegetation
4				Present? Yes X No
		= Total Cov	ver	
Remarks: (Include photo numbers here or on a separate s				
The Solidago spp. could not be identified	•		owever	due to its location in the wetland, it is
assumed to have a status of facultative	or wett	er.		

SOIL	

	cription: (Describe	to the de	pth needed to docu			r or confi	rm the absence	of indicato	ors.)
Depth (inches)	Matrix Color (moist)	%	Red Color (moist)	ox Feature %	es Type ¹	Loc ²	Texture		Remarks
(inches) 0-9	10YR 4/2	100		70	туре	LUC	Si	fibrous	
		_					-	IIDIOUS	10013
9-16	10YR 4/2	90	10YR 4/6	10	С	PL	SiS		
					_				
			·						
<u> </u>		<u> </u>							
		_			_				
					-				
			·						
		pletion, RN	I=Reduced Matrix, C	S=Covere	ed or Coa	ted Sand (Pore Lining, M=Matrix.
Hydric Soil					(22) (1				matic Hydric Soils ³ :
Histosol	(A1) pipedon (A2)		Polyvalue Belo		e (S8) (L I	RR R,			(LRR K, L, MLRA 149B) ox (A16) (LRR K, L, R)
	istic (A3)		Thin Dark Surf		LRR R. I	MLRA 149			or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Mucky						(LRR K, L)
	d Layers (A5)		Loamy Gleyed		2)				Surface (S8) (LRR K, L)
	d Below Dark Surfa	ce (A11)	X Depleted Matri						e (S9) (LRR K, L)
	ark Surface (A12) /lucky Mineral (S1)		Redox Dark Su					-	Masses (F12) (LRR K, L, R) ain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4)		Redox Depres		-				6) (MLRA 144A, 145, 149B)
	Redox (S5)			510113 (1 0)				arent Mater	
	Matrix (S6)						Very S	hallow Dark	k Surface (TF12)
Dark Su	rface (S7) (LRR R,	MLRA 149	B)				Other	(Explain in I	Remarks)
31	f hudun hudin un met					o o di otu ulo e			
	Layer (if observed		etland hydrology mu	ist be pres	ent, unie	ss disturbe	ed or problemati		
Type:		,.							
	aboo).						Hydric Soil	Present?	Yes X No
	ches):								
Remarks:									

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Archer Well	City/County: Putnam County Sampling Date: 04/22/2021
Applicant/Owner: SUEZ Water NY	State: <u>NY</u> Sampling Point: <u>SP-W3A</u>
Investigator(s): J.Arnold (PWS #2736), C.Myers	Section, Township, Range: Town of Carmel
Landform (hillslope, terrace, etc.): Hillslope	Local relief (concave, convex, none): Concave Slope (%): 10%
Subregion (LRR or MLRA): LRR R Lat: 41° 21' 0	
Soil Map Unit Name: Woodbridge loam, 8-15% slopes (WdC	C) NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time	
	antly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology natural	
SUMMARY OF FINDINGS – Attach site map show	ving sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes X No Remarks: (Explain alternative procedures here or in a separate	Is the Sampled Area within a Wetland? Yes No If yes, optional Wetland Site ID: Wetland 3A
Wetland 3 is a PFO/PSS/PEM complex loca	ated within the project study area. SP-W3A is the wetland
test pit recorded within the PSS portion of the supported by a groundwater expression.	ne wetland. The test pit was recorded on a hillslope
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that ap	ply) Surface Soil Cracks (B6)
	ned Leaves (B9) Drainage Patterns (B10)
High Water Table (A2)	
Saturation (A3)	
	Sulfide Odor (C1) Crayfish Burrows (C8)
	Chizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) of Reduced Iron (C4) Stunted or Stressed Plants (D1)
	n Reduction in Tilled Soils (C6) Geomorphic Position (D2)
	Surface (C7) Shallow Aquitard (D3)
	elain in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes X No Depth (inc	:hes):
	ches): at 12" bgs
Saturation Present? Yes X No Depth (inc (includes capillary fringe)	ches): 0-9" bgs Wetland Hydrology Present? Yes X No
Describe Recorded Data (stream gauge, monitoring well, aerial p	bhotos, previous inspections), if available:
Remarks:	
Kentarks.	

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator	Deminence Test worksheet
Tree Stratum (Plot size: N/A)	% Cover	Species?	Status	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>6</u> (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 83.33 (A/B)
6				
7				Prevalence Index worksheet:
7		= Total Cov		Total % Cover of: Multiply by:
15'		= Total Cov	er	OBL species $x = 0$
Sapling/Shrub Stratum (Plot size: 15')				FACW species $x 2 = \frac{0}{0}$
1. Lindera benzoin	20	Y	FACW	FAC species $x_3 = \frac{0}{0}$
2. Cornus racemosa	10	Υ	FAC	FACU species $x = 0$
_{3.} Rosa multiflora	5	Ν	FACU	UPL species $x = 0$
4				Column Totals: <u>0</u> (A) <u>0</u> (B)
				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6	·			Rapid Test for Hydrophytic Vegetation
7				Dominance Test is >50%
	35	= Total Cov	er	
Herb Stratum (Plot size: 5')				Prevalence Index is $\leq 3.0^{1}$
1. Solidago spp	30	Υ	FAC	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Symplocarpus foetidus	30	Y	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Poa palustris	30	Y	FACW	
4. Impatiens capensis	30	Y	FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				
6				Definitions of Vegetation Strata:
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	120	= Total Cov	or	height.
Woody Vine Stratum (Plot size: N/A)		- 10(01000	CI	
1				
2				
3	·			Hydrophytic
4				Vegetation Present? Yes X No
	0	= Total Cov	er	
Remarks: (Include photo numbers here or on a separate s	sheet.)			·
The Solidago spp. could not be identifie	d to spe	ecies, h	owever	due to its location in the wetland, it is
assumed to have a status of facultative				

SOIL

Profile Desc	ription: (Describe	to the de	pth needed to docu	ment the	indicator	or confir	rm the absence of indicators.)	
Depth	Matrix	0/		x Feature	es	. 2	<u> </u>	
(inches) 0-9	Color (moist) 10YR 2/1	<u>%</u> 95	Color (moist) 10YR 3/6	<u>%</u> 5	<u>Type¹</u>	Loc ²	<u>Texture</u> Remarks SL	—
		-	· ·					—
9-15	10YR 4/1	80	10YR 4/6	20	С	PL	<u>SiS</u>	_
								_
								-
			·					—
								_
								_
						_		
								_
						•		-
								_
								_
		oletion, RN	I=Reduced Matrix, C	S=Covere	ed or Coat	ed Sand C		
Hydric Soil				.			Indicators for Problematic Hydric Soils ³ :	
Histosol	(A1) bipedon (A2)		Polyvalue Belo MLRA 149B		e (S8) (LR	RR,	2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R)	
Black Hi			Thin Dark Surfa	<i>,</i>	LRR R, N	ILRA 1491		
	n Sulfide (A4)		Loamy Mucky				Dark Surface (S7) (LRR K, L)	
	Layers (A5)		Loamy Gleyed		2)		Polyvalue Below Surface (S8) (LRR K, L)	
	d Below Dark Surfac ark Surface (A12)	ce (A11)	Depleted Matri		\ \		Thin Dark Surface (S9) (LRR K, L)	
	lucky Mineral (S1)		Redox Dark Su				Iron-Manganese Masses (F12) (LRR K, L, R Piedmont Floodplain Soils (F19) (MLRA 149	
	Gleyed Matrix (S4)		Redox Depress				Mesic Spodic (TA6) (MLRA 144A, 145, 149	
	edox (S5)						Red Parent Material (F21)	,
	Matrix (S6)						Very Shallow Dark Surface (TF12)	
Dark Su	rface (S7) (LRR R,	MLRA 149	B)				Other (Explain in Remarks)	
³ Indicators of	f hydrophytic vegeta	ation and w	vetland hydrology mu	st be pres	ent unles	s disturbe	ed or problematic	
	_ayer (if observed)		ionana nyarorogy ma					
Туре:								
Depth (ind	ches):						Hydric Soil Present? Yes 🔀 No]
Remarks:								

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Archer Well	City/County: Putnam	n County	Sampling Date: 04/22/2021
Applicant/Owner: SUEZ Water NY			Sampling Point: SP-W3B
Investigator(s): J.Arnold (PWS #2736), C.Myers	Section, Township, R	ange: Town of Carmel	
	Local relief (concave, co		Slope (%): 10%
Subregion (LRR or MLRA): LRR R Lat: 41°		ong: 73° 47' 07.50" W	Datum: NAD83
Soil Map Unit Name: Woodbridge loam, 8-15% slopes	(WdC)	NWI classific	
Are climatic / hy <u>drolog</u> ic cond <u>itions</u> on the site typical for this	time of year? Yes X No		
		"Normal Circumstances" p	
Are Vegetation, Soil, or Hydrology na		needed, explain any answe	
SUMMARY OF FINDINGS – Attach site map s	showing sampling point	locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separation) Separation	within a Wetla		
Wetland 3 is a PFO/PSS/PEM complex	located within the pro	oject study area. S	P-W3B is the wetland
test pit recorded within the PFO portion supported by a groundwater seep emerged			ed within a depression
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; check all the	nat apply)	Surface Soil	Cracks (B6)
	r-Stained Leaves (B9)	Drainage Pa	tterns (B10)
	tic Fauna (B13)	Moss Trim Li	
	Deposits (B15)		Water Table (C2)
	ogen Sulfide Odor (C1)	Crayfish Bur	
	zed Rhizospheres on Living Roo		isible on Aerial Imagery (C9)
	ence of Reduced Iron (C4)	=	tressed Plants (D1)
	ent Iron Reduction in Tilled Soils		Position (D2)
	Muck Surface (C7)	Shallow Aqui	
Sparsely Vegetated Concave Surface (B8)	r (Explain in Remarks)	FAC-Neutral	aphic Relief (D4) Test (D5)
Field Observations:			
	th (inches): _1"		
	th (inches): 6" bgs		
Saturation Present? Yes X No Dep		/etland Hydrology Preser	nt? Yes 🔀 No 📃
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, a	erial photos, previous inspectior	s) if available	
Desenber Recorded Data (siream gauge, monitoring weir, a	charphotos, previous inspection		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30'	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. Acer rubrum	60	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
2				
3				Total Number of DominantSpecies Across All Strata:5(B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 80.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	60	= Total Cov	ver	OBL species x 1 = 0
Sapling/Shrub Stratum (Plot size: 15')				FACW species $x 2 = \frac{0}{0}$
1. Lindera benzoin	10			FAC species $x_3 = 0$
2. Lonicera tatarica	5	Y	FACU	FACU species $x 4 = 0$ UPL species $x 5 = 0$
3				Column Totals: 0 (A) 0 (B)
4				
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				Rapid Test for Hydrophytic Vegetation
	15	= Total Cov	ver	Dominance Test is >50%
Herb Stratum (Plot size: 5')				Prevalence Index is $\leq 3.0^{1}$ Morphological Adaptations ¹ (Provide supporting
1. Solidago spp	10	Ν	FAC	data in Remarks or on a separate sheet)
2. Symplocarpus foetidus	35	Y	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Poa palustris	20	Υ	FACW	
4. Impatiens capensis	15	Ν	FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5	·			Definitions of Vegetation Strata:
6	·			Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than 3.28 ft (1 m) tall.
10	·			Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12	80			Woody vines – All woody vines greater than 3.28 ft in height.
N/A	00	= Total Cov	ver	
Woody Vine Stratum (Plot size: N/A)				
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes X No
		= Total Cov	ver	
Remarks: (Include photo numbers here or on a separate s				due to its location is the wetlend it is
The Solidago spp. could not be identified assumed to have a status of facultative			owever	que to its location in the wetland, It Is
	or well	GI.		

SOIL	

Profile Desc	cription: (Describe	e to the de	pth needed to docu	ment the	indicator	or confirn	n the absence of indicators.)
Depth	Matrix	0/		ox Feature	2 S	1 2	Taukura
(inches) 0-8	<u>Color (moist)</u> 10YR 3/1	<u>%</u> 70	Color (moist)	%	Type ¹	Loc ²	Texture Remarks Silt loam
0-0						<u> </u>	
	10YR 2/1	25	10YR 3/6	5	С	PL	Silt loam
8-16	7.5YR 3/1	95	7.5YR 4/6	5	С	Μ	SiS
							· ·
			<u> </u>				
			_				
$\frac{1}{1}$ Type: C-C	oncontration D-De	nletion D	M=Reduced Matrix, C	S-Covers	d or Coat	ed Sand G	rains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil		pietion, Ri		3-000010			Indicators for Problematic Hydric Soils ³ :
Histosol			Polyvalue Belo	w Surface	e (S8) (LR	RR,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B				Coast Prairie Redox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)		Thin Dark Surf				 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L)
	d Layers (A5)		Loamy Gleyed			(, Ε)	Polyvalue Below Surface (S8) (LRR K, L)
Depleter	d Below Dark Surfa	ce (A11)	Depleted Matri				Thin Dark Surface (S9) (LRR K, L)
	ark Surface (A12) /lucky Mineral (S1)		Redox Dark Su				 Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4)		Redox Depres				Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy F	Redox (S5)						Red Parent Material (F21)
	Matrix (S6)						Very Shallow Dark Surface (TF12)
	rface (S7) (LRR R,	MLRA 14	9B)				Other (Explain in Remarks)
			wetland hydrology mu	st be pres	ent, unles	s disturbed	d or problematic.
	Layer (if observed)):					
Туре:							
	ches):						Hydric Soil Present? Yes X No
Remarks:							

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Archer Well Site	City/County: Putnam	County	Sampling Date: 04/22/2021
Applicant/Owner: SUEZ Water NY	v		Sampling Point: SP-U3
Investigator(s): J.Arnold (PWS #2736), C.Myers	Section, Township, Ra		
Landform (hillslope, terrace, etc.): Hillslope			Slope (%): <u>10%</u>
Subregion (LRR or MLRA): LRR R Lat: 41° 2	1' 01.43 N Lor	ng: <mark>73° 47' 08.34 W</mark>	Datum: NAD83
Soil Map Unit Name: Woodbridge loam, 8-15% slopes (V	VdC)	NWI classifica	tion: N/A
Are climatic / hydrologic conditions on the site typical for this the	me of year? Yes 🔀 No	(If no, explain in Re	
		"Normal Circumstances" pr	resent? Yes 🗙 No
Are Vegetation, Soil, or Hydrology natu	urally problematic? (If ne	eeded, explain any answer	s in Remarks.)
SUMMARY OF FINDINGS – Attach site map sh	owing sampling point l	ocations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separa SP-U3 is the upland test pit recorded to c Wetland 3 complex.	ate report.)	nd? Yes	Ŋ₀ X
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicat	ors (minimum of two required)
Primary Indicators (minimum of one is required; check all that	t apply)	Surface Soil C	Cracks (B6)
Surface Water (A1)	Stained Leaves (B9)	Drainage Patt	erns (B10)
	: Fauna (B13)	Moss Trim Lir	· · ·
	eposits (B15)		Vater Table (C2)
	en Sulfide Odor (C1) ed Rhizospheres on Living Roo	tc (C2) Crayfish Burro	ows (C8) ible on Aerial Imagery (C9)
	ce of Reduced Iron (C4)		ressed Plants (D1)
	Iron Reduction in Tilled Soils (=	
	uck Surface (C7)	Shallow Aquit	
Inundation Visible on Aerial Imagery (B7)	Explain in Remarks)	Microtopograp	ohic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	1	FAC-Neutral	Fest (D5)
Field Observations: Surface Water Present? Yes No X Depth	(inches):		
	(inches): <u>0</u>		
		etland Hydrology Present	? Yes No X
(includes capillary fringe)	· · · _		
Describe Recorded Data (stream gauge, monitoring well, aer	ial photos, previous inspections	s), if available:	
Remarks:			

VEGETATION – Use scientific names of plants.

Tana Charterne (Dist size, 30'	Absolute	Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30'</u>) 1. Acer rubrum	<u>% Cover</u> 20	<u>Species?</u> Y	Status FAC	Number of Dominant Species
2. Quercus alba	5	N	FACU	That Are OBL, FACW, or FAC: 2 (A)
3. Quercus rubra	20	Y	FACU	Total Number of Dominant Species Agrees All Strate: 5 (P)
				Species Across Air Strata. (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 40.00 (A/B)
5				
6				Prevalence Index worksheet:
7	15			Total % Cover of: Multiply by:
	40	= Total Cov	/er	OBL species $\frac{1}{40}$ x 1 = $\frac{1}{80}$
Sapling/Shrub Stratum (Plot size: 15')	40	\vee		FACW species 40 x 2 = 80 FAC species 25 x 3 = 75
1. Lindera benzoin				FACU species 60 $x 4 = 240$
2				UPL species 5 x 5 = 25
3				Column Totals: 131 (A) 421 (B)
4				
5				Prevalence Index = B/A = 3.21
6				Hydrophytic Vegetation Indicators:
7				Rapid Test for Hydrophytic Vegetation
	40	= Total Cov	/er	Dominance Test is >50%
Herb Stratum (Plot size: 5')				Prevalence Index is $\leq 3.0^{\circ}$
1. Geum aleppicum	5	Ν	FAC	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Alliaria petiotata	30	Y	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Symplocarpus foetidus	1	N	OBL	
4. Elaeagnus umbellata	5	Ν	UPL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines - All woody vines greater than 3.28 ft in
	41	= Total Cov	/er	height.
Woody Vine Stratum (Plot size: 15')				
1. Rubus phoenicolasius	5	Y	FACU	
2.				
3.				I
аа				Hydrophytic Vegetation
	5	= Total Cov		Present? Yes No X
Remarks: (Include photo numbers here or on a separate		- 10(a) COV		
	5.1000.0			

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inchos)	Matrix Color (moist)	%	Redo Color (moist)	<u>ox Feature</u> %	es Type ¹	Loc ²	Texture Remarks
<u>(inches)</u> 0-1	10YR 2/1	100		70	Type	LUC	SL Remarks
1-6	10YR 3/2	90	10YR 4/6	10	С	M	
6-15	10YR 4/6	70	10YR 3/2	30	<u> </u>	 M	
-15	101 R 4/0	70	101 K 3/2	30	<u> </u>	IVI	<u> </u>
		_				_	
		_					
		_					
			· . <u></u>			<u></u>	
		_					
¹ Type: C=C Hydric Soil		pletion, RN	I=Reduced Matrix, C	S=Covere	d or Coat	ed Sand C	Grains. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
Histosol			Polyvalue Belo	w Surface	• (S8) (I R	RR	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic E	pipedon (A2)		MLRA 149B)			Coast Prairie Redox (A16) (LRR K, L, R)
	istic (A3)		Thin Dark Surfa				
	en Sulfide (A4) d Layers (A5)		Loamy Mucky I			Λ, L)	Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L)
Deplete	d Below Dark Surfac	e (A11)	Depleted Matri	x (F3)			Thin Dark Surface (S9) (LRR K, L)
	ark Surface (A12) /lucky Mineral (S1)		Redox Dark Su				Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4)		Redox Depress				Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy F	Redox (S5)						Red Parent Material (F21)
	l Matrix (S6) Irface (S7) (LRR R, I						Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
		VILKA 143	(D)				
			etland hydrology mu	st be pres	ent, unles	s disturbe	ed or problematic.
	Layer (if observed)	:					
Type:							Hydric Soil Present? Yes No X
Depth (in Remarks:	ches):						
Remarks.							

Sodium Hypochlorite (12%) – 50 gallon tank

(545138)

ALLIED UNIVERSAL CORPORATION

Headquarters:

3901 NW 115th Avenue, Miami, Florida 33178 Phone: (305) 888 - 2623

MATERIAL SAFETY DATA SHEET

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR § 1910.1200.

TODAY'S DATE:

MSDS NUMBER: 0001

24 HOUR EMERGENCY CHEMICAL SPILL OR RELEASE PHONE NUMBERS:

Allied Universal Corp. at 1-305-483-7732 (Digital Beeper) and/or CHEMTREC at 1-800-424-9300

SECTION 1 CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Sodium Hypochlorite

Product Names: Aqua Guard Chlorinating Sanitizer, Aqua Guard Bleach, Liquid Chlorine Solution, Liquid Bleach, Hypochlorite, Hypo and Chlorine Bleach.

Listed Strengths: 10.5%, 12.5% and 15%

Date MSDS Revised: August 2007 (previous revision 11/04)

09/06/07

Product Use: Disinfectant and sanitizer, see product label for all approved uses & instructions. **NSF Approval:** Yes. Certified to NSF/ANSI Standard 60. Maximum use in Potable Water is 84 mg/L for 12.5% bleach and 100 mg/L for 10.5% bleach.

NSF Non-Food Compounds Approval: Yes

SECTION 2 HAZARD INGREDIENTS/IDENTITY INFORMATION

Hazardous Ingredient(s	s): % (w/w) as Sodium Hypochlorite :	10.5-16%				
Exposure Standards: 1	None established for Sodium Hypochlorite	, as Chlorine exposure standards are:				
PEL (OSHA):	1 ppm as Cl ₂	STEL (OSHA):	3 ppm as Cl ₂			
TLV (ACGIH):	0.5 ppm as Cl ₂	TWA (ACGIH):	0.5 ppm as Cl ₂			
WEEL (AIHA):	2 mg/m3, 15 minute TWA as Cl ₂	STEL (ACGIH):	1 ppm as Cl ₂			
Emergency Overview:						

SECTION 3 PHYSICAL/CHEMICAL CHARACTERISTICS

Alternate Name(s):	Bleach
Chemical Name:	Sodium Hypochlorite
Chemical Family:	Oxidizing Agent
Molecular Formula:	Na-O-Cl
Form:	Liquid
Appearance:	Water clear to a slight greenish-yellow, or light yellow aqueous solution
Odor:	Chlorine odor
pH:	11-14, dependent upon % weight as Sodium Hypochlorite
Vapor Pressure:	Not available
Vapor Density (Air=1):	Not available
Boiling Point:	Approximately 230° F (110° C)
Freezing Point:	14 F(8% w/w Cl ₂ solution), 7 F(10% w/w Cl ₂ solution), -3 F (12% w/w Cl ₂ solution)
Solubility (Water):	Completely Soluble
Solubility (Other):	Reacts with Many Organic Solvents
Density:	Appx. 10 lbs. per gallon
Evaporation Rate: Not Available	
Specific Gravity:	1.126 (8% w/w Cl ₂ solution), 1.163 (10% w/w Cl ₂ solution), 1.202 (12% w/w Cl ₂ solution), 1.25 (15% w/w Cl ₂ solution)
Molecular Weight:	74.5

SECTION 4 STABILITY & REACTIVITY DATA

Chemical Stability	Stable X	Unstable
Incompatibility (Conditions	to Avoid): Stability decreases with h	neat and light exposure.
caustics ammonia urea reducir	agents, organics, ether and oxidizabl	ong acids. Other incompatibles include strong e materials. Reaction with metals (nickel, iron, n. May react with organohalogen compounds to

CAS Number: 7681-52-9

	(545156)					
form spontaneously combustible compounds. May react explosively with nitro- and chloro-organic compounds as well as acids and reducing agents. Acidification liberates chlorine gas.						
Hazardous dases/vapors produced a	re hypochlorous acid, chlorine and hy dditional decomposition products, whic	composes with heat and reacts with acids, rdrochloric acid. Composition depends upon ch depend on pH, temperature and time, are				
No Mechanical Shock or Impact No Static Discharge Oxidizer: No if <12% by weight, Yes if > than 12% by weight						
Hazardous Polymerization						

15151201

Note: Sodium Hypochlorite reacts violently with amines and ammonium salts. Solutions are reactive with common cleaning products such as toilet bowl cleaners, rust removers, vinegar, acids, organics and ammonia products to produce hazardous gases such as chlorine and other chlorinated species.

SECTION 5 POTENTIAL HEALTH EFFECTS AND FIRST AID INFORMATION

GENERAL: May cause immediate pain. Exposure to the skin may cause sensitization or other allergic responses. If the eye is not irrigated immediately after it has been exposed permanent eye damage may occur. Strict adherence to first aid measures following any exposure is essential. SPEED IS ESSENTIAL!

ROUTE(S) OF ENTRY AND POTENTIAL HEALTH EFFECTS	EMERGENCY & FIRST AIDE PROCEDURES
INHALATION: Strong irritating to mucous membranes in the nose, throat and respiratory tract. Prolonged contact can cause chronic irritation, pulmonary edema and central nervous system depression. Repeated inhalation exposure may cause impairment of lung function and permanent lung damage.	If inhaled, move expose person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. If breathing is difficult, have trained person administer oxygen. Call a poison control center or medical physician for further treatment advice. Have the product label or MSDS with you when calling or going for medical treatment.
SKIN CONTACT: Prolonged and repeated exposure to dilute solutions often causes irritation, redness, pain and drying and cracking of the skin. Human evidence has indicated that an ingredient in this product can cause skin sensitization. Depending upon the concentration and how soon after exposure the skin is washed with water, skin contact may cause burns and tissue destruction.	If on skin or clothing, take off all contaminated clothing and rinse skin immediately with plenty of water for 15-20 minutes. If irritation persists, repeat flushing. Do not transport victim unless the recommended irrigation period is completed unless flushing can be continued during transport. Call a poison control center or medical physician for treatment advice. Have the product label or MSDS with you when calling or going for medical treatment.
EYE CONTACT: Strongly irritating to eyes. Exposure to vapor can cause tearing, conjunctivitis and burning of the eyes. Eye contact may cause a corneal injury. The severity of the effects depend on the concentration and how soon after exposure the eyes are washed with water. In severe exposure cases, glaucoma, cataracts and permanent blindness may occur.	If in eyes, hold eye open and rinse slowly and gently with plenty of water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye for 10-15 minutes. Do not transport victim until the recommended flushing period is completed unless irrigation can be continued during transport. Call a poison control center or medical physician for further treatment advice. Have the product label and/or MSDS with you when calling or going to medical treatment.
INGESTION: Corrosive. Can cause severe corrosion of and damage to the gastrointestinal tract (including mouth, throat, and esophagus). Exposure is characterized by nausea, vomiting, abdominal pain, diarrhea, bleeding, and/or tissue ulceration.	If swallowed, call poison control center or medical physician immediately for treatment advice. Have the product label or MSDS with you when calling or going for medical treatment. Have exposed person sip a glass of water if able to swallow, and dilute immediately by giving milk, melted ice cream, starch paste or antacids such as milk of magnesia. Avoid sodium bicarbonate because of carbon dioxide release. DO NOT INDUCE VOMITING, LAVAGE OR ACIDIC ANTIDOTES unless told to do so by poison control center or medical physician. DO NOT give anything by mouth to an unconscious person. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water.

NOTE TO PHYSICIAN(S): Pre-existing medical conditions may be aggravated by exposures affecting target organs. There are no known chronic effects. Probable mucosal damage may contraindicate the use of gastric lavage. In addition to the alkalinity of this product, the continued generation of chlorine gas after ingestion can damage further the stomach mucous, depending on the amount ingested. Consideration may be given to removal of the product from the stomach, taking care to avoid perforation of esophagus or stomach. An ounce of 1% sodium thiosulfate or milk of magnesia is helpful.

SECTION 6 TOXICOLOGICAL DATA

ANIMAL DATA: Inhalation 0.25-hour LC50 - 10.5 mg/L in rats; Acute Dermal LD50 - 10,000 mg/kg in rabbits; Acute Oral LD50 - 8910 mg/kg in rats

(545138)

SUMMARY: The concentrated solution is corrosive to skin, and a 5% solution is a severe eye irritant. Solutions containing more than 5% available chlorine are classified by DOT corrosive (please see section 10 of this MSDS). Toxicity described in animals from single exposures by ingestion include muscular weakness, and hypoactivity. Repeated ingestion exposure in animals caused an increase in the relative weight of adrenal glands in one study, but no pathological changes were observed in two other studies. Long-term administration of compound in drinking water of rats caused depression of the immune system. No adverse changes were observed in an eight week dermal study of a 1% solution in guinea pigs. Tests in animals demonstrate no carcinogenic activity by either the oral or dermal routes. Tests in bacterial and mammalian cell cultures demonstrate mutagenic activity.

CARCINOGENICITY: None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as carcinogen.

MUTAGENICITY: Sodium Hypochlorite has been shown to produce damage to genetic material when tested in vitro. Studies in vivo have shown no evidence of mutagenic potential for this material. It is judged that the risk of genetic damage is insignificant for sodium hypochlorite because of its biological activity, lack of mutagenicity in vivo, and failure to produce carcinogenic response.

SECTION 7 FIRE AND EXPLOSION HAZARD DATA

Flash Point: This product does not f	lash	Flammable Limits (Lower): Not Applicable			
Flammable Limits (Upper): Not App		Auto Ignition Temperature: Not Applicable			
Decomposition Temperature: Not	Applicable			Burning: Not Available	
Explosive Power: Not Available	Mechanical Impact: to be sensitive to actSensitivity to Static DischargeNot expected to be sensitive to static discharge				
Fire and Explosion Hazards: This flammable but is decomposed by heat ar pressure build-up which could result in an heated, it may release chlorine gas or Vigorous reaction with oxidizable or orga result in fire.	Extinguishing Media: Use agents appropriate for surrounding fire. Foam, dry chemical, carbon dioxide, water fog or spray. If leak or spill has not ignited, use water spray to disperse the vapors and to protect persons attempting to stop the leak.				
Fire Fighting Procedures: Water used to cool containers and may be us escaping vapor. Remove storage vest zone.	Fire Fighting Protective Equipment: Full protective clothing, including a NIOSH approved self-contained breathing apparatus, must be worn in a fire involving this material. Toxic gas vapors are produced upon decomposition.				

SECTION 8 ECOLOGICAL INFORMATION

The toxicity and corrosivity of this product is a function of concentration and the concentration's pH. **ECOTOXICOLOGICAL INFORMATION:** Toxic to aquatic life. 96-hour LC50: fathead minnows: 0.090-5.9 mg/L, bluegill sunfish: 0.10-2.48 mg/L, shore crab: 1.418 mg/L, grass shrimp: 52.0 mg/L, scud: 0.145-4.0 mg/L, water flea: 2.1 mg/L. **ENVIRONMENTAL EFFECTS:** Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers. May be an aesthetic nuisance due to color. Mammals and birds, exposed wildlife would be subject to skin irritation and burns due to the corrosive nature of this material.

SECTION 9 DISPOSAL CONSIDERATIONS

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State, and Local regulations. Do not burn. Do not flush to surface water or sanitary sewer system. If pH of material is equal to or greater than a 12.5, the material is a RCRA Hazardous Waste D002, corrosive.

SECTION 10 TRANSPORT INFORMATION

U.S. DOT Basic Shipping Description: Hypochlorite Solutions, 8, UN1791, III

U.S. DOT Hazardous Substance: Yes, RQ 100 pounds (Sodium Hypochlorite)

U.S. DOT Marine Pollutant: No

U.S. DOT Required Label: Corrosive (see column 6, 49 CFR §172.101)

U.S. DOT Packaging Exception: Yes, if package meets the criteria of a limited quantity or consumer commodity as defined by 49 CFR §171.8, §173.144 and .154, and §172.312 and .316

N. AMERICAN EMERGENCY GUIDE PAGE NUMBER: 154

Transportation Emergency Phone Numbers: CHEMTREC 1-800-424-9300

SECTION 11 PRECAUTIONS FOR SAFE HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Take all precautions to avoid personal contact. Keep container closed except when transferring material. Locate safety shower and eyewash station close to chemical handling area. Use normal good industrial hygiene and housekeeping practices, wash thoroughly after handling. Store in a cool, dry, well-ventilated area, away from incompatibles (minimum distance of 20-25 feet per NFPA Code 1) and direct sunlight. Keep container properly labeled at all times. Vented containers must be used and must be kept closed when not

(545138)

being used. Long-term storage is impossible without decomposition. Only use containers made from tinted glass, polyethylene & FRP. Keep out of reach of children.

PROCESS HAZARDS: Not Available

STORAGE TEMPERATURE: Store containers below 29°C and above freezing point. Do not expose sealed containers above 40°C. Try to store in the dark at the lowest possible temperature, but keep from freezing, to slow-down decomposition.

SECTION 12 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Full handling precautions should be taken at all times. Provide good room ventilation plus local exhaust at points of emission and low level floor exhaust in immediate handling area. Where engineering controls are not feasible, use adequate local exhaust ventilation wherever mist, spray or vapor may be generated

PERSONAL PROTECTIVE EQUIPMENT:

Eye: Use chemical safety goggles when there is potential for contact (splashing), faceshield recommended – ANSI Z87.1

Skin: Gloves and protective clothing (apron, boots, and bodysuits) made from rubber, vinyl, neoprene or PVC Standard work clothing closed at the neck and wrist while wearing impervious equipment.

Respiratory (Specify Type): A NIOSH/MSHA approved air purifying respirator with an acid gas cartridge or canister may be permissible under circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is potential for uncontrolled releases, exposure levels are not known, or other circumstances where air purifying respirators may not provide adequate protection.

Other: Eyewash, shower station (ANSI Z358.1) must be provided within the immediate work area.

SECTION 13 ACCIDENTAL RELEASE MEASURES

Ventilate enclosed area. Collect product for recovery or disposal. For release to land, contain discharge by constructing dikes or applying inert absorbent; for release to water, utilize damming and/or water diversion to reduce the spread of contamination; and, for release to air, vapors may be suppressed by the use of a water fog. All run-off water must be captured for treatment and disposal. Collect contaminated soil and water, and absorbent for disposal. Notify applicable government authority if release is reportable or could adversely affect the environment. Please follow all Local, State and Federal Laws for clean-up and disposal of all contaminated material. **Deactivating Chemicals:** Sodium Sulfite, Sodium Thiosulfate and Sodium Bisulfite.

SECTION 14 REGULATORY INFORMATION

OSHA CLASSIFICATION, 29 CFR §1900-1910:

Physical Hazards: Reactivity Health Hazards: Acute - Skin Sensitizer, Corrosive

CERCLA AND SARA REGULATIONS, 40 CFR §300-373:

Reportable Quantity = 100 lb. CERCLA Hazardous Material: Yes

Title III Hazard Classifications: Acute - yes, Chronic - no, Fire - yes, Reactivity - yes & Sudden Release of Pressure - No. This product may be reportable under the requirements of 40 CFR §370.

SARA Extremely Hazardous Substance: No SARA Toxic Chemical: No

FDA 21 CFR 178.1010: Yes, Approved as Sanitizer

NSF Whitebook (former USDA Approval) Listing: Aqua Guard Chlorinating Sanitizer 10.5% - 3D, B1, B2, D1, D2, G4, G7, GX, Q4, Aqua Guard Bleach 12.5% - 3D, B1, B2, D1, D2, G4, GX, Q4

EPA "CLEAN AIR ACT": This product does not contain nor is it manufactured with ozone depleting substances. It is not defined as a Hazardous Air Pollutant per 40 CFR 112.

EPA Pesticide: The 10.5% and 12.5% sodium hypochlorite products are registered with the U.S. EPA as a pesticide, as required under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). It is a violation of Federal law to use this product for pesticidal applications in a manner inconsistent with the FIFRA labeling.

NPCA-HMIS RATING: HEALTH: 3 FLAMMABILITY: (

NFPA RATING:NONE AT THIS TIME

SECTION 15 REFERENCES

Suppliers' Material Safety Data Sheets and EPA Labeling Requirements Olin and OxyChem Sodium Hypochlorite Handbook Chlorine Institute Sodium Hypochlorite Pamphlet #96 Chlorine Institute Product Stewardship Bulletins for Sodium Hypochlorite

Chlorine Institute Product Stewardship Bulletins for Sodium Hypochlorite

This information contained herein, while not guaranteed, is offered only as a guide to the handling of this specific material and has been prepared in good faith by product knowledgeable personnel. This information is not intended to be all-inclusive as to the manner and conditions of use, handling and storage. Other factors may involve other or additional safety or performance considerations. Though Allied Universal Corporation is happy to respond to questions regarding safe handling of Allied's products, safe handling and use remains the responsibility of the product's consumers and/or customers. No warranty of merchantability or fitness for purpose, or any other kind, express or implied, is made regarding performance, stability or otherwise. Allied Universal Corp. will not be liable for any damages, losses, injuries or consequential damages that may result from the use of or reliance on any information contained herein. No suggestions for use are intended as, and nothing herein shall be construed as a recommendation to infringe any existing patents or violate any federal, state or local laws, rules, regulations or ordinances.

CA Prop 65: No

REACTIVITY: 2



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3 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Sodium Hypochlorite

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: KCC – HYPO - 001

MSDS DATE: March 06, 2007

PRODUCT NAME: SODIUM HYPOCHLORITE SOLUTION

24 HOUR EMERGENCY PHONE NUMBER: 973-589-0700

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

HMIS HAZARD RATINGS

HEALTH HAZARD - 3 (Serious) FIRE HAZARD - 0 (Minimal) REACTIVITY - 2 (Slight) WARNING - Corrosive, Oxidizing Agent

Based on Nat'l Paint & Coatings Association HMIS system.

NFPA HAZARD RATINGS

HEALTH HAZARD (Blue) - 2 FLAMMABILITY (Red) - 0 INSTABILITY (Yellow) - 1

Chemical not listed. Ratings based on NFPA guidelines

MANUFACTURERS NAME AND ADDRESS

KUEHNE CHEMICAL COMPANY, INC. 86 HACKENSACK AVENUE NORTH SOUTH KEARNY, NEW JERSEY 07032-4675

CHEMICAL NAME:

SODIUM HYPOCHLORITE SOLUTION

CAS NUMBER: 7681-52-9

SYNONYMS/COMMON NAMES: Chlorine Bleach, Soda Bleach

8

CHEMICAL FORMULA: NAOCI

DOT PROPER SHIPPING NAME: Hypochlorite Solutions

DOT HAZARD CLASS:

DOT ID NUMBER: UN1791

DOT PACKING GROUP: III

DOT HAZARDOUS SUBSTANCE: Kuehne COMPANY

Sodium Hypochlorite

Revision A - 06 March 2007

RQ 100# (Sodium Hypochlorite)





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Sodium Hypochlorite

CHEMICAL PRODUCT AND COMPANY IDENTIFICATION (Continued) Ι.

NA DOT MARINE POLLUTANT:

NA ADDITIONAL DESCRIPTION:

HEALTH HAZARDS INFORMATION И.

EMERGENCY AND FIRST AID PROCEDURES

EYES:

OBJECT IS TO FLUSH MATERIAL OUT IMMEDIATELY AND THEN SEEK MEDICAL ATTENTION. IMMEDIATELY flush eyes with a directed stream of water for at least 15 minutes while forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. Washing eyes within one (1) minute is essential to achieve maximum effectiveness. SEEK MEDICAL ATTENTION IMMEDIATELY.

SKIN:

Flush thoroughly with cool water under shower while removing contaminated clothing and shoes. Discard non-rubber shoes, Wash clothing before reuse. Continue to flush until medical attention arrives.

SEEK MEDICAL ATTENTION IMMEDIATELY.

INHALATION:

Remove to fresh air. If breathing is difficult, have qualified person administer oxygen. If respiration stops, give mouth-to-mouth resuscitation. GET IMMEDIATE MEDICAL ATTENTION.

INGESTION:

NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. lf swallowed. DO NOT INDUCE VOMITING. Give large quantities of milk. If these are not available, give large quantities of water. If vomiting occurs spontaneously keep airway clear and give more milk or water. GET MEDICAL ATTENTION IMMEDIATELY. Avoid vomiting, lavage or acidic antidotes.

NOTE TO PHYSICIAN:

Sodium Hypochlorite is an alkaline corrosive. For exposure by ingestion do not use emesis, lavage or acidic antidotes. Dilute immediately by giving milk, melted Ice cream, beaten egg white, starch paste or antacids such as milk of magnesia, aluminum hydroxide gel or magnesium trisilicate gel. Avoid sodium bicarbonate because of carbon dioxide release. Sodium thiosulfate solution may prove beneficial by reducing unreacted material.

Kuchne GOMPANY Sodium Hypochlorite Revision A - 06 March 2007







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sodium Hypochlorite

II. HEALTH HAZARDS INFORMATION (Continued)

ROUTES OF EXPOSURE

INHALATION:

Inhalation of hypochlorous acid fumes may cause severe respiratory tract irritation and pulmonary edema.

SKIN:

Skin contact may cause severe irritation and burns.

EYE CONTACT:

Eye contact may cause severe irritation, burns, and/or corrosion.

INGESTION:

Ingestion may cause pain and inflammation of the mouth and digestive system, burns and perforation of the esophagus or stomach, vomiting, circulatory collapse, confusion, delirium and coma.

EFFECTS OF OVEREXPOSURE

ACUTE:

Corrosive and strongly irritating to the eyes, skin, and respiratory tract. Inhalation of fumes may cause pulmonary edema. Ingestion may cause burns to the mouth and digestive tract and abdominal distress.

CHRONIC:

No Data.

TOXICOLOGY DATA:

The toxicity and corrosivity of Sodium Hypochlorite is a function of concentration. Industrial grades of higher concentrations than household bleach are more toxic and corrosive.

Pentahydrate: 45% Concentration

Acute Oral LD₅₀ Acute Dermal LD₅₀ Primary Skin Irritation Primary Eye Irritation (rat) (rabbit) 8,910 mg/kg 10,000 mg/kg Severely irritating Severely irritation

Kuehne COMPANY Sodium Hypochlorite Revision A – 06 March 2007





th Hackensack Avenue, South Kearny, New Jersey 07032-4 Sodium Hypochlori			589-486
 III. IMPORTANT COMPONENTS			
<u>CAS Number</u> <u>Name</u> 7732-18-5 Water	PERCEN		
EXPOSURE LIMITS	VOL WT	85 85 - 87	
PEL: Not Established TLV: Not Established	VVI	00 - 01	
Common Names:			
<u>CAS Number</u> <u>Name</u> 7681-52-9 Hypochlorous Acid, Sodium Salt	PERCEN	TAGE	
EXPOSURE LIMITS	VOL	15 12 - 14	
PEL: 1 ppm (as Cl2) ceiling TLV: 1 ppm (as Cl2) TWA			
Common Names: Sodium Hypochlorite			
CAS NumberName1310-73-2Sodium Hydroxide (NaOH)	PERCEN	TAGE	
EXPOSURE LIMITS	VOL	1	
PEL: 2 ppm ceiling TLV: 2 ppm ceiling		·	
Common Names: Caustic Soda, Lye			
This product has not been listed as carcinogenic by the fol NTP, and OSHA	llowing agenc	ies: IARC,	
IV. FIRE & EXPLOSION DATA			
FLASH POINT: NA			
AUTOIGNITION TEMPERATURE: NA			
FLAMMABLE LIMITS IN AIR - % BY VOLUME - UPPER:	NA	1.00	
Kuehne DOMPANY		3	



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Sodium Hypochlorite

IV. FIRE & EXPLOSION DATA

(Continued)

EXTINGUISHING MEDIA:

Use water spray, fog, foam, dry chemical, or carbon dioxide or agents suitable for materials in surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES:

Use self-contained breathing apparatus and full protective equipment. Acid contamination will produce very irritating fumes similar to chlorine.

UNUSUAL FIRE AND EXPLOSION HAZARD:

Sodium Hypochlorite or its solutions decompose when heated. Decomposition products may cause containers to rupture or explode. Vigorous reaction is possible with organic materials or oxidizing agents and may result in fire.

V. SPECIAL PROTECTION

VENTILATION REQUIREMENTS

Provide good general room ventilation plus local exhaust at points of emission.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY:

NIOSH/MSHA approved respirator, following manufacturer's recommendations should be used as a precautionary measure where airborne contaminants may occur.

EYE:

Wear chemical safety goggles plus full face shleid to protect against splashing when appropriate.

GLOVES:

Wear impervious gloves such as rubber, neoprene or vinyl.

OTHER CLOTHING AND EQUIPMENT:

Wear impervious protective clothing including rubber safety shoes. Eye wash facility and emergency shower should be in close proximity









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Sodium Hypochlorite

VI.	PHYSICAL DATA	
-		

Boiling Point:	(@760 mm Hg)	De	composes ab	oove 110 °C (230 °F)
Freezing Point:	<u>Wei</u> c 10 12 14	<u>aht %</u>	<u>Freezing</u> 7 - 3 - 14	<u>Point ⁰F</u>	
Vapor Pressure:	<u>Temperature ⁰F</u> 48.2 60.8 68.0 89.6 118.4	<u>mn</u> 3.7 8.0 12.1 31.1 100.0	<u>n Hg</u> 0.071 0.15 0.23 0.60 1.93	<u>PSIA</u>	
Specific Gravity:	(H ₂ O = 1)	1.190 - 1.	215		
Solubility in H2O (by Weight)	100%			
рН		12 @ 100	g/l		

Appearance/Odor: Colorless to light yellow-green liquid with chlorine like odor.

VII. REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY:

Strong Oxidizer, stability decreases with concentration, heat, light, decrease in pH and contamination by metals.

INCOMPATIBILITY:

Avoid contamination with heavy metals, reducing agents, organics, ether, ammonia, and acids.

HAZARDOUS DECOMPOSITION PRODUCTS:

Acid fumes.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION:

Material is not known to polymerize.







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VIII. **HANDLING & STORAGE**

HANDLING AND STORAGE PRECAUTIONS:

Do not store adjacent to chemicals that may react if spillage occurs. Comply with DOT regulations when shipped. If closed containers become heated, vent to release decomposition products (mainly oxygen under normal decomposition). Do not mix or contaminate with ammonia, hydrocarbons, acids, alcohols or ethers.

DO NOT REUSE CONTAINERS:

Product residues may remain in containers. All labeled precautions must be observed. Dispose of container in a manner meeting government regulations.

PRODUCT DISPOSAL:

Product should be completely removed from containers. Material that cannot be used or chemically reprocessed should be disposed of in a manner meeting government regulations.

ENVIRONMENTAL PROCEDURES IX.

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Do not allow spilled material to enter sewers or streams. Flush with water to dilute as much as possible and pump into polyethylene containers for disposal. Avoid heat and contamination with acid materials. Do not use combustible materials such as sawdust to absorb Sodium Hypochlorite Solution.

WASTE DISPOSAL METHOD:

Reduce with agents such as bisulfites or ferrous salt solutions. Some heat will be produced. Keep on alkaline side and dilute with copious amounts of water. Main end product is salt water. Comply with all applicable governmental regulations.

ADDITIONAL INFORMATION Χ.

Section 311 of The Clean Water Act lists this product as a hazardous substance, which, If discharged to water, may require immediate response to mitigate danger to public health and welfare. Spills of 100 pounds or more must be reported to the National Response Center at the following number: 1-800-424-8802

Material is contained on a composite list as required under 101 (14) of CERCLA.

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Sodium Hypochlorite

ADDITIONAL INFORMATION Х.

(Continued)

Sodium Hypochlorite Solution is regulated by the USEPA under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as a pesticide product.

Sodium Hypochlorite Solution produced by KUEHNE CHEMICAL COMPANY, INC. is registered with the USEPA under Registration Number 35317-20001.

This product has been classified as an approved drinking **NSF CERTIFICATION:** water treatment chemical under ANSI/NSF Standard 60 by Underwriter's Laboratories number: MH17612) (reference

USDA APPROVALS: B-1, D-2, L-1, Q-4 & Fruit and Vegetable washing compounds.

PREPARATION DATA XI.

Safety, Health and Environment Department : 1-973-589-0700 Prepared By:

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and KUEHNE CHEMICAL COMPANY, INC. will not be liable for any damages, losses, injuries or consequential damages that may result from the use of or reliance on any information contained herein.

REFERENCES:

National Institute for Occupational Safety and Health, US Dept. of Health & Human Services, Cincinnati, June, 1994.

Supplier's Material Safety Data Sheets.

Windholz, Martha, Ed, The Merck Index, 11th ed., Merck and Co, Inc., Rahway, New Jersey, 1989.

Chlorine Institute Pamphlet 96 (Sodium Hypochlorite Safety & Handling), Edition I, September, 1992







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Sodium Hypochlorite

WARNING LABEL INFORMATION

Sodium Hypochlorite (NaOC Inert Ingredients:	,	(weight per cent)
		•

Total

KEEP OUT OF REACH OF CHILDREN

100.0 %

DANGER

FIRST AID

IF CONTACT WITH EYES OCCURS: Hold eye open and rinse slowly and gently with water for 15 -20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue to rinse eye. Call a poison control center or doctor for treatment advice.

IF CONTACT WITH SKIN OCCURS: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF INHALED: Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably month-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

PRECAUTIONARY STATEMENTS HAZARDOUS TO HUMANS AND DOMESTIC ANIMALS

DANGER:

Corrosive, may cause severe skin and eye irritation or chemical burns to broken skin. Causes eye damage. Wear safety glasses or goggles and rubber gloves when handling this product. Wash after handling. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until strong odors have dissipated.

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Sodium Hypochlorite	
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Sodium Hypochlorite

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

PHYSICAL OR CHEMICAL HAZARDS

STRONG OXIDIZING AGENT:

Mix only with water according to label directions. Mixing this product with chemicals (e.g. ammonia, acids, detergents, etc.) or organic matter (e.g. urine, feces, etc.) will release chlorine gas, which is irritating to eyes, lungs and mucous membranes.

DIRECTION FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING

Reformulators and Repackagers of this product must obtain their own registrations from the United States Environmental Protection Agency (USEPA).

For manufacturing use in the formation of end-use Products:

NOTE: This product degrades with age. Use a Chlorine test kit and increase dosage as necessary, to obtain the required level of available Chlorine.

For specific use directions, see KUEHNE Circular for each particular application.

CIRCULAR NUMBER K586A

sanitizers of surfaces (wooden butcher blocks, stainless steel tops, concrete floors, tile walls)

CIRCULAR NUMBER K586B

sanitizers of commercial laundry

CIRCULAR NUMBER K586C

agents to wash or assist in lye peeling of fruits and vegetables (sodium hypochlorite only), agents to help control microorganisms on mushrooms (pins), potatoes, sweet potatoes (post harvest), agents to help control microorganisms on eggs for human consumption

Kuchne CEMPANY Sodium Hypochlorite Revision A – 06 March 2007







6 North Hackensack Avenue, South Kearny, New Jersey 07032-4675

Phone: (973) 589-0700 Fax: (973) 589-4866

Sodium Hypochlorite

CIRCULAR NUMBER K586D

disinfectants of human drinking water (emergency/public & individual), swimming pool water, spas/hot tubs, hydrotherapy pools, human drinking water systems (water mains)

CIRCULAR NUMBER K586E

disinfectants of nonporous hard surfaces (tile, glass, stainless steel, fiberglass)

CIRCULAR NUMBER K586F

agents to help control microorganisms in sewage, waste water, industrial and pulp and paper process water systems

CIRCULAR NUMBER K586G

algicides, slimicides in cooling towers or evaporative condensers

STORAGE AND DISPOSAL

Store this product in a cool dry area away from direct sunlight and heat to prevent deterioration. In case of a spill, flood areas with large quantities of water. Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer. Do not contaminate food or feed by storage, disposal or cleaning of equipment.

Large storage containers should be rinsed thoroughly with water and returned to manufacturer for reconditioning. Large storage containers should be thoroughly rinsed with water before reuse.

IN CASE OF:

FIRE:

Use self-contained breathing apparatus and full protective equipment. Use water spray, foam, dry chemical or C02. Fire may liberate toxic gases.

SPILL:

Get protective equipment. Contain spill and pump into marked container for reclamation for disposal. Avoid discharges to sewers and streams. Spills of 100 pounds or more must be reported to the National Response Center at the following number:

1-800-424-8802

IN CASE OF CHEMICAL EMERGENCIES CALL: 24 HOUR EMERGENCY PHONE (973) 589-0700

Kueh		ANY
Sodium F	Typochlor	ite
Revision	A – 06 M	arch 2007





SODIUM HYPOCHLORITE SOLUTION, 10.5%	DIRECTIONS FOR USE
	IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING
0THER INGREDIENT:	NOTE: This product degrades with age. Use a chlorine test kit and increase dosage as necessary, to obtain the required level of available chlorine.
KEEP OUT OF REACH OF CHILDREN DANGER	For specific use directions, see KUEHNE Circular for each particular application.
IF IN EYES: Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.	CIRCULAR NUMBER K586A sanitizers of hard nonporous surfaces (stainless steel tops) CIRCULAR NUMBER K586B sanitizers of commercial laundry CIRCULAR NUMBER K586C
IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control center or doctor for treatment advice.	agents to wash or assist in lye peeling of fruits and vegetables (sodium hypochlorite only), agents to help control microorganisms on mushrooms (pins), potatoes, sweet potatoes (boost harvest) agents to help control microorganisms on egos for human consumption
IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.	CIRCULAR NUMBER K586D disinfectants of human drinking water (emergency/public & individual) and human drinking water systems (water mains)
IF SWALLOWED: Drink large amounts of water. DO NOT induce vomiting. Call a physician or poison control center immediately.	CIRCULAR NUMBER K586E disinfectants of hard nonporous surfaces (sealed tile and fiberglass, glass, stainless steel) CIRCULAR NUMBER K586F
NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Have product container or label with you when calling a poison control center or doctor for treatment advice.	agents to help control microorganisms in sewage, waste water, industrial and pulp and paper process water systems CIRCULAR NUMBER K586G
PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS DANGER: Corrosive, Causes irreversible eye and skin damage. Do not get in eyes, on skin or on clothing. Wear face shield or goggles and rubber gloves when handling this product. Wash thoroughly with scop and water after handling and before eating, drinking, chewing gun, using poscible. Do not return unit offore base discrete poorly ventilated areas as soon as poscible. Do not return unit offore base discreted poorly ventilated areas as soon as	algicides, slimicides in cooling towers or evaporative condensers CIRCULAR NUMBER K586H sanitizers of porous food contact surfaces (wooden butcher blocks) CIRCULAR NUMBER K586I sanitizers of porous non-food contact surfaces (tile walls, concrete floors) CIRCULAR NUMBER K586J
	disinfectants of swimming pool water, spas/hot tubs, hydrotherapy pools
ENVIRONMENTAL HAZARDS This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your	STORAGE AND DISPOSAL <i>Pesticide Storage:</i> Store this product in a cool dry area away from direct sunlight and heat to prevent deterioration. In case of a spill, flood area with large quantities of water.
state water board or regional office of the EPA. STRONG OXID/ZING AGENT: Mix only with water according to label directions. Mixing this product with chemicals (e.g., ammonia, adds, defergents, etc.) or organic matter (e.g., urine, feces, etc.) will release chlorine cas which is intribition to eves, indice uncers, membranes	Pesticide Disposal: Do not contarninate food or feed by storage, disposal or cleaning of equipment. Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer.
Manufactured by: KUEHNE CHEMICAL COMPANY INC. 86 N. HACKENSACK AVENUE SOUTH KEARNY, NJ 07032-4675	Container Disposal: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling the container is the responsibility of the refiller.
(973) 589-0700 EPA REG. NO. 35317-4 (973) 589-0700 EPA EST. NO. 35317-DE-1	
ANSI / NSF 60 DRINKING WATER TREATMENT ADDITIVE Net Contents:	
	12/17/10

Û

Corrosion Inhibitor – 50 gallon tank

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SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification

Product Name: SeaQuest[®] Liquid Date: June 23, 2021

<u>Use of the product</u> Liquid-Potable water treatment compound for Corrosion & Scale Control, Sequestering NSF[®] Listed

DWI Listed

<u>Company information</u> Aqua Smart, Inc. 4445 Commerce Dr SW Ste. A-4 Atlanta, GA 30336-1962

Emergency Telephone: In USA call Aqua Smart, Inc.: 404-696-4406 or 1-800-278-2762

Outside the USA, including ships at sea, call Aqua Smart, Inc.: +1-404-696-4406 or +1-800-278-2762

General Information: +1-404-696-4406 or +1-800-278-2762 (Worldwide)

SECTION 2 – HAZARD(S) IDENTIFICATION

USA:

GHS- This product does not meet the criteria for classification under GHS. Not classified as: "Hazardous Chemicals" in normal use in 29 CFR section 1910.1200

According to OSHA 29 CRF 1910.1200 HCS

2.1 Classification of the substance or mixture OSHA HCS 2012 * Not classified

2.2 Label elements OSHA HCS 2012 Hazard statements * No label element(s) required

2.3 Other Hazards OSHA HCS 2012

* This product is not considered hazardous under the U.S. OSHA 29 CFR 1910.1200 Hazard Communication Standard. SAFETY DATA SHEET

Material: SeaQuest[®] Liquid

ua Smart Inc.

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453/2010]	(EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by ve 67/548/EEC (DSD) or 1999/45/EC (DPD)
2.1 Classification of the s CLP DSD/DPD	substance or mixture * Not classified * Not classified
2.2 Label elements CLP Hazard statements DSD/DPD	* No label element(s) required
Risk phrases	* No label element(s) required
2.3 Other Hazards CLP	* According to Regulation (EC) No. 1272/2008 (CLP) this material is not considered hazardous.
DSD/DPD	* This product is not considered dangerous under the European Directive 67/548/EEC
CANADA: According to WHMIS	
2.1 Classification of the s WHMIS	substance or mixture * Not classified
2.2 Label elements WHMIS	* No label element(s) required
2.3 Other hazards WHMIS	* In Canada, the product mentioned above is not considered hazardous under the Workplace Hazardous Materials Information System (WHMIS)

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Composition

Substance

SeaQuest:Blend of inorganic phosphates / Liquid-Potable water treatment compound forCorrosion & Scale Control, SequesteringCAS No.: 14265-44-2100 % w/w

NSF[®] Listed: Maximum use level in potable water = 28.0 mg/l DWI Listed



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SECTION 4 – FIRST AID MEASURES

General

Likely Routes of Exposure: Eye and Skin contact.

Eye Contact

In case of contact, flush with plenty of water for 15 minutes. If irritation persists, get medical attention.

Skin Contact

In case of contact, wash with soap and water. If irritation persists, get medical attention.

Inhalation No emergency care anticipated

<u>Ingestion</u> No emergency care anticipated. Treat symptomatically.

SECTION 5 - Fire Fighting Measures

Extinguishing media Non-combustible. No special requirement.

Unsuitable extinguishable media Non-combustible. No special requirement.

Exposure hazards No special considerations.

Protective equipment

As a general precaution, firefighters and others exposed, wear self-contained breathing apparatus.

SECTION 6 – ACCIDENTIAL RELEASE MEASURES

Personal precautions

Avoid unnecessary exposure and remove all material from eyes, skin and clothing.

Environmental precautions

Small or large quantities: Avoid discharge into the environment.

Method of cleaning up

If spilled, soak up on mineral clay absorbent material.

Waste disposal methods

To dispose of, check with Federal, State and local regulations.

Page 4 of 6

SECTION 7 – HANDLING AND STORAGE

Handling

Gloves are recommended to avoid skin contact.

Goggles / safety glasses are recommended to avoid eye contact.

Storage

Keep container closed when not in use.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Hand / Skin Protection

Although this product does not present a significant skin concern, minimize skin contamination by following good industrial practice. Wearing protective gloves is recommended. Wash hands and contaminated skin thoroughly after handling.

Eve Protection

This product does not cause significant eye irritation or eye toxicity requiring special protection. Use good industrial practice to avoid eye contact. Refer to OSHA 29 CFR 1910.133 or European Standard EN166.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

- a) Appearance: Clear to slight hazy, colorless liquid
- b) Odor: None
- c) Odor threshold: Undetermined
- d) Boiling Point: Not applicable
- e) Specific gravity: 1.300-1.350
- f) Vapor pressure: Not applicable (mm Hg)
- g) Solubility: Water: 300 parts in 100 parts of water
- h) Flash point: Undetermined
- i) Flammability (solid, gas): Lower limits

NOTE: The physical data is based on typical values from material testing but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

Page 5 of 6

SECTION 10 -- STABILITY AND REACTIVITY

Product is stable under normal conditions of storage and handling. Conditions to avoid None known.

Materials to avoid None known.

Hazardous decomposition None known.

SECTION 11 – TOXICOLOGICAL INFORMATION

The liquid may cause slight foreign body irritation in some individuals. Prolonged contact with the product may cause blistering on the skin upon frequent, repeated, or prolonged contact.

NSF[®] Listed (U.S.A.)

On the Inspectorate Website Listed, Drinking Water Inspectorate (U.K.) DWI

SECTION 12 – ECOLOGICAL INFORMATION

Environmental toxicity

The following data have been classified using the criteria adopted by the European Economic Community (EEC) for aquatic organism toxicity.

Invertebrate: 48-hr LC50 - Daphnia Magna >500mg/l; non-toxic Warm-water fish: 96-hr LC50 - Inland Silverfish>1000mg/l; non-toxic Coldwater fish: 96-hr LC50 - Rainbow Trout>1000mg/l; non-toxic

Environmental fate

No definite algal toxicity or biodegradation data was available for this material.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste information

Waste must be disposed of in accordance with the federal, provincial and local environmental regulations.

Page 6 of 6

SECTION 14 – TRANSPORT INFORMATION

US DEPARTMENT OF TRANSPORTATION

DRUMS: Not Regulated

Proper Shipping Name: SeaQuest[®] Liquid Blended Phosphate Non-Hazardous – NNMFC 043800-01

SECTION 15 – REGULATORY INFORMATION

TSCA STATUS: All components of this product are listed in the TSCA inventory.

DSL: All components are on the Domestic Substance List

CANADIAN WHIMS: Not a "Hazardous Product" under WHIMS classifications.

WHIMS Classification: Not Controlled

EC Label None

Non-Hazardous Schedule B # 2835.39.00

Refer to Section 11 for OSHA/HPA Hazardous Chemical(s) classification.

SECTION 16 – OTHER INFORMATION

This product is certified to NSF/ANSI 60 by NSF[®] International for use in potable water.

Reason for revision: Revised all sections to be compliant with OSHA / GHS regulations. Supersedes MSDS dated: January 21, 2020

To the best of our knowledge, the information contained herein is accurate. However, neither the abovenamed supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy of the completeness of the information contained herein.

Caustic Soda – 50 gallon tank



Material Safety Data Sheet – Caustic Soda Micro Pearls

	SECTION I · PRO	DUCT IDENT	IFICATION	
CHE Manufacturers Address: 916 West Lathrop Avenue Savannah, Georgia 31415	MTREC – 24HR Emer Information Ph Date Prepared Preparer: F.Sp	ione: (912) 443 : 08 June 2009	3-6702	0
Synonym: Sodium Hydroxide, Chemical Family: Alkali			NFPA Rating 1- Slight 2- Moderate ious 4- Extreme	
	SECTION II · HAZ	ZARDOUS ING	REDIENTS	
CHEMICAL NAME	CAS Number	%WT	TLV	PEL
Caustic Soda, micro pearls	1310-73-2	100	2 mg/m ³	2 mg/m ³
	SECTION III · HAZ		ITIFICATION	

Potential Acute Health Effects: Prolonged contact with dilute solutions of dust has a destructive effect upon tissue. **Potential Chronic Health Effects:** No chronic Sara 311/312 effects listed.

SECTION IV · PHYSICAL and CHEMICAL PROPERTIES

Boiling Point Range: 2534°F **pH:** 13-14 (0.5% Soln.) **Solubility In Water:** Soluble. **Appearance/Odor:** White deliquescent pearls with no odor. **Melting Point/Freezing Point:** 604 ⁰F Vapor Density (Air=1): > 1.0 Vapor Pressure (mmHg): < 0.1 VOC %: 0 Specific Gravity (H₂O=1): 2.13

SECTION V · FIRE FIGHTING MEASURES

Flash Point: None. Auto Ignition: Decomposes. Extinguishing Media: Not considered a fire hazard. Use any means suitable for extinguishing surrounding fire. Flammable Limits: Lower: None Upper: None Fire Fighting Procedures: Cool fire-exposed containers with water spray to prevent container weakening and possible rupture. Do not enter confined spaces without self-contained breathing apparatus (SCBA) and structural firefighter's protective clothing.

Unusual Fire and Explosion Hazards: Not considered an explosion hazard.

SECTION VI · STABILITY AND REACTIVITY

Stability: Stable under normal use conditions.
 Conditions to Avoid: Moisture, dusting and incompatibles.
 Incompatibility: Avoid contact with acids, moisture, strong oxidizing agents, powdered metals.
 Hazardous Decomposition Products: Oxides of Sodium.

Hazardous Polymerization: Will not occur.



Colonial Chemical Solutions, Inc.

SECTION VII · STORAGE AND HANDLING

Precautions To Be Taken In Handling and Storage: Always store in tightly sealed, properly labeled, original container. Store in a cool, dry well ventilated area. Prevent physical damage. Keep away from sources of heat, moisture and incompatibles.

Other Precautions: Follow Label Instructions and Precautions.

SECTION VIII · HEALTH AND FIRST AID

Skin: Corrosive! Severely irritating.
Eyes: Corrosive! Severely irritating.
Inhalation: Severely irritating. High dust concentrations can do serious damage to respiratory system.
Ingestion: Severely irritating. May cause severe burns of mouth, throat, and stomach.

FIRST AID PROCEDURES:

Eyes: Flush with large amounts of cool running water for at least 15 minutes. Get medical attention immediately. **Skin:** Flush off excess with large amounts of cool running water for at least 15 minutes. Get medical attention immediately.

Inhalation: For excessive inhalation remove to fresh air. If breathing is difficult seek medical attention. **Ingestion:** DO NOT induce vomiting. Drink large amounts of water or milk. Seek medical attention immediately.

SECTION IX · EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye Protection: Eye Protection when handling. Goggles, safety glasses with side shields or full-face shield are recommended.

Respiratory Protection: Where adequate ventilation is not available an approved respirator (NIOSH N95 or better) must be worn. In confined or areas where exposure is above is above 50 times the TLV, use a self-contained breathing apparatus.

Skin Protection: Wear impervious clothing, including boots, gloves, apron or coveralls, as appropriate to prevent skin contact.

Ventilation: General Mechanical ventilation to prevent dusting and TLV from exceeding control limits.

Protective Clothing: Selection of protective clothing depends on potential exposure conditions and may include gloves, boots, suits and other protective items.

Other Equipment: Eye wash station and drench shower in close proximity.

SECTION X · ACCIDENTAL RELEASE MEASURES

Ventilate area of spill. Wear appropriate PPE as specified in Section IX. Sweep up and containerize for reclamation or disposal. Avoid dust dispersal during clean up operation.

SECTION XI · DISPOSAL CONSIDERATIONS

Whatever cannot be salvaged should be managed in an appropriate and approved waste disposal facility. Processing use or contamination of this product may alter its waste classification. State and local disposal regulations may differ from federal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.



Colonial Chemical Solutions, Inc.

SECTION XII · TRANSPORTAION

Proper Shipping Name:Sodium Hydroxide, SolidHazard Class:8UN Number:1823Packaging Group:II

SECTION XIII · TOXICOLOGY

Carcinogenicity:Not NTP listedMutagenicity:Not reported to produce mutagenic effects in humans.Reproductive:Not reported to produce reproductive effects in humans..Sensitization:Persons with pre-existing skin disorders or eye problems may be more susceptible to this product.

SECTION XIV · REGULATORY

RMP/PSM:	Not listed
CERCLA-RQ:	1000 Lbs
EPCRA 311/312:	Yes
EPCRA 313:	Yes
FIFRA:	No documented information available.
RCRA-CODE:	No Hazardous Waste Identification.
TSCA:	Listed

SECTION XV · OTHER INFORMATION

The information contained on this Material Safety Data Sheet is considered accurate as of the date of publication. It is not necessarily all inclusive nor fully adequate in every circumstance. The suggestions should not be confused with, nor followed in violation of applicable laws, regulations, rules or insurance requirements. No warranty, express or implied, of merchantability, fitness, accuracy of data, or the results to be obtained from the use thereof is made. The vendor assumes no responsibility for injury or damages resulting from the inappropriate use of this product.

		_						SWNY PFAS Cor				
0	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names	Note: ?" stands for approximate estima
•	-	1	SWNY PFAS Compliance	384 days?	Wed 3/31/21	Mon 10/10/22		8%	Wed 3/31/21	NA		
\checkmark	-	2	D/B Contract Notice to Proceed	1 day	Mon 4/5/21	Mon 4/5/21		100%	Mon 4/5/21	Mon 4/5/21		
		3	Maintain Secure Project Website	365 days	Tue 4/6/21	Mon 9/19/22	2	0%	Tue 4/6/21	NA		
•	-	5	Design Phase	251 days?	Wed 3/31/21	Fri 4/1/22		23%	Wed 3/31/21	NA		
		54	Design Construction Services	345 days	Wed 3/31/21	Mon 8/15/22		0%	NA	NA		
•	-	62	Construction Phase	384 days	Wed 3/31/21	Mon 10/10/22		3%	Wed 3/31/21	NA		
	-	63	Administration	233 days	Wed 3/31/21	Tue 3/8/22		4%	Wed 3/31/21	NA		
3 🔶		133	Construction Phase	229 days	Mon 11/8/21	Mon 10/10/22	65,66,67,68,78,8	30%	Mon 11/8/21	NA		
4	-	134	Survey-Establish Control	1 day	Mon 3/7/22	Mon 3/7/22	50	0%	Mon 3/7/22	NA		
5	-	135	Test Pit and Verify 6" OD for Tapping Sleeve	1 day	Mon 11/8/21	Mon 11/8/21	50	0%	NA	NA		
5		136	Mobilization	2 days	Mon 3/7/22	Tue 3/8/22	53	0%	Mon 3/7/22	NA		
7	-	137	Erosion Control	3 days	Wed 3/9/22	Fri 3/11/22	136	0%	NA	NA		
3		138	Site Clearing of Existing Trees/Brush	3 days	Mon 3/14/22	Wed 3/16/22	137	0%	NA	NA		
9	-	139	Strip Topsoil	3 days	Thu 3/17/22	Mon 3/21/22	138	0%	NA	NA		
D		140	Site Grading	3 days	Tue 3/22/22	Thu 3/24/22	139	0%	NA	NA		
1	-	141	Install fill	1 day	Fri 3/25/22	Fri 3/25/22	140	0%	NA	NA		
2	-	142	Install Stone Base for Access Road	3 days	Fri 3/25/22	Tue 3/29/22	140	0%	NA	NA		
3		143	Exterior Piping	116 days	Wed 4/6/22	Mon 9/19/22		0%	NA	NA		
4	-	144	Install 6" DIP Influent Piping into building including Tapping 6" Main	2 days	Wed 4/6/22	Thu 4/7/22	142,155FF+1 day,119,120	0%	NA	NA		
5	-	145		1 day	Fri 4/8/22	Fri 4/8/22	144	0%	NA	NA		
5	-	146		5 days	Fri 8/5/22	Thu 8/11/22	122,152	0%	NA	NA		
7	-	147	Chlorinate, Pressure Test and Flush/DOH Appr	10 days	Fri 9/2/22	Fri 9/16/22	175	0%	NA	NA		
3	-	148	Cut & Cap 6" Main After Tie In	1 day	Mon 9/19/22	Mon 9/19/22	147	0%	NA	NA		
9	-	149	Install 6' DIA Seepage Pit	1 day	Thu 6/23/22	Thu 6/23/22	153	0%	NA	NA		
0	-	150	Electric	84 days	Thu 4/7/22	Thu 8/4/22		0%	NA	NA		
1	-4	151	Excavate and Install Underground Electric Feed into building	3 days	Thu 4/7/22	Mon 4/11/22	155	0%	NA	NA		
2		152	Install Electrical Appurtenances	30 days	Thu 6/23/22	Thu 8/4/22	166	0%	NA	NA		
3	-	153	Building/Superstructure	60 days	Wed 3/30/22	Wed 6/22/22		0%	NA	NA		
4	-	154	Excavate for Building Footings	1 day	Wed 3/30/22	Wed 3/30/22	142	0%	NA	NA		
5	-	155	Form, Install Rebar and Pour Footings for Build	15 days	Thu 3/31/22	Wed 4/6/22	154	0%	NA	NA		
5	-	156	Form, Install Rebar and Pour Foundation Wall for Building	5 days	Tue 4/12/22	Mon 4/18/22	155,151,145	0%	NA	NA		
7	-	157	Form, Install Rebar and Pour Foundation Wall with Integral Piers for Building	6 days	Tue 4/19/22	Tue 4/26/22	156	0%	NA	NA		
3	-	158	Backfill Footings	1 day	Wed 4/27/22	Wed 4/27/22	157	0%	NA	NA		
9	-	159	Install GAC Equipment Pad	4 days	Thu 4/28/22	Tue 5/3/22	158	0%	NA	NA		
D	-	160		3 days		Fri 5/6/22	159	0%	NA	NA		
1	-	161	Install Stone Base for Slab on Grade	1 day	Mon 5/9/22	Mon 5/9/22	160	0%	NA	NA		
2	-	162	Install Slab on Grade	5 days	Tue 5/10/22	Mon 5/16/22	161	0%	NA	NA		
3	-	163		1 day		Tue 5/17/22	162	0%	NA	NA		
4	-	164	Install Equipment Pads- Form, Rebar, Pour, Strip and Rub	3 days	Wed 5/18/22	Fri 5/20/22	163	0%	NA	NA		
5	-	165	Install Filter Pads- Form, Rebar, Pour, Strip and	days	Mon 5/23/22	Wed 5/25/22	164	0%	NA	NA		
5	-	166	Installation of Pre-Engineered Building	25 days	Wed 5/18/22	Wed 6/22/22	163	0%	NA	NA		
7		167	Chemical Feed System	4 days	Thu 6/23/22	Tue 6/28/22		0%	NA	NA		
3	-	168	Install Piping for Sodium Hypo and Phosphoric	4 days	Thu 6/23/22	Tue 6/28/22	166	0%	NA	NA		
9	-	169	Treatment Equipment	20 days	Thu 6/9/22	Thu 7/7/22		0%	NA	NA		
0	-	170	Install 8' DIA GAC Equipment	2 days	Thu 6/9/22	Fri 6/10/22	166FS-10 days	0%	NA	NA		
1	-	171	Install Filters	1 day	Thu 6/23/22	Thu 6/23/22	166,170	0%	NA	NA		

								SWNY PFAS Pro	ject F-Chateau		
D ()	Task Mode	ID	Task Name	Duration	Start	Finish	Predecessors	% Complete	Actual Start	Actual Finish	Resource Names
172	-4	172	Install Influent, Effluent and Wastewater Flanged Piping	7 days	Thu 6/23/22	Fri 7/1/22	166,170	0%	NA	NA	
73	-4	173	Install Pipe Supports	3 days	Tue 7/5/22	Thu 7/7/22	172	0%	NA	NA	
74		174	Instrumentation	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
75		175	Install Instrumentation Appurtenances	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
76		176	Building HVAC Work	20 days	Fri 8/5/22	Thu 9/1/22		0%	NA	NA	
77	-	177	Install HVAC	20 days	Fri 8/5/22	Thu 9/1/22	152	0%	NA	NA	
78		178	Painting/Coating	5 days	Fri 7/8/22	Thu 7/14/22		0%	NA	NA	
179	-	179	Paint Interior Piping	5 days	Fri 7/8/22	Thu 7/14/22	169	0%	NA	NA	
80	-	180	Site Work	15 days	Fri 7/8/22	Thu 7/28/22		0%	NA	NA	
81		181	Install Site Civil-Gravel Turnaround and Landsc	15 days	Fri 7/8/22	Thu 7/28/22	173	0%	NA	NA	
82	-	182	Start Up and Testing	10 days	Mon 9/19/22	Fri 9/30/22		0%	NA	NA	
83		183	Start up and Test Equipment and Instrumentat	10 days	Mon 9/19/22	Fri 9/30/22	147,152	0%	NA	NA	
84	-	184	Substantial Completion	1 day	Mon 10/3/22	Mon 10/3/22	182	0%	NA	NA	
85		185	DOH Review and Approval	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
86		186	In Service	0 days	Mon 10/10/22	Mon 10/10/22	185	0%	NA	NA	
87	-	187	Demobilization	5 days	Tue 10/4/22	Mon 10/10/22		0%	NA	NA	
88		188	Cleanup/Demobilization	5 days	Tue 10/4/22	Mon 10/10/22	184	0%	NA	NA	
89	-	189	Final Completion	0 days	Mon 10/10/22	Mon 10/10/22	188,186	0%	NA	NA	

Page 2 of 2

ATZL, NASHER & ZIGLER P.C.

ENGINEERS-SURVEYORS-PLANNERS 232 North Main Street New City, NY 10956 Tel: (845) 634-4694 Fax: (845) 634-5543

4. The hydrology and the hydraulics study for this project have been undertaken to examine the pre and post construction drainage conditions. The study provides the impact of the proposed impervious area to the drainage system. To attenuate the post-development peak flow to predevelopment peak flow we are proposing a rain garden system. The rain garden system is design per NYSDEC's stormwater management design manual. The drainage system consists of pipes, stone outlet, stone spillways, and two rain garden systems. The system it's an above ground practice and is design to store 846 cu.ft. The ponding depth of the system is 6 inches and in order to address the overflow a stone spillway has been proposed. In addition, a list of the approved rain garden landscaping has been provided. Please refer to the site plan (dwg. no 1) and the grading plan (dwg. no 3).

5. The erosion and sediment control measures to be used on the site during the proposed work include silt fences and a construction entrance. In addition, disturbed portions of the site where construction activities permanently cease shall be stabilized no later than 14 days after the last construction activity. The Erosion and Sediment Control (E&SC) Plan is prepared per NYS Standards and Specifications for Erosion and Sediment Control. Please refer to the erosion and sediment control plan (dwg. no 4).

6. Stormwater runoff generated by the proposed site improvement will be routed to the rain garden systems in order to provide zero net increase of peak runoff. The rain garden systems are design to provide peak flow attenuation up to 100-year storm peak runoff. The rain garden system is design per NYSDEC's stormwater management design manual.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 3 21 South Putt Corners Road, New Paltz, NY 12561-1620 P: (845) 256-3054 | F: (845) 255-4659 www.dec.ny.gov



Department of Environmental Conservation

January 20, 2022

Jillian Arnold 207 Camp Hill Ave Camp Hill, PA 17011

RE: Joint Application for Permit # 3-3720-00471/00001 Archer Well Town of Carmel, Putnam County Blanket Water Quality Certification

Dear Jillian Arnold:

The New York State Department of Environmental Conservation (DEC) has reviewed your resubmission received electronically October 6, 2021 regarding the above-referced project. According to the information provided, the project involves the construction of a PFAS treatment building, an influent pipe, an effluent pipe, an underground electrical conduit, and a 12' access road at the Archer Well site. This action will create approximately 0.077 acres of disturbance to federally regulated wetlands. The submitted information identifies that this project qualifies for authorization under U.S. Army Corps of Engineers (USACE) Section 404 Nationwide Permit (NWP) 3, Maintenance

The DEC has reviewed the submitted information and determined that this project is eligible for coverage under the Blanket Section 401 Water Quality Certification that DEC has issued for NWP 3. Therefore, an individual WQC permit from the DEC is not required and your application has been withdrawn from further processing.

This determination does not relieve you of any requirements under any other applicable laws which may exist. You are advised to contact all appropriate Federal, State, and/or local agencies for any approvals that may be required.

> Environmental Conservation

Please contact this office if project plans change to the extent that it does not meet the conditions for coverage under the Blanket WQC or, if the USACE determines that this project is ineligible for coverage under NWP 3. The project must comply with all required general conditions of the Blanket WQC, which can be found on the DEC website at

https://www.dec.ny.gov/docs/permits_ej_operations_pdf/wqcnwp2018.pdf

Sincerely,

Frank Benedetto

Frank J. Benedetto Environmental Analyst I Frank.benedetto@dec.ny.gov

CC: Sarah Pawliczak; NYSDEC Steven Smith; Gannett Fleming, Inc Brian Orzel; USACE

Liskovich, Sophia Z.

From:	Orzel, Brian A CIV USARMY CENAN (USA) <brian.a.orzel@usace.army.mil></brian.a.orzel@usace.army.mil>
Sent:	Monday, January 10, 2022 12:24 PM
То:	Arnold, Jillian N.
Cc:	Smith, Steven C.; Liskovich, Sophia Z.
Subject:	RE: Submission of Suez Water Permit Applications
Attachments:	NWP Regulations FR 06JAN17.pdf; PN-LRB NAN Final Regional Conditions WQC CZM for NY (dated
	21-MAR-2017).pdf

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Jillian,

We received the pre-construction notification for NWP 3 for the above referenced project on November 16, 2021.

Due to my excessive work load, I was unable to provide a written determination within 45 days of its submission.

In accordance with the current nationwide general permit regulations (Federal Register dated January 6, 2017, pages 1860 to 2008), if the Corps of Engineers district does not respond to a pre-construction notification within 45 days of receipt, then the applicant may proceed with the project as proposed.

That means that the applicant must perform the work as proposed in your pre-construction notification. Any substantive changes to the project would require the applicant to submit a new notification to this office.

If you have any questions, let me know.

Brian

Brian A. Orzel Project Manager, Civil Engineer NY District US Army Corps of Engineers Regulatory Branch 26 Federal Plaza, Room 16-406 New York, New York 10278-0090

Please note in order to ensure our continuity of operations and improve the timeliness of permit application reviews due to the current COVID-19 virus, effective immediately, the New York District, U.S. Army Corps of Engineers is requiring that all new permit applications be submitted to the New York District electronically. Until further notice, the New York District will no longer process any paper permit applications. This electronic processing procedure will increase the efficiency of correspondence, furthering the goal of providing timely decisions. Please see the link below to the Regulatory Branch Operational Modification Special Public Notice describing the instructions for electronic application submittals:

https://www.nan.usace.army.mil/Portals/37/docs/regulatory/publicnotices/Non%20Project%20Specific/2020/CENAN-OP-R%20PN%20Electronic%20Submission%20of%20Permit%20Applications%2027MAR2020.pdf?ver=2020-03-31-163215-913.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, December 13, 2021 1:04 PM
To: Orzel, Brian A CIV USARMY CENAN (USA) <Brian.A.Orzel@usace.army.mil>
Cc: Smith, Steven C. <scsmith@GFNET.com>; Liskovich, Sophia Z. <sliskovich@GFNET.com>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Brian,

I wanted to touch base to you on the Suez projects in Putnam County. Have you been able to determine of the 5 projects (Archer, Chateau, Geymer, London Bridge and Mahopac) what nationwide permit these projects might fall under? NY DEC is currently waiting USACE's determination of the NWP in order to finalize the state permits.

Thank you very much for your time, we appreciate it!

Jillian

From: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Sent: Monday, November 15, 2021 10:24 AM
To: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>; Orzel, Brian A CIV USARMY CENAN (USA) <<u>Brian.A.Orzel@usace.army.mil</u>>
Subject: RE: Submission of Suez Water Permit Applications

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Ms. Arnold,

I have provided the Suez Water permit applications to Mr. Brian Orzel, copied on the email, who is the area project manager for Putnam County. If he has any questions on the submittal, he'll contact you.

R/ Rosie

ROSITA MIRANDA Chief, Western Section Regulatory Branch USACE, New York District Mobile: 347-446-0359

https://www.nan.usace.army.mil/Missions/Regulatory/

EFFECTIVE IMMEADIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: <u>CENAN-R-Permit-App@usace.army.mil</u>.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Monday, November 8, 2021 12:42 PM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Good afternoon, I am following up with this email (below) from the 29th. I tried to submit the files to the site that was in the email from the 28th. However, It requested a code when I clicked the location. I know that USACE has not started reviewing these permits, and I am concerned about timeline for construction. Please let me know how I can get USACE the permits that need to be reviewed.

Thank you, Jillian

From: Arnold, Jillian N.
Sent: Friday, October 29, 2021 7:49 AM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>
Subject: RE: Submission of Suez Water Permit Applications

Good morning Rosie,

I am happy to drop off the files for Suez to the site listed in your email, however, it is asking for a request code? Are you able to send me a drop off request? I have never delivered information to USACE this way. Sorry for all of the questions.

Thank you, Jillian

From: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>> Sent: Thursday, October 28, 2021 3:12 PM To: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>> Subject: RE: Submission of Suez Water Permit Applications

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please provide the town and county so we can direct your inquiry to the right permit section.

Please use - https://safe.apps.mil/ for file transfer.

R/ Rosie

ROSITA MIRANDA Chief, Western Section Regulatory Branch USACE, New York District Mobile: 347-446-0359 https://www.nan.usace.army.mil/Missions/Regulatory/

EFFECTIVE IMMEADIATELY, THE NEW YORK DISTRICT REGULATORY BRANCH WILL ONLY BE ACCEPTING PERMIT APPLICATIONS ELECTRONICALLY THROUGH THE FOLLOWING EMAIL ADDRESS: <u>CENAN-R-Permit-App@usace.army.mil</u>.

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Thursday, October 28, 2021 12:12 PM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Subject: [Non-DoD Source] RE: Submission of Suez Water Permit Applications

Could you please tell me how to submit packages to the FTP site? I have not received a response if you received the SUEZ packages for review. I do not want to lose too much time as NYSDEC is review these packages at this time.

Thank you very much for your help! Jillian

From: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>> Sent: Tuesday, October 12, 2021 4:54 PM To: Arnold, Jillian N. <<u>jarnold@GFNET.com</u>> Subject: RE: Submission of Suez Water Permit Applications

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Please note that you have to use DOD Safe as the ftp site for large files.

What Town and County is this project in?

From: Arnold, Jillian N. <jarnold@GFNET.com>
Sent: Friday, October 8, 2021 1:02 PM
To: CENAN-R-Permit-App <<u>CENAN-R-Permit-App@usace.army.mil</u>>
Cc: Smith, Steven C. <<u>scsmith@GFNET.com</u>>; Liskovich, Sophia Z. <<u>sliskovich@GFNET.com</u>>
Subject: [Non-DoD Source] Submission of Suez Water Permit Applications

Good afternoon,

Please find the electronic versions of the Archer, Chateau and London Bridge Joint Permit Applications for SUEZ Water NY. These applications have been sent to NYSDEC for Joint Permit approvals. Below are the list of DEC IDs for these applications:

- Archer Well 3-3720-00471/00001
- London Bridge Well 3-3720-00469/00001
- Chateau Well 3-3720-00470/00001

The file sizes on each pdf is large making emailing cumbersome. Here is the link to download the 3 Joint Permit Applications.

Download Link: <u>SUEZ - Archer, Chateau and London Bridge JPA Packages</u>

Please let me know if there are any restrictions with accessing the link above.

Any additional questions, please do not hesitate to let us know.

Thank you, Jill

Jillian Arnold, PWS | Senior Environmental Scientist Gannett Fleming | 207 Senate Avenue, Camp Hill, PA 17011 t 717.886.5402 | c 717.422.6229 | jarnold@gfnet.com Excellence Delivered As Promised Gannett Fleming is ISO 9001:2008 Certified. www.gannettfleming.com | Stay connected: Twitter | Facebook | LinkedIn | YouTube

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