TOWN OF CARMEL
PLANNING BOARD

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

PLANNING BOARD AGENDA
JANUARY 13, 2022 – 7:00 P.M.

		TAX MAP #	PUB. HEARING	MAP DATE	COMMENTS
PUBLIC HEARING					
1.	Hamlet at Carmel – Stoneleigh Ave, Carmel	66.-2-58	1/13/22	1/3/22	Amended Site Plan
SITE PLAN					
2.	Mehra, Sanjay – 10 Veschi Lane South	75.16-1-27		11/3/21	Special Site Plan
3.	Suez Water New York Inc – London Bridge Wells - 39 Brook Street	64.7-1-10		11/15/21	Site Plan
4.	Suez Water New York Inc – Geymer Wells - 70 Geymer Drive	75.13-1-6		11/15/21	Site Plan
5.	Suez Water New York Inc – Chateau Wells - 59 McNair Drive	75.20-1-16		11/15/21	Site Plan
6.	Suez Water New York Inc – Mahopac Wells - 150 feet s/w of Coventry Circle	75.20-2-68		11/15/21	Site Plan
7.	Suez Water New York Inc – Archer Wells - 9 Colton Road	85.12-1-8		11/15/21	Site Plan
8.	Centennial Golf Course – 185 John Simpson Rd	44.-2-2.1 & 44.-2-4.2		11/2021	Amended Site Plan
9.	Centennial Golf Townhomes – 185 John Simpson Rd	44.-2-2.1 & 44.-2-4.2		11/2021	Amended Site Plan
SUBDIVISION					
10.	Centennial Golf Course – 185 John Simpson Rd	44.-2-2.1 & 44.-2-4.2		11/2021	Lot Line Adjustment
MISCELLANEOUS					
11.	Minutes – 12/09/21				

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

January 3, 2022

Town of Carmel Planning Board
60 McAlpin Avenue
Mahopac, New York 10541

RE: Amended Site Plan
The Hamlet at Carmel
TM# 66.-2-58

Dear Chairman Paeprer and Members of the Board:

Please find enclosed the following plans and documents in support of an application for an amended site plan approval for the above referenced project:

- Ten (10) sheet Amended Site Plan Set, dated January 3, 2022. (5 copies)
- NYCDEP Watercourse Map, dated December 16, 2021.
- SWPPP Addendum, dated January 3, 2022.

The applicant seeks amended site plan approval for 150 units of multifamily housing development in accordance with Town Code §156-28.

In response to the comments received from Director of Code Enforcement, Michael Carnazza, dated December 6, 2021, we provide the following response:

1. See the Certificate of Occupancy Schedule which has been added to drawing SP-4 of the site plan set.

2. As previously noted, adequate water supply is available for the proposed development including fire protection.

Comments received from Town Planner, Patrick Cleary, dated December 9, 2021, indicate that previous concerns regarding the property management for the affordable portion of the development, traffic and fiscal concerns have been satisfactorily addressed.

In response to the comments received from Town Engineer, Richard Franzetti, PE, dated December 3, 2021, we provide the following responses:

I. General Comments:

1. This comment is noted.

2. This comment is noted.

3. The existing onsite intermittent watercourses were reconfirmed in the field with NYCDEP on December 13, 2021. An updated Watercourse Map is enclosed.

4. As previously noted, the project has a full SWPPP and related permit coverage under the NYSDEC General Permit for Construction Activities. A SWPPP Addendum has been submitted to the Town and will be submitted to NYCDEP for their review.

5. The traffic information that was provided to the Planning Board will be forwarded to the Putnam County Department of Highways and Facilities (PCDHF).

6. A Draft Stormwater Facility Maintenance Agreement was previously submitted. Annual cost to maintain the stormwater practices will be provided prior to final approval.

7. A bond for site work and the Engineering Fee will be provided prior to final approval.

II. Detailed Comments:

1. Grading and Utilities Plan – SP-3
   a. Rim and invert information for the drainage system is provided on drawing SP-3.
   b. Pipe sizing is indicated on drawing SP-3, and supporting calculations are included in the attached SWPPP Addendum.
   c. A note indicating that all electrical utilities are to be installed underground has been added to drawing SP-3.
2. Erosion Control and Phasing Plan
   a. Rim and invert information is provided on drawing SP-3.
3. A note has been added to drawing SP-1 that the proposed roads are to be privately owned and are not intended to be dedicated to the Town of Carmel.

A few other updates should also be noted. The building footprints have been somewhat revised based on general design revisions and in response to the dialogue the applicant's architect has had with the Board's Architectural Consultant. The site as shown continues to be in compliance with zoning requirements and the Zoning Tables on drawing SP-1 have been revised where applicable.

Furthermore, in response to comments on street trees along the new access drives, street trees have been added to the plan.

Please place the project on the January 13, 2022 Planning Board agenda for a discussion with the Board, and the public.

Should you have any questions or comments regarding this information, please feel free to contact our office.

Very truly yours,
INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

By: _____
Jeffrey J. Contelmo, PE
Senior Principal Engineer

JJC/adt/amk

Enclosures (all via email)
cc: Ken Kearney
Sean Kearney
Jon Dahlgren
Mario Salpepi
Insite File No. 14211.100

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The Hamlet at Carmel

(Formerly The Putnam Community Foundation)

Amended Stormwater Pollution Prevention Plan (ASWPPP)

Town of Carmel, New York

January 3, 2022

1.0 INTRODUCTION

The Hamlet at Carmel (HAC) project is proposed on a 35 ± acre parcel of vacant land designated as Town of Carmel Tax Map Parcel #66.-2-58. Access to the HAC project is provided through the adjoining Putnam Hospital Center (PHC) property to the north. The hospital parcel is designated as Town of Carmel Tax Map Parcel #66.-2-57. The subject parcels are located in the R (residential) zoning district. The parcels and their surroundings are delineated on the Overall Site Plan.

A SWPPP approval was obtained for the subject project (formerly known as The Putnam Community Foundation) from the NYCDEP on March 23, 2010, with the most recent renewal dated November 18, 2019, valid through March 23, 2025. The approved SWPPP is titled “Stormwater Pollution Prevention Plan for The Putnam Community Foundation” and dated March 9, 2010. This document is a supplement to the approved SWPPP. The previously proposed project consisted of 120 single bedroom senior housing units, access driveway, sports court, community building and parking. The current proposed project for the project site consists of the construction of a multifamily residential development of ten (10) buildings totaling 150 units and associated parking, recreation and utility areas. The current project scope is proposed to consist of less impervious cover and disturbance on the project site than the previously approved project.

The project received coverage under the New York State Department of Environmental Conservation General Permit GP-0-10-001. The identification number is NYR11C513. As noted in Part II.E of GP-0-20-001, “owner operator of a construction activity with coverage under GP-0-15-002, as of the effective date of GP-0-20-001, shall be authorized to discharge in accordance with GP-0-20-001, unless otherwise notified by the Department”. The permit also notes that “the owner or operator may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization”. The current stormwater design will meet the requirements for stormwater treatment in accordance with the General Permit GP-0-10-001.

The following sections of this report have been prepared to address the proposed site changes from the approved SWPPP for The Hamlet at Carmel from the approved Putnam Community Foundation project and assess the stormwater management practices within the framework of the previously approved SWPPP.

2.0 STORMWATER ASSESSMENT

This section of the SWPPP amendment discusses the proposed modifications from the approved SWPPP to the current proposed project. As previously discussed, the proposed site development has been modified from the approved SWPPP. The overall general layout of the site has not changed but proposed development has changed from 120 senior housing units to the construction of a multifamily residential development including ten (10) buildings totaling 150 units and associated appurtenances. The type and number of stormwater management practices as approved in the SWPPP prepared for The Putnam Community Foundation (PCF) project have not been altered.

The approved PCF project consisted of 7.7 acres of 1/8 acre lots (65% impervious) and 1.3 acres of impervious surfaces associated with the proposed driveway, parking areas and appurtenances. The Hamlet at Carmel development proposes the same total impervious area from the approved SWPPP. The project also proposes to decrease the overall limit of disturbance associated with the development from the approved SWPPP. See table below for a comparison between the overall impervious area and limit of disturbance for the approved PCF project and the Hamlet at Carmel development.

Table 2.1 – Impervious Area and Limit of Disturbance Summary Table

	Approved SWPPP	Amended SWPPP
Overall Proposed Impervious Area (ac.)	6.3	6.3
Overall Proposed Limit of Disturbance (ac.)	23.9	20.0

As the project site is mostly wooded, by reducing the overall limit of disturbance for the subject project, the proposed tree removal for the project will decrease as well. By decreasing the tree removal for the subject project, the stormwater runoff from the site will decrease which will reduce the water quality treatment volumes required for stormwater management. With the same amount of impervious area for the subject project and decrease in tree removal, the water quality and quantity requirements for stormwater treatment will be reduced from the approved SWPPP, thereby decreasing the required size of the proposed stormwater management practices. As the proposed stormwater management practices have not been altered and the stormwater quality and quantity treatment requirements have been reduced, the approved stormwater management practices are adequate to treat the stormwater runoff from the proposed Hamlet at Carmel development in accordance with the NYCDEP and NYSDEC requirements during the time of the original approval.

3.0 STORMWATER CONVEYANCE SYSTEM

The stormwater conveyance system for the project consists of grass swales, precast concrete drainage structures, HDPE and PVC SDR 35 drainage piping. The proposed conveyance system has been sized utilizing the Rational Method and is a standard method used by engineers to develop flow rates for sizing collection systems. The Rational Method calculates flows based on a one-hour design storm. The collection system has been sized to convey, at a minimum, the 100-year design storm. Pipe sizing calculations are attached herewith.

4.0 CONCLUSION

The proposed stormwater management practices sized for the original scope of the approved SWPPP for the Putnam Community Foundation project and are adequately sized for the proposed modifications to the site improvements for The Hamlet of Carmel project. As previously stated, the proposed modifications have no impact on the approved stormwater management practices on the project site and all modifications meet the requirements of the NYCDEP and NYSDEC within the framework of the original approved SWPPP.

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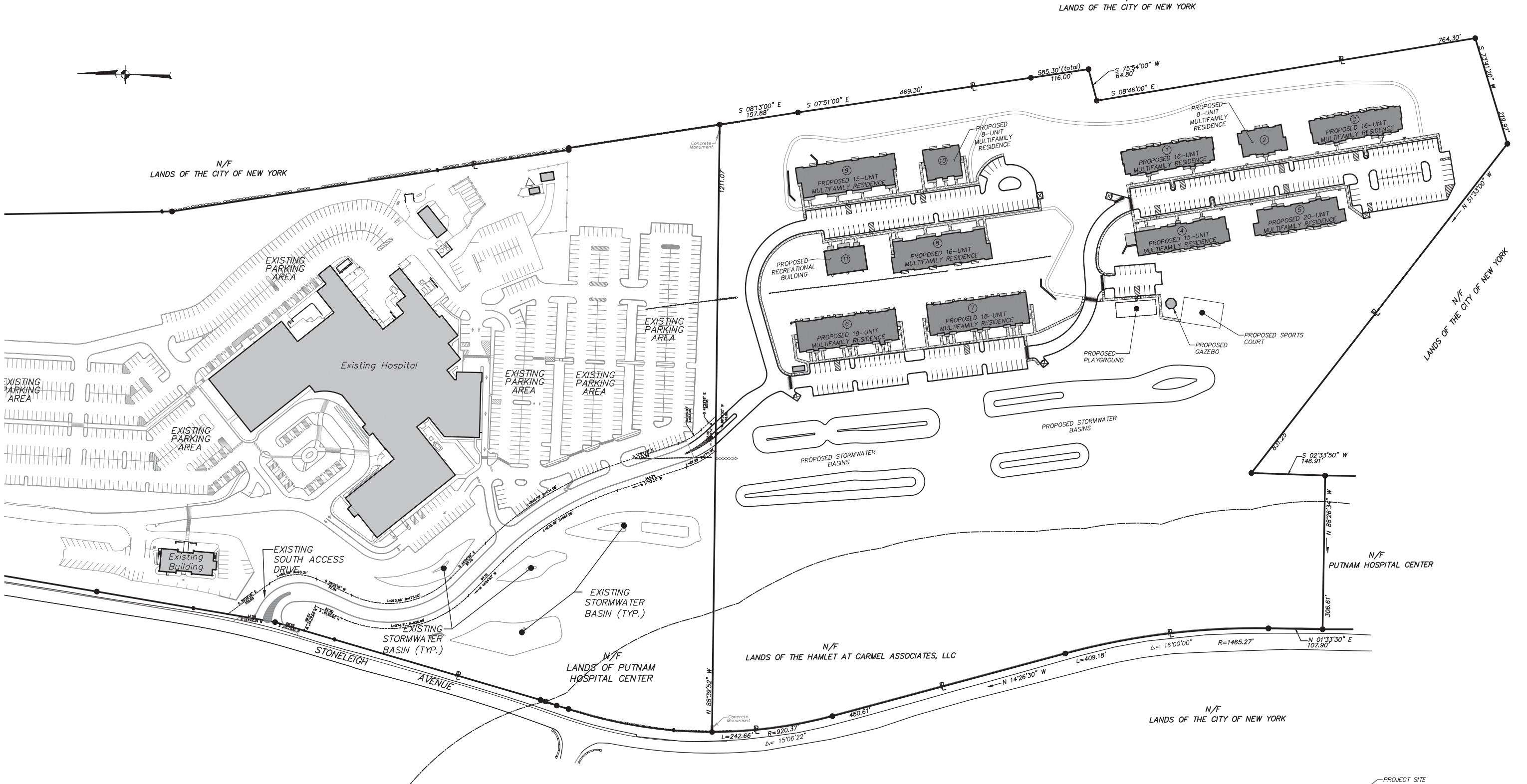
DRAINAGE SYSTEM CALCULATIONS
Design Storm: 100-Year

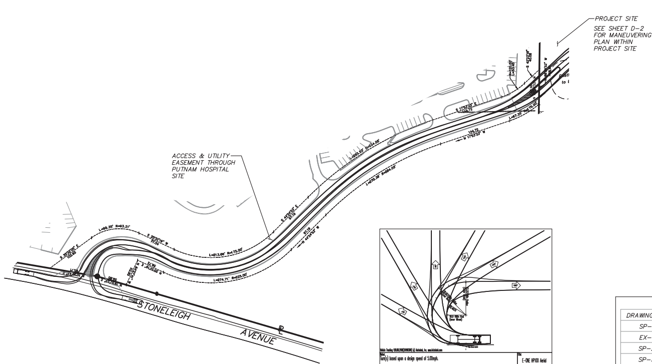
PROJECT: **The Hamlet at Carmel**
JOB NUMBER: **14211.100**
BY: EJP DATE: 1-3-2022

STRUCTURE		IMPERVIOUS AREA			PERVIOUS AREA			CA	TIME OF CONC. (min.)			I	Q (cfs)		PIPE DESIGN				
FROM	TO	A (ac.)	C	CA	A (ac.)	C	CA		INLET	PIPE	TOTAL		DESIGN	CAP.	V(ft/s)	n	s (%)	L (ft)	DIA (in)
DI 32	CB 31	**0.21**	0.9	0.19	**0.32**	0.3	0.10	0.29	**6**	-	6	**9.24**	2.7	4.6	6.1	**0.012**	**1.4**	**87**	**12**
CB 31	CB 30	**0.28**	0.9	0.25	**0.17**	0.3	0.05	0.59	**6**	-	6	**9.24**	5.5	7.3	6.6	**0.012**	**1.1**	**54**	**15**
CB 30	CB 29	**0.28**	0.9	0.25	**0.04**	0.3	0.01	1.02	**6**	-	6	**9.24**	9.4	15.3	9.1	**0.012**	**1.8**	**269**	**18**
CB 29	CB 28	**0.44**	0.9	0.40	**0.00**	0.3	0.00	1.99	**6**	-	6	**9.24**	18.4	26.8	9.2	**0.012**	**1.2**	**161**	**24**
CB 28	CB 27	**0.24**	0.9	0.22	**0.00**	0.3	0.00	2.38	**6**	-	6	**9.24**	22.0	68.0	19.4	**0.012**	**7.7**	**137**	**24**
CB 27	CB 26	**0.06**	0.9	0.05	**0.00**	0.3	0.00	2.51	**6**	-	6	**9.24**	23.2	60.5	18.0	**0.012**	**6.1**	**65**	**24**
CB 26	CB 25	**0.06**	0.9	0.05	**0.00**	0.3	0.00	2.69	**6**	-	6	**9.24**	24.9	60.0	18.2	**0.012**	**6.0**	**87**	**24**
CB 25	CB 24	**0.03**	0.9	0.03	**0.00**	0.3	0.00	3.15	**6**	-	6	**9.24**	29.1	62.5	19.6	**0.012**	**6.5**	**103**	**24**
CB 24	ES 23	**0.04**	0.9	0.04	**0.00**	0.3	0.00	3.62	**6**	-	6	**9.24**	33.4	99.5	28.6	**0.012**	**16.5**	**57**	**24**
CB 30A	CB 30	**0.17**	0.9	0.15	**0.07**	0.3	0.02	0.17	**6**	-	6	**9.24**	1.6	4.2	5.0	**0.012**	**1.2**	**25**	**12**
SDI 29B	CB 29A	**0.21**	0.9	0.19	**0.56**	0.3	0.17	0.36	**6**	-	6	**9.24**	3.3	4.0	5.8	**0.012**	**1.1**	**72**	**12**
CB 29A	CB 29	**0.20**	0.9	0.18	**0.10**	0.3	0.03	0.57	**6**	-	6	**9.24**	5.3	7.0	6.3	**0.012**	**1.0**	**48**	**15**
SDI 28B	DI 28A	**0.00**	0.9	0.00	**0.18**	0.3	0.05	0.05	**6**	-	6	**9.24**	0.5	5.5	4.3	**0.012**	**2.0**	**84**	**12**
DI 28A	CB 28	**0.11**	0.9	0.10	**0.07**	0.3	0.02	0.17	**6**	-	6	**9.24**	1.6	5.0	5.7	**0.012**	**1.7**	**46**	**12**
SDI 27B	CB 27	**0.06**	0.9	0.05	**0.10**	0.3	0.03	0.08	**6**	-	6	**9.24**	0.7	4.0	3.9	**0.012**	**1.1**	**27**	**12**
CB 27A	CB 27	**0.26**	0.9	0.23	**0.13**	0.3	0.04	0.27	**6**	-	6	**9.24**	2.5	4.6	6.0	**0.012**	**1.4**	**21**	**12**
CB 26A	CB 26	**0.12**	0.9	0.11	**0.08**	0.3	0.02	0.13	**6**	-	6	**9.24**	1.2	7.8	7.2	**0.012**	**4.1**	**39**	**12**
SDI 24B	CB 24A	**0.00**	0.9	0.00	**0.73**	0.3	0.22	0.22	**6**	-	6	**9.24**	2.0	3.9	5.0	**0.012**	**1.0**	**79**	**12**
CB 24A	CB 24	**0.06**	0.9	0.05	**0.52**	0.3	0.16	0.43	**6**	-	6	**9.24**	4.0	7.7	6.3	**0.012**	**1.2**	**25**	**15**
CB 22B	CB 22A	**0.03**	0.9	0.03	**0.01**	0.3	0.00	0.03	**6**	-	6	**9.24**	0.3	6.1	4.0	**0.012**	**2.5**	**40**	**12**
CB 22A	CB 22	**0.11**	0.9	0.10	**0.19**	0.3	0.06	0.19	**6**	-	6	**9.24**	1.8	5.6	6.3	**0.012**	**2.1**	**104**	**12**
CB 22	DMH 21	**0.28**	0.9	0.25	**0.00**	0.3	0.00	0.44	**6**	-	6	**9.24**	4.1	8.2	10.4	**0.012**	**4.5**	**40**	**12**
DMH 21	DI 20	**0.00**	0.9	0.00	**0.00**	0.3	0.00	0.76	**6**	-	6	**9.24**	7.0	11.9	7.0	**0.012**	**1.1**	**102**	**18**
DI 20	CB 19	**0.22**	0.9	0.20	**0.00**	0.3	0.00	1.05	**6**	-	6	**9.24**	9.7	11.4	7.2	**0.012**	**1.0**	**90**	**18**
CB 19	DI 18	**0.08**	0.9	0.07	**0.00**	0.3	0.00	1.36	**6**	-	6	**9.24**	12.6	31.0	16.6	**0.012**	**7.4**	**118**	**18**
DI 18	SDI 17	**0.18**	0.9	0.16	**0.40**	0.3	0.12	1.64	**6**	-	6	**9.24**	15.2	34.7	19.0	**0.012**	**9.3**	**68**	**18**
SDI 17	DI 16	**0.00**	0.9	0.00	**0.42**	0.3	0.13	1.77	**6**	-	6	**9.24**	16.4	32.8	18.6	**0.012**	**8.3**	**94**	**18**
DI 16	CB 15	**0.14**	0.9	0.13	**0.35**	0.3	0.11	2.01	**6**	-	6	**9.24**	18.6	30.3	18.1	**0.012**	**7.1**	**24**	**18**
CB 15	CB 14	**0.15**	0.9	0.14	**0.00**	0.3	0.00	2.25	**6**	-	6	**9.24**	20.8	32.0	10.8	**0.012**	**1.7**	**29**	**24**
CB 14	CB 9	**0.09**	0.9	0.08	**0.06**	0.3	0.02	2.35	**6**	-	6	**9.24**	21.7	25.7	9.2	**0.012**	**1.1**	**56**	**24**
DI 21B	CB 21A	**0.00**	0.9	0.00	**0.05**	0.3	0.02	0.02	**6**	-	6	**9.24**	0.2	4.0	2.6	**0.012**	**1.1**	**47**	**12**
CB 21A	DMH 21	**0.31**	0.9	0.28	**0.05**	0.3	0.02	0.32	**6**	-	6	**9.24**	3.0	4.6	6.2	**0.012**	**1.4**	**21**	**12**
DI 20A	DI 20	**0.09**	0.9	0.08	**0.04**	0.3	0.01	0.09	**6**	-	6	**9.24**	0.8	6.0	5.4	**0.012**	**2.4**	**21**	**12**
CB 19A	CB 19	**0.24**	0.9	0.22	**0.05**	0.3	0.02	0.24	**6**	-	6	**9.24**	2.2	6.5	7.5	**0.012**	**2.8**	**39**	**12**
CB 15A	CB 15	**0.11**	0.9	0.10	**0.00**	0.3	0.00	0.10	**6**	-	6	**9.24**	0.9	4.9	4.8	**0.012**	**1.6**	**25**	**12**
CB 13	CB 12	**0.23**	0.9	0.21	**0.05**	0.3	0.02	0.23	**6**	-	6	**9.24**	2.1	4.2	5.4	**0.012**	**1.2**	**41**	**12**
CB 12	CB 11	**0.06**	0.9	0.05	**0.00**	0.3	0.00	0.28	**6**	-	6	**9.24**	2.6	4.2	5.7	**0.012**	**1.2**	**120**	**12**
CB 11	CB 10	**0.08**	0.9	0.07	**0.00**	0.3	0.00	0.79	**6**	-	6	**9.24**	7.3	13.5	7.8	**0.012**	**1.4**	**140**	**18**
CB 10	CB 9	**0.09**	0.9	0.08	**0.00**	0.3	0.00	1.00	**6**	-	6	**9.24**	9.2	26.4	13.7	**0.012**	**5.4**	**90**	**18**
CB 9	ES 8	**0.06**	0.9	0.05	**0.00**	0.3	0.00	3.40	**6**	-	6	**9.24**	31.4	95.5	27.3	**0.012**	**15.2**	**52**	**24**
SDI 11B	CB 11A	**0.30**	0.9	0.27	**0.20**	0.3	0.06	0.33	**6**	-	6	**9.24**	3.0	4.2	5.9	**0.012**	**1.2**	**49**	**12**
CB 11A	CB 11	**0.10**	0.9	0.09	**0.05**	0.3	0.02	0.44	**6**	-	6	**9.24**	4.1	7.7	6.4	**0.012**	**1.2**	**42**	**15**
CB 10A	CB 10	**0.12**	0.9	0.11	**0.07**	0.3	0.02	0.13	**6**	-	6	**9.24**	1.2	4.7	5.0	**0.012**	**1.5**	**41**	**12**
CB 7	CB 6	**0.07**	0.9	0.06	**0.00**	0.3	0.00	0.06	**6**	-	6	**9.24**	0.6	5.0	4.2	**0.012**	**1.7**	**29**	**12**
CB 6	ES 5	**0.07**	0.9	0.06	**0.00**	0.3	0.00	0.12	**6**	-	6	**9.24**	1.1	4.2	4.5	**0.012**	**1.2**	**40**	**12**
OS 3.1P	ES 4	**SIZED IN HYDROCAD MODEL CONTAINED IN APPROVED SWPPP**																	
OS 2.1P	ES 3	**SIZED IN HYDROCAD MODEL CONTAINED IN APPROVED SWPPP**																	
OS 2.2P	DMH 2A	**SIZED IN HYDROCAD MODEL CONTAINED IN APPROVED SWPPP**																	
DMH 2A	ES 2	**SIZED IN HYDROCAD MODEL CONTAINED IN APPROVED SWPPP**																	
OS 3.2P	ES 1	**SIZED IN HYDROCAD MODEL CONTAINED IN APPROVED SWPPP**																	

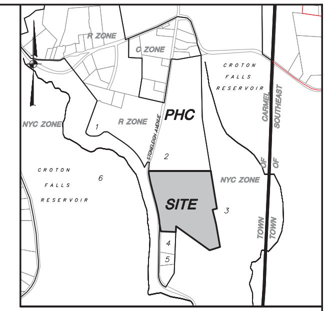
500' ADJOINERS

1. N/F VISTA ON THE LAKES, INC
2. N/F PUTNAM HOSPITAL CENTER
3. N/F CITY OF NEW YORK
4. N/F PUTNAM HOSPITAL CENTER
5. N/F SADKI, A. & KAORU, N.
6. N/F CITY OF NEW YORK

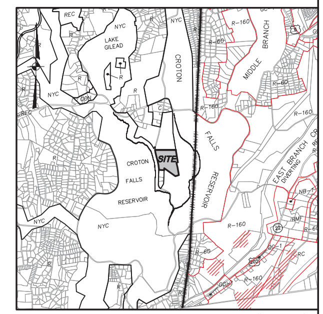




MANEUVERING PLAN
E-ONE AERIAL FIRE TRUCK
1" = 50'



AREA MAP SCALE: 1" = 1000'



LOCATION MAP SCALE: 1" = 3000'

RECORD OWNER/APPLICANT:

The Hamlet at Carmel Associates, LLC
1777 Route 6
Carmel, NY 10152

SITE DATA:

Total Area:	35.28 AC. ±
Tax Map No.:	66-2-58
Zoning District:	R (Residential)
Proposed Use:	Multifamily Residential

GENERAL NOTES:

1. Property boundary shown hereon taken from subdivision plat entitled 'Boundary Line Adjustment Map prepared for Putnam Community Foundation and Putnam Hospital Center..." filed January 4, 2006 as map no. 3008."
2. Existing conditions and topography shown hereon taken from survey entitled "Topographic Survey prepared for The Putnam Community Foundation", prepared by Terry Bergendorff Collins, L.S., last revised April 25, 2007.
3. The NYCDEP reservoir stems indicated on these plans were originally delineated by the NYCDEP on October 4, 2006 & August 26, 2008 and were reconfirmed in the field by NYCDEP on December 13, 2021.
4. The proposed roads shown hereon will be privately owned, and are not intended to be dedicated to the Town of Carmel.

R - ZONE REQUIREMENTS:

	Required:	Provided:
Min. Lot Area:	120,000 SF	1,536,611 SF ±
Min. Lot Width:	200'	1,170' ±
Min. Lot Depth:	200'	1,161' ±
Min. Yard Setbacks:		
Front:	40'	657'
Side:	25'	109'
Rear:	40'	183'
Max. Building Height:	35'	<35'
Max. Building Coverage:	15 %	6.7%

* See §156-28 Multi-Family Dwellings Zoning Requirements below.

§156-28 MULTI-FAMILY DWELLINGS ZONING REQUIREMENTS:*

	Required/Permitted:	Provided:
Min. Lot Area	217,800 SF (10.0 AC)	1,536,611 SF ± (35.28 AC)
Max. Density (Units/Acre)	5.0	4.25
Max. Dwelling Units	150	150
Max. Building Coverage	30%	6.2%
Min. Property Line Setback	100'	109'
Max. Building Height/ Stories	35' / 2	less than 35' / 2
Distance Between Buildings	50'	50'
Max. Building Length	200'	200'
Min. Recreation Space	300 SF / unit	302 SF / unit

PARKING REQUIREMENTS:*

2.0 spaces per unit x 150 units - Required	= 300 spaces
Total spaces Provided	= 300 spaces

* Per §156-28 of the Town of Carmel Zoning Code.

RECREATION REQUIREMENTS:

1. Indoor Common Space: 10,885 SF±
2. Patio Area: 470 SF±
3. Active Recreation Area: (Playground, Sports Court) 10,500 SF±
3. Walking Path Area: 10,000 SF±
4. Common Green: 9,600 SF±
5. Recreational Building: 3,888 SF±

TOTAL RECREATION PROVIDED: 45,343 SF

TOTAL RECREATION REQUIRED: (300 SF/Unit x 150 Units) 45,000 SF

LIST OF DRAWINGS

GRAPHIC SCALE
0 50 100 200
(IN FEET)
1 inch = 100 ft.

NO.	DATE	REVISION	BY
4	1-3-22	GENERAL REVISION	SMR
3	11-29-21	GENERAL REVISION	SMR
2	9-29-21	GENERAL REVISION	MEU
1	7-19-21	GENERAL REVISION	MEU

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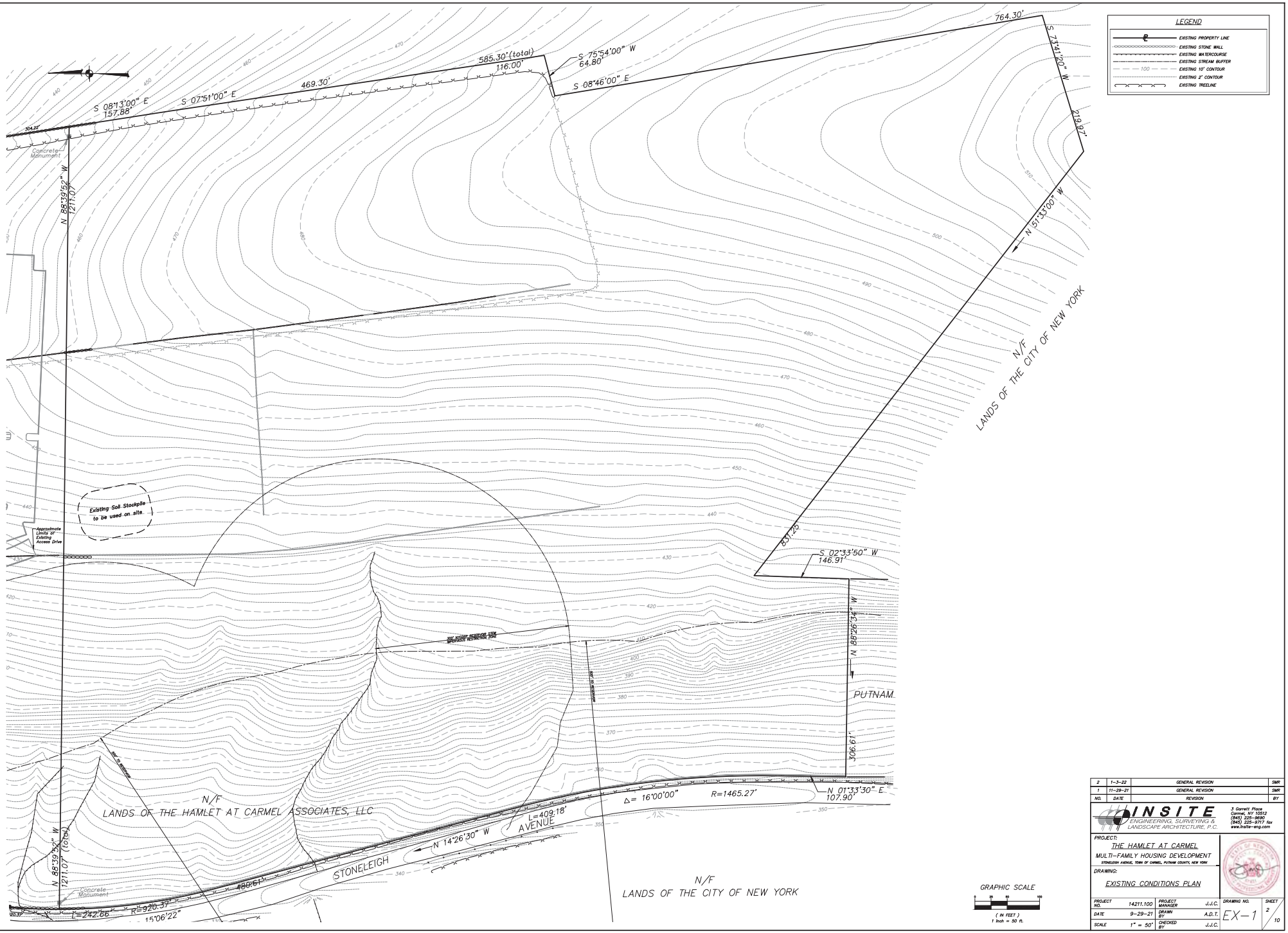
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
THE HAMLET AT CARMEL
MULTI-FAMILY HOUSING DEVELOPMENT
STONELEIGH AVENUE, TOWN OF CARMEL, PUTNAM COUNTY, NEW YORK

DRAWING:
OVERALL SITE PLAN

PROJECT NO.	14211.100	PROJECT MANAGER	J.J.C.
DATE	2-10-21	DRAWN BY	M.E.U.
SCALE	1" = 100'	CHECKED BY	J.J.C.

DRAWING NO. SP-1
SHEET 1 / 10



NO.	DATE	REVISION	BY
2	1-3-22	GENERAL REVISION	SMR
1	11-29-21	GENERAL REVISION	SMR

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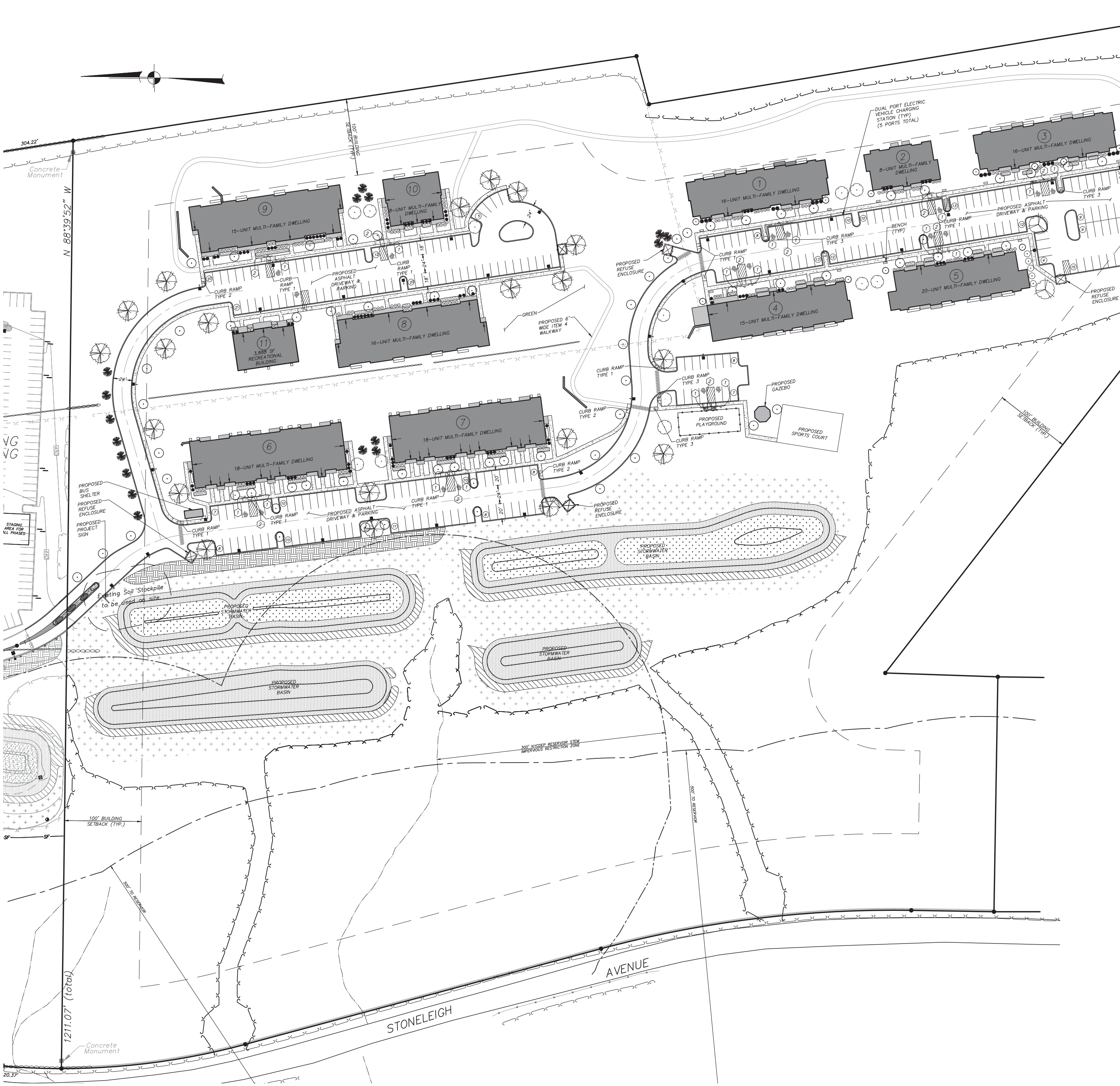
PROJECT:
THE HAMLET AT CARMEL
MULTI-FAMILY HOUSING DEVELOPMENT
STONELEIGH AVENUE, TOWN OF CARMEL, PUTNAM COUNTY, NEW YORK

DRAWING:
EXISTING CONDITIONS PLAN

PROJECT NO.	14211.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	9-29-21	DRAWN BY	A.D.T.	EX-1	2
SCALE	1" = 50'	CHECKED BY	J.J.C.		10



SIGN DATA TABLE

LOCATION NO.	TEXT	M.U.T.C.D. NUMBER	SIZE OF SIGN (s.f.)	DESCRIPTION
1	RESERVED PARKING	NY R7-8*	12" x 18"	Green on White Blue Symbol
	VAN ACCESSIBLE	R7-8P	12" x 6"	Green on White
2	NO PARKING ANY TIME	R7-1	12" x 18"	Red on White

PLANT LIST

BOTANICAL/COMMON NAME	SIZE	ROOT	REMARKS
SHADE TREES			
Acer rubrum 'October Glory' / October Glory Red Maple	2 1/2" – 3" CAL.	B & B	
Liquidamber styracifolia / Sweetgum	2 1/2" – 3" CAL.	B & B	
Quercus palustris / Pin Oak	2 1/2" – 3" CAL.	B & B	
Betula papyrifera / Paper Birch	8' – 10' HT.	B & B	Multi-stem
Gleditsia Tricanthos / Honey Locust	8' – 10' HT.	B & B	
Tilia cordata / Little Leaf Linden	8' – 10' HT.	B & B	
FLOWERING TREES			
Pyrus callaryana 'Bradford' / Bradford Pear	2" – 2 1/2" CAL	B & B	
Cornus Kousa / Kousa Dogwood	7' – 8' HT.	B & B	
Cercis canadensis / Eastern Redbud	8' – 10' HT.	B & B	
Amelanchier canadensis / Shadblow Serviceberry	8' – 10' HT.	B & B	Multi-stem
Crataegus phaenopyrum / Washington Hawthorn	2" – 2 1/2" CAL.	B & B	
Prunus cerasifera / Purple Leaf Plum	2" – 2 1/2" CAL.	B & B	
Malus floribunda / Japanese Flowering Crabapple	2" – 2 1/2" CAL.	B & B	
SHRUBS & GROUNDCOVERS			
Potentilla fruiticosa 'Sunset' / Sunset Potentilla	2 GAL.	CONT.	
Hemerocallis 'Stella D'Oro' / Miniature Daylilies	2 GAL.	CONT.	
Juniperus horizontalis 'Plumosa Nana' / Dwarf Andorra Juniper	3 GAL.	CONT.	
Juniperus sargentii / Sargent's Juniper	3 GAL.	CONT.	
Juniperus horizontalis 'Blue Rug' / Blue Rug Juniper	2 GAL.	CONT.	
Rhododendron 'PJM' / PJM Rhododendron	2' – 2 1/2' HT.	B & B	
Rhododendron 'Purple Gem' / Purple Gem Rhododendron	3 GAL.	CONT.	
Cotoneaster apiculata / Cranberry Cotoneaster	3 GAL.	CONT.	
Ilex Meservae / Holly	4' – 5' HT.	B & B	
Cornus Sericea / Red Twig Dogwood	4' – 5' HT.	B & B	
Spirea japonica 'Anthony Waterer' / Anthony Waterer Spirea	3' – 4' HT.	CONT.	
Pieris japonica 'Mt. Fire' / Mt. Fire Andromeda	2' – 2 1/2' HT.	CONT.	
Rhododendron catawbiense / Catawba Rhododendron	2 1/2' – 3' HT.	CONT.	
Ilex glabra compacta / Dwarf Inkberry	18" – 24" HT.	CONT.	
Taxus baccata 'repfollows'/ English Yew	18" – 24" HT.	CONT.	
Forsythia x intermedia / Border Forsythia	4' – 5' HT.	CONT.	
Vaccinium angustifolium / Lowbush Blueberry	3 GAL.	CONT.	
Viburnum prunifolium / Blackhaw Viburnum	2 1/2' – 3' HT.	B & B	
Euonymus alatus 'compacta'/ Dwarf Burning Bush	2 1/2' – 3' HT.	CONT.	
Hydrangea arborescens "Annabelle" / Hydrangea	5 GAL.	CONT.	

* All plantings to be verified by the Town of Carmel Wetland Inspector.

Planting Notes:

1. All plant material to be nursery grown.
2. Plants shall conform with the American Association of Nurseryman Standards in all ways including dimensions.
3. Plants shall be planted in all locations designed on the plan or as staked in the field by the project Landscape Architect.
4. All plants shall be hardy under climate conditions similar to those in the locality of the project.
5. 4" pine bark mulch shall be spread over all landscaped areas.
6. All proposed seeded areas to receive 4" min. depth of topsoil and all proposed planting beds to receive a 12" min. depth of topsoil.
7. For all additional notes see detail sheets.
8. In addition to these standards, all plantings will be installed per §142 of the Town of Carmel Code.

LIGHTING NOTES:

1. All site lighting shall be solar powered.
2. Model, style and finish of all luminaires to be selected by owner and approved by the Planning Board.
3. Proposed lights will run on photocells.
4. Type, location, and shading of all proposed lighting shall prevent the spillover of light onto all adjacent residential properties.
5. All light fixtures to be full cutoff to comply with dark sky guidelines.

LEGEND

- Property Line
- Existing Stone Wall
- Existing Utility Pole with Overhead Wires
- Existing Tree Line
- Existing Tree Line to be Removed
- Building Setback Line
- Proposed Tree Line
- Proposed Stone Retaining Wall
- Proposed Guiderail
- Proposed Post Mounted Light
- Proposed Pole Mounted Light
- Proposed Single Pole Sign
- Proposed Curb and Parking
- Proposed Landscaping

GRAPHIC SCALE

0 25 50 100

(IN FEET)
1 inch = 50 ft.

NO.	DATE	REVISION	BY
5	1-3-22	GENERAL REVISION	SMR
4	11-29-21	GENERAL REVISION	SMR
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2	8-30-21	GENERAL REVISION	MEU
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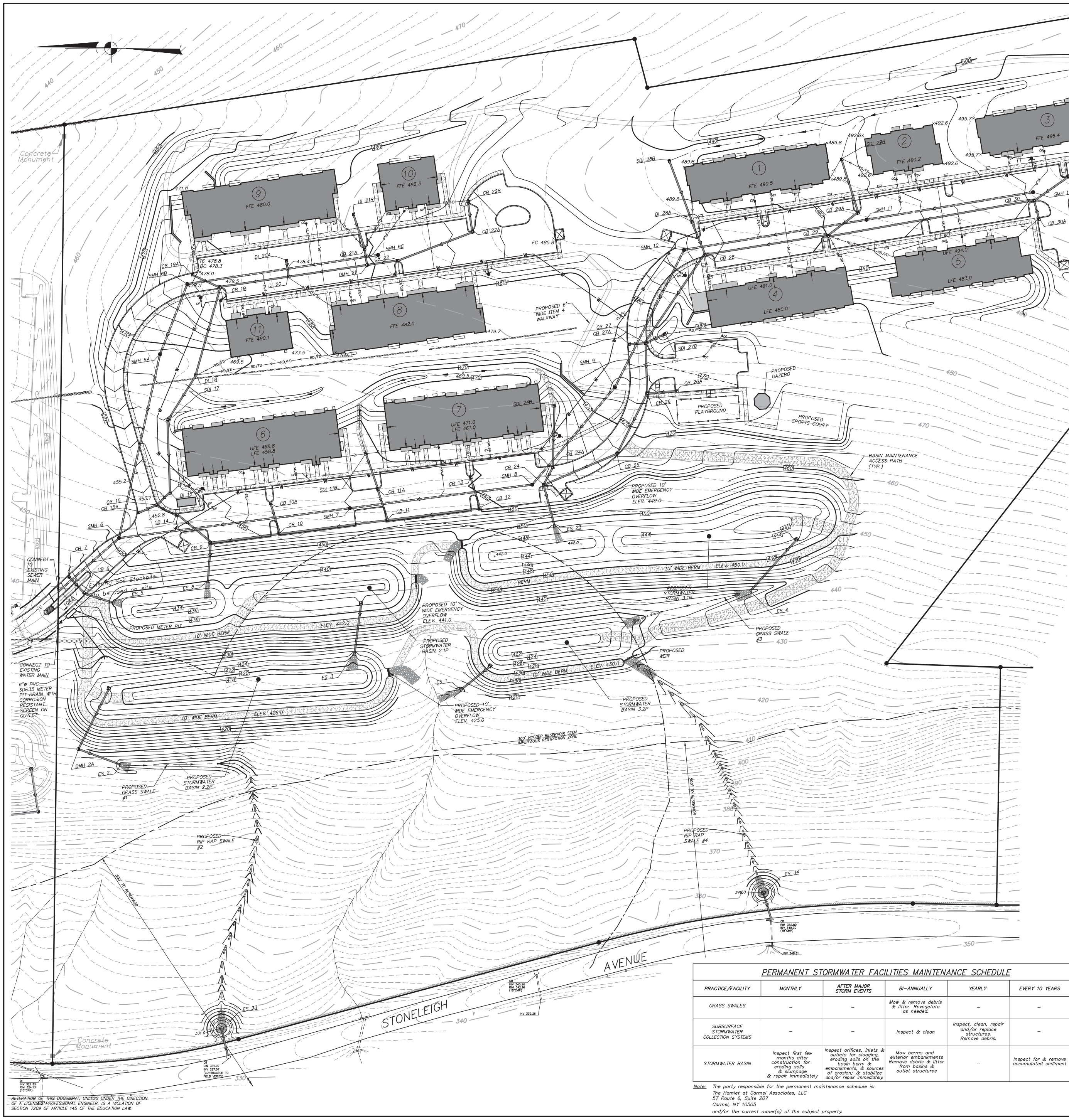
PROJECT:
THE HAMLET AT CARMEL
MULTI-FAMILY HOUSING DEVELOPMENT
STONELEIGH AVENUE, TOWN OF CARMEL, PUTNAM COUNTY, NEW YORK

DRAWING:
LAYOUT, LANDSCAPING, & LIGHTING PLAN

PROJECT NO.	14211.100	PROJECT MANAGER	J.J.C.
DATE	2-10-21	DRAWN BY	M.E.U.
SCALE	1" = 50'	CHECKED BY	J.J.C.

DRAWING NO. SP-2

SHEET 3 / 10



PERMANENT STORMWATER FACILITIES MAINTENANCE SCHEDULE

PRACTICE/FACILITY	MONTHLY	AFTER MAJOR STORM EVENTS	BI-ANNUALLY	YEARLY	EVERY 10 YEARS
GRASS SWALES	–	–	Mow & remove debris & litter. Revegetate as needed.	–	–
SUBSURFACE STORMWATER COLLECTION SYSTEMS	–	–	Inspect & clean	Inspect, clean, repair and/or replace structures. Remove debris.	–
STORMWATER BASIN	Inspect first few months after construction for eroding soils & slumpage & repair immediately	Inspect orifices, inlets & outlets for clogging, eroding soils on the basin berm & embankments, & sources of erosion; & stabilize and/or repair immediately.	Mow berms and exterior embankments Remove debris & litter from basins & outlet structures	–	Inspect for & remove accumulated sediment

Note: The party responsible for the permanent maintenance schedule is:
The Hamlet at Carmel Associates, LLC
57 Route 6, Suite 207
Carmel, NY 10505
and/or the current owner(s) of the subject property.

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

LEGEND

- Property Line
- Existing 2' Contour
- Existing 10' Contour
- Existing Spot Grade
- Existing Drain Inlet and Drainage Pipe
- Proposed 2' Contour
- Proposed 10' Contour
- Existing Stone Wall
- Existing Stone Wall to be Removed
- Proposed Retaining Wall
- Proposed 8"ø PVC SDR 35 Sewer Main With Sewer Manhole
- Proposed HDPE Drainage Pipe
- Proposed Roof/Footing Drain
- Proposed Sewer Manhole
- Proposed Catch Basin/ Drain Inlet
- Proposed Drainage Manhole
- Proposed Outlet Structure
- Proposed End Section With Rip Rap Apron
- Proposed Grass Swale
- Proposed Riprap Swale
- Proposed 8"ø PVC DR14 Water Main
- Proposed Fire Hydrant and Gate Valve
- Proposed 4"ø PVC SDR 35 Sewer Service Line W/Clean Out
- Proposed 6"ø PVC SDR 35 Sewer Service Line W/Clean Out
- Proposed 6"ø PVC DR 14 (Main to Service Valve) or Ductile Iron Water (Service Valve to Building) Service Line (Final Size Per Fire Protection System Requirements)
- Proposed Gate Valve

PROPOSED SEWER TABLE

STRUCTURE	RIM.	INV.		PIPE	LENGTH	SLOPE
SMH 12	494.1	489.9		8"	217 L.F.	1.5%
SMH 11	490.9	486.7	483.6	8"	238 L.F.	1.0%
SMH 10	485.6	481.2	481.1	8"	198 L.F.	7.5%
SMH 9	473.9	466.2	466.1	8"	164 L.F.	8.7%
SMH 8	461.5	451.8	451.7	8"	237 L.F.	1.0%
SMH 7	457.9	449.3	449.2	8"	300 L.F.	2.2%
SMH 6	450.4	442.7	442.6	8"	192 L.F.	12.5%
SMH 5	434.3	430.1				
SMH 6C	480.2	473.4		8"	250 L.F.	1.0%
SMH 6B	477.6	470.9	470.8	8"	97 L.F.	7.6%
SMH 6A	467.6	463.4	463.3	8"	243 L.F.	8.5%
SMH 6	450.4	442.7				

PROPOSED DRAINAGE TABLE

STRUCTURE	RIM.	INV.		PIPE	LENGTH	SLOPE
ES 34	–	350.0		18" HDPE	33 L.F.	2.1%
EX. CB	352.8	349.3				
ES 33	–	332.0		18" HDPE	34 L.F.	12.9%
EX. CB	331.1	327.6				
DI 32	495.5	492.3		12" HDPE	87 L.F.	1.4%
CB 31	494.8	491.1	490.9	15" HDPE	54 L.F.	1.1%
CB 30	494.1	490.3	490.0	18" HDPE	269 L.F.	1.8%
CB 29	490.0	485.2	484.7	24" HDPE	161 L.F.	1.2%
CB 28	487.0	482.8		24" HDPE	137 L.F.	7.7%
CB 27	476.6	472.3		24" HDPE	65 L.F.	6.1%
CB 26	472.8	468.3		24" HDPE	87 L.F.	6.0%
CB 25	467.6	463.1		24" HDPE	103 L.F.	6.5%
CB 24	461.4	456.4		24" HDPE	57 L.F.	16.5%
ES 23	–	447.0				
CB 30A	494.6	491.4		12" HDPE	25 L.F.	1.2%
CB 30	494.1	491.1				
SDI 29B	489.5	487.0		12" HDPE	72 L.F.	1.1%
CB 29A	490.7	486.2	486.0	15" HDPE	48 L.F.	1.0%
CB 29	490.0	485.5				
SDI 28B	489.5	486.3		12" HDPE	84 L.F.	2.0%
DI 28A	487.8	484.6		12" HDPE	46 L.F.	1.7%
CB 28	487.0	483.8				
SDI 27B	476.8	473.8		12" HDPE	27 L.F.	1.1%
CB 27	476.6	473.3				
CB 27A	476.6	473.6		12" HDPE	21 L.F.	1.4%
CB 27	476.6	473.3				
CB 26A	474.4	471.2		12" HDPE	39 L.F.	4.1%
CB 26	472.8	469.6				
SDI 24B	461.2	458.5		12" HDPE	79 L.F.	1.0%
CB 24A	462.2	457.7	457.5	15" HDPE	25 L.F.	1.2%
CB 24	461.4	457.2				
CB 22B	483.7	480.5		12" HDPE	40 L.F.	2.5%
CB 22A	482.7	479.5		12" HDPE	104 L.F.	2.1%
CB 22	480.5	477.3		12" HDPE	40 L.F.	4.5%
DMH 21	479.7	475.5	475.0	18" HDPE	102 L.F.	1.1%
DI 20	478.1	473.9		18" HDPE	90 L.F.	1.0%
CB 19	478.8	473.0		18" HDPE	118 L.F.	7.4%
DI 18	468.3	464.3		18" HDPE	68 L.F.	9.3%
SDI 17	462.0	458.0		18" HDPE	94 L.F.	8.3%
DI 16	454.2	450.2		18" HDPE	24 L.F.	7.1%
CB 15	452.9	448.5	448.0	24" HDPE	29 L.F.	1.7%
CB 14	453.9	447.5		24" HDPE	56 L.F.	1.1%
CB 9	454.6	446.9				
DI 21B	479.5	476.3		12" HDPE	47 L.F.	1.1%
CB 21A	479.7	475.8		12" HDPE	21 L.F.	1.4%
DMH 21	479.7	475.5				
DI 20A	478.1	474.9		12" HDPE	21 L.F.	2.4%
DI 20	478.1	474.4				
CB 19A	477.8	474.6		12" HDPE	39 L.F.	2.8%
CB 19	478.8	473.5				
CB 15A	452.6	449.4		12" HDPE	25 L.F.	1.6%
CB 15	452.9	449.0				
CB 13	459.8	456.6		12" HDPE	41 L.F.	1.2%
CB 12	459.6	456.1		12" HDPE	120 L.F.	1.2%
CB 11	458.0	454.7	454.2	18" HDPE	140 L.F.	1.4%
CB 10	456.3	452.3		18" HDPE	90 L.F.	5.4%
CB 9	454.6	447.4	446.9	24" HDPE	52 L.F.	15.2%
ES 8	–	439.0				
SDI 11B	459.0	455.8		12" HDPE	49 L.F.	1.2%
CB 11A	458.4	455.2	455.0	15" HDPE	42 L.F.	1.2%
CB 11	458.0	454.5				
CB 10A	456.6	453.4		12" HDPE	41 L.F.	1.5%
CB 10	456.3	452.8				
CB 7	443.2	440.0		12" HDPE	29 L.F.	1.7%
CB 6	443.2	439.5		12" HDPE	40 L.F.	1.2%
ES 5	–	439.0				
OS 3.1P	449.0	442.0		24" HDPE	90 L.F.	8.9%
ES 4	–	434.0				
OS 2.1P	441.0	433.0		24" HDPE	67 L.F.	16.4%
ES 3	–	422.0				
OS 2.2P	425.0	417.0		24" HDPE	88 L.F.	12.5%
DMH 2A	410.0	406.0	404.0	24" HDPE	58 L.F.	1.7%
ES 2	–	403.0				
OS 3.2P	429.0	421.0		15" HDPE	49 L.F.	6.1%
ES 1	–	418.0				

REQUIRED POST-CONSTURCTION STORMWATER MANAGEMENT PRACTICE COMPONENTS:

1. Pursuant to the NYSDEC "SPDES General Permit for Stormwater Discharges from Construction Activity" (GP-0-20-001), all construction projects needing post-construction stormwater management practices shall prepare a SWPPP that also includes practices designed in conformance with the most current version of the technical standard, New York State Stormwater Management Design Manual ("Design Manual"). Where post-construction stormwater management practices are not designed in conformance with this technical standard, the owner or operator must demonstrate equivalence to the technical standard. The following list of SWPPP components is provided in accordance with Part III.B.2a-g and III.B.3:

   a. Identification of all post-construction stormwater management practices to be constructed as part of the project; This plan, and details/notes shown hereon serve to satisfy this SWPPP requirement.

   b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice; This plan, and details/notes shown hereon serve to satisfy this SWPPP requirement.

   c. The dimensions, material specifications and installation details for each post-construction stormwater management practice; This plan, and details/notes shown hereon serve to satisfy this SWPPP requirement.

   d. Identification of any elements of the design that are not in conformance with the Design Manual. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is equivalent to the technical standards; All post-construction stormwater management practices are in conformance with the Design Manual.

   e. A hydrologic and hydraulic analysis for all structural components of the stormwater management control system; The required analysis is provided in the report titled Stormwater Pollution Prevention Plan for The Putnam Community Foundation.

   f. A detailed summary (including calculations) of the sizing criteria that was used to design all post-construction stormwater management practices. At a minimum, the summary shall address the required design criteria from the applicable chapter of the Design Manual; including the identification of and justification for any deviations from the Design Manual, and identification of any design criteria that are not required based on the redevelopment criteria or waiver criteria included in the Design Manual; The stormwater practices are sized in accordance with the Design Manual, specifically chapters 4, 6, and 10. The stormwater facilities have been designed to provide water quality volume treatment (treatment of the 1 year 24-hour design storm per the Enhanced Phosphorus Removal Standards). Channel Protection Volume is provided through 24-hour center of mass detention of the 1 year 24-hour design storm. Overbank Flood Control and Extreme Flood Control are provided by attenuating post-development peak stormwater discharges to below pre-development levels for the 10-year and 100-year 24-hour design storm. Calculations are provided in report entitled Stormwater Pollution Prevention Plan for Putnam Community Foundation. All practices are designed in accordance with the Design Manual.

   g. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice. The Permanent Stormwater Facilities Maintenance Schedule provided on these plans serves to satisfy this requirement.

2. Enhanced Phosphorus Removal Standards – Beginning on September 30, 2008, all construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the most current version of the technical standard, New York Stormwater Management Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a – 2.g above. The permanent stormwater practices for this project have been sized according to chapter 10 of the Design Manual Enhanced Phosphorus Removal Standards. Please see 2.a – 2.g above.

General Notes:

1. Property boundary shown hereon taken from subdivision plat entitled 'Boundary Line Ajustment Map prepared for Putnam Community Foundation and Putnam Hospital Center..." filed January 4, 2006 as map no. 3008 ."
2. Existing conditions and topography shown hereon taken from survey entitled "Topographic Survey prepared for The Putnam Community Foundation", prepared by Terry Begendorf Collins, L.S., last revised April 25, 2007.
3. Cleaning of existing drainage structures along Stoneleigh Avenue shall be accomplished as part of the required Highway Work Permit for the connection to the existing drainage structure.
4. Due to high pressures in the water main, pressure reducing valves shall be installed to protect domestic plumbing fixtures.
5. All electrical service utilities are to be installed underground.

GRAPHIC SCALE
0 25 50 100
(IN FEET)
1 inch = 50 ft.

NO.	DATE	REVISION	BY
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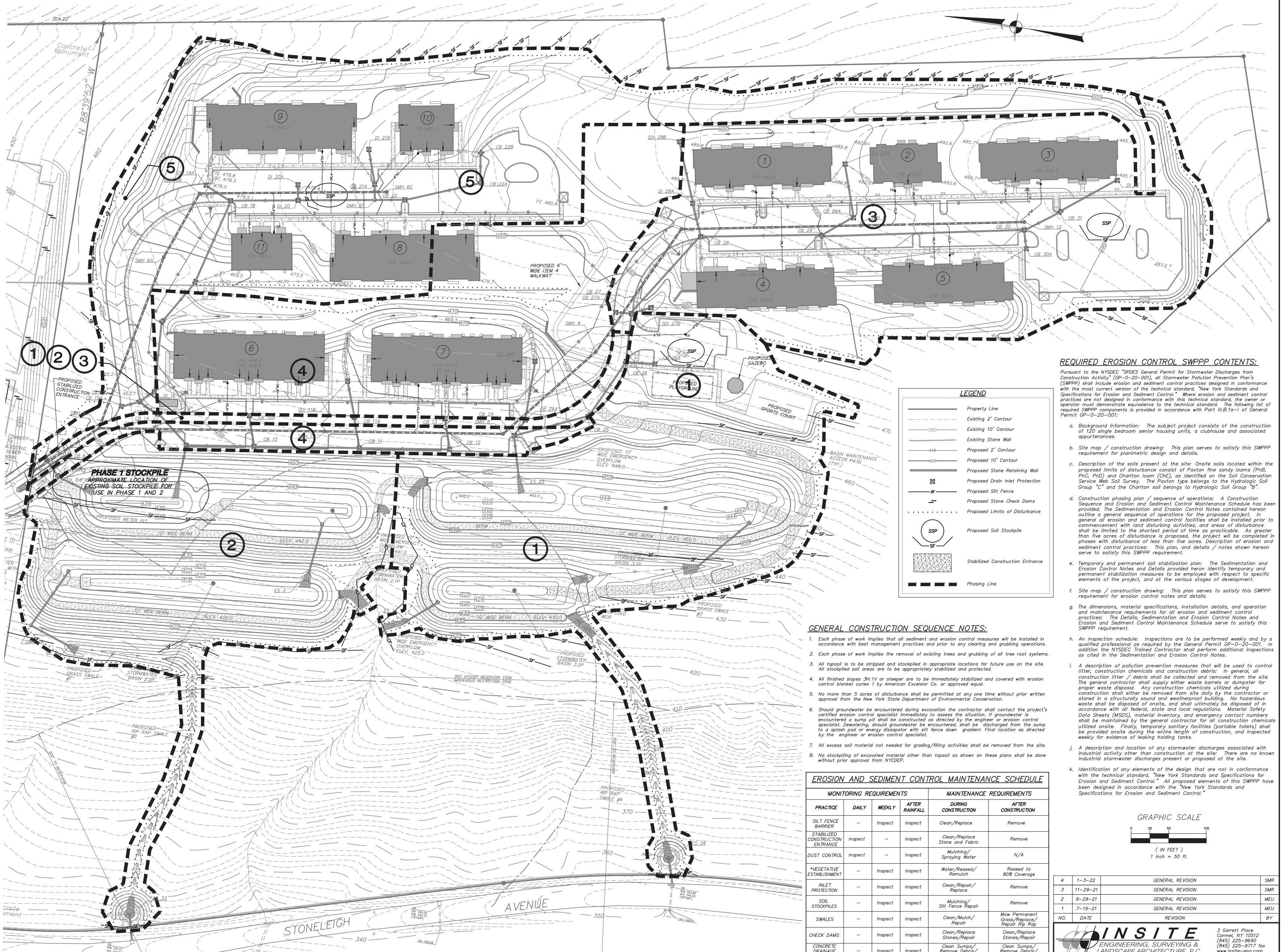
PROJECT:
THE HAMLET AT CARMEL
MULTI-FAMILY HOUSING DEVELOPMENT
STONELEIGH AVENUE, TOWN OF CARMEL, PUTNAM COUNTY, NEW YORK

DRAWING:
GRADING & UTILITIES PLAN

PROJECT NO. 14211.100	PROJECT MANAGER J.J.C.	DRAWING NO. SP-3	SHEET 4 / 10
DATE 2-10-21	DRAWN BY M.E.U.		
SCALE 1" = 50'	CHECKED BY J.J.C.		

CERTIFICATE OF OCCUPANCY SCHEDULE

CERTIFICATE OF OCCUPANCY ORDER	BUILDING(S)
1	1
2	2 & 4
3	3 & 5
4	6 & 7
5	8 & 9
6	10
7	11



REQUIRED EROSION CONTROL SWPPP CONTENTS:

Pursuant to the NYSDEC "SPDES General Permit for Stormwater Discharges from Construction Activity" (GP-0-20-001), all Stormwater Pollution Prevention Plan's (SWPPP) shall include erosion and sediment control practices designed in conformance with the most current version of the technical standard, "New York Standards and Specifications for Erosion and Sediment Control." Where erosion and sediment control practices are not designed in conformance with this technical standard, the owner or operator must demonstrate equivalence to the technical standard. The following list of required SWPPP components is provided in accordance with Part III.B.1a–l of General Permit GP-0-20-001:

a. Background Information: The subject project consists of the construction of 120 single bedroom senior housing units, a clubhouse and associated appurtenances.

b. Site map / construction drawing: This plan serves to satisfy this SWPPP requirement for planimetric design and details.

c. Description of the soils present at the site: Onsite soils located within the proposed limits of disturbance consist of Paxton fine sandy loams (PnB, PnC, PnD) and Charlton loam (ChE), as identified on the Soil Conservation Service Web Soil Survey. The Paxton type belongs to the Hydrologic Soil Group "C" and the Charlton soil belongs to Hydrologic Soil Group "B".

d. Construction phasing plan / sequence of operations: A Construction Sequence and Erosion and Sediment Control Maintenance Schedule has been provided. The Sedimentation and Erosion Control Notes contained hereon outline a general sequence of operations for the proposed project. In general all erosion and sediment control facilities shall be installed prior to commencement with land disturbing activities, and areas of disturbance shall be limited to the shortest period of time as practicable. As greater than five acres of disturbance is proposed, the project will be completed in phases with disturbance of less than five acres. Description of erosion and sediment control practices: This plan, and details / notes shown hereon serve to satisfy this SWPPP requirement.

e. Temporary and permanent soil stabilization plan: The Sedimentation and Erosion Control Notes and Details provided heron identify temporary and permanent stabilization measures to be employed with respect to specific elements of the project, and at the various stages of development.

f. Site map / construction drawing: This plan serves to satisfy this SWPPP requirement for erosion control notes and details.

g. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices: The Details, Sedimentation and Erosion Control Notes and Erosion and Sediment Control Maintenance Schedule serve to satisfy this SWPPP requirement.

h. An inspection schedule: Inspections are to be performed weekly and by a qualified professional as required by the General Permit GP-0-20-001. In addition the NYSDEC Trained Contractor shall perform additional inspections as cited in the Sedimentation and Erosion Control Notes.

i. A description of pollution prevention measures that will be used to control litter, construction chemicals and construction debris: In general, all construction litter / debris shall be collected and removed from the site. The general contractor shall supply either waste barrels or dumpster for proper waste disposal. Any construction chemicals utilized during construction shall either be removed from site daily by the contractor or stored in a structurally sound and weatherproof building. No hazardous waste shall be disposed of onsite, and shall ultimately be disposed of in accordance with all federal, state and local regulations. Material Safety Data Sheets (MSDS), material inventory, and emergency contact numbers shall be maintained by the general contractor for all construction chemicals utilized onsite. Finally, temporary sanitary facilities (portable toilets) shall be provided onsite during the entire length of construction, and inspected weekly for evidence of leaking holding tanks.

j. A description and location of any stormwater discharges associated with industrial activity other than construction at the site: There are no known industrial stormwater discharges present or proposed at the site.

k. Identification of any elements of the design that are not in conformance with the technical standard, "New York Standards and Specifications for Erosion and Sediment Control." All proposed elements of this SWPPP have been designed in accordance with the "New York Standards and Specifications for Erosion and Sediment Control."

GRAPHIC SCALE

0 25 50 100

(IN FEET)
1 inch = 50 ft.

GENERAL CONSTRUCTION SEQUENCE NOTES:

1. Each phase of work implies that all sediment and erosion control measures will be installed in accordance with best management practices and prior to any clearing and grubbing operations.
2. Each phase of work implies the removal of existing trees and grubbing of all tree root systems.
3. All topsoil is to be stripped and stockpiled in appropriate locations for future use on the site. All stockpiled soil areas are to be appropriately stabilized and protected.
4. All finished slopes 3H:1V or steeper are to be immediately stabilized and covered with erosion control blanket curlex 1 by American Excelsior Co. or approved equal.
5. No more than 5 acres of disturbance shall be permitted at any one time without prior written approval from the New York State Department of Environmental Conservation.
6. Should groundwater be encountered during excavation the contractor shall contact the project's certified erosion control specialist immediately to assess the situation. If groundwater is encountered a sump pit shall be constructed as directed by the engineer or erosion control specialist. Dewatering, should groundwater be encountered, shall be discharged from the sump to a splash pad or energy dissapator with silt fence down gradient. Final location as directed by the engineer or erosion control specialist.
7. All excess soil material not needed for grading/filling activities shall be removed from the site.
8. No stockpiling of excavated material other than topsoil as shown on these plans shall be done without prior approval from NYCDEP.

EROSION AND SEDIMENT CONTROL MAINTENANCE SCHEDULE

MONITORING REQUIREMENTS				MAINTENANCE REQUIREMENTS	
PRACTICE	DAILY	WEEKLY	AFTER RAINFALL	DURING CONSTRUCTION	AFTER CONSTRUCTION
SILT FENCE BARRIER	–	Inspect	Inspect	Clean/Replace	Remove
STABILIZED CONSTRUCTION ENTRANCE	Inspect	–	Inspect	Clean/Replace Stone and Fabric	Remove
DUST CONTROL	Inspect	–	Inspect	Mulching/ Spraying Water	N/A
*VEGETATIVE ESTABLISHMENT	–	Inspect	Inspect	Water/Reseed/ Remulch	Reseed to 80% Coverage
INLET PROTECTION	–	Inspect	Inspect	Clean/Repair/ Replace	Remove
SOIL STOCKPILES	–	Inspect	Inspect	Mulching/ Silt Fence Repair	Remove
SWALES	–	Inspect	Inspect	Clean/Mulch/ Repair	Mow Permanent Grass/Replace/ Repair Rip Rap
CHECK DAMS	–	Inspect	Inspect	Clean/Replace Stones/Repair	Clean/Replace Stones/Repair
CONCRETE DRAINAGE STRUCTURES	–	Inspect	Inspect	Clean Sumps/ Remove Debris/ Repair/Replace	Clean Sumps/ Remove Debris/ Repair/Replace
DRAINAGE PIPES	–	Inspect	Inspect	Clean/Repair	Clean/Repair
ROAD & PAVEMENT	–	Inspect	Inspect	Clean	Clean
*STORMWATER TRAP/BASIN	–	Inspect	Inspect	Clean/Mulch/ Repair/Reseed	See Permanent Stormwater Facilities Maintenance Schedule on Drawing SP-3.1

* Permanent vegetation is considered stabilized when 80% of the plant density is established. Erosion control measures shall remain in place until all disturbed areas area permanently stabilized.

Note: The party responsible for implementation of the maintenance schedule during and after construction is:

The Hamlet at Carmel Associates, LLC
57 Route 6, Suite 207
Carmel, NY 10505

and/or the current owner(s) of the subject property.

GENERAL NOTES:

1. Property boundary shown hereon taken from subdivision plat entitled 'Boundary Line Ajustment Map prepared for Putnam Community Foundation and Putnam Hospital Center..." filed January 4, 2006 as map no. 3008 ."
2. Existing conditions and topography shown hereon taken from survey entitled "Topographic Survey prepared for The Putnam Community Foundation", prepared by Terry Begendorf Collins, L.S., last revised April 25, 2007.

SEDIMENTATION & EROSION CONTROL NOTES:

1. The Erosion Control Plan is only to be referred to for the installation of sedimentation and erosion control measures. For all other construction related activities, including, but not limited to, grading and utilities, refer to the appropriate drawings.
2. All soil erosion and sediment control practices shall be installed in accordance with New York–Standards and Specifications for Erosion & Sediment Control, latest edition.
3. Wherever feasible, natural vegetation should be retained and protected.
4. When land is exposed during development, the exposure shall be kept to the shortest practical period of time.
5. Silt fence and hay bales shall be installed as shown on drawing prior to beginning any clearing and grubbing or earthwork.
6. All topsoil to be stripped from the area being developed shall be stockpiled and immediately seeded with K-31 Perennial Tall Fescue.
7. Any graded areas not subject to further disturbance or construction traffic shall, within 10 days of final grading, receive permanent vegetation cover in combination with a suitable mulch. All seeded areas to receive a minimum 4" topsoil (from Seed mixture to be planted between April 1 and May 15, or between August stockpile area) and be seeded and mulched as follows: 15 and October 15 or as directed by project representative at a rate of 50 pounds per acre in the following proportions:

Kentucky Bluegrass	20%
Creeping Red Fescue	40%
Perennial Ryegrass	20%
Annual Ryegrass	20%

Mulch: Salt hay or small grain straw applied at a rate of 90 lbs./1000 s.f. or 2 tons/acre, to be applied and anchored according to New York–Guidelines for Urban Erosion & Sediment Control, latest edition.

8. Grass seed mix may be applied by either mechanical or hydroseeding methods. Hydroseeding shall be performed in accordance with the current edition of the NYSDOT Standard Specification, Construction and Materials, Section 610-3.02, Method No. 1.
9. Cut or fill slopes steeper than 3:1 shall be stabilized immediately after grading.
10. Paved roadways shall be kept clean at all times.
11. The site shall at all times be graded and maintained such that all stormwater runoff is diverted to soil erosion and sediment control facilities.
12. All storm drainage outlets shall be stabilized, as required, before the discharge points become operational.
13. Stormwater from disturbed areas must be passed through erosion control device before discharge beyond disturbed areas or discharged into other drainage systems.
14. Sedimentation and erosion control measures shall be inspected and maintained on a daily basis by NYSDEC Trained Contractor to insure that channels, temporary and permanent ditches and pipes are clear of debris, that embankments and berms have not been breached and that all straw bales and silt fences are intact. Any failure of sediment and erosion control measures shall be immediately repaired by the contractor and inspected for approval by the NYSDEC Trained Contractor and/or site engineer.
15. Dust shall be controlled by sprinkling or other approved methods as necessary, or as directed by the NYSDEC Trained Contractor.
16. Cut and fills shall not endanger adjoining property, nor divert water onto the property of others.
17. All fills shall be compacted to provide stability of material and to prevent settlement.
18. The NYSDEC Trained Contractor shall inspect downstream conditions for evidence of sedimentation on a weekly basis and after rainstorms.
19. As warranted by field conditions, special additional sedimentation and erosion control measures, as specified by the site engineer and/or Town Engineer shall be installed by the contractor.
20. Erosion control measures shall remain in place until all disturbed areas are suitably stabilized.

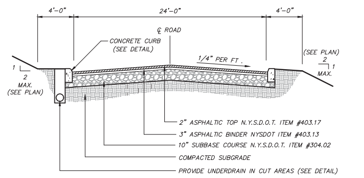
NO.	DATE	REVISION	BY
4	1-3-22	GENERAL REVISION	SMR
3	11-29-21	GENERAL REVISION	SMR
2	9-29-21	GENERAL REVISION	MEU
1	7-19-21	GENERAL REVISION	MEU

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

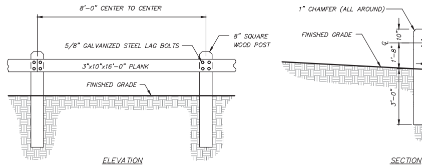
PROJECT:
THE HAMLET AT CARMEL
MULTI-FAMILY HOUSING DEVELOPMENT
STONELEIGH AVENUE, TOWN OF CARMEL, PUTNAM COUNTY, NEW YORK

DRAWING:
EROSION CONTROL & PHASING PLAN

PROJECT NO.	14211.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	2-10-21	DRAWN BY	M.E.U.	SP-4	5/10
SCALE	1" = 50'	CHECKED BY	J.J.C.		

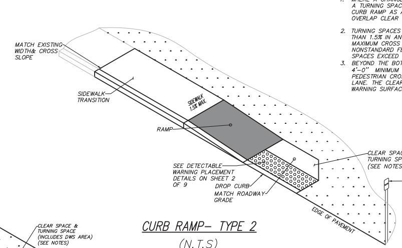


ACCESS ROAD DETAIL
(N.T.S.)



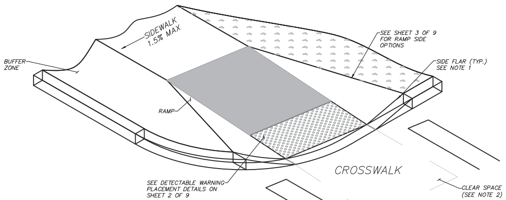
NOTES:
1. ALL WOOD TO BE SEASONED NO.1 DOUGLAS FIR, SOUTHERN PINE OR OTHER APPROVED STRUCTURAL LUMBER.
2. ALL WOOD TO BE TREATED WITH AN APPROVED WOOD PRESERVATIVE SUITABLE FOR INSTALLATION IN AND ADJACENT TO GROUND SURFACES.

WOOD GUIDE RAIL DETAIL
(N.T.S.)



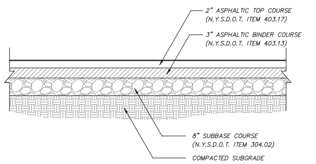
CURB RAMP- TYPE 2
(N.T.S)

NOTES:
1. WHERE A CHANGE IN DIRECTION IS REQUIRED TO UTILIZE A CURB RAMP, A TURNING SPACE SHALL BE PROVIDED AT THE BASE OR THE TOP OF CURB RAMP AS APPLICABLE. TURNING SPACES SHALL BE PERMITTED TO OVERLAP CLEAR SPACES.
2. TURNING SPACES SHALL NOT BE DESIGNED WITH CROSS SLOPE GREATER THAN 1.5% IN ANY DIRECTION, WHILE PROVIDING POSITIVE DRAINAGE. THE MAXIMUM CROSS SLOPE FOR WORK ACCEPTANCE IS 2.0%. A NONSTANDARD FEATURE JUSTIFICATION IS REQUIRED WHERE TURNING SPACES EXCEED 2.0% IN ANY DIRECTION.
3. BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4'-0" x 4'-0" MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN CROSSWALK, AND OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE. THE CLEAR SPACE MAY OVERLAP TURNING SPACES, DETECTABLE WARNING SURFACES, AND DROP CURBS.

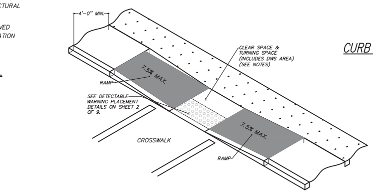


CURB RAMP- TYPE 3
(N.T.S)

NOTES:
1. RAMP SIDE OPTIONS ARE DETAILED ON SHEET 3 OF 9 FOR USE WITH THE BUFFER ZONE. WHERE A PEDESTRIAN CIRCULATION PATH CROSSES THE CURB RAMP, FLARED SIDES, SHALL BE INSTALLED WITH A MAX. SLOPE OR 9.5% FOR DESIGN AND LAYOUT, AND 10% MAX. FOR WORK ACCEPTANCE. THE SLOPE OF FLARED SIDES IS MEASURED PARALLEL TO THE CURB LINE.
2. BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4'-0" X 4'0" MIN. SHALL BE PROVIDED WITH THE WIDTH OF PEDESTRIAN CROSSWALK, AND OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE. THE CLEAR SPACE MAY OVERLAP TURNING SPACES, DETECTABLE WARNING SURFACES, AND DROP CURBS.



MULTI-FAMILY DRIVEWAY / PARKING SPACE DETAILS
(N.T.S.)

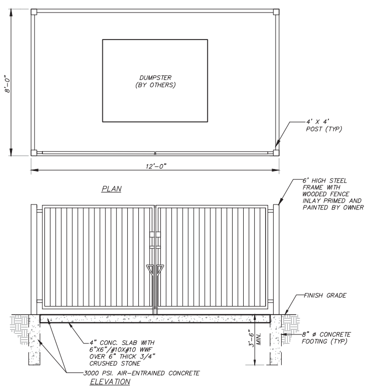


CURB RAMP- TYPE 1
(N.T.S)

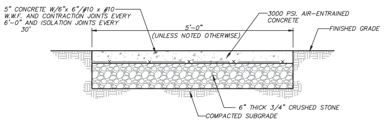
NOTES:
1. WHERE A CHANGE IN DIRECTION IS REQUIRED TO UTILIZE A CURB RAMP, A TURNING SPACE SHALL BE PROVIDED AT THE BASE OR THE TOP OF CURB RAMP AS APPLICABLE. TURNING SPACES SHALL BE PERMITTED TO OVERLAP CLEAR SPACES.
2. TURNING SPACES SHALL NOT BE DESIGNED WITH CROSS SLOPE GREATER THAN 1.5% IN ANY DIRECTION, WHILE PROVIDING POSITIVE DRAINAGE. THE MAXIMUM CROSS SLOPE FOR WORK ACCEPTANCE IS 2.0%. A NONSTANDARD FEATURE JUSTIFICATION IS REQUIRED WHERE TURNING SPACES EXCEED 2.0% IN ANY DIRECTION.
3. BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4'-0" x 4'-0" MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN CROSSWALK, AND OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE. THE CLEAR SPACE MAY OVERLAP TURNING SPACES, DETECTABLE WARNING SURFACES, AND DROP CURBS.

GENERAL NOTES FOR ACCESSIBLE ROUTES ON THE SITE:

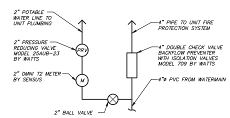
1. Accessible routes on the site include marked accessible parking spaces and access aisles, sidewalk curb ramps, walkways and ramps.
2. Marked accessible parking spaces and access aisles shall have surface slopes not steeper than 1:50. (2%)
3. Sidewalk curb ramps shall comply with the following items as applicable:
   a. Walking surfaces of sidewalk curb ramps shall be stable, firm and slip resistant.
   b. The running slope shall not exceed 8.0%.
   c. The cross slope shall not exceed 1:50 (2%).
   d. Landings and blended transitions shall be constructed to prevent the accumulation of water.
   e. Where provided, side flares for curb ramps shall not be steeper than 1:10 (10%).
   f. Curb ramps at marked crosswalks shall be wholly contained within the markings, excluding any flared sides.
   g. Landings shall be provided at the top of curb ramps. the clear length of the landing shall be 36 inches minimum. the clear width of the landing shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing.
   h. Where detectable warnings are provided on curb ramps, they shall be 24 inches minimum in depth in the direction of travel, shall extend the full width of the curb ramp or flush surface, and be located so that the edge nearest the curb line is 6 inches minimum and 8 inches maximum from the curb line.
   i. Refer to sidewalk curb ramp details for additional information.
4. Walkways along an accessible route shall comply with the following items as applicable:
   a. Walking surfaces shall be stable, firm and slip resistant.
   b. Vertical changes in level along walking surface shall not exceed 1/4". Changes in level greater than 1/4" in height and not more than 1/2" shall be beveled with a slope not steeper than 1:2.
   c. The running slope of the walking surfaces shall not be steeper than 1:20 (5%).
   d. The cross slope of a walking surface shall not be steeper than 1:50 (2%).
   e. The clear width of an accessible route shall be 36" minimum.
   f. An accessible route with a clear width less than 60 inches shall provide passing spaces at intervals of 200 feet maximum. passing spaces shall be 60 inch minimum by 60 inch minimum.
5. Ramps along an accessible route shall comply with the following items:
   a. Ramp runs shall have a running slope greater than 1:20 (5%) and not steeper than 8.0%..
   b. The cross slope of ramp runs shall not exceed 1:50 (2%).
   c. Walking surfaces of ramp runs and associated landings shall be stable, firm and slip resistant.
   d. The clear width of a ramp run shall be 36 inches minimum or as shown. handrails and handrail supports that are provided on the ramp run shall not project into the required clear width of the ramp run or associated landing.
   e. The maximum rise for any ramp is 2'-6".
   f. The maximum run for any ramp is 30'-0".
   g. Ramps shall have landings at the bottom and top of each ramp run. landings shall have a slope not to exceed 1:50 (2%) and shall have a clear length and width of 60" minimum.
   h. Adjacent finished grades along sides of ramp shall not have a vertical dropoff of 1/2" within 10" of the edge of the concrete.
   i. Refer to concrete handicap ramp detail for additional information.



DUMPSTER ENCLOSURE DETAIL
(N.T.S.)



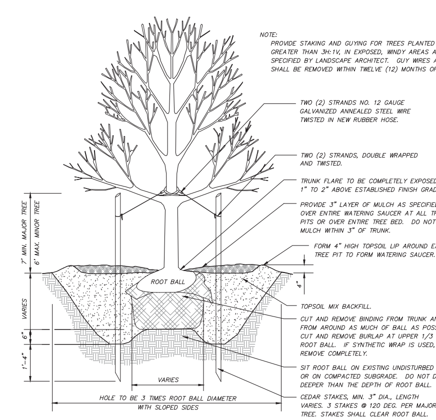
CONCRETE SIDEWALK DETAIL
(N.T.S.)



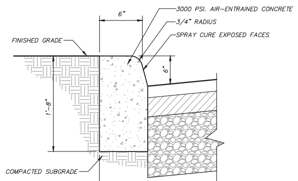
MULTIPLE FAMILY WATER SERVICE SCHEMATIC DETAIL
(N.T.S.)

NOTES:
1. THIS DETAIL SHOWS SCHEMATIC WATER SERVICE, FINAL DESIGN AND LOCATION BY MECHANICAL ENGINEER.
2. THE DOUBLE CHECK VALVE (DCV) BACKFLOW PREVENTER SHALL HAVE THE FOLLOWING CLEARANCES:
   8" MINIMUM BEHIND
   30" MINIMUM IN FRONT
   30" MINIMUM OFF FLOOR
   60" MAXIMUM ABOVE FLOOR
   24" MINIMUM CLEAR DISTANCE ABOVE

NOTE:
PROVIDE STAKING AND GUYING FOR TREES PLANTED ON SLOPES GREATER THAN 3H:1V, IN EXPOSED, WINDY AREAS AND AS SPECIFIED BY LANDSCAPE ARCHITECT. GUY WIRES AND STAKES SHALL BE REMOVED WITHIN TWELVE (12) MONTHS OF PLANTING.

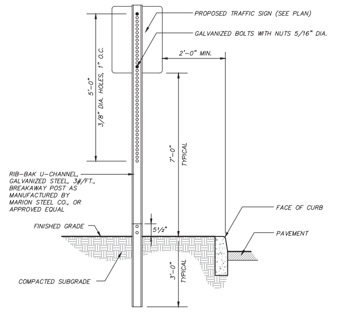


TREE PLANTING DETAIL
(N.T.S.)

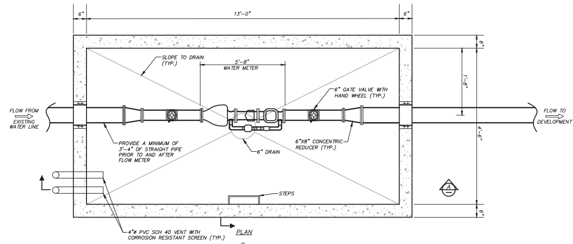


NOTE: ISOLATION JOINTS 1/2" WIDE SHALL BE INSTALLED IN THE CURB 20'-0" APART AND SHALL BE FILLED WITH CELLULAR COMPRESSION MATERIALS AS SPECIFIED, RECESSED 1/4" IN FROM FRONT FACE AND TOP OF CURB.

CONCRETE CURB DETAIL
(N.T.S.)

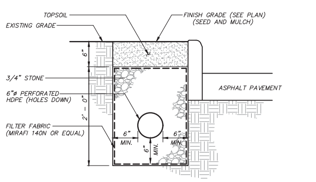


TRAFFIC SIGN DETAIL
(N.T.S.)

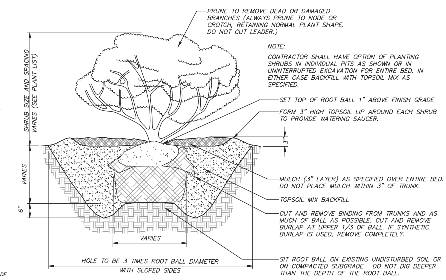


METER PIT NOTES:

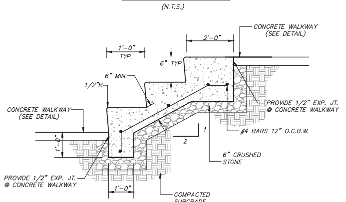
1. CONCRETE VAULTS TO TEST AT 5,000 PSI FOR 28 DAYS. PLASTIC TO EXCEED 20,000 LB. VERTICAL CRUSH LIMIT.
2. 36"x36" BILCO DOORS WILL BE EMPLOYED ON NON DRIVE AREAS OTHERWISE A 30" MANHOLE COVER AND FRAME, H20 LOADING WITH BRICK CHIMNEY TO GRADE ABOVE SLOPE AND WILL GRADE AWAY FROM MANHOLE COVER IN ALL DIRECTIONS. ENTRANCE TO METER VAULT SHALL BE CLOSEST TO METER IF POSSIBLE. PVC OR ALUMINUM RUNGS MUST BE TO THE TOP OF THE ENTRANCE.
3. ALL PIPES SHALL HAVE A STRAIGHT RUN THROUGH VAULT.
4. VENT PIPES WILL BE 4" PLASTIC (SCHEDULE 40) WITH SCREENED OPENINGS ONLY. VENTS WILL BE PLACED OPPOSITE OF OPENING AND HAVE ONE 4" FROM FLOOR AND OTHER 4' FROM FLOOR.
5. VAULTS SHALL HAVE A MINIMUM 6" OF 3/4" CRUSHED STONE, LEVELED AND LAID OVER STABLE NATIVE SOIL. IF EXCAVATION REVEALS UNSTABLE SOIL, BEDDING REQUIREMENT SHALL BE MODIFIED BY PROJECT ENGINEER.
6. GALVANIZED STEEL SUPPORTS FOR METER SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
7. NO BYPASS IS ALLOWED AROUND METER.



UNDERDRAIN DETAIL
(N.T.S.)

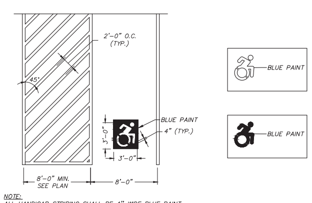


SHRUB PLANTING DETAIL
(N.T.S.)



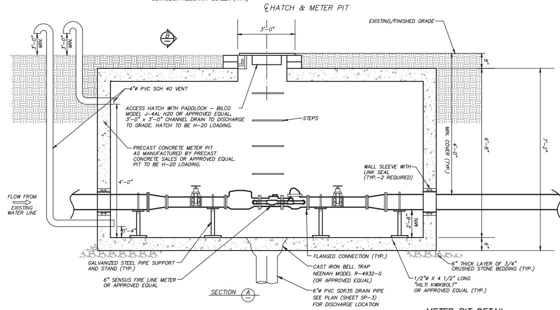
NOTES:
1. REFER TO PLAN FOR NUMBER OF RISERS AND TREADS.

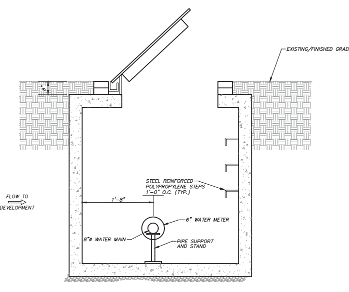
CONCRETE STEPS DETAIL
(N.T.S.)



NOTE:
ALL HANDICAP STRIPING SHALL BE 4" WIDE BLUE PAINT.

PAINTED NYS ACCESSIBLE PARKING DETAIL
(N.T.S.)





METER PIT DETAIL
(N.T.S.)

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

NO.	DATE	REVISION	BY
4	1-3-22	GENERAL REVISION	SMR
3	11-29-21	GENERAL REVISION	SMR
2	9-29-21	GENERAL REVISION	MEU
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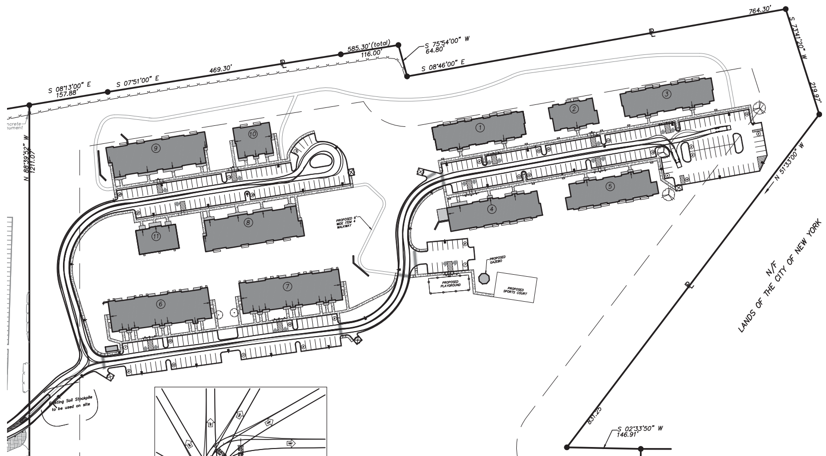
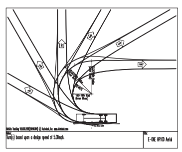
PROJECT:
THE HAMLET AT CARMEL
MULTI-FAMILY HOUSING DEVELOPMENT
STONELEIGH AVENUE, TOWN OF CARMEL, PUTNAM COUNTY, NEW YORK

DRAWING:
SITE DETAILS

PROJECT NO.	14211.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	2-10-21	DRAWN BY	M.E.U.	D-1	6 / 10
SCALE	AS SHOWN	CHECKED BY	J.J.C.		

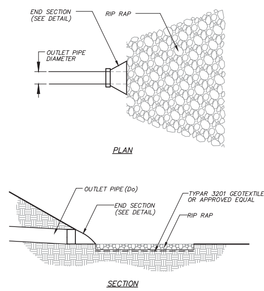




MANEUVERING PLAN E-ONE AERIAL FIRE TRUCK

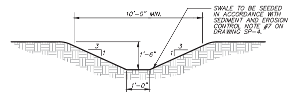
1" = 50'

Note: See drawing SP-1 for maneuvers through Putnam Hospital site to Stoneleigh Avenue.



RIP RAP APRON DETAIL

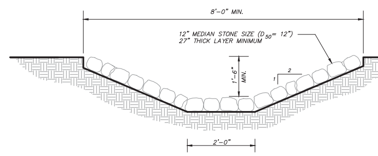
(N.T.S.)



GRASS SWALE TO BE LINED WITH CHANNEL LINER C-125 AS MANUFACTURED BY "NORTH AMERICAN GREEN" OR APPROVED EQUAL.

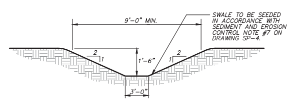
GRASS SWALE #1 DETAIL

(N.T.S.)



RIP RAP SWALE #2 DETAIL

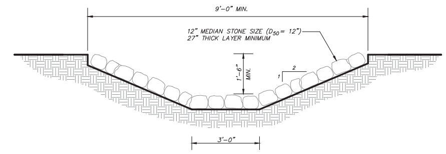
(N.T.S.)



GRASS SWALE TO BE LINED WITH CHANNEL LINER C-125 AS MANUFACTURED BY "NORTH AMERICAN GREEN" OR APPROVED EQUAL.

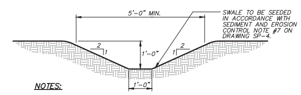
GRASS SWALE #3 DETAIL

(N.T.S.)



RIP RAP SWALE #4 DETAIL

(N.T.S.)

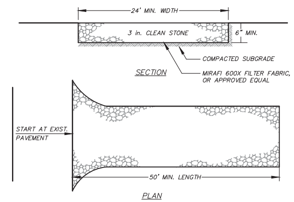


NOTES:

1. GRASS SWALE TO BE LINED WITH CHANNEL LINER C-125 AS MANUFACTURED BY "NORTH AMERICAN GREEN" OR APPROVED EQUAL.
2. ALL GRASS SWALES NOT LABELED #1, #2, #3, OR #4 IN THE DRAWING SET SHALL CONFORM TO THIS DETAIL.

GRASS SWALE DETAIL

(N.T.S.)

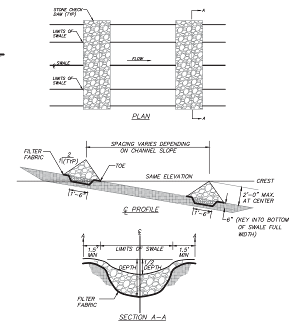


INSTALLATION NOTES

1. STONE SIZE – USE 3" STONE
2. LENGTH – AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.)
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – 10 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCUR.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER CLOTH WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAY THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT OF WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

(N.T.S.)

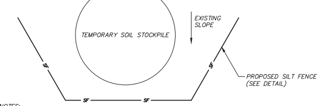


NOTES:

1. STONE SHALL BE PLACED ON A FILTER FABRIC FOUNDATION. STONE TO BE WELL-GRADED 2" TO 12" DIAMETER.
2. SET SPACING OF CHECK DAMS SO THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.

STONE CHECK DAM DETAIL

(N.T.S.)

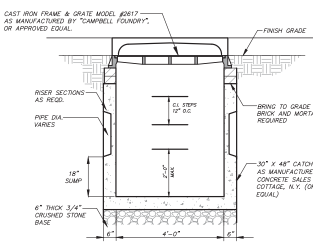


NOTES:

1. AREA CHOSEN FOR STOCKPILE LOCATION SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE IMMEDIATELY SEEDED WITH K31 PERENNIAL TALL FESCUE.
4. ALL STOCKPILES SHALL BE PROTECTED WITH SILT FENCING INSTALLED ON THE DOWNGRADIENT SIDE.

TEMPORARY SOIL STOCKPILE DETAIL

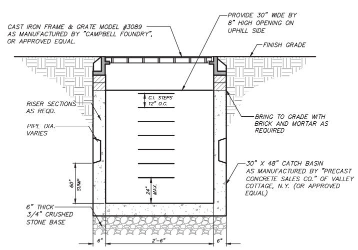
(N.T.S.)



CATCH BASIN DETAIL

(N.T.S.)

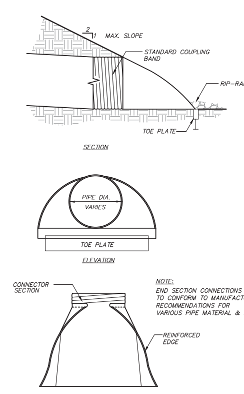
(STRUCTURE AND GRATE TO BE DESIGNED FOR H-20 LOADING)



DEEP SUMP SIDE DRAIN INLET DETAIL

(N.T.S.)

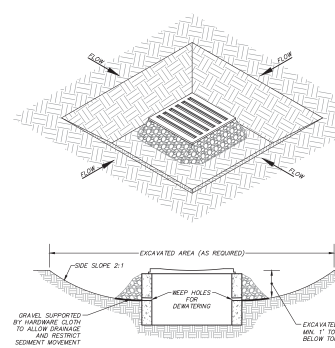
(STRUCTURE AND GRATE TO BE DESIGNED FOR H-20 LOADING)



NOTE:
END SECTION CONNECTIONS TO CONFORM TO MANUFACTURERS RECOMMENDATIONS FOR VARIOUS PIPE MATERIAL & SIZES

END SECTION DETAIL

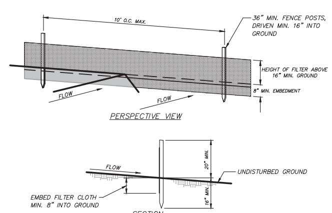
(N.T.S.)



1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION
2. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN
3. WEEP HOLES SHALL BE PROTECTED BY GRAVEL
4. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEEP HOLES, FILL EXCAVATION WITH STABLE SOIL TO FINAL GRAFE, COMPACT IT PROPERLY, AND STABILIZE WITH PERMANENT SEEDING
5. MAXIMUM DRAINAGE AREA = 1 ACRE

EXCAVATED DROP INLET PROTECTION DETAIL

(N.T.S.)



CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. FILTER CLOTH TO BE FASTENED SECURELY TO POSTS AT TOP AND MID SECTION.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

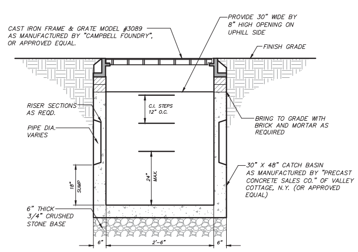
POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD

FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUAL

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL

SILT FENCE DETAIL

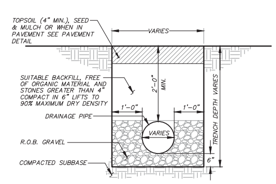
(N.T.S.)



SIDE DRAIN INLET DETAIL

(N.T.S.)

(STRUCTURE AND GRATE TO BE DESIGNED FOR H-20 LOADING)



DRAINAGE LINE TRENCH DETAIL

(N.T.S.)

NO.	DATE	REVISION	BY
4	1-3-22	GENERAL REVISION	SMR
3	11-29-21	GENERAL REVISION	SMR
2	9-29-21	GENERAL REVISION	MEU
1	7-19-21	GENERAL REVISION	MEU

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
THE HAMLET AT CARMEL
MULTI-FAMILY HOUSING DEVELOPMENT
STONELEIGH AVENUE, TOWN OF CARMEL, PUTNAM COUNTY, NEW YORK

DRAWING:
SITE DETAILS

PROJECT NO.	14211.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	2-10-21	DRAWN BY	M.E.U.	D-2	7/10
SCALE	AS SHOWN	CHECKED BY	J.J.C.		

WATER MAIN NOTES:

1. All water mains shall be either Class 52 cement lined tyton joint ductile iron pipe or PVC Class 200 DR 14 pipe with factory installed push-on gaskets unless otherwise noted. All pipe shall be in conformance with the latest edition AWWA C600 or C900.
2. All water main fittings shall be Class 350 ductile iron mechanical joints in accordance with the latest edition of AWWA/ANSI Standards C111/A21.11. "GRIP RING" restrained joint connections shall be provided at every fitting (as manufactured by FOMAC Industries, Inc. or approved equal).
3. Thrust blocks shall be installed at all changes in horizontal or vertical alignment.
4. All water mains and appurtenances shall be installed in accordance with the latest edition of AWWA C600 or C605.
5. Gate valves shall be "Mueller" or approved equal, iron body, non-rising stem conventional bronze, resilient seated, mechanical joint with restrained joint gaskets, pressure class 350, opening shall be left (CCW) and operation shall be by 2" square wrench nut.
6. All water mains and appurtenances (including water service lines up to the curb stop) shall be pressure tested and leakage tested to the satisfaction of the Design Engineer, and the Putnam County Department of Health. This shall be done in accordance with the latest edition of AWWA Standard C600 & C605.
7. All water mains and appurtenances shall be flushed, disinfected, and tested to the satisfaction of the Design Engineer, and the Putnam County Department of Health. This shall be done in accordance with the latest edition of AWWA Standard C651, section 4.4.3, the "Continuous Feed Method". The "Tablet method" will not be allowed.
8. Water mains shall be laid at least 10 feet horizontally from any existing or proposed sanitary or storm sewer main. The distance shall be measured edge to edge. In cases where it is not practical to maintain a 10 foot separation, the Design Engineer and Putnam County Department of Health may allow deviation with prior approval on a case-by-case basis, if supported by data from the Design Engineer prior to the installation of the water lines. The vertical separation also applies to water service connections.
9. Water mains crossing sanitary or storm sewer mains shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to maintain line and grade. In cases where it is not practical to maintain the 18 inch vertical separation, the Design Engineer and Putnam County Department of Health may allow deviation with prior approval on a case-by-case basis, if supported by data from the Design Engineer prior to the installation of the water lines. The vertical separation also applies to water service connections.
10. The Design Engineer, Putnam County Department of Health, and Town's Authorized Representative shall be notified forty eight (48) hours before construction is started.
11. The water mains shall not be placed into service until a certificate of construction compliance has been submitted to and accepted by the Putnam County Department of Health.
12. The Putnam County Department of Health and the New York City Department of Environmental Protection must be notified forty eight (48) hours prior to pressure testing the water main improvements.

WATER MAIN TESTING PROCEDURES

TESTS ON PRESSURE PIPING FOR TRANSPORT OF WATER

A. Hydrostatic Pressure Test
Hydrostatic testing shall be performed in accordance with the revision of AWWA C600, Section 5.2,"Hydrostatic Testing" or AWWA C605, Section 7.3, "Hydrostatic Testing".

1. Test pressure shall be as scheduled or, where no pressure is scheduled, shall be 150 psi, or 1.25 times the static operating pressure, whichever is higher.
2. Test pressure shall be held on the piping for a period of at least 2 hours, unless a longer period is requested by the Engineer.
3. The test medium shall be water.

B. Hydrostatic Leakage Test

1. The leakage test shall be conducted concurrently with the pressure test.
2. The rate of leakage shall be determined at 15-minute intervals by means of volumetric measurement of the makeup water added to maintain the test pressure. The test shall proceed until the rate of leakage has stabilized or is decreasing below an allowable value, for three consecutive 15-minute intervals. After this, the test pressure shall be maintained for at least another 15 minutes.
   a. At the completion of the test, the pressure shall be released at the furthermost point from the point of application.
3. All exposed piping shall be examined during the test and all leaks, defective material or joints shall be repaired or replaced before repeating the tests.
4. The allowable leakage will be determined by the following formula.

$$Q = \frac{LD\sqrt{P}}{148,000}$$

Where:
Q = quantity of makeup water, in gallons per hour
L = length of pipe tested, in feet
D = nominal diameter of the pipe, in inches
P = average test pressure during the hydrostatic test, in pounds per square inch (gauge)

5. Regardless of the above allowables, any visible leaks shall be permanently stopped.
6. The test medium shall be water.

C. Disinfection
Prior to placing the water main into service, the new pipe shall be cleaned and disinfected in accordance with the latest revision of AWWA C651, Section 4.4.3, "The Continuous Feed Method". The "Tablet Method" will not be accepted.

1. All work under this section shall be performed in the presence of the Design Engineer, and a representative of the public health authority having jurisdiction, as required.
2. Chlorination shall be scheduled such that sampling and flushing will be performed during normal daylight working hours. The contractor shall provide acceptable backflow prevention on all supply water to prevent any potential backflow condition or cross connection.
3. Chlorination shall be by the use of a solution of water and liquid chlorine, calcium hypochlorite or sodium hypochlorite and the solution shall be contained in the pipe or structure as specified.
4. Prior to chlorination, all dirt and foreign matter shall be removed by a thorough cleaning and flushing of the pipeline or structure.
5. The chlorine solution shall be introduced to pipelines through corporation stops placed in the horizontal axis of the pipe, to structures by means of tubing extending directly into the structure, or other approved methods.
6. The application of the chlorine solution shall be by means of a controlled solution feed device. The rate of chlorine solution flow shall be in such proportion to the rate of water entering the pipe or structure that the resulting free chlorine residual shall be between 25 and 50 parts per million (PPM) or milligrams per liter (mg/l).
7. The chlorine treated water shall be retained in the pipe or structure at least 24 hours, unless otherwise directed. During the retention period, all valves and hydrants within the treated sections shall be operated.
8. The chlorine residual shall be not less than 10 PPM (or mg/l) at any point in the pipe or structure at the end of the 24-hour retention period.
9. When making repairs to, or when specified, structures and portions of pipelines shall be chlorinated by a concentrated chlorine solution containing not less than 200 PPM (mg/l) of free chlorine. The solution shall be applied with a brush or sprayed on the entire inner surface of the empty pipes or structures. The structures disinfected shall remain in contact with the strong chlorine solution for at least 30 minutes.
10. After the required retention of chlorinated water in the pipe or structures, they shall be thoroughly flushed until the replacement water shall, upon test, both chemically and bacteriological, be proven equal to water quality served by the public from the existing water supply system.
11. The disposal of chlorinated water from any pipe or structure shall be such that it will not cause damage to any vegetation, fish, or animal life.
12. The Contractor shall make all arrangements for the testing of water quality by an approved independent laboratory. Two acceptable bacteriological test, taken at least 24 hours apart, shall be collected from the new water main. At least 1 set of samples must be collected from every 1,000 LF of the new water main, plus one set from the end of the line and at least one set from each branch. The results for all tests shall be forwarded to the Design Engineer and the public health authority having jurisdiction.
13. All water quality requirements shall be fulfilled prior to the passage of any water through the new system to a public supply or the use of the new system.

SEWER TESTING PROCEDURES

TESTS FOR NON-PRESSURE PIPELINES FOR TRANSPORT OF SEWAGE

The leakage shall be determined by exfiltration, infiltration or low pressure air.

A. Exfiltration Testing
   1. Exfiltration tests shall be made by filling a section of pipeline with water and measuring the quantity of leakage.
   2. The head of water at the beginning of the test shall be at least 2 feet above the highest pipe within the section being tested.
      a. Should groundwater be present within the section being tested, the head of water for the test shall be 2 feet above the hydraulic gradient of the groundwater.
      b. Should the requirement of 2 feet of water above the highest pipe subject any joint at the lower end of the test section to a differential head of greater than 11.5 feet, another method of testing shall be employed.

B. Prior to any testing, the Town Engineer and Department of Health must be notified at least 48 hours in advance.

C. Infiltration Testing
   1. Infiltration tests will be allowed only when the water table gauges determine the groundwater level to be 2 feet or more above the highest pipe of the section being tested.
   2. Infiltration test shall be made by measuring the quantity of water leaking into a section of pipeline.
   3. Measurement of the infiltration shall be by means of a calibrated weir constructed at the outlet of the section being tested.

C. Allowable Leakage for Non-Pressure Pipelines
   1. The allowable leakage (exfiltration or infiltration) for non-pressure pipelines shall not exceed the following in gallons per 24 hours per inch of diameter per 1000 feet of pipe:

Type of Pipe	Leakage
Ductile Iron – mechanical or push-on joints	100
Polyvinyl chloride, thermal plastic or fiberglass with rubber joints	100
Cast Iron soil pipe	0

   2. Regardless of the above allowable leakage, any spurting leaks detected shall be permanently stopped.

D. Low Pressure Air Testing
   1. Air testing for acceptance shall not be performed until the backfilling has been completed.
   2. Low pressure air tests shall conform to ASTM C 828 or ASTM F1417–92, Section 8.2.2, Time–Pressure Drop Method for a 0.5 psi drop, except as specified herein and shall not be limited to type or size of pipe.
   3. All sections of pipelines shall be cleaned and flushed prior to testing.
   4. The air test shall be based on the starting pressure of 3.5 to 4.0 psi gauge. The time allowed for the 0.5 psi drop in pressure, measured in seconds, will be computed based on the size and length of the test section by the Engineer.
      a. When groundwater is present, the average test pressure of 3 psig shall be above any back pressure due to the groundwater level.
      b. The maximum pressure allowed under any condition in air testing shall be 10 psig. The maximum groundwater level for air testing is 1.3 feet above the top of the pipe.
   5. The equipment required for air testing shall be furnished by the Contractor and shall include the necessary compressor, valves, gauges and plugs to allow for the monitoring of the pressure, release of pressure and a separate test gauge.
      a. The test gauge shall be sized to allow for the measuring of the 0.5 psig loss allowed during the test period and shall be on a separate line to the test section.

E. Deflection Testing
   1. Deflection testing shall be performed 30 days after backfilling. The test shall be made by passing a ball or cylinder no less than 95% of the pipe diameter through the pipe. The test shall be performed without mechanical pulling devices.

F. Manhole Testing
   1. General
      a. Each manhole shall be tested by either exfiltration, infiltration or vacuum testing.
      b. A manhole shall be acceptable if the leakage does not exceed an allowance of one gallon per vertical foot of depth for 24 hours. Regardless of the allowable leakage, any leaks detected shall be permanently stopped.
   2. Exfiltration tests shall be performed after backfilling. The test shall be made by plugging the manhole with water and observing the level for a minimum of eight hours.
   3. Infiltration tests shall be performed after backfilling when the groundwater level is above the joint of the top section of a precast manhole.
   4. Vacuum testing shall be performed after backfilling in accordance with the latest revision of ASTM C1244–02 as follows:
      a. The test head shall be placed at the top of the manhole in accordance with the manufacturer's recommendations.
      b. A vacuum of 10 in. of mercury shall be drawn on the manhole, the valve on the vacuum line to the test head closed, and the vacuum pump shut off. The time shall be measured for the vacuum to drop to 9 in. of mercury.
      c. The manhole shall pass if the time for the vacuum reading to drop from 10 in. of mercury to 9 in. of mercury meets or exceeds the values indicated below:

Minimum Test Times for Various Manhole Diameters in Seconds:

Depth (ft)	Diameter (inches) 48	60
	Time (seconds)	
8 or less	20	26
10	25	33
12	30	39
14	35	46
16	40	52
18	45	59
20	50	65

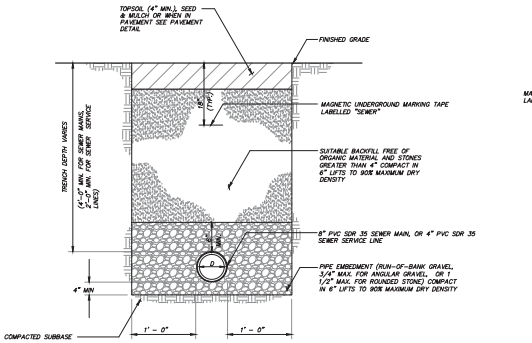
   d. If the manhole fails the initial test, necessary repairs shall be made by an approved method. The manhole shall then be retested until a satisfactory test is obtained.

TOWN OF CARMEL WATER NOTES:

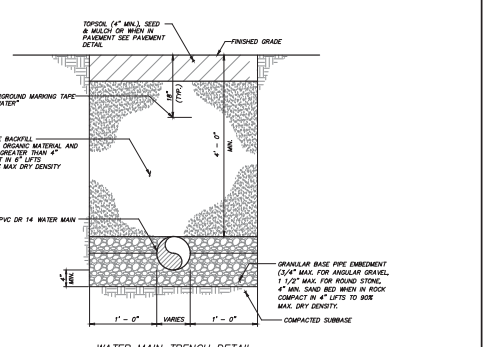
1. All water service connections shall be of a size and type as shown on the plans.
2. Gate valves shall be AWWA non-rising stem type, as manufactured by Mueller Company, Model A-2360-23, or approved equal, conforming to the latest AWWA Standard for Gate Valves – 3" through 48" – for Water and Other Liquids, AWWA Designation C-509.
3. Sizes up to and including 12" shall be 250 psi working pressure. The valve body and bonnet shall be ductile iron. All interior and exterior metal surfaces shall be coated with a two-part thermosetting epoxy complying with AWWA C550.
4. Valves shall have dual "O" ring seals, inside screw, resilient wedge seats in accordance with AWWA Designation C-509 and shall be constructed so as to provide unobstructed full port clearance when fully open and immediate complete closure when closed. The ends of the valves shall be mechanical joint.
5. All valves shall be arranged to open in counter clockwise direction unless otherwise specifically indicated and operating nuts shall be 2" square.
6. Valves shall be tested to a pressure of not less than two times the working pressure.
7. Where water Service Saddles are used , they shall be equal to those manufactured by Mueller, Model 725" x 1" SS Series Stainless Steel Saddle, Double Stud.
8. Where corporation stops are used, they shall be equal to those as manufactured by Mueller Company, Model B-25000Series, NRS and of the size required. Such corporation stops shall meet the requirements of AWWA Specification No. C800.
9. Curb valves (stops) shall be equal to those as manufactured by Mueller Company, Model H-15214 and shall conform to AWWA Specification No. C800.
10. Curb boxes shall be equal to those as manufactured by Mueller Company and similar to Mueller extension type with arch pattern base model H-15314 all extension rods shall be stainless steel.
11. All fire hydrants shall be the approved AWWA type fire hydrants in conformance with the American Water Works Association Standard for Fire Hydrants for Ordinary Water Works Service, AWWA Designation C502, and shall have a 5-1/4" valve opening, a 6" mechanical joint inlet complete with an auxiliary gate valve (close coupled), a 6" mechanical joint shoe, and all appurtenances.

SEWER MAIN NOTES

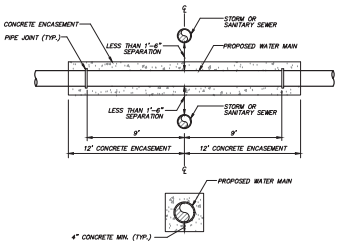
1. All sewer mains & sewer services shown on these plans shall be polyvinyl chloride (PVC) SDR 35. SDR 35 meets the Town of Carmel Town Code 129-29.
2. Sewers shall be laid at least 10 feet horizontally from any existing or proposed water main. The distance shall be measured edge to edge. In cases where it is not practical to maintain a 10 foot horizontal separation, the Design Engineer and Putnam County Department of Health may allow deviation with prior approval on a case-by-case basis, if supported by data from the Design Engineer prior to sewer line installation. The horizontal separation also applies to service connections.
3. Sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to maintain line and grade. In cases where it is not practical to maintain a 10 foot horizontal separation, the Design Engineer and Putnam County Department of Health may allow deviation with prior approval on a case-by-case basis, if supported by data from the Design Engineer prior to the installation. The vertical separation also applies to service connections.
4. Sanitary sewer service lines shall be tested in conjunction with the sewer mains to the property line or easement line, and in accordance with the latest Putnam County Department of Health Rules & Regulations.
5. Testing of the manholes with the pipeline shall not be permitted. Manholes & sanitary sewer lines shall be tested independently of each other.
6. The owner/applicant shall be responsible for acquiring supervision of the construction of the sanitary sewer main system by a person or firm qualified to practice professional engineering in the state of New York.
7. The owner/applicant shall be responsible for providing Three (3) copies of as-built drawings signed and sealed by a licensed and registered New York State Professional Engineer to the Putnam County Department of Health at the completion of the construction.
8. The Design Engineer, Putnam County Department of Health, and Town Engineering Department shall be notified forty eight (48) hours before construction is started.
9. The sanitary sewer mains shall not be placed into service until a certificate of construction compliance has been submitted to and accepted by the Putnam County Department of Health.
10. The Putnam County Department of Health and the New York City Department of Environmental Protection must be notified forty eight (48) hours prior to pressure testing the sewer main improvements.
11. Manhole frames & covers to be campbell pattern #10070 for 24" opening or approved equal. M.H. covers to be marked "SEWER" and to have six 3/4"ø hole vents. (use solid covers where necessary.)
12. The exterior of all manholes shall be covered with an approved asphalt waterproofing.
13. Concrete base slabs shall be air entrained concrete with a minimum design strength of 3,000 psi.
15. The contractor shall submit shop drawings of the precast manholes to the Design Engineer for review and acceptance.
16. Precast manholes shall have minimum reinforcement of 0.12 sq. in. per lin. ft. for 48" barrel & be designed in accordance with A.S.T.M. C-478, and withstand an H-20 design loading.
17. Precast base sections to have the required number of gaskets and openings as shown and specified.
18. Precast manhole sections shall employ a watertight gasket arrangement between each section approved by the Design Engineer.
19. Openings for pipes shall be precast or machine cored. Gaskets or collars for pipe connections to manholes shall be resilient and watertight and compatible with the type of pipe being used.
20. The length of pipes entering or leaving any manhole shall be greater than 2'-0".
21. Precast manholes under 6'-0" deep shall have a "Flat Top" slab roof.
22. Gaskets or collars for pipe connections to manhole shall provide a minimum of 0.1" drop across the manhole.
23. The contractor shall notify the Design Engineer every day that sewer main installation shall occur.



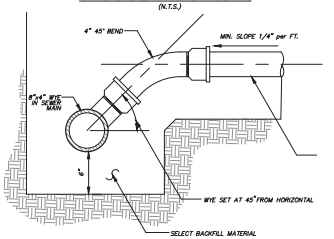
SEWER LINE TRENCH DETAIL
(N.T.S.)



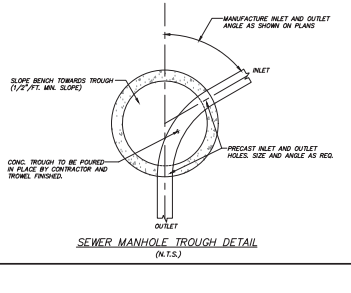
WATER MAIN TRENCH DETAIL
(N.T.S.)



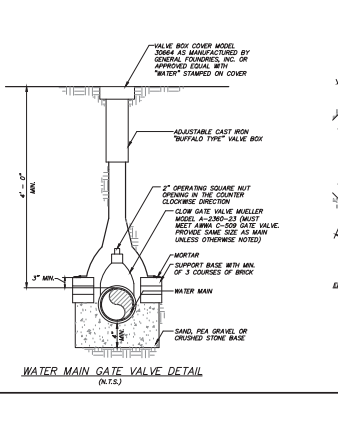
CONCRETE ENCASEMENT DETAIL
(N.T.S.)



SANITARY SEWER SERVICE CONNECTION
(N.T.S.)



SEWER MANHOLE TROUGH DETAIL
(N.T.S.)



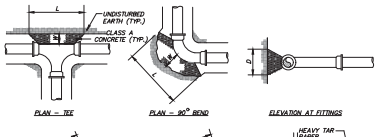
WATER MAIN GATE VALVE DETAIL
(N.T.S.)

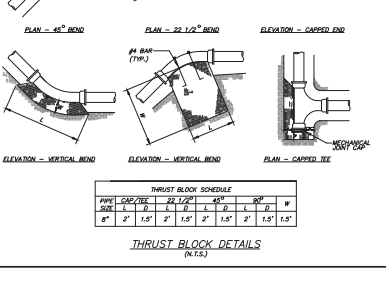
HYDRANT NOTES:
1. PUMPER OUTLET SHALL FACE STREET.
2. HOSE OUTLETS SHALL BE PARALLEL TO STREET.
3. 1-1/2" STONE SHALL BE PLACED AROUND THE HYDRANT FROM THE BOTTOM OF THE TRENCH, BUT AT LEAST 6" BELOW THE BASE OF THE HYDRANT TO 6" ABOVE THE WASTE OPENING AND TO A DISTANCE OF 12" AROUND THE ELBOW.
4. IF GROUND WATER IS ENCOUNTERED WITHIN 7' OF SURFACE, THEN HYDRANT DRAINS SHOULD BE PLUGGED. THE HYDRANT BARRELS MUST BE PUMPED DRY AFTER USE DURING FREEZING WEATHER. WHERE HYDRANT DRAINS ARE NOT PLUGGED, A GRAVEL POCKET OR DRY WELL SHALL BE PROVIDED UNLESS THE NATURAL SOILS WILL PROVIDE ADEQUATE DRAINAGE. HYDRANT DRAINS SHALL NOT BE CONNECTED TO OR LOCATED WITHIN 10 FEET OF SANITARY SEWERS OR STORM DRAINS.
5. ALL FIRE HYDRANTS SHALL BE RATED FOR A WORKING PRESSURE OF 250 PSI AND SHALL BE THE APPROVED AWWA TYPE FIRE HYDRANTS IN CONFORMANCE WITH THE AMERICAN WATER WORKS ASSOCIATION STANDARD FOR FIRE HYDRANTS FOR ORDINARY WATER WORKS SERVICE, AWWA DESIGNATION C502, AND SHALL HAVE A 5-1/4" VALVE OPENING, A 6" MECHANICAL JOINT INLET COMPLETE WITH AN AUXILIARY GATE VALVE (CLOSE COUPLED), A 6" MECHANICAL JOINT SHOE, AND ALL APPURTENANCES
6. FIRE HYDRANT SHALL BE RATED FOR A WORKING PRESSURE OF 250 PSI.

HYDRANT DETAIL
(N.T.S.)

EXTERNAL DROP MANHOLE NOTES:
1. TO BE USED WHEN INCOMING SEWER IS MORE THAN 2'-0" HIGHER THAN THE OUTGOING SEWER.
2. PIPE SIZE AND TYPE OF DROP CONNECTION TO BE SAME AS MAIN OR LATERAL.
3. ALL JOINTS SHOULD BE SEALED INSIDE AND OUT WITH CEMENT GROUT CONTAINING 2 PARTS CEMENT AND 1 PART SAND AND ANTI-HYDRO OR OTHER APPROVED ADDITIVE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS TO INSURE WATER TIGHTNESS.

EXTERNAL DROP MANHOLE DETAIL
(N.T.S.)

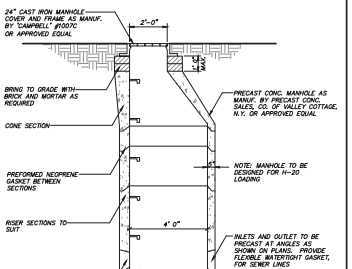




THRUST BLOCK SCHEDULE

PIPE SIZE	CAP/TEE L	CAP/TEE D	22 1/2° L	22 1/2° D	45° L	45° D	90° L	90° D	W
8"	2'	1.5'	2'	1.5'	2'	1.5'	2'	1.5'	1.5'

THRUST BLOCK DETAILS
(N.T.S.)



MANHOLE DETAIL
(N.T.S.)

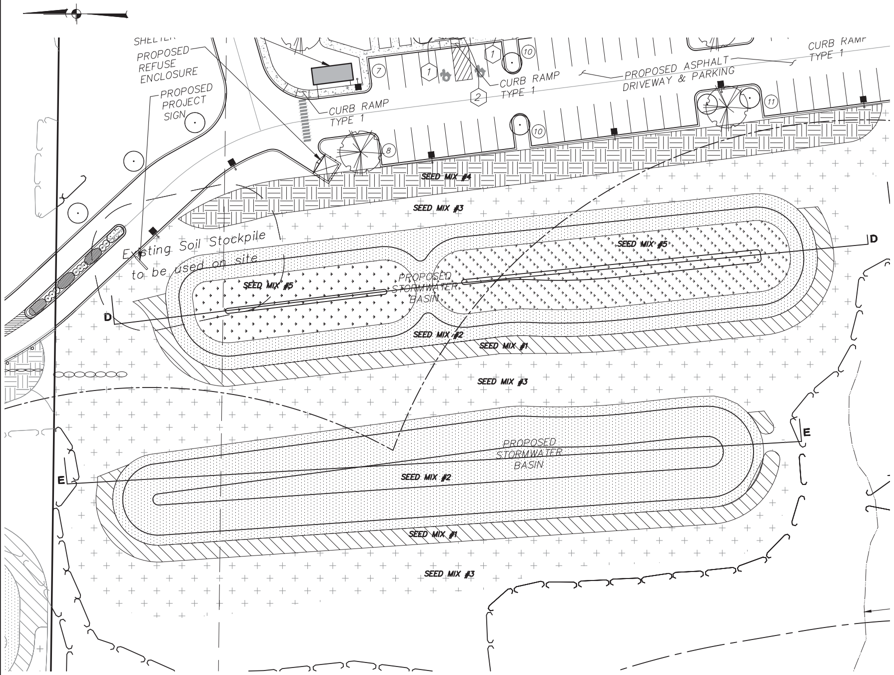
NO.	DATE	REVISION	BY
4	1-3-22	GENERAL REVISION	SMR
3	11-29-21	GENERAL REVISION	SMR
2	9-29-21	GENERAL REVISION	MEU
1	7-19-21	GENERAL REVISION	MEU

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
THE HAMLET AT CARMEL
MULTI-FAMILY HOUSING DEVELOPMENT
STONEGLEN AVENUE, TOWN OF CARMEL, PUTNAM COUNTY, NEW YORK

DRAWING:
SITE DETAILS

PROJECT NO.	14211.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	2-10-21	DRAWN BY	M.E.U.	D-3	8
SCALE	AS SHOWN	CHECKED BY	J.J.C.		10



STORMWATER BASINS 2.1P AND 2.2P ENLARGED PLAN VIEW

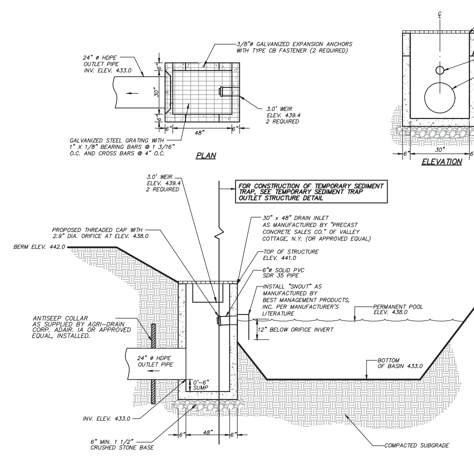
Scale: 1"=30'

STORMWATER BASIN OUTLET NOTES

1. THE BASINS ARE PROPOSED TO BE UTILIZED AS TEMPORARY SEDIMENT TRAPS (TST's) DURING CONSTRUCTION.
2. AFTER THE CONTRIBUTING AREAS TO THE BASINS HAVE BEEN PERMANENTLY STABILIZED, THE FOLLOWING SHALL BE ACCOMPLISHED:
   A. CLEAN BASINS AND OUTLET STRUCTURES AND REMOVE 6"ø PERFORATED VERTICAL RISER PIPE, CRUSHED STONE AND FILTER FABRIC.
   B. ADD THREADED CAP WITH ORIFICE AT DISCHARGE END OF 6"ø SOLID PVC SDR 35 PIPES PER DETAIL.
   C. REPLACE THE PERFORATED PIPE AND CRUSHED STONE. DO NOT REPLACE FILTER FABRIC.
   D. ESTABLISH THE FINAL VEGETATION IN THE BASINS IN ACCORDANCE WITH THE STORMWATER BASIN PLANTING DETAILS.
   E. FOR BASINS 2.1P AND 3.1P EXCAVATE BOTTOM OF TST TO PERMANENT STORMWATER BASIN BOTTOM. ANY EXCESS SOIL SHALL BE TRUCKED OFF SITE AND BE PLACED IN A MANOR SO IT WILL NOT ERODE OR CAUSE EROSION.
   F. CONVERSION OF TST's SHALL BE ACCOMPLISHED ONE AT A TIME. THIS WILL ALLOW FOR THE TRAP UNDERGOING CONVERSION TO BE DEWATERED TO A STABILIZED TRAP OR BASIN. THE SECOND BASIN SHALL NOT START CONVERSION UNTIL THE FIRST BASIN IS STABILIZED AND THE THIRD AND FOURTH BASINS SHALL NOT START CONVERSION UNTIL THE PREVIOUS BASIN IS STABILIZED.
3. THE 6"ø PERFORATED VERTICAL RISER SHALL BE CONSTRUCTED AS FOLLOWS:
   * WHEN INITIALLY USED AS THE TEMPORARY SEDIMENT TRAP DEWATERING DEVICE THE RISER SHALL BE WRAPPED WITH TYPAR 3201 GEOTEXTILE OR APPROVED EQUAL AND SURROUNDED WITH 2"ø STONE. THE TOP OF THE RISER SHALL BE SET AT THE SAME ELEVATION AS THE WEIRS AS SHOWN IN THE STORMWATER BASIN OUTLET STRUCTURE DETAILS.
   * WHEN THE PERMANENT RISER FOR BASIN IS CONSTRUCTED THE RISER SHALL BE UNWRAPPED WITH THE TOP ELEVATION SET AT SPECIFIED ELEVATIONS.

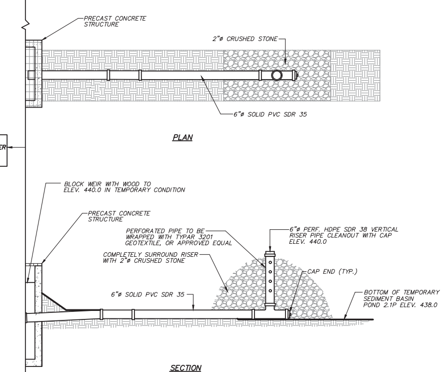
PLANTING NOTES:

1. All proposed planting beds to receive a 12" min. depth of topsoil. Soil amendments and fertilizer application rates shall be determined based on specific testing of topsoil material.
2. Any new soils added will be amended as required by results of soil testing and placed using a method that will not cause compaction.
3. No fertilizer shall be added in stormwater basin plantings. Nutrient requirements to be met by incorporation of acceptable organic matter.
4. All plant material to be nursery grown.
5. Plants shall conform with ANSI Z60.1 American Standard for Nursery Stock in all ways including dimensions.
6. Plant material shall be taken from healthy nursery stock.
7. All plants shall be grown under climate conditions similar to those in the locality of the project.
8. Plants shall be planted in all locations designed on the plan or as staked in the field by the Landscape Architect.
9. The location and layout of landscape plants shown on the site plan shall take precedence in any discrepancies between the quantities of plants shown on the plans and the quantity of plants in the Plant List.
10. Provide a 3" layer of shredded pine bark mulch (or as specified) over entire watering saucer at all tree pits or over entire planting bed. Do not place mulch within 3" of tree or shrub trunks.
11. All landscape plantings shall be maintained in a healthy condition at all times. Any dead or diseased plants shall immediately be replaced "in kind" by the contractor (during warranty period) or project owner.
12. For all areas to be planted with emergent vegetation, soil shall be decompacted using tilling or other method approved by Landscape Architect and amended as required by results of soil testing to a depth of at least 12".
13. Upon final grading and placement of topsoil and any required soil amendments, areas to receive permanent vegetation cover in combination with suitable mulch as follows:
    – select seed mixture per drawings and seeding notes.
    – fertilizer applied at the manufacturer's recommended rate using Lesco 10–0–18 (no phosphorous) fertilizer or equivalent.
    – mulch: salt hay or small grain straw applied at a rate of 90 lbs./1000 s.f. or 2 tons/acre, to be applied and anchored according to New York State Standards and Specifications for Erosion and Sediment Control, August 2005.
    – if the season prevents the establishment of a permanent vegetation cover, the disturbed areas will be mulched with straw or equivalent.
14. All proposed seeded areas to stormwater basins to receive 4" min. depth of topsoil. Soil amendments and fertilizer application rates shall be determined based on specific testing of topsoil material.
15. The Stormwater Basin seed mixes as specified on these drawings from New England Wetland Plants, Inc. of Amherst, MA. are as follows:
    A. Seed Mix #1 at a rate of 35 lbs. per acre: New England Erosion Control/Restoration Mix (for Detention basins and Moist Sites).
    B. Seed Mix #2 at a rate of 23 lbs. per acre: New England Wildflower Mix.
    C. Seed Mix #3 at a rate of 25 lbs. per acre: New England Conservation/Wildlife Mix.
    D. Seed Mix #4 at a rate of 35 lbs. per acre New England Roadside Matrix Upland Seed Mix.
    E. Seed Mix #5 at a rate of 18 lbs. per acre: New England Wetmix.
16. Interiors of ponds including aquatic bench to be seeded. Permanent water to be drawn down below seeded areas until vegetation establishes.



PERMANENT STORMWATER BASIN 2.1P OUTLET STRUCTURE DETAIL

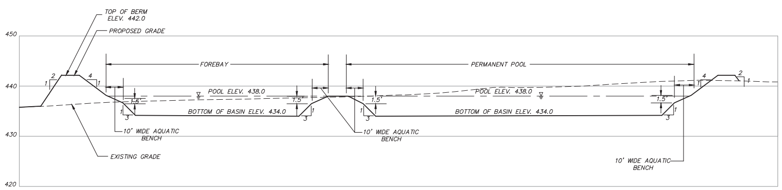
(N.T.S.)



FOR ADDITIONAL BASIN CONSTRUCTION DETAILS, SEE THE PERMANENT STORMWATER BASIN OUTLET STRUCTURE DETAIL FOR BASIN 2.1P.

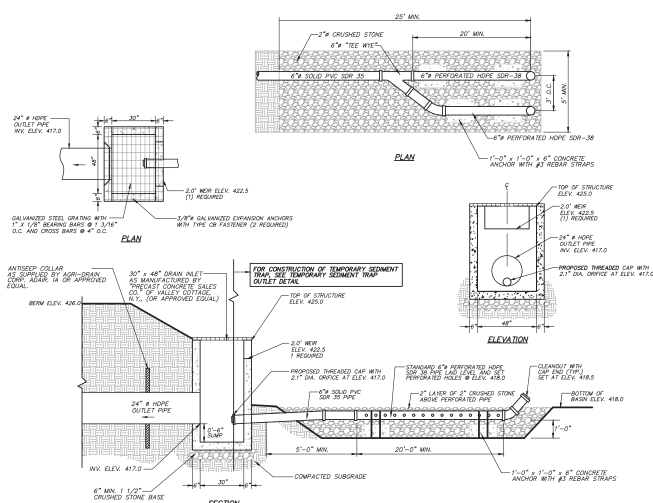
TEMPORARY SEDIMENT BASIN TRAP 2.1P OUTLET DETAIL

(N.T.S.)



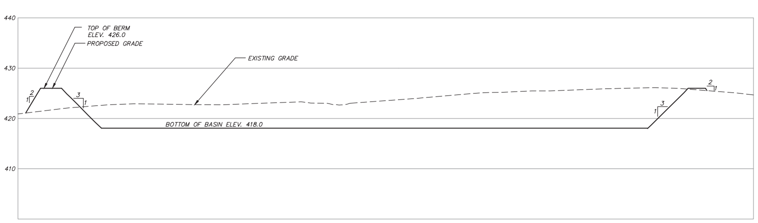
STORMWATER BASIN 2.1P SCHEMATIC SECTION D–D

N.T.S.



PERMANENT STORMWATER BASIN 2.2P OUTLET STRUCTURE DETAIL

(N.T.S.)



STORMWATER BASIN 2.2P SCHEMATIC SECTION E–E

N.T.S.

NO.	DATE	REVISION	BY
4	1–3–22	GENERAL REVISION	SMR
3	11–29–21	GENERAL REVISION	SMR
2	9–29–21	GENERAL REVISION	MEU
1	7–19–21	GENERAL REVISION	MEU

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3 Garrett Place
Carmel, NY 10512
(845) 225–9690
(845) 225–9717 fax
www.insite–eng.com

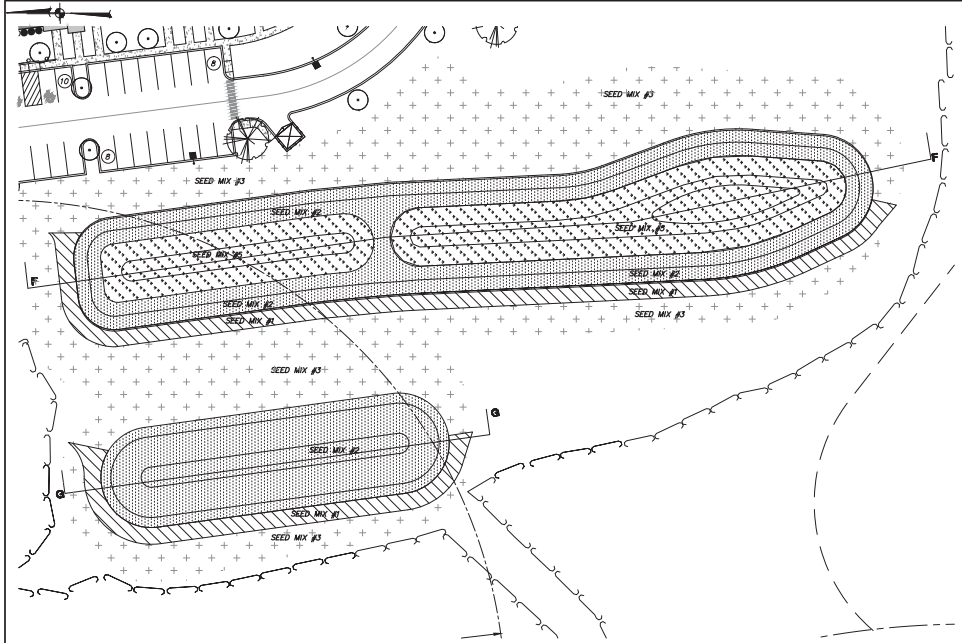
PROJECT:
THE HAMLET AT CARMEL
MULTI–FAMILY HOUSING DEVELOPMENT
STONELEIGH AVENUE, TOWN OF CARMEL, PUTNAM COUNTY, NEW YORK

DRAWING:
STORMWATER POND DETAILS

PROJECT NO.	14211.100	PROJECT MANAGER	J.J.C.
DATE	2–10–21	DRAWN BY	M.E.U.
SCALE	AS SHOWN	CHECKED BY	J.J.C.

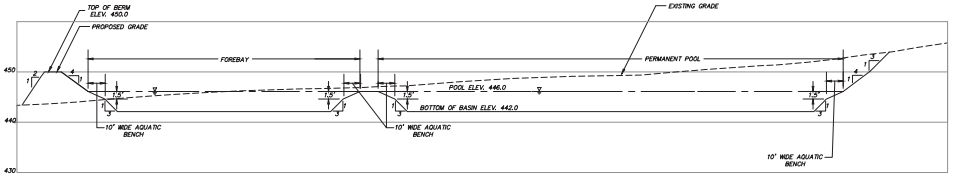
DRAWING NO. D–4

SHEET 9 / 10



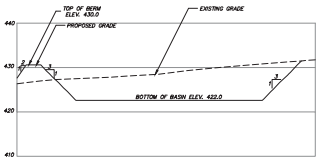
STORMWATER BASINS 3.1P AND 3.2P ENLARGED PLAN VIEW

Scale: 1"=30'



STORMWATER BASIN 3.1P SCHEMATIC SECTION F–F

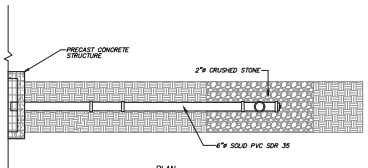
N.T.S.



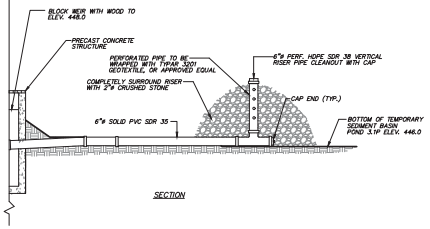
STORMWATER BASIN 3.2P SCHEMATIC SECTION G–G

N.T.S.

FOR ADDITIONAL BASIN CONSTRUCTION DETAILS, SEE THE PERMANENT STORMWATER BASIN OUTLET STRUCTURE DETAIL FOR BASIN 3.1P.



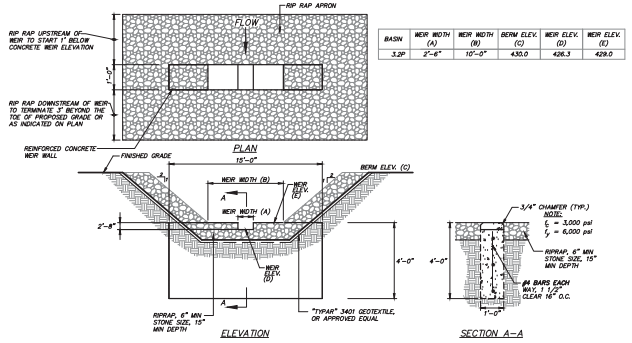
PLAN



SECTION

TEMPORARY SEDIMENT TRAP 3.1P OUTLET DETAIL

(N.T.S.)



BASIN	WEIR WIDTH (A)	WEIR WIDTH (B)	BERM ELEV. (C)	WEIR ELEV. (C)	WEIR ELEV. (D)
3.2P	2'–6"	10'–0"	430.0	426.3	429.0

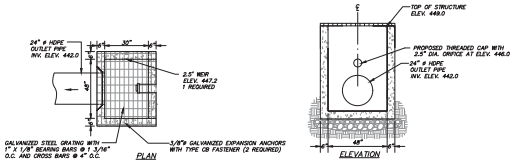
PLAN

ELEVATION

SECTION A–A

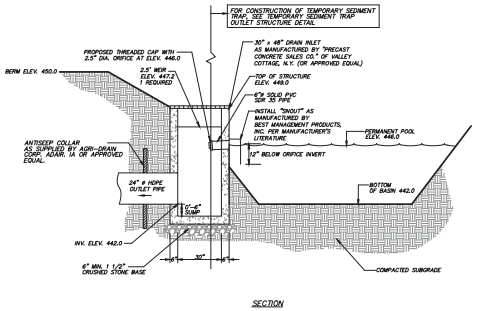
STORMWATER BASIN 3.2P OUTLET WEIR DETAIL

(N.T.S.)



PLAN

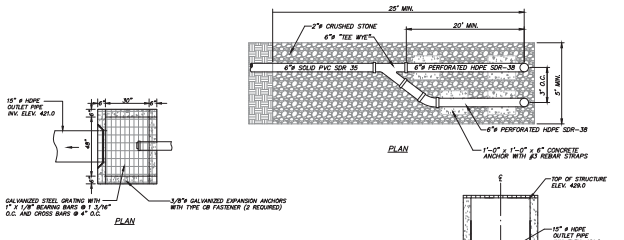
ELEVATION



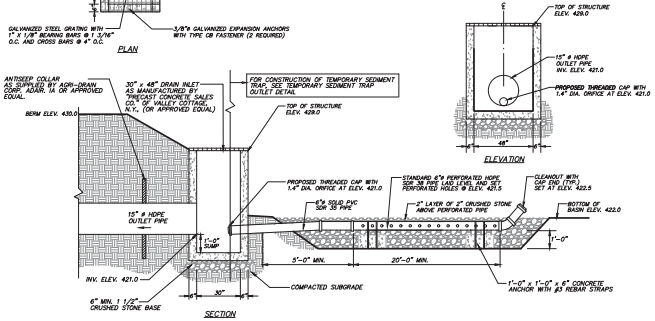
SECTION

PERMANENT STORMWATER BASIN 3.1P OUTLET STRUCTURE DETAIL

(N.T.S.)



PLAN



SECTION

ELEVATION

PERMANENT STORMWATER BASIN 3.2P OUTLET STRUCTURE DETAIL

(N.T.S.)

STORMWATER BASIN OUTLET NOTES

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   B. ADD THREADED CAP WITH ORIFICE AT DISCHARGE END OF 6"ø SOLID PVC SDR 35 PIPES PER DETAIL.
   C. REPLACE THE PERFORATED PIPE AND CRUSHED STONE. DO NOT REPLACE FILTER FABRIC.
   D. ESTABLISH THE FINAL VEGETATION IN THE BASINS IN ACCORDANCE WITH THE STORMWATER BASIN PLANTING DETAILS.
   E. FOR BASINS 2.1P AND 3.1P, EXCAVATE BOTTOM OF TST TO PERMANENT STORMWATER BASIN BOTTOM. ANY EXCESS SOIL SHALL BE TRUCKED OFF SITE AND BE PLACED IN A MANOR SO IT WILL NOT ERODE OR CAUSE FOULING.
   F. CONVERSION OF TST's SHALL BE ACCOMPLISHED ONE AT A TIME. THIS WILL ALLOW FOR THE TRAP UNDERGOING CONVERSION TO BE CONVERTED TO A STABILIZED TRAP ON BASIN. THE SECOND BASIN SHALL NOT START CONVERSION UNTIL THE FIRST BASIN IS STABILIZED AND THE THIRD AND FOURTH BASINS SHALL NOT START CONVERSION UNTIL THE PREVIOUS BASIN IS STABILIZED.
3. THE 6"ø PERFORATED VERTICAL RISER SHALL BE CONSTRUCTED AS FOLLOWS:
   * WHEN INITIALLY USED AS THE TEMPORARY SEDIMENT TRAP DEWATERING DEVICE THE RISER SHALL BE WRAPPED WITH TYPAR 3201 GEOTEXTILE OR APPROVED EQUAL AND SURROUNDED WITH 2"ø STONE. THE TOP OF THE RISER SHALL BE SET AT THE SAME ELEVATION AS THE WEIRS AS SHOWN IN THE STORMWATER BASIN OUTLET STRUCTURE DETAILS.
   * WHEN THE PERMANENT RISER FOR BASIN IS CONSTRUCTED THE RISER SHALL BE UNWRAPPED WITH THE TOP ELEVATION SET AT SPECIFIED ELEVATIONS.

PLANTING NOTES:

1. All proposed planting beds to receive a 12" min. depth of topsoil. Soil amendments and fertilizer application rates shall be determined based on specific testing of topsoil material.
2. Any new soils added will be amended as required by results of soil testing and placed using a method that will not cause compaction.
3. No fertilizer shall be added in stormwater basin plantings. Nutrient requirements to be met by incorporation of acceptable organic matter.
4. All plant material to be nursery grown.
5. Plants shall conform with ANSI Z60.1 American Standard for Nursery Stock in all ways including dimensions.
6. Plant material shall be taken from healthy nursery stock.
7. All plants shall be grown under climate conditions similar to those in the locality of the project.
8. Plants shall be planted in all locations designed on the plan or as staked in the field by the Landscape Architect.
9. The location and layout of landscape plants shown on the site plan shall take precedence in any discrepancies between the quantities of plants shown on the plans and the quantity of plants in the Plant List.
10. Provide a 3" layer of shredded pine bark mulch (or as specified) over entire watering saucer at all tree pits or over entire planting bed. Do not place mulch within 3" of tree or shrub trunks.
11. All landscape plantings shall be maintained in a healthy condition at all times. Any dead or diseased plants shall immediately be replaced "in kind" by the contractor (during warranty period) or project owner.
12. For all areas to be planted with emergent vegetation, soil shall be decompacted using tilling or other method approved by Landscape Architect and amended as required by results of soil testing to a depth of at least 12".
13. Upon final grading and placement of topsoil and any required soil amendments, areas to receive permanent vegetation cover in combination with suitable mulch as follows:
   – select seed mixture per drawings and seeding notes.
   – fertilizer applied at the manufacturer's recommended rate using Lesco 10–0–18 (no phosphorous) fertilizer or equivalent.
   – mulch: salt hay or small grain straw applied at a rate of 90 lbs./1000 s.f. or 2 tons/acre, to be applied and anchored according to New York State Standards and Specifications for Erosion and Sediment Control, August 2005. If the season prevents the establishment of a permanent vegetation cover, the disturbed areas will be mulched with straw or equivalent.
14. All proposed seeded areas to stormwater basins to receive 4" min. depth of topsoil. Soil amendments and fertilizer application rates shall be determined based on specific testing of topsoil material.
15. The Stormwater Basin seed mixes as specified on these drawings from New England Wetland Plants, Inc. of Amherst, MA. are as follows:
   A. Seed Mix #1 at a rate of 35 lbs. per acre:
      New England Erosion Control/Restoration Mix (for Detention basins and Moist Sites).
   B. Seed Mix #2 at a rate of 23 lbs. per acre:
      New England Wildflower Mix.
   C. Seed Mix #3 at a rate of 25 lbs. per acre:
      New England Conservation/Wildlife Mix.
   D. Seed Mix #4 at a rate of 35 lbs. per acre
      New England Roadside Matrix Upland Seed Mix.
   E. Seed Mix #5 at a rate of 18 lbs. per acre:
      New England Wetmix.
16. Interiors of ponds including aquatic bench to be seeded. Permanent water to be drawn down below seeded areas until vegetation establishes.

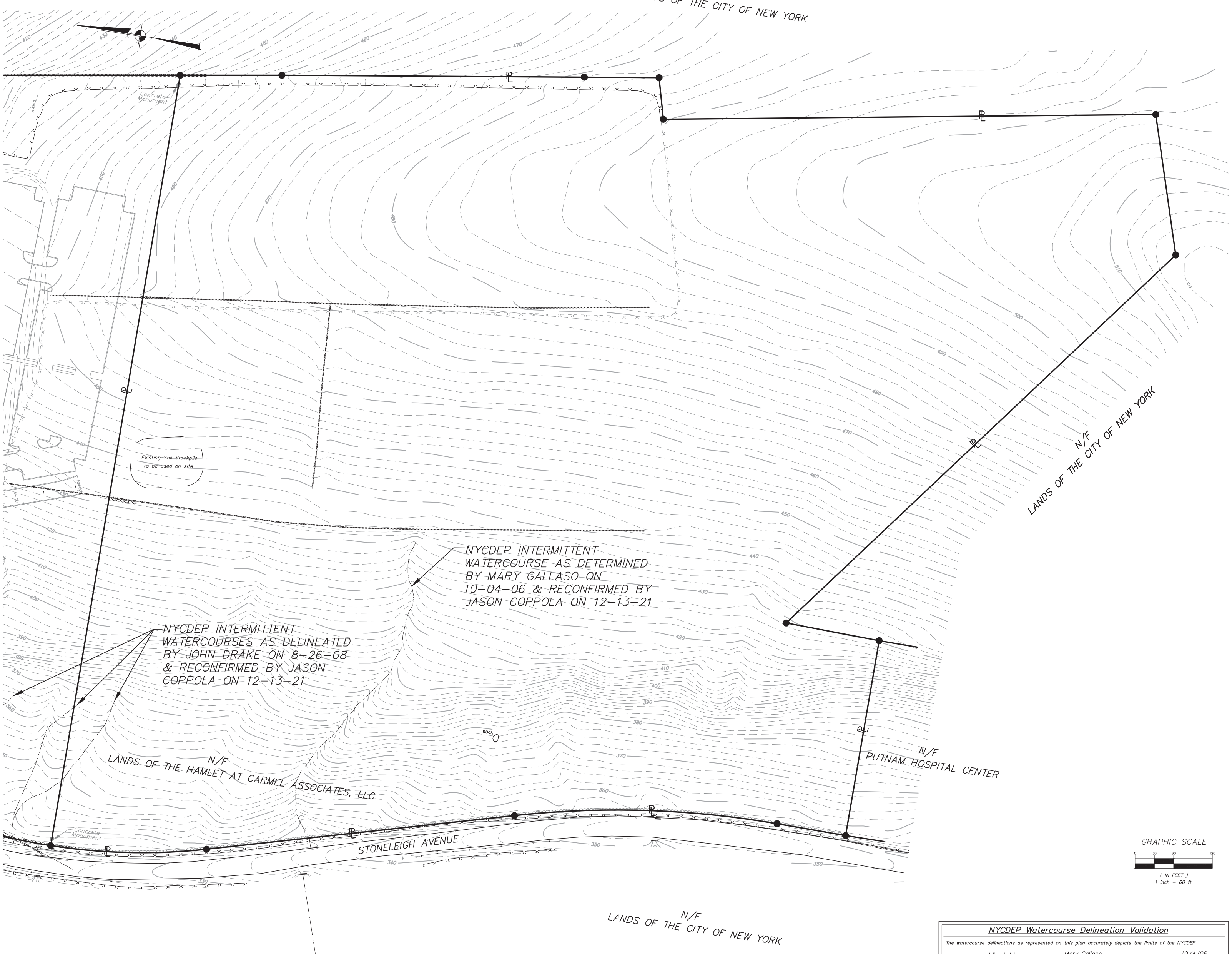
NO.	DATE	REVISION	BY
4	1–3–22	GENERAL REVISION	SMR
3	11–29–21	GENERAL REVISION	SMR
2	9–29–21	GENERAL REVISION	MEU
1	7–19–21	GENERAL REVISION	MEU

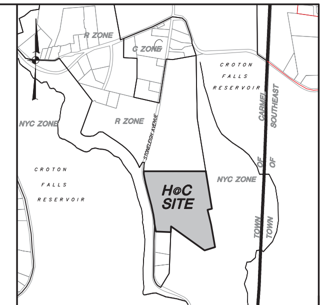
INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225–9690
(845) 225–9717 fax
www.insite-eng.com

PROJECT:
THE HAMLET AT CARMEL
MULTI–FAMILY HOUSING DEVELOPMENT
STONELEIGH AVENUE, TOWN OF CARMEL, PUTNAM COUNTY, NEW YORK

DRAWING:
STORMWATER POND DETAILS

PROJECT NO.	14211.100	PROJECT MANAGER	J.J.C.	DRAWING NO.	SHEET
DATE	2–10–21	DRAWN BY	M.E.U.	D–5	10
SCALE	AS SHOWN	CHECKED BY	J.J.C.		10





AREA MAP SCALE: 1" = 1000'

RECORD OWNER:

The Hamlet at Carmel Associates, LLC
1777 Route 6
Carmel, NY 10152

SITE DATA:

Total Area:	35.28 AC. ±
Tax Map No.:	66-2-58
Zoning District:	R (Residential)

GENERAL NOTES:

1. Property boundary shown hereon taken from subdivision plat entitled 'Boundary Line Adjustment Map prepared for Putnam Community Foundation and Putnam Hospital Center..." filed January 4, 2006 as map no. 3008."
2. Existing conditions and topography shown hereon taken from survey entitled "Topographic Survey prepared for The Putnam Community Foundation", prepared by Terry Bergendorff Collins, L.S., last revised April 25, 2007.

LEGEND

- Property Line
- Existing 2' Contour
- Existing 10' Contour
- Existing Spot Elevation
- Existing Stone Wall
- Existing Watercourse

NYCDEP Watercourse Delineation Validation

The watercourse delineations as represented on this plan accurately depicts the limits of the NYCDEP watercourses as delineated by Mary Gallaso on 10/4/06
John Drake on 8/26/08
& reconfirmed by Jason Coppola on 12/13/21

NYCDEP Representative Signature ____________ Date ________

Watercourse delineations as validated by NYCDEP remain valid for five years from date of flagging or revalidation For official use of the watercourse delineations after this five year period, the delineations must be revalidated by NYCDEP staff. This may include reflagging and survey of the watercourse delineations if changes are noted.

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

NO.	DATE	REVISION	BY

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
HAMLET AT CARMEL
STONELEIGH AVENUE, TOWN OF CARMEL, PUTNAM COUNTY, NEW YORK

DRAWING:
NYCDEP WATERCOURSE MAP

PROJECT NO.	14211.100	PROJECT MANAGER	J.J.C.
DATE	12-16-21	DRAWN BY	A.D.T.
SCALE	1" = 60'	CHECKED BY	J.J.C.

DRAWING NO. WC-1
SHEET 1 / 1

ARCHITECTURAL VISIONS PLLC
A GREENBERG DESIGN GROUP

January 4, 2022

Craig Paeprer Chairman & Members of the Planning Board
Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541

RE: Mehra Real Estate, LLC
10 Veschi Lane S
Mahopac, NY 10541
TM #: 75.16-1-27

Dear Mr. Paeprer & Members of the Board,

The following is my response to the Building Inspectors report dated November 16, 2021.

1. All items addressed.

The following is my response to the Town Planners memo dated November 18, 2021.

1. A handicap ramp is shown at the entrance located on the west side of the building.
2. Attached is the deed indicating legal access from Battista Drive/ Buckshollow Road to the site.

The following is my response to the Town Engineers report dated November 9, 2021.

1. The detached garage has been removed.
2. Handicap access is shown on the Site Plan.
3. Attached is the deed indicating legal access from Battista Drive/ Buckshollow Road to the site.
4. No pervious pavers were used, and no new pavement is proposed.
5. Since no new pavement is proposed no retaining walls are required.
6. Chain link enclosure shown for refuse containers.

If you have any questions, please do not hesitate to contact me.

Very truly yours,

Joel Greenberg

Joel Greenberg, AIA, NACRB

Two Muscoot Road North
Mahopac, New York 10541
P: (845) 628-6613 F: (845) 628-2807
Email: joel.greenberg@arch-visions.com
www.arch-visions.com

U.S. GREEN BUILDING COUNCIL MEMBER

LIBER 1819 PAGE 302

DOCUMENT # 1502628

DEED

RETT: 905 $700.00
CONSIDERATION: $175,000.00

11/07/2008 11:01:08 A.M.
RECEIPT: 16347 FEE: $145.00
DENNIS J. SANT
PUTNAM COUNTY CLERK
LIBER: 1819 PAGE: 302

RESERVE FOR RECORDING INFORMATION

PUTNAM COUNTY RECORDING PAGE

PAGE 1 OF RECORDED DOCUMENT

RECORD & RETURN TO:

Parkash Sharma
38 West 3rd St.
Suite 1511
New York NY 10001

TYPE OR PRINT

GRANTOR/MORTGAGOR

KTT Builders Inc.

DO NOT WRITE BELOW THIS LINE

DEED [X] MTG [ ] SAT [ ] ASMT [ ] CEM [ ] POA [ ] ESE [ ]
OTHER

RECORDING FEES		# OF PAGES	5
		C/R	
RCD FEE	25.00		
STAT CHG	20.00		
REC MGMT	20.00		
CROSS REF			
TOTAL	65.00		

RESERVE FOR CERTIFICATION

THIS DOCUMENT WAS EXAMINED PURSUANT TO §315 REAL PROPERTY LAW

Dennis J. Sant

DENNIS J. SANT
PUTNAM COUNTY CLERK

RESERVE FOR CLERK'S NOTES

Revised 10/2008

ACONSULT YOUR LAWYER BEFORE SIGNING THIS INSTRUMENT - THIS INSTRUMENT SHOULD BE USED BY LAWYERS ONLY

THIS INDENTURE, made the 22 day of October , two thousand eight

BETWEEN KTT BUILDERS, INC., a New York corporation, having its principal place of business at 10 Fox Trail, Mahopac, New York 10541,

party of the first part, and SANJAY MEHRA and MANJUSHA MEHRA, husband and wife, both residing at16 Pebblebrook Drive, Carmel, New York 10512,

party of the second part,

WITNESSETH, that the party of the first part, in consideration of Ten Dollars and other valuable consideration paid by the party of the second part, does hereby grant and release unto the party of the second part, the heirs or successors and assigns of the party of the second party forever,

ALL that certain plot, piece or parcel of land, with the buildings and improvements thereon erected, situate, lying and being in the Town of Carmel, County of Putnam and State of New York, being more particularly bounded and described in Schedule "A" attached hereto and made a part hereof.

BEING the same Premises conveyed by deed dated 9/24/08 , and recorded on 10/6 /08 , in the Office of the Clerk of Putnam County, in Liber 1813 , Page 203 .

This conveyance has been made by unanimous consent of the stockholders of KTT Builders, Inc., has been made in the regular course of business, and does not constitute a sale of all or substantially all of the assets of said corporation.

TOGETHER with all right, title and interest, if any, of the party of the first part in and to any streets and roads abutting the above described premises to the center lines thereof; TOGETHER with the appurtenances and all the estate and rights of the party of the first part in and to said premises; TO HAVE AND TO HOLD the premises herein granted in the party of the second part, the heirs or successors and assigns of the party of the second part forever.

AND the party of the first part covenants that the party of the first part has not done or suffered anything whereby the said premises have been encumbered in any way whatever, except as aforesaid.
AND the party of the first part, in compliance with Section 13 of the Lien Law, covenants that the party of the first part will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.
The word "party" shall be construed as if it read "parties" whenever the sense of this indenture so requires.

IN WITNESS WHEREOF, the party of the first part has duly executed this deed the day and year first above written.

IN PRESENCE OF:

KTT BUILDERS, INC.

BY: _____
ROY KING, President

Schedule A Description

Title Number **RE-10566-P**

ALL that certain plot, piece or parcel of land situate in the Town of Carmel, County of Putnam, and State of New York; more particularly described as follows:

BEGINNING at a point on the northwesterly line of lands of the People of the State of New York, known as the "Putnam Bikeway, S.H. No- 569", as surveyed by the New York State Department of Transportation, where the same is intersected by the southwesterly line of lands designated as Lot 2 on a certain map entitled "Subdivision Map of Ranch House Subdivision," flied in the Putnam County Clerk's Office on October 23, 1975 as Map No. 1408; thence running from said point and place of beginning, along the northwesterly line of said lands of the People of the State of New York,

S. 29°19'07" W; 225.54 feet

to the northerly line of 25 ft. wide right of way thence turning and running along the northerly line of said 25 ft. wide right of way, N. 69° 29'40" W; 12.90 feet to a point in the general line of a chain link fence; thence departing from said 25 ft. wide right of way, along the general line of a chain link fence and northeasterly edge of a lawn,

N. 52°05'00" W; 8.90 feet,
N. 6°22'00" W; 10.30 feet,
N. 48°23'00" W; 12.70 feet,
N.69°26'00" W; 9.50 feet,
N. 59°09'00" W; 9.30 feet,
N. 54°57'00 W; 27.90 feet and
N. 66°11'00" W; 10.83 feet

to a point; thence departing from said fence, running through a lawn, S. 29°20'00" W; 12.69 feet to a point of curvature; thence running through said lawn, on a tangent curve to the right having a radius of 10.00 feet and a central angle of 180°00'00" an arc length of 31.42 feet to a point of tangency; thence running still through said lawn, N. 29°20'00" E; 15.30 feet to a point in the general line of a chain link fence; thence turning and running along the general line of the chain link fence and the northeasterly edge of a lawn,

N. 33°12'00" W; 9.90 feet and
N. 41°11'00" W; 18.01 feet

to a point on the southeasterly line of a 25 ft. wide right of way; thence turning

Continued On Next Page

and running along said southeasterly line of the 25 ft. wide right of way, N. 29°42'20" E; 33.29 feet to a corner of said right of way and the most southerly corner of lands now or formerly of Deborah & Ralph K DeCesare ; thence departing from said right of way, running along the southeasterly line of said lands now or formerly of DeCesare,

N. 27°21'50" E; 36.34 feet and
N. 29°19'07" E; 50.00 feet

to the most easterly corner of said lands now or formerly of DeCesare; thence turning and running along the northeasterly line of said lands now or formerly of DeCesare,

N. 61°50'50" W; 1.73 feet

to a point in range with the traces of an old stone wall and the southeasterly line of lands now or formerly of Wilmac, LL.C.; thence turning and running along said southeasterly line of lands now or formerly of Wilmac, L.L.C., partly along the traces of an old stone wall,

N. 32°24'18" E; 48.10 feet

to a cross cut found and a corner of lands designated as Lot 1 on a certain map entitled "Subdivision Map of Ranch House Subdivision," filed in the Putnam County Clerk's Office on October 23, 1975 as Map No. 1408; thence continuing to run on the same course, along the southeasterly line of said Lot 1 shown on Putnam County Filed Map No. 1408,

N. 32°24'18" E; 30.92 feet

to a corner of Lot 2 of said filed Map No. 1408; thence turning and running along the southwesterly line of said Lot 2 of Putnam County Filed Map No. 1408,

S. 6l°50'50" E; 141.48 feet

to the northwesterly Line of lands of the People of the State of New York and the point and the place of Beginning.

Together with a non-exlusive right of way to Buckshollow Road as set forth in Liber 125 cp 296.

Continued On Next Page

Acknowledgment taken in New York State

STATE OF NEW YORK, COUNTY OF PUTNAM , ss:

On the 22 day of October , in the year 2008, before me, the undersigned, personally appeared ROY KING , personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

ADNAN TAHIR
Notary Public, State of New York
No. 01TA6101506
Qualified in Queens County
Commission Expires November 17, 2011

Notary Public

Acknowledgment by Subscribing Witness taken in New York State

STATE OF NEW YORK, COUNTY OF , ss:

On the day of in the year before me, the undersigned, personally appeared , the subscribing witness to the foregoing instrument, with whom I am personally acquainted, who being by me duly sworn, did depose and say, that he/she/they reside(s) in that he/she/they know(s) to be the individual described in and who executed the foregoing instrument; that said subscribing witness was present and saw said execute the same; and that said witness at the same time subscribed his/her/their name(s) as a witness thereto.

Notary Public

Acknowledgment taken in New York State

STATE OF NEW YORK, COUNTY OF , ss:

On the day of in the year 2007 before me, the undersigned, personally appeared , personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public

Acknowledgment taken outside New York State

*STATE OF , COUNTY OF ,ss:
*(or insert District of Columbia, Territory, Possession or Foreign Country)

On the day of in the year before me, the undersigned, personally appeared , personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument, and that such individual made such appearance before the undersigned in the

(add the city or political subdivision and the state or country or other place the acknowledgment was taken)

Notary Public

Bargain and Sale Deed
WITH COVENANT AGAINST GRANTOR'S ACT

TITLE NO. RE-10566-P

KTT BUILDERS, INC.

TO

SANJAY MEHRA and MANJUSHA MEHRA

SECTION 75.16

BLOCK 1

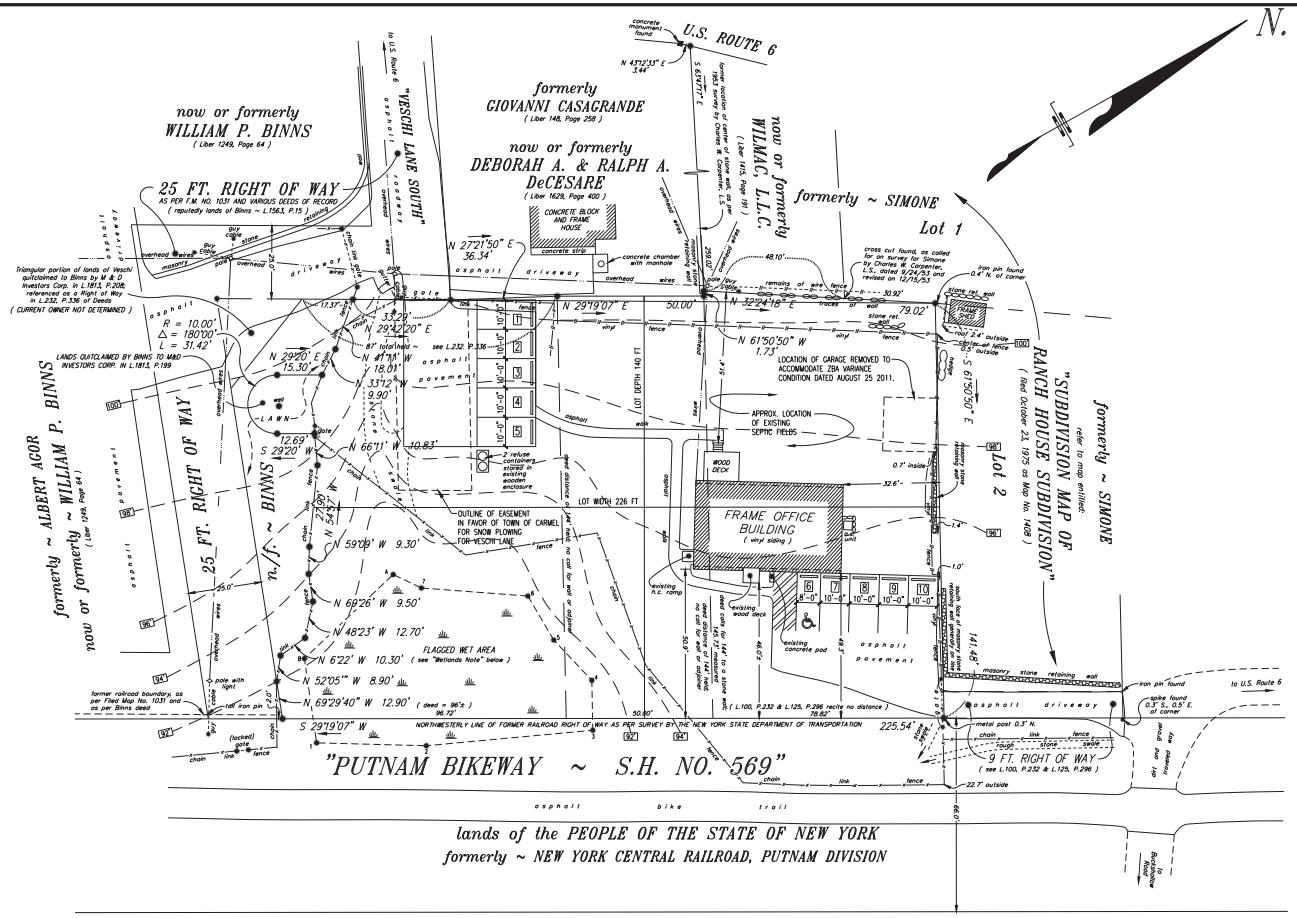
LOT 27

TOWN of Carmel/Putnam County

TAX BILLING ADDRESS

Return by Mail To:

PARKASH SHARMA, ESQ.
38 West 32nd Street, Suite 1511
New York, New York 10001



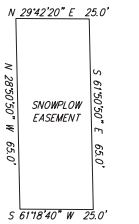
SITE PLAN

SCALE: 1" = 20'

SITE INFORMATION BASED ON SURVEY BY BAXTER LAND SURVEYING P.C. DATED 11/12/2010

AREA = 0.7147 ACRE

(31,132 SQ. FT.)



EASEMENT DETAIL

4 LOCATION MAP

5 AREA MAP

Town of Carmel Zoning Requirements			
Basic Data: Owner: Sunjay Mehra Address: 10 Veschi Lane South, Mahopac, NY 10541 T.M. #: 75.16-1-27 Zoning District: C – Commercial Note: No Site Work Proposed			
Bulk Regulations:	**Required/Allowable:**	**Existing/Proposed:**	**Variance Required:**
Lot Area:	40,000 SF	31,132 SF	8,868 SF
Lot Width:	200 FT	226 FT	None
Lot Depth:	200 FT	140 FT	60 FT
Building Setback - Front	40 FT	51.4 FT	None
Building Setback - Rear	30 FT	46 FT	None
Building Setback - Side	25 FT	32 FT	None
Width for 2 Way Traffic Aisle:	24 FT	16 FT	8 FT
Frontage on Town Road:	100 FT	33 FT	67 FT
Area of Disturbance:	5,000 SF	0 SF	None
Parking Spaces	10 P.S.	10 P.S.	None
All Variances Were Granted by Town Of Carmel ZBA on August 25, 2011 In Which The Preexisting Garage Was Removed.			

ADJOINERS WITHIN 500 FT

75.19-1-7
RICHARD SIGURJONSSON
246 BUCKSHOLLOW RD
MAHOPAC, NY 10541

75.16-1-33
442 REALTY GROUP LLC
PO BOX 636
MAHOPAC, NY 10541

75.15-1-6
FISHER THOMAS INC
10 FOWLER AVE
CARMEL, NY 10512

75.16-1-3
JOHN BATTISTA
165 BUCKSHOLLOW RD
PO BOX 773
MAHOPAC, NY 10541

75.16-1-19
FYB PROPERTIES, LLC
44 BLOOMER RD
MAHOPAC, NY 10541

75.16-1-26
DEBORAH A DECESARE
20 STRAWBERRY FIELDS LN
MAHOPAC, NY 10541

75.15-1-7
JDCCO HOLDINGS, LLC
422 RT 6
MAHOPAC, NY 10541

75.19-1-8
DAG ROUTE SIX, LLC
PO BOX 636
MAHOPAC, NY 10541

75.20-2-72
VERIZON NEW YORK INC
PO BOX 2749
ADDISON, TX 75001

75.15-1-8
ANNE M SORGE
7 VESCHI LANE N
MAHOPAC, NY 10541

75.16-1-31
DF GROUP REALTY, LLC
VICTOR DELGADO
430 RT 6
MAHOPAC, NY 10541

75.20-2-4
CONWELL PROPERTIES INC
403 ROUTE 6
MAHOPAC, NY 10541

75.20-2-8
ADRIANA CERQUEIRA
PO BOX 782
CROTON FALLS, NY 10519

75.16-1-30
THOMAS SIMONE
155 BUCKSHOLLOW RD
MAHOPAC, NY 10541

75.16-1-32
ERIC GRUBER
436 RT 6
MAHOPAC, NY 10541

75.15-1-4
PATRICK J DELAMERE
410 RT 6
MAHOPAC, NY 10541

75.16-1-61
RICHARD & BRIDGET CERVONE
251 BARRETT HILL RD
MAHOPAC, NY 10541

75.15-1-14
JOSEPH HART
10 VESCHI LANE N
MAHOPAC, NY 10541

75.16-1-28
BOHUMIL FILIP
5 BATTISTA DR
MAHOPAC, NY 10541

75.16-1-25
LILLIAN BARILE
888 ROUTE 6
MAHOPAC, NY 10541

75.16-1-4
FLORENCE KALINER IRREVOC LIVING
163 BUCKSHOLLOW RD
MAHOPAC, NY 10541

75.20-2-73
122 BUCKSHOLLOW LLC
PO BOX 627
JEFFERSON VALLEY, NY 10535

75.16-1-29
ANTHONY M KADLECK
7 BATTISTA DR
MAHOPAC, NY 10541

75.16-1-23
SCOTT NYGARD
121 HEATHER DR
MAHOPAC, NY 10541

75.20-2-5
DAG ROUTE SIX, LLC
PO BOX 636
MAHOPAC, NY 10541

75.20-2-7
ITALIAN AMERICAN CLUB INC
PO BOX 931
MAHOPAC, NY 10541

75.15-1-8
JOSEPH E SIMONE
7 VESCHI LANE N
MAHOPAC, NY 10541

75.16-1-21
THOMAS SIMONE
155 BUCKSHOLLOW RD
MAHOPAC, NY 10541

75.19-1-6
A-CLASS BUILDERS

75.20-2-69
RICHARD & BRIDGET CERVONE
251 BARRETT HILL RD
MAHOPAC, NY 10541

75.16-1-27
MEHRA REAL ESTATE LLC
10 VESCHI LANE S
MAHOPAC, NY 10541

75.16-1-18
ACHILLES DOUPIS
441 RT 6
MAHOPAC, NY 10541

75.15-1-4
PATRICK J DELAMERE
PO BOX 758
MAHOPAC, NY 10541

75.16-1-2
JOHN BATTISTA
157 BUCKSHOLLOW RD
PO BOX 773
MAHOPAC, NY 10541

75.20-2-71
VERIZON NEW YORK INC
PO BOX 2749
ADDISON, TX 75001

75.20-2-2
BINNS FAMILY IRREV TRUST #1
5 VESCHI LANE S
MAHOPAC, NY 10541

75.16-1-24
JACRYE REALTY CORP.
421 RT 6
MAHOPAC, NY 10541

75.16-1-8
CHARLIE'S MARINA INC
897 SOUTH LAKE RD
MAHOPAC, NY 10541

75.20-2-70
JLR HOLDING CORP
144 BUCKSHOLLOW RD
MAHOPAC, NY 10541

75.16-1-29
SANTA PORTINO
7 BATTISTA DR
MAHOPAC, NY 10541

75.16-1-22
SCOTT NYGARD
427 ROUTE 6
MAHOPAC, NY 10541

75.15-1-16
JOSEPH E SIMONE JR
3 HAZEN LN
CARMEL, NY 10512

75.16-1-1
GEORGE P SULIANO
148 BUCKSHOLLOW RD
MAHOPAC, NY 10541

75.15-1-15
JOHN CRECCO
20 PRIMROSE ST
KATONAH, NY 10536

75.16-1-20
THOMAS SIMONE
155 BUCKSHOLLOW RD
MAHOPAC, NY 10541

75.20-2-3
NICOLE STERN
888 RT 6
MAHOPAC, NY 10541

ARCHITECTURAL VISIONS PLLC
2 MUSCOOT ROAD NORTH
MAHOPAC NY, 10541
P: 845-628-6613
F: 845-628-2807
JOEL.GREENBERG@ARCH-VISIONS.COM

PROJECT:
MEHRA, SANJAY

PROJECT ADDRESS
10 VESCHI LANE S.
MAHOPAC, NY 10541

MAILING ADDRESS
SAME AS PROJECT ADDRESS

TAX MAP NO. 75.16-1-27

SITE PLAN

ISSUANCE

SCALE
AS NOTED

DRAWN BY/CHKD BY
MCN ~ JLG

PROJECT NO.
08-21-159

S-100

ATZL, NASHER & ZIGLER P.C.
ENGINEERS - SURVEYORS - PLANNERS
Web: www.anzny.com

November 15, 2021

SUEZ WATER NEW YORK INC
PFAS COMPLIANCE FOR LONDON BRIDGE WELL SITE

Narrative Summary

SUEZ Water New York Inc. (SWNY) owns and operates the existing London Bridge well site located in a residential area near 39 Brook Street in Mahopac, Putnam County, New York and serve approximately 65 customers. SWNY plans to construct upgrades to the existing London Bridge well site using the Engineering, Procurement, and Construction (EPC) project delivery method. This method will be utilized to comply with the state drinking water regulations for per - and polyfluoroalkyl substances (PFAS).

The existing facility pump capacity is 60 gallons per minute (gpm). The chemical feed uses Sodium hypochlorite(disinfectant). The onsite controls include the ability to operate the site remotely through the supervisory control and data acquisition SCADA program.

The proposed treatment system will include upsizing the pumps to compensate for headloss during the GAC treatment. The dimensions of the proposed PFAS treatment building is 33 ft. x 22 ft. x 22 ft. It will not increase firm capacity of the well. Raw water will pass through a prefilter unit followed by the granular activated carbon (GAC) treatment system in lead-lag configuration. Water will be dosed with sodium hypochlorite and then routed to the existing 36,000-gallon raw water tank to achieve the proper chlorine contact time. The two existing booster pumps will convey finished water from the 36,000-gallon raw water storage tank to a 25,000 gallon finished water storage tank in the distribution system.

The planned upgrade will not increase the firm capacity of the well, but will add treatment for PFAS to comply with the New York State Drinking Water maximum contaminant level (MCL) of 10 ppt for PFOA and PFOS. The well will remain operational during the course of construction with limited disruption during tying in and testing of the new treatment system.

Architectural treatment/elements will be consistent with the existing visible on-site structures and area residential structures to conform and provide a consistent appearance acceptable to the Owner and be approved by applicable Municipal Agencies and review boards.

All work will be in full conformance with the New York State Department of Environmental Conservation (NYSDEC), New York State and Putnam County Departments of Health, the Town of Carmel, and other authorities having jurisdiction.

ATZL, NASHER & ZIGLER P.C.
ENGINEERS - SURVEYORS - PLANNERS
Web: www.anzny.com

November 15, 2021

Planning Board
Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541
Attn: Craig Paeprer, Chairman

Re: Suez Water London Bridge Wells 1 & 2
Tax Lot 64.7-1-10

Dear Chairman Paeprer and Honorable Board Members,

The following is our response to comments received during the Planning Board meeting held on September 22, 2021:

Process Related Comments

1. Comment: How often are the filters replaced and how?

Response: *The GAC vessels will be replaced once in twenty years. Carbon is changed once in every one to two years. Replacement of bio filters depends on flow and water quantity, but it would probably occur once in every two to three months. There is overhead space available at these facilities to replace these filters.*

2. Comment: Have the existing facilities deteriorated and do they require upgrading?

Response: *The existing facilities are not deteriorated. They need to be upgraded so as to meet the NYS mandated Drinking Water maximum contaminant levels (MCL) of 10 ppt for PFAS and PFOA.*

232 North Main Street • New City, NY 10956 • info@anzny.com • Tel: (845) 634-4694 • Fax: (845) 634-5543

3. Comment: Are there alternative vessels, particularly shorter ones?

Response: *Short vessels are not available.*

4. Comment: Can the facilities be combined into one structure?

Response: *Combined facilities will not be feasible as the proposed GAC treatment building cannot be accommodated in the existing pump house. The existing pump house must remain operational and secure during construction and hence cannot be expanded.*

Site Plan Comments

1. Comment: For sites with larger areas, is there any scope of moving the proposed buildings away from the property lines so as to minimize the visibility from neighboring residences to the extent possible?

Response: *Moving the proposed buildings would not be feasible given site development constraints, presence of wetlands etc.*

2. Comment: The planning board would prefer seeing a simple comparison of what existed, and what exists on site presently, and what is being proposed by use of colors, hatches, etc.

Response: *The site plan set submitted has an existing conditions plan and a proposed development plan. We believe attempting to merge these drawings would result in confusion regarding project details.*

3. Comment: Building sizes, dimensions and height must be clearly mentioned in the narratives as well as on the site plans. Both on the existing and proposed plans.

Response: *Provided in both narrative and site plan.*

4. Comment: On the site plan, show the distance in feet of existing homes from the proposed buildings on all facilities.

Response: *Provided on site plan.*

5. Comment: If there are onsite power generators, mark them on the site plans. If these are portable generators, mark areas where these would be placed on site.

Response: *Portable power generators will be used on site when required. The site plan indicates the location where these portable generators would be installed.*

Floodplains and Storm Events

1. Comment: Is elevating buildings above based flood elevations (BFE) enough to take care of a 500-year storm?

Response: *There is no 500-year floodplain per FEMA at this site.*

2. Comment: Can the new buildings and vessels be set into the ground to reduce height? Justify the height needed.

Response: *The vessels have to be maintained, meaning removal of building panels is necessary, and therefore it would not be possible to set the building and vessels into the ground and still be able to perform maintenance.*

3. Comment: Floodproofing for all proposed developments is recommended in lieu of prudent planning.

Response: *Floodproofing is not required for this site.*

Landscape Plan

1. Comment: Some sites denotes tree clearances that seem excessive. Please reconsider and limit the amount of trees that need to be removed due to the proposed action. Please justify why and how many number of trees are being proposed to be removed.

   Response: *Tree removal has been revised with the exception of two trees near Brook Avenue which are at least 50 feet from the road.*

2. Comment: Existing trees on all sites must be analyzed so as to understand if these are evergreens. This would help determine if yearly screening would be possible, or if additional landscaping would be required to shield the proposed developments from residential areas.

   Response: *There are two (2) evergreen trees on site presently. Trees proposed to be removed are deciduous. A revised tree and landscape plan has been provided with this submission.*

3. Comment: Better buffers are needed.

   Response: *A revised tree & landscape plan has been provided with this submission.*

Lighting Plan

1. Comment: Describe the timing for when the site would be illuminated for general use and maintenance (during most time of the day), and for security purposes (nighttime or early mornings). Can timers be installed?

   Response: *Although we have not received final Department of Health (DOH) comments, where we have received DOH comments on our other PFAS facilities, they are requesting "The perimeter of the treatment plant property should be illuminated with street-type lighting fixtures". It is our intention to utilize downward facing, wall mounted, LED lights, controlled by photocells to automatically illuminate at night, over the doorways of the treatment building. However, we must make sure this lighting is acceptable to the DOH.*

Architectural Details

1. Comment: The building should have a more residential look.

   Response: *The Applicant has added additional landscaping and revised the elevation/façade of the prosed building to have a more residential look. Please see attached renderings and the revised architectural narrative.*

The following is our response to Patrick Cleary, AICP, CEP, PP, LEED AP of Cleary Consulting letter dated September 22, 2021:

Site Plan Review Comments

1. Comment: The site is located in the R - Residential zoning district. Pursuant to a determination by the Director of Code Enforcement, Suez is a private water company, and not a public utility installation, and therefore is not classified as a permitted Conditional Use, subject to the conditions established in §156-37. As a result, the proposed use is prohibited, and a use variance is required.

   Response: *The Zoning Board of Appeals (ZBA) determined at their October 28, 2021 meeting that SUEZ is a public water company. Use variance would therefore not be required.*

2. Comment: Clarify the site boundary. Is the semi-circular designation on the site plan (which appears to correspond to the well setback) also the site boundary? Is this site owned by Suez, or a leasehold?

   Response: *Site boundary has been shown on the site plan, and the site is owned by SUEZ.*

3. Comment: The project site does not meet the minimum lot area requirement (120,000 sqft required, 60,866 sqft provided), or the minimum front yard setback (40' required, 33' provided). Variances are required.

Response: *Area variances will be requested from the ZBA.*

4. Comment: The facility is proposed within the buffer of a NYSDEC wetland. In accordance with Article 24, a Freshwater Wetland Permit is required from the NYSDEC.

Response: *NYSDEC and ACOE permit applications has been submitted.*

5. Comment: Is the PFAS treatment facility a permanent and on-going operation, or is it a temporary measure?

Response: *PFAS treatment facility is a permanent and on-going operation.*

6. Comment: It is noted that a new fenced enclosure and gate is proposed for the new treatment building. Clarify if the existing gate to the fenced spring house area will remain. it is recommended that only a single driveway be used for this site.

Response: *The existing fence and gate will remain after the new fence and gate is installed. A new driveway will be constructed for access to the PFAS treatment building and surrounding area. The existing driveway is to remain. This driveway serves the residence at #29 Brook Ave.*

7. Comment: Clarify the height and provide a detail of the proposed chain link fence.

Response: *The height of the chain link fence will be 6 feet.*

8. Comment: It is recommended that the chain link fence include privacy slats particularly facing the adjacent residence located to the north.

Response: *Extensive evergreen landscape screening has been provided in this area.*

9. Comment: Clarify the height and provide a detail of the proposed retaining walls.

Response: *Retaining wall heights and detail have been provided on the grading plan.*

10. Comment: Provide the noise generation specifications for the new pumps. Noise generation must comply with the sound level standards for residential districts established in Chapter 105 of the Town Code.

Response: *The Applicant will comply with the sound level standards in accordance with Chapter 105 of the Town code. The pumps are located within the wells and are 140' to 300' below grade, and will not change ambient noise level.*

11. Comment: Can the 3 large maple trees located on the south side of the new driveway be preserved. It does not appear that any improvements or grading is proposed in that area.

Response: *Trees noted in the comment will remain, as requested.*

12. Comment: Clarify if any special chemical storage provisions are required.

Response: *There is a secondary containment under the chemical tanks in this facility, able to hold the whole volume of chemicals in case of a spill. Level of chemicals is constantly monitored remotely via SCADA.*

13. Comment: How often will the site be accessed by maintenance and or operational personnel?

Response: *The operators currently visit the site once per day.*

Under future conditions, we anticipate the operators will visit the site once per day. In addition, once annually to once every two years the carbon will need to be replaced in one of the GAC vessels.

14. Comment: Clarify if any site lighting is proposed.

Response: *A Lighting Plan has been provided with this submission.*

15. Comment: Correspondence included with the site plan application from Creamer indicates that the building was to be a prefabricated metal building with a standing seam roof system. However, due to extensive lead time delays, the applicant is exploring other material options. The architectural treatment of the building must be established at this time, as the Planning Board also serves in the capacity of Architectural Review Board.

Response: *A new architectural narrative has been provided with this submission.*

SEQRA Review Comments

1. Comment: The project is classified as a Type II Action pursuant to §617 of the SEQRA regulations. No further SEQRA environmental review is required.

Response: *No response required.*

The following is our response to Richard J. Franzetti, P.E., of the Town of Carmel letter dated September 8, 2021:

General Comments

1. The following referrals are required:

a. Comment: New York State Department of Environmental Conservation (NYSDEC).

Response: *Noted.*

b. Comment: Putnam County Department of Health (PCDOH).

Response: *Noted.*

c. Comment: New York City Department of Environmental Protection (NYCDEP).

Response: *Noted.*

d. Comment: The Town of Carmel Environmental Conservation Board (ECB).

Response: *Noted.*

e. Comment: Mahopac Fire Department.

Response: *Noted.*

2. The following permits are required.

a. Comment: NYSDEC - for stormwater and wetlands.

Response: *Noted.*

b. Comment: PCDOH for well and treatment system.

Response: *Noted.*

c. Comment: ECB for wetlands.

Response: *Noted.*

3. Comment: The area of disturbance for the work as provided is 17,186 sf. The threshold criteria of disturbances for the NYSDEC stormwater regulation are between 5,000 square feet and one (1) acre and over one (1) acre. The project will require coverage under the NYSEC SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) and the development of Stormwater Pollution Prevention Plan (SWPPP) that has erosion and sediment controls.

The applicant has provided a SWPPP which is currently under review.

Response: *Agreed. A Stormwater Pollution Prevention Plan (SWPPP) is provided accordingly.*

4. Comment: All re-grading required to accomplish the intended development should be provided. It is unclear from the drawings provide the extent of cut and fill proposed for the site.

Response: *A grading plan has been provided with this submission.*

5. Traffic and Vehicle Movement Plans should be provided which provide the following:

a. Comment: Graphic representation of vehicle movements through the site should be provided toillustrate that sufficient space exists to maneuver vehicles on the site.

Response: *Truck turning plan has been added to the plan set.*

b. Comment: All turning radii for the site should be graphically provided. This includes the turning radii into the site entrance.

Response: *Truck turning plan has been added to the plan set.*

c. Comment: The applicant provided sight distances at the driveway location. All calculations should be provided.

Response: *Site distances were obtained in the field at a height of 42 inches per AASHTO guidelines. Brook Avenue is a residential street with a low volume of traffic.*

d. Comment: Slopes at the entrance way need to be defined. It is suggested that slopes of less than 6% be used for the first 20 feet of entry and that slopes of no greater than 8% beused entering the site. Please refer to

AASHTO guidelines for commercial properties.

Response: *Slope of 6% has been provided coming in off Brook Avenue which transitions to 10% then to 15%, close to the existing terrain. Trucks accessing the site are large pickup trucks with high ground clearance. Driveway slopes will not be an issue for these vehicles.*

6. Comment: A light spill plan should be provided.

Response: *A Lighting Plan has been provided with this submission.*

7. Comment: Should any public improvements be deemed necessary as part of the development of the tract, a Performance Bond and associated Engineering Fee must eventually be established for the work. The applicant will need to develop a quantity take off for bonding purposes.

Response: *Noted.*

Detailed Comments

1. Comment: A landscaping plan has been provided. The applicant should add a note that all plantings shall be installed per §142 of the Town of Carmel Town Code.

Response: *Provided as note 8 on site plan.*

2. Comment: The stormwater management practice (i.e., Infiltration) have been provided. The applicant should note that then must meet the criteria as defined by the NYSDEC. This includes providing sufficient depth to groundwater.

Response: *Noted.*

3. Comment: Adequate protection should be provided in the stormwater

management practice (SMP) areas to minimize disturbance during construction. Details should be provided to show how the rain garden will be protected during construction.

Response: *The underground cultec infiltration system will be installed at the Final phase of the project. Please refer to the construction sequence on the Erosion and Sediment Control Plan.*

4. Comment: All water service connections must be K-copper.

Response: *Noted, will comply.*

5. Comment: It is unclear if additional electrical utilities are being installed.

Response: *Electric utilities will be extended underground to service the proposed development.*

6. Comment: The area of disturbance must be shown on the drawing and delineated by orange construction fencing.

Response: *Provided on grading plan, and Erosion and Sediment Control Plan with a detail.*

7. Comment: Gate valves shall be AWWA non-rising stem type, as manufactured by Mueller Company, Model A-2360-23, or approved equal, conforming to the latest AWWA Standard for Gate Valves - 3" through 48" - for Water and Other Liquids, AWWA Designation C-509.

Response: *Noted, will take under advisement.*

8. Comment: Sizes up to and including 12" shall be 250 psi working pressure. The valve body and bonnet shall be ductile iron. All interior and exterior metal surfaces shall be coated with a two-part thermo setting epoxy complying with AWWA C550.

Response: *Noted, will take under advisement.*

9. Comment: Valves shall have dual "O" ring seals, inside screw, resilient wedge seats in accordance with AWWA Designation C-550 and shall be constructed so as to provide unobstructed full port clearance when fully open and immediate complete closure when closed. The ends of the valves shall be mechanical joint.

Response: *Noted, will take under advisement.*

10. Comment: All valves shall be arranged to open in counterclockwise direction unless otherwise specifically indicated and operating nuts shall be 2" square.

Response: *The SUEZ standard is open right.*

11. Comment: Valves shall be tested to a pressure of not less than two times the working pressure.

Response: *Noted, will take under advisement.*

12. Comment: All hydrants shall be six inches in size with six-inch mechanical joint inlet connection and shall be equal to the Mueller Centurion A-421, with one (1) 4 ½" pumper nozzle and two (2) 2½ " hose nozzles.

Response: *Noted, will take under advisement.*

13. Comment: Water Service Saddles shall be equal to those manufactured by Mueller, Model 7 ½" x 1" SS Series Stainless Steel Saddle, Double Stud.

Response: *Noted, will take under advisement.*

14. Comment: Corporation stops shall be equal to those as manufactured by Mueller Company, Model B- 25000 Series, NRS and of the size required. Such corporation stops shall meet the requirements of AWWA Specification No. C800.

Response: *Noted, will take under advisement.*

15. Comment: Curb valves (stops) shall be equal to those as manufactured by Mueller Company, Model H- 15214 and shall conform to AWWA Specification No. C800.

Response: *Noted, will take under advisement.*

16. Comment: Curb boxes shall be equal to those as manufactured by Mueller Company and similar to Mueller extension type with arch pattern base model H-10314 all extension rods shall be stainless steel.

Response: *Noted, will take under advisement.*

17. Comment: All fire hydrants shall be the approved AWWA type fire hydrants in conformance with the American Water Works Association Standard for Fire Hydrants for Ordinary Water Works Service, AWWA Designation C502, and shall have a 5-1/4" valve opening, a 6" mechanical joint inlet complete with an auxiliary gate valve (close coupled), a 6" mechanical joint shoe, and all appurtenances.

Response: *Noted, will take under advisement.*

18. Comment: Fire hydrants shall be rated for a working pressure of 250 Psi. Fire hydrants shall be sized fora 4'-6" bury.

Response: *Noted, will take under advisement.*

The following is our response to Michael G. Carnazza, Director of Code Enforcement, letter dated September 15, 2021:

1. Comment: The applicants propose to add a PFAS Treatment Building to the water treatment facility off Brook Ave. in Mahopac.

Response: *Statement; no response required.*

2. Comment: A Use Variance is required for the Private Utility. Only Public Utilities are permitted in the Town of Carmel.

Response: *The Zoning Board of Appeals (ZBA) determined at their October 28, 2021 meeting that SUEZ is a public water company. Use variance would therefore not be required.*

3. Comment: Provide a detail of the buffer. Code§ I 56-37C requires "A landscaped area at least 10 feet in width and six feet in height shall be provided and maintained along all property lines to satisfactorily screen public utility substations and any other buildings from surrounding uses of land. An enhanced buffer should be provided toward Brook Ave. as this building is right off the road (approx. 33 ft.).

Response: *A tree plan has been provided with this submission to screen the new building from Brook Avenue.*

4. Comment: Referral to the ECB, Fire Department and Putnam County Dept. of Health are required by code.

Response: *Noted.*

CREAMER

J. FLETCHER CREAMER & SON, INC.

POWERED BY API Group

Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541

Re: **Site Plan Application**
SUEZ Water New York, Inc. – London Bridge Well 1 & 2
Proposed Building Materials Narrative

All,

Due to extensive lead time delays for the design, fabrication and delivery of the original prefabricated metal building, we explored other material or manufacturer options for the building to better meet schedule requirements.

After exploring several different options, we were able to proceed with a different prefabricated metal building vendor to furnish and install the building. We were able to expedite the design process and improve the fabrication duration of the prefabricated building in order to meet our schedule.

We will be installing a prefabricated metal building, with steel framing, insulated metal wall panels with an exterior color, standing seam roof system, with a cast in place concrete foundation designed to accommodate the load of the building structure, equipment, vessels, and all other loads impacting the foundation.

The color of the building will be Hemlock Green and the roof trim, gutters and downspouts color will be cool harvest. The building will have a 4' split face masonry wall along the perimeter of the building for aesthetics and durability and will be Tribeca Tan. Please refer to renderings for visual representation of the building and masonry wall.

Sincerely,
J. Fletcher Creamer & Son, Inc.

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

JFCSON.COM

Copy to:

SWNY PFAS COMPLIANCE
London Bridge Well Site - 8 Ft Trees

SWNY PFAS COMPLIANCE
London Bridge Well Site - 20 Ft Trees

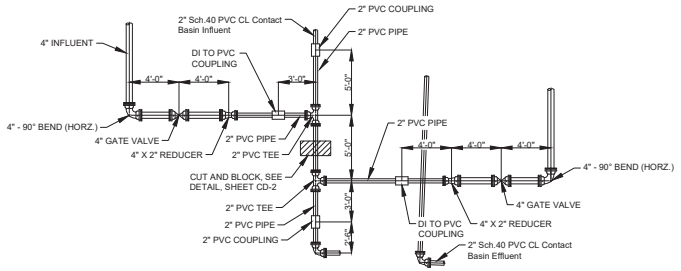
SWNY PFAS COMPLIANCE
London Bridge Well Site - 8 Ft Trees

SWNY PFAS COMPLIANCE
London Bridge Well Site - 20 Ft Trees

SITE PLAN

SCALE 1" = 20'

20 10 0 20 40



PIPE CONNECTION DETAIL

NO SCALE

STRUCTURAL CONTROL

S1	SOUTHWEST CORNER OF GAC TREATMENT BUILDING	N 935993.53	E 697617.96
S2	SOUTHEAST CORNER OF GAC TREATMENT BUILDING	N 935994.07	E 697650.95

BORINGS

F-1	N 936003.61	E 697622.79
F-2	N 936007.94	E 697642.72

ACCESS ROAD CONTROL

R1	POINT OF CURVE	N 936038.24	E 697690.54
R2	POINT OF TANGENT	N 935987.32	E 697641.38
R3	POINT OF CURVE	N 935986.42	E 697587.03
R4	POINT OF TANGENT	N 935987.90	E 697559.17
R5	———	N 935994.61	E 697504.88
R6	———	N 935979.73	E 697503.04
R7	POINT OF CURVE	N 935975.43	E 697537.82
R8	POINT OF TANGENT	N 935936.39	E 697572.91
R9	———	N 935901.19	E 697573.49
R10	———	N 935901.43	E 697588.49
R11	POINT OF CURVE	N 935921.43	E 697588.16
R12	POINT OF TANGENT	N 935972.25	E 697637.33
R13	POINT OF CURVE	N 935972.33	E 697642.33

NOTES

1. ALL PIPING TO BE DUCTILE IRON UNLESS NOTED OTHERWISE.
2. PIPING AND FITTINGS TO BE RESTRAINED JOINT UNLESS NOTED OTHERWISE.
3. AT POINTS OF CONNECTION, CONTRACTOR SHALL EXPOSE EXISTING WATER MAINS TO VERIFY LOCATION, GEOMETRY, AND MATERIAL REQUIREMENTS PRIOR TO ORDERING MATERIALS OR STARTING CONSTRUCTION OF ANY MAIN CONNECTING THERE TO.

FILE PATH: Z:\DRAWINGS\68577 Suez\NY PFAS-Proj-F-And-HCIVIL\68577C100.dwg
DATE SAVED: 10/19/2021 12:48 PM BY: jgriffe DATE PLOTTED: 10/19/2021 12:49 PM

No.	DESCRIPTION	DATE	BY
	REVISIONS		

DESIGNED	CADD	SCALE
J.L.G.	J.L.G.	AS NOTED
CHECKED	APPROVED	APPROVED
S.Z.L.	.	.

GANNETT FLEMING
ENGINEERS AND ARCHITECTS, P.C.

CREAMER
A FLETCHER CREAMER & SON, INC. COMPANY

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

LONDON BRIDGE WELLS
CIVIL
SITE PLAN

JOB No. 68577

DATE OCTOBER 2021

SHEET No. C-100

London Bridge Pictures

1

1

2

3

4

5

6

7

8

10

11

12

OWNERS WITHIN 500 FEET:

VICINITY MAP

PLAN NOTES:

WETLANDS (PFO)

LEGEND

DISTRICT REGULATIONS:

	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA	[illegible]	[illegible]	[illegible]
MINIMUM LOT WIDTH	[illegible]	[illegible]	[illegible]
MINIMUM STREET FRONTAGE (ON TOWN ROAD)	100 FT	[illegible]	[illegible]
MINIMUM STREET FRONTAGE (ON CUL-DE-SAC)	[illegible]	N/A	N/A
MINIMUM FRONT YARD	40 FT	[illegible]	53 FT. ★
MINIMUM SIDE YARD	25 FT	[illegible]	74 FT
MINIMUM TOTAL SIDE YARD	50 FT	[illegible]	[illegible]
MINIMUM REAR YARD	40 FT	[illegible]	25 FT
MAXIMUM BUILDING HEIGHT	[illegible]	[illegible]	22 FT
MAXIMUM LOT COVERAGE	[illegible]	[illegible]	[illegible]
MINIMUM LANDSCAPED BUFFER	[illegible]	[illegible]	[illegible]

NET LOT AREA CALCULATIONS:

PARKING REQUIREMENTS:

DATUM:

FLOOD HAZARD:

TAX MAP REFERENCE:

OWNER & APPLICANT:

NOTE:

SITE ADDRESS:

SUBDIVISION REFERENCES:

AREA:

DRAWING LIST:

RYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO.

JOHN P. ATZL
N.Y.S. P.L.S. LIC. NO.

1	11-15-21	[illegible]
REVISION	DATE	DESCRIPTION

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ENGINEERS-SURVEYORS-PLANNERS
232 North Main Street
New City, New York
Tel (845)
Fax (845)
E-mail: info@anzny.com
Web: www.ANZNY.com

PROJECT:

SUEZ WATER NEW YORK, INC.
LONDON BRIDGE WELL 1 & 2

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

TITLE:

SITE PLAN

PROJECT NO.	DRAWING NO.
4872	1

ATZI, NASHER & ZIGLER P.C.
ENGINEERS–SURVEYORS–PLANNERS
286 North Main Street
New City, New York 10956
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Web: www.ANZNY.com

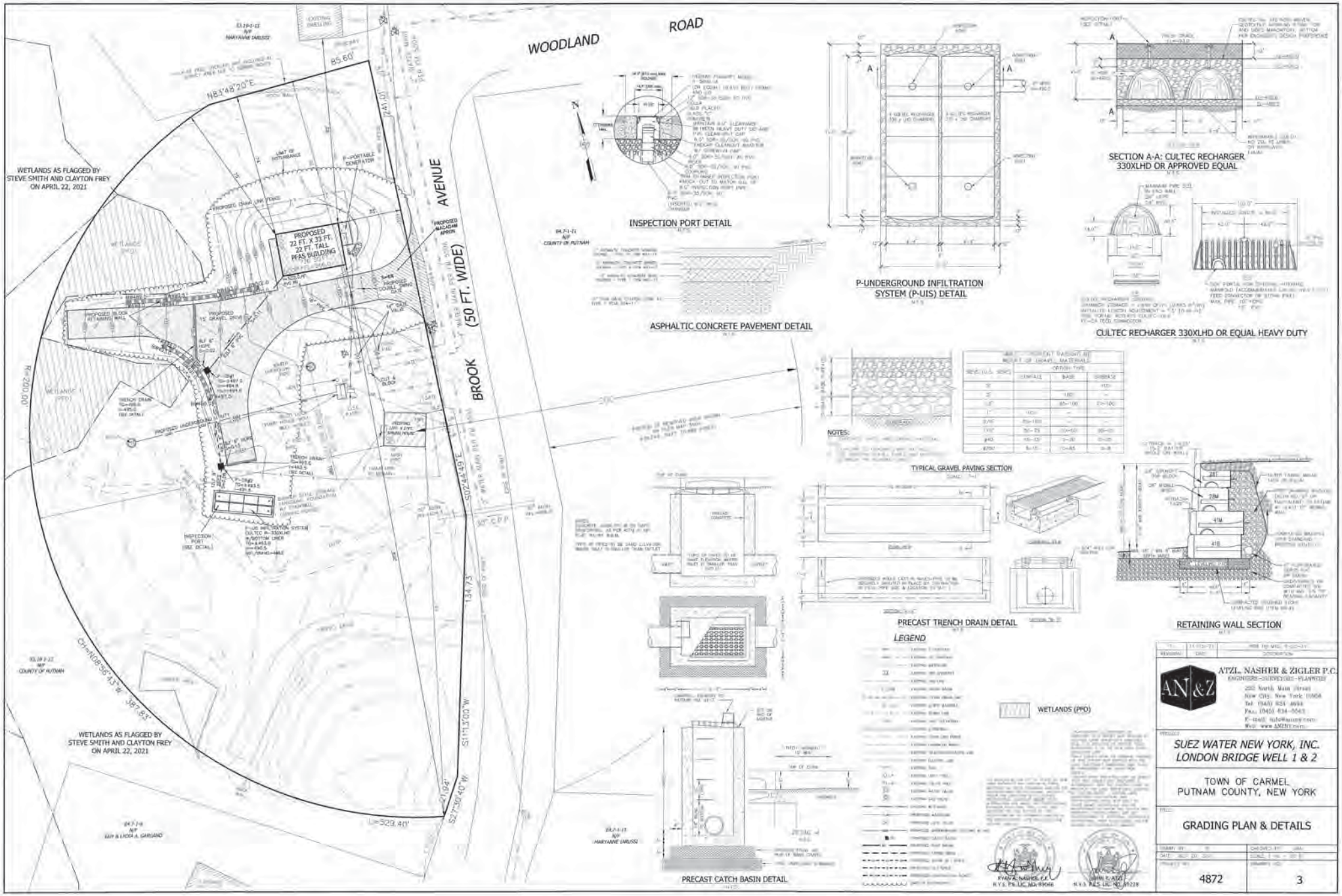
PROJECT
SUEZ WATER NEW YORK, INC.
LONDON BRIDGE WELL 1 & 2

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

TITLE:
EXISTING CONDITION

DRAWN BY: JC	CHECKED BY: JRM
DATE: JULY 20, 2021	SCALE: 1" = 20'
PROJECT NO. 4872	DRAWING NO. 2

JOHN R. ATZI
N.Y.S. P.E.S. LIC. NO. 76228



ATZL, NASHER & ZIGLER P.C.
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Web: www.ANZEE.com

SUEZ WATER NEW YORK, INC.
LONDON BRIDGE WELL 1 & 2

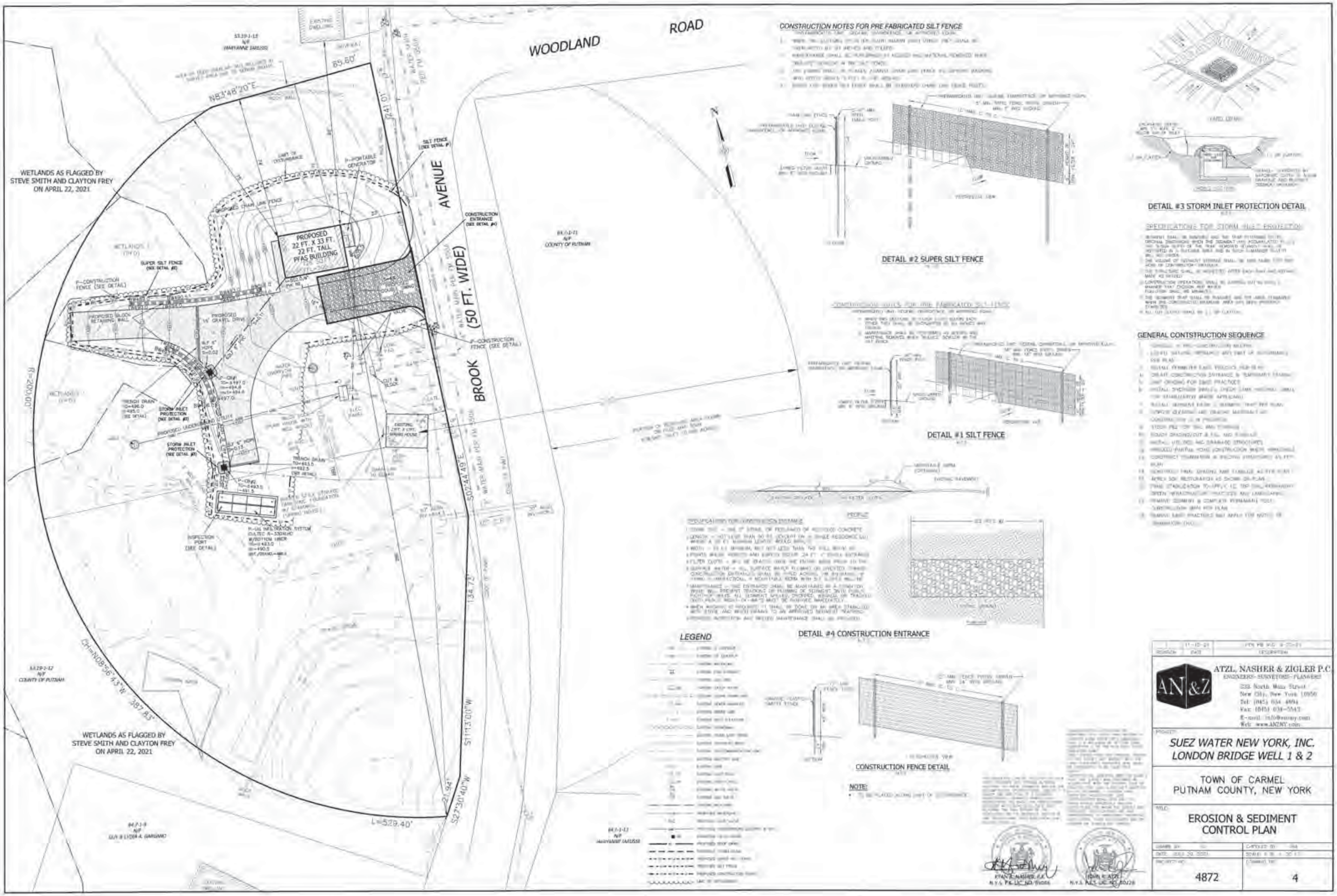
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

GRADING PLAN & DETAILS

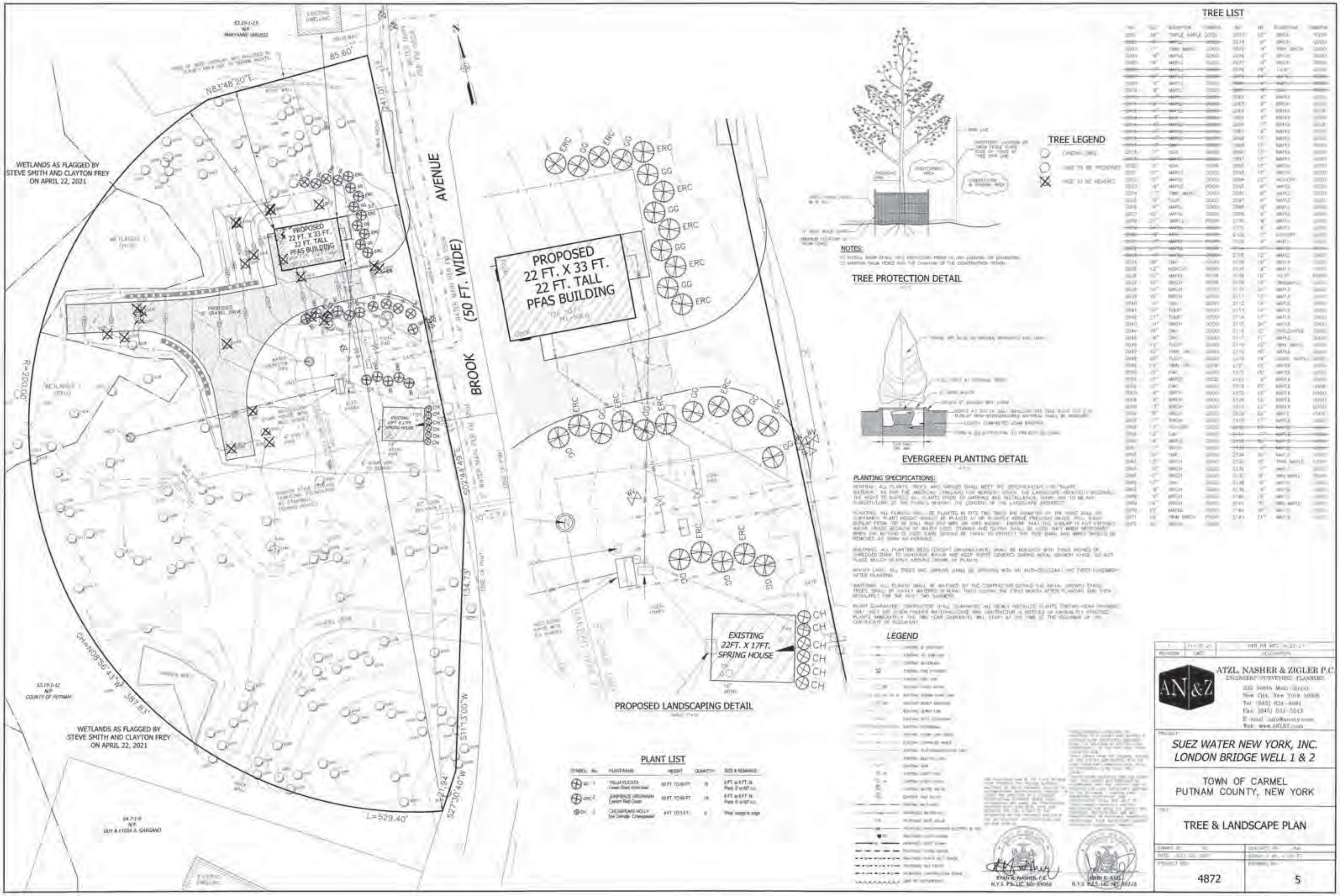
RYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 81066

JOHN S. ATZL
N.Y.S. P.E.S. LIC. NO. 50229

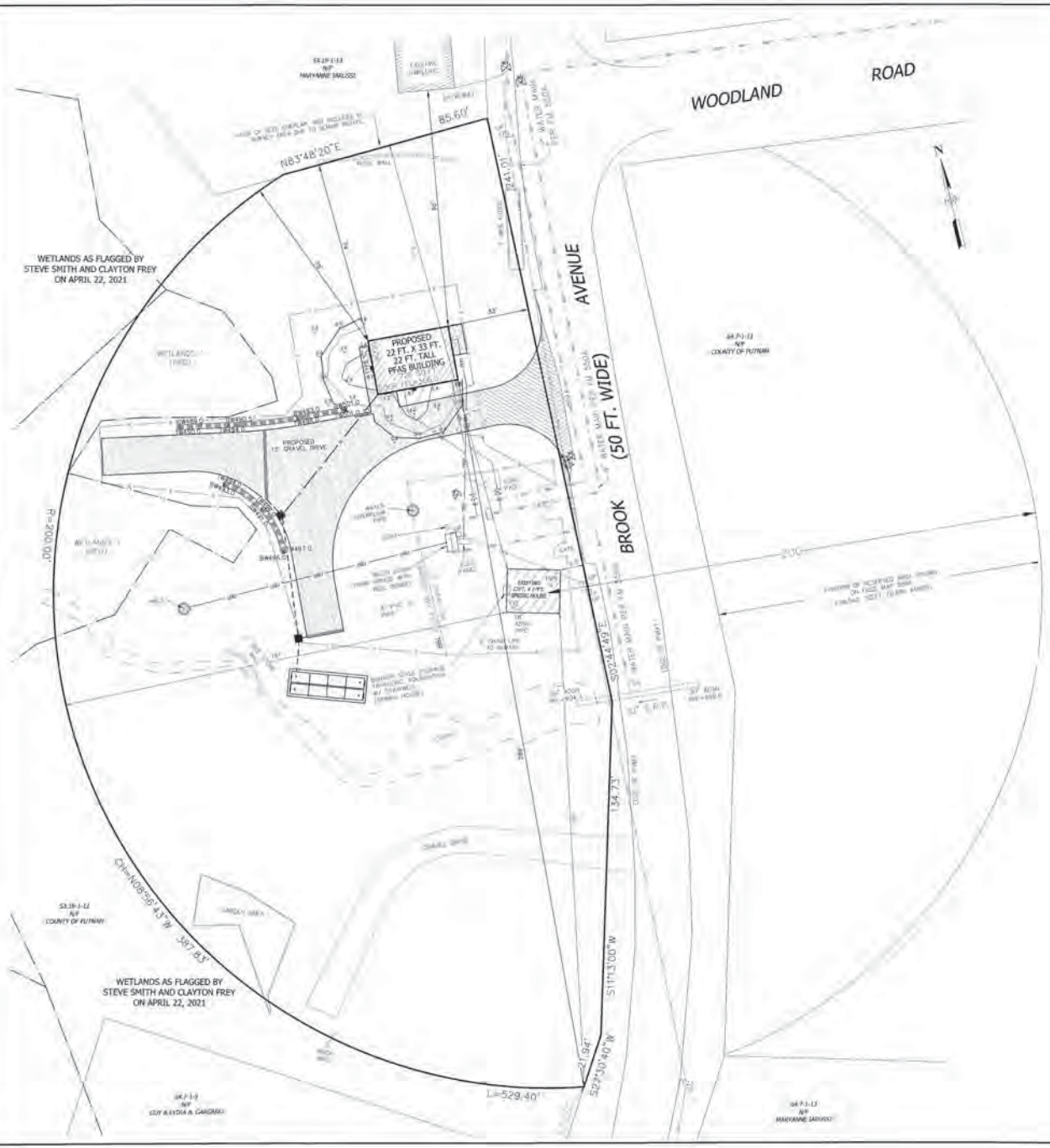
PROJECT NO.	SHEET NO.
4872	3



WOODLAND ROAD
BROOK AVENUE (50 FT. WIDE)
WETLANDS AS FLAGGED BY STEVE SMITH AND CLAYTON FREY ON APRIL 22, 2021
PROPOSED 22 FT. X 33 FT. 22 FT. TALL PFAS BUILDING
SILT FENCE (SEE DETAIL #1)
CONSTRUCTION ENTRANCE (SEE DETAIL #4)
SUPER SILT FENCE (SEE DETAIL #2)
STORM INLET PROTECTION (SEE DETAIL #3)
INSPECTION PORT (SEE DETAIL)
N83°48'20"E
S02°44'49"E
S11°13'00"W
S27°30'40"W
CH=N08°56'43"W 387.83'
R=200.00'
L=529.40'
85.60'
241.01'
134.72'
21.94'
CONSTRUCTION NOTES FOR PRE FABRICATED SILT FENCE
DETAIL #2 SUPER SILT FENCE
DETAIL #1 SILT FENCE
DETAIL #3 STORM INLET PROTECTION DETAIL
SPECIFICATIONS FOR STORM INLET PROTECTION
GENERAL CONSTRUCTION SEQUENCE
DETAIL #4 CONSTRUCTION ENTRANCE
LEGEND
CONSTRUCTION FENCE DETAIL
NOTE:
ATZL, NASHER & ZIGLER P.C.
ENGINEERS - SURVEYORS - PLANNERS
AN&Z
SUEZ WATER NEW YORK, INC.
LONDON BRIDGE WELL 1 & 2
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK
EROSION & SEDIMENT CONTROL PLAN
4872
4



TREE LIST
TREE LEGEND
TREE PROTECTION DETAIL
NOTES:
EVERGREEN PLANTING DETAIL
PLANTING SPECIFICATIONS:
LEGEND
WETLANDS AS FLAGGED BY STEVE SMITH AND CLAYTON FREY ON APRIL 22, 2021
AVENUE
BROOK
(50 FT. WIDE)
N83°48'20"E
85.60'
PROPOSED 22 FT. X 33 FT. 22 FT. TALL PFAS BUILDING
S02°24'49"E
134.73'
R=200.00'
CH=N08°56'43"W
387.83'
S11°13'00"W
S27°30'40"W
L=529.40'
WETLANDS AS FLAGGED BY STEVE SMITH AND CLAYTON FREY ON APRIL 22, 2021
PROPOSED 22 FT. X 33 FT. 22 FT. TALL PFAS BUILDING
ERC
GG
CH
EXISTING 22FT. X 17FT. SPRING HOUSE
PROPOSED LANDSCAPING DETAIL
PLANT LIST
ATZL, NASHER & ZIGLER P.C.
ENGINEERS-SURVEYORS-PLANNERS
AN&Z
SUEZ WATER NEW YORK, INC.
LONDON BRIDGE WELL 1 & 2
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK
TREE & LANDSCAPE PLAN
4872
5



LEGEND

RAB

CONTACT INFORMATION:
DAMIN SALES (732) 985-8868
RAB LIGHTING (201) 933-6001

SLIM12Y WALL MOUNT DETAIL

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description	BUG Rating
	2	SLIM12Y	SINGLE	N.A.	1.000	Wall Mount	B1-U3-G0

NO.	DATE	DESCRIPTION
1	11-15-22	PER PB MTG 11-14-22

ATZL, NASHER & ZIGLER P.C.
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62C North Main Street
New City, New York 10956
Tel: (845) 634-3656
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Web: www.ANZPC.com

PROJECT:
SUEZ WATER NEW YORK, INC.
LONDON BRIDGE WELL 1 & 2

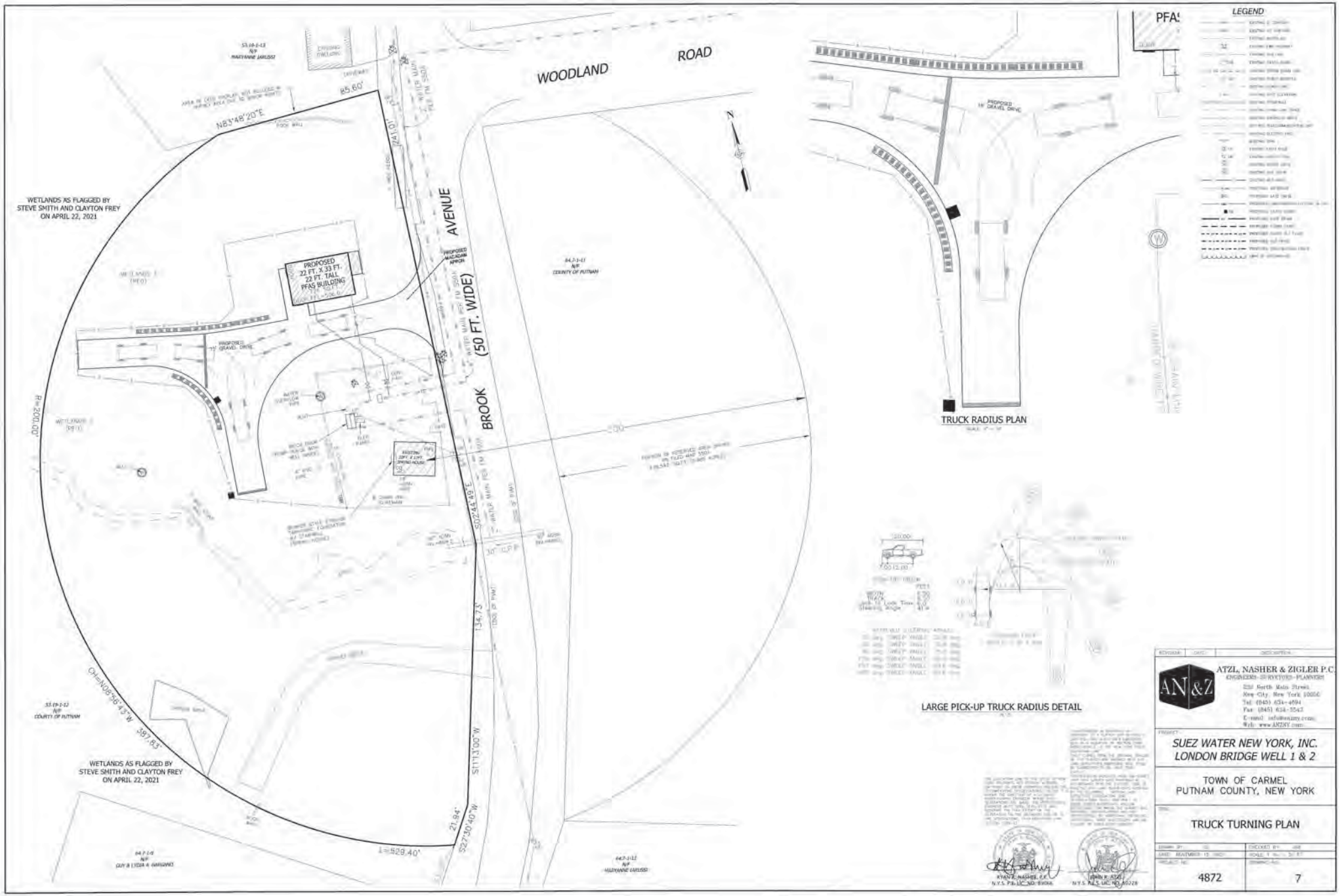
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

TITLE:
LIGHTING PLAN

DRAWN BY: [illegible] | CHECKED BY: [illegible]
SCALE: 1" = 50' | DATE: [illegible]
PROJECT NO.: 4872 | DRAWING NO.: 6

RYAN T. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 91066

JOHN R. ATZL
N.Y.S. P.E.S. LIC. NO. 60228



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202 North Main Street
New City, New York 10956
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Fax: (845) 634-5543
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Web: www.ANZNY.com

PROJECT:
SUEZ WATER NEW YORK, INC.
LONDON BRIDGE WELL 1 & 2

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

TITLE:
TRUCK TURNING PLAN

DRAWN BY:	CHECKED BY:
DATE: 04/27/2021	SCALE: 1" = 50'
PROJECT NO. 4872	DRAWING NO. 7

ATZL, NASHER & ZIGLER P.C.
ENGINEERS - SURVEYORS - PLANNERS
Web: www.anzny.com

November 15, 2021

SUEZ Water New York, Inc. – Geymer Well 1 & 2

Project Narrative

SUEZ is proposing the construction of upgrades at the following sites in the Town of Carmel, Putnam County, NY:

1. Geymer Well 1 & 2 (SBL 75.13-1-6) - Located in a residential area 300 feet northeast of 76 Geymer Drive in Mahopac, Putnam County, New York. The site has a lot area of 3.9 acres.

2. Archer Well 1 & 2 (SBL 85.12-1-8) - Located in a residential area behind 9 Colton Road (access gained through 31 Archer Road) in Mahopac, Putnam County, New York. The site has a lot area of 3.9 acres.

3. London Bridge Well 1 & 2 (SBL 64.7-1-10) - Located in a residential area near 39 Brook Street in Mahopac, Putnam County, New York. The site has a lot area of 1.6 acres.

4. Chateau Well 1, 2 & 3 (SBL 75.20-1-16) - Located in a residential area 180 feet north west of 60 McNair Drive in Mahopac, Putnam County, New York. The site has a lot area of 1.4 acres.

5. Mahopac Well 1, 2 & 3 (SBL 75.20-2-68) - Located in a residential area 150 feet southwest of 34 Coventry Circle, Mahopac, Putnam County, New York. The site has a lot area of 53.3 acres.

Need for upgrades:

The proposed upgrades will allow SUEZ Water New York, Inc. (SWNY) to comply with the new state drinking water regulations for polyfluoroalkyl substances (PFAS). The planned upgrades 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. SWNY has many wells in Putnam County.

In 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. SWNY will need to upgrade five treatment facilities in the Town of Carmel to meet these new state requirements by August 23, 2022.

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To comply with these new MCLs, SWNY plans to construct upgrades on the sites listed above. The planned upgrades will not increase the firm capacity of the wells but will 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. The existing well pumps are also being replaced to ensure they have the extra head needed for the water to be processed through the new treatment facility and still enter the distribution system with sufficient pressure.

Summary of scope of work at the Geymer Well Site:

The proposed building has a footprint of 33 ft. by 22 ft and will have a height of 22 ft. This will be a prefabricated building. It will be approximately 150 ft. and 180 ft. away from the closest residences. Architectural, civil, electrical, structural, HVAC and plumbing upgrades will be implemented to accommodate the new treatment systems at the existing locations. Construction will include upgrades to the access road and installation of pipelines that connect to the existing wells.

The proposed improvements will have little or no impact on the neighboring residences. Lighting will be provided on the west and north side of the proposed building which will not impact the neighbors. These two lights will be mounted at a height of 8 ft. and will be similar to a residential light.

There are 2 acres of NYSDEC wetlands on site. The site is almost entirely encumbered by NYSDEC wetlands and the 100 year floodplain. The only area not encumbered is the area where the access road is off Geymer Drive. All improvements are proposed to be located upland of the NYSDEC wetlands. However, they will be within the 100 ft. wide wetland adjacent area, as the wetlands and adjacent area encumber the whole area including the access road.

The Erosion and sediment controls will be installed to protect the regulated features on these sites. Disturbance will be kept to a minimum and avoidance measures have been considered during the design phase of the project.

We are respectfully requesting a waiver of the landscaping requirement. The location for the proposed improvements from the existing homes is approximately 145 feet away. Also, the density of the existing foliage is quite extensive, and should serve as an adequate buffer to the homes.

Thank you for your time and consideration.

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ENGINEERS - SURVEYORS - PLANNERS
Web: www.anzny.com

November 15, 2021

Planning Board
Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541
Attn: Craig Paeprer, Chairman

Re: Suez Water Geymer Well 1 & 2
Tax Lot 75.13-1-6

Dear Chairman Paeprer and Honorable Board Members,

The following is our response to comments received during the Planning Board meeting held on September 22, 2021:

Process Related Comments

1. Comment: How often are the filters replaced and how?

   Response: *The GAC vessels will be replaced once in twenty years. Carbon is changed once in every one to two years. Replacement of bio filters depends on flow and water quantity, but it would probably occur once in every two to three months. There is overhead space available at these facilities to replace these filters.*

2. Comment: Have the existing facilities deteriorated and do they require upgrading?

   Response: *The existing facilities are not deteriorated. They need to be upgraded so as to meet the NYS mandated Drinking Water maximum contaminant levels (MCL) of 10 ppt for PFAS and PFOA.*

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3. Comment: Are there alternative vessels, particularly shorter ones?

Response: *Short vessels are not available.*

4. Comment: Can the facilities be combined into one structure?

Response: *Combined facilities will not be feasible as the proposed GAC treatment building cannot be accommodated in the existing pump house. The existing pump house must remain operational and secure during construction and hence cannot be expanded.*

Site Plan Comments

1. Comment: For sites with larger areas, is there any scope of moving the proposed buildings away from the property lines so as to minimize the visibility from neighboring residences to the extent possible?

Response: *Moving the proposed buildings would not be feasible given site development constraints, presence of wetlands etc.*

2. Comment: The planning board would prefer seeing a simple comparison of what existed, and what exists on site presently, and what is being proposed by use of colors, hatches, etc.

Response: *The site plan set submitted has an existing conditions plan and a proposed development plan. We believe attempting to merge these drawings would result in confusion regarding project details.*

3. Comment: Building sizes, dimensions and height must be clearly mentioned in the narratives as well as on the site plans. Both on the existing and proposed plans.

Response: *Provided in both narrative and site plan.*

4. Comment: On the site plan, show the distance in feet of existing homes from the proposed buildings on all facilities.

   Response: *Provided on grading plan.*

5. Comment: If there are onsite power generators, mark them on the site plans. If these are portable generators, mark areas where these would be placed on site.

   Response: *Portable power generators will be used on site when required. The site plan indicates the location where these portable generators would be installed.*

6. Comment: Increase the yard setback.

   Response: *This is not feasible due to wetland constraints. The proposed building meets the minimum side yard requirement.*

Floodplains and Storm Events

1. Comment: Is elevating buildings above based flood elevations (BFE) enough to take care of a 500-year storm?

   Response: *The proposed building is not located in the floodway. The proposed flood elevation is 2 feet above the Base Flood Elevation (BFE) of 519, at 521.*

2. Comment: Can the new buildings and vessels be set into the ground to reduce height? Justify the height needed.

   Response: *The vessels have to be maintained, meaning removal of building panels is necessary, and therefore it would not be possible to set the building and vessels into the ground and still be able to perform maintenance. Additionally, the Geymer site is in the floodplain, and situating the proposed building below grade will subject it to flooding.*

3. Comment: Floodproofing for all proposed developments is recommended in lieu of prudent planning.

Response: *As noted above, the proposed building is not located in the floodway. The proposed flood elevation is 2 feet above the Base Flood Elevation (BFE) of 519, at 521.*

4. Comment: How will flooding be handled in the future? How will the equipment be secured during flooding?

Response: *The building is being developed 2 feet above BFE.*

5. Comment: Does the flooding design increase the height of the building?

Response: *No, adjacent grade around the proposed building has been raised as well.*

Landscape Plan

1. Comment: Some sites denotes tree clearances that seem excessive. Please reconsider and limit the amount of trees that need to be removed due to the proposed action. Please justify why and how many number of trees are being proposed to be removed.

Response: *Six (6) trees has been noted to be removed for this site. All these trees are within close proximity of the proposed building and access drive.*

2. Comment: Existing trees on all sites must be analyzed so as to understand if these are evergreens. This would help determine if yearly screening would be possible, or if additional landscaping would be required to shield the proposed developments from residential areas.

Response: *There are no evergreen trees on site presently. Trees proposed to be removed are deciduous. A tree and lighting plan has been provided with this submission.*

3. Comment: There should be better buffer on the east side.

Response: The location for the proposed improvements from the existing homes is approximately 145 feet away. Also, the density of the existing foliage is quite extensive, and should serve as an adequate buffer to the homes. A landscape waiver is requested, and a photo package has been provided to supplement our request for such a waiver.

Lighting Plan

1. Comment: Describe the timing for when the site would be illuminated for general use and maintenance (during most time of the day), and for security purposes (nighttime or early mornings). Can timers be installed?

Response: Although we have not received final Department of Health (DOH) comments, where we have received DOH comments on our other PFAS facilities, they are requesting "The perimeter of the treatment plant property should be illuminated with street-type lighting fixtures". It is our intention to utilize downward facing, wall mounted, LED lights, controlled by photocells to automatically illuminate at night, over the doorways of the treatment building. However, we must make sure this lighting is acceptable to the DOH.

The following is our response to Patrick Cleary, AICP, CEP, PP, LEED AP, letter September 22, 2021:

Site Plan Review Comments

1. Comment: The site is located in the R - Residential zoning district. Pursuant to a determination by the Director of Code Enforcement, Suez is a private water company, and not a public utility installation, and therefore is not classified as a permitted Conditional Use, subject to the conditions established in §156-37. As a result, the proposed use is prohibited, and a use variance is required.

Response: *The Zoning Board of Appeals (ZBA) determined at their October 28, 2021 meeting that SUEZ is a public water company. Use variance would therefore not be required.*

2. Comment: The site is constrained by Secor Brook, Zone X and AE FEMA designated floodplains and a NYSDEC wetland. It appears that the new building is located outside of the wetland area but is within the 100' wetland buffer. In accordance with Article 24, a Freshwater Wetland Permit is required from the NYSDEC.

Response: *NYSDEC and ACOE wetland permits will be obtained.*

3. Comment: Clarify if the new treatment building is located within the floodway and must therefore be floodproofed, and/or that all new water treatment equipment is elevated above the base flood elevation.

Response: *The proposed building is not located in the floodway. The proposed flood elevation is 2 feet above the Base Flood Elevation (BFE) of 519, at 521.*

4. Comment: Clarify how the gravel drive crosses Secor Brook. In the event of a flood event, will access be maintained to the treatment building?

Response: *Due to the site location, the existing gravel drive would be the only access point. Since the site is in the floodplain, we are limited on the amount of fill we can place to increase the elevation of the road. Under flooding conditions, we would evaluate the water level and if safe we would access the site using utility vehicles. If the water level was too high to allow us to access the site safely, then in the short term we would simply monitor the treatment process remotely via SCADA. Note also that the trucks accessing the site are pickup trucks with high ground clearance.*

5. Comment: Is the PFAS treatment facility a permanent and on-going operation, or is it a temporary measure?

Response: *PFAS treatment facility is a permanent and on-going operation.*

6. Comment: Clarify if new fencing is proposed.

Response: *No fencing is proposed at this site, the existing gate at the entrance will remain.*

7. Comment: The applicant should document the existing condition of the on-site vegetation on the east side of the proposed treatment building, and the vegetation on the adjacent property, to ascertain if the buffer landscaping is necessary. Currently, no landscaping is proposed.

Response: *There are no evergreen trees on site presently. A landscape waiver is requested, and a photo package has been provided to supplement our request for such a waiver. The location for the proposed improvements from the existing homes is approximately 145 feet away. Also, the density of the existing foliage is quite extensive, and should serve as an adequate buffer to the homes.*

8. Comment: Provide the noise generation specifications for the new pumps. Noise generation must comply with the sound level standards for residential districts established in Chapter 105 of the Town Code.

Response: *The Applicant will comply with the sound level standards in accordance with Chapter 105 of the Town code. The pumps are located within the well and are 168' to 252' below grade, and will not change ambient noise level.*

9. Comment: Clarify if any special chemical storage provisions are required.

Response: *There is a secondary containment under the chemical tanks in this facility, able to hold the whole volume of chemicals in case of a spill. Level of chemicals is constantly monitored remotely via SCADA.*

10. Comment: How often will the site be accessed by maintenance and or operational personnel?

Response: *The operators currently visit the site once per day.*

Under future conditions, we anticipate the operators will visit the site once per day. In addition, once annually to once every two years the carbon will need to be replaced in one of the GAC vessels.

11. Comment: Document the location and provide a specification of the two proposed light fixtures.

Response: *Refer the Tree and Lighting plan that has been provided with this submission.*

12. Comment: Correspondence included with the site plan application from Creamer indicates that the building was to be a prefabricated metal building with a standing seam roof system. However, due to extensive lead time delays, the applicant is exploring other material options. The architectural treatment of the building must be established at this time, as the Planning Board also serves in the capacity of Architectural Review Board.

Response: *A new architectural narrative has been provided with this submission.*

SEQRA Review Comments

1. Comment: The project is classified as a Type II Action pursuant to §617 of the SEQRA regulations. No further SEQRA environmental review is required.

Response: *No response required.*

The following is our response to Richard J. Franzetti, P.E., letter dated September 8, 2021.

General Comments

1. The following referrals are required:

a. Comment: New York State Department of Environmental Conservation (NYSDEC).

Response: *Noted.*

b. Comment: Putnam County Department of Health (PCDOH).

Response: *Noted.*

c. Comment: The Town of Carmel Environmental Conservation Board (ECB).

Response: *Noted.*

d. Comment: Mahopac Falls Fire Department.

Response: *Noted.*

2. The following permits are required.

a. Comment: NYSDEC - for stormwater and wetlands.

Response: *Noted.*

b. Comment: PCDOH for well and treatment system.

Response: *Noted.*

c. Comment: ECB for wetlands.

Response: *Noted.*

3. Comment: The area of disturbance for the work as provided is 6,672 sf. The threshold criteria of disturbances for the NYSDEC stormwater regulation are between 5,000 square feet and one (1) acre and over one (1) acre. The project will require coverage under the NYSEC SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) and the development of Stormwater Pollution Prevention Plan (SWPPP) that has erosion and sediment controls.

The applicant has provided a SWPPP which is currently under review.

Response: *Agreed. A Stormwater Pollution Prevention Plan (SWPPP) is provided accordingly.*

4. Comment: The full environmental assessment form identified the following that the project is located in 100-year flood plain. A Town of Carmel Flood Plain permit is required.

Response: *Acknowledged.*

5. Comment: All re-grading required to accomplish the intended development should be provided. It is unclear from the drawings provide the extent of cut and fill proposed for the site.

Response: *A grading plan has been provided with this submission.*

6. Traffic and Vehicle Movement Plans should be provided which provide the following:

a. Comment: Graphic representation of vehicle movements through the site should be provided to illustrate that sufficient space exists to maneuver vehicles on the site.

Response: *A truck turning plan has been added to the plan set.*

b. Comment: All turning radii for the site should be graphically provided. This includes the turning radii into the site entrance.

Response: *A truck turning plan has been added to the plan set.*

c. Comment: The applicant provided sight distances at the driveway location.

All calculations should be provided.

Response: *Site distances were obtained in the field at a height of 42 inches per AASHTO guidelines. Geymer Drive is a residential street with a low volume of traffic.*

d. Comment: Slopes at the entrance way need to be defined. It is suggested that slopes of less than 6% be used for the first 20 feet of entry and that slopes of no greater than 8% be used entering the site. Please refer to AASHTO guidelines for commercial properties.

Response: *Gravel drive is relatively flat. All slopes are less than 6%.*

7. Comment: A light spill plan should be provided.

Response: *A Lighting Plan has been provided with this submission. A landscape waiver is requested, and a photo package has been provided to supplement our request for such a waiver.*

8. Comment: Should any public improvements be deemed necessary as part of the development of the tract, a Performance Bond and associated Engineering Fee must eventually be established for the work. The applicant will need to develop a quantity take off for bonding purposes.

Response: *Noted.*

Detailed Comments:

1. Comment: A landscaping plan should be provided to show the location and extent of all plantings. Applicant has requested a waiver of this requirement.

Response: *A tree plan has been provided with this submission.*

2. Comment: The rain garden calculations have been provided. The applicant should note that them must meet the criteria as defined by the NYSDEC. This includes providing sufficient depth to groundwater.

Response: *Noted. Calculations will be provided prior to construction.*

3. Comment: Adequate protection should be provided in the stormwater management practice (SMP) areas to minimize disturbance during construction. Details should be provided to show how the rain garden will be protected during construction.

Response: *The final grading and the installation of the rain garden will be performed at the Final phase of the construction after upland stabilization. Please refer to the construction sequence on the Erosion and Sediment Control Plan.*

4. Comment: All water service connections must be K-copper.

Response: *Noted, will comply.*

5. Comment: It is unclear if additional electrical utilities are being installed.

Response: *SUEZ is investigating the feasibility of upgrading the site to full three phase power.*

6. Comment: The area of disturbance must be shown on the drawing and delineated by orange construction fencing.

Response: *Provided on grading plan, and Erosion and Sediment Control Plan with a detail.*

7. Comment: Gate valves shall be AWWA non-rising stem type, as manufactured by Mueller Company, Model A-2360-23, or approved equal, conforming to the latest AWWA Standard for Gate Valves - 3" through 48" - for Water and Other Liquids, AWWA Designation C-509.

Response: *Noted, will take under advisement.*

8. Comment: Sizes up to and including 12" shall be 250 psi working pressure. The valve body and bonnet shall be ductile iron. All interior and exterior metal surfaces shall be coated with a two-part thermosetting epoxy complying with AWWA C550.

Response: *Noted, will take under advisement.*

9. Comment: Valves shall have dual "O" ring seals, inside screw, resilient wedge seats in accordance with AWWA Designation C-550 and shall be constructed so as to provide unobstructed full port clearance when fully open and immediate complete closure when closed. The ends of the valves shall be mechanical joint.

Response: *Noted, will take under advisement.*

10. Comment: All valves shall be arranged to open in counterclockwise direction unless otherwise specifically indicated and operating nuts shall be 2" square.

Response: *The SUEZ standard is open right.*

11. Comment: Valves shall be tested to a pressure of not less than two times the working pressure.

Response: *Noted, will take under advisement.*

12. Comment: All hydrants shall be six inches in size with six-inch mechanical joint inlet connection and shall be equal to the Mueller Centurion A-421, with one (1) 4 ½ " pumper nozzle and two (2) 2 ½ " hose nozzles.

Response: *Noted, will take under advisement.*

13. Comment: Water Service Saddles shall be equal to those manufactured by Mueller, Model 7 ½" x 1" SS Series Stainless Steel Saddle, Double Stud.

Response: *Noted, will take under advisement.*

14. Comment: Corporation stops shall be equal to those as manufactured by Mueller Company, Model B-25000 Series, NRS and of the size required. Such corporation stops shall meet the requirements of AWWA Specification No. C800.

Response: *Noted, will take under advisement.*

15. Comment: Curb valves (stops) shall be equal to those as manufactured by Mueller Company, Model H-15214 and shall conform to AWWA Specification No. C800.

Response: *Noted, will take under advisement.*

16. Comment: Curb boxes shall be equal to those as manufactured by Mueller Company and similar to Mueller extension type with arch pattern base model H-10314 all extension rods shall be stainless steel.

Response: *Noted, will take under advisement.*

17. Comment: All fire hydrants shall be the approved AWWA type fire hydrants in conformance with the American Water Works Association Standard for Fire Hydrants for Ordinary Water Works Service, AWWA Designation C502, and shall have a 5-1/4" valve opening, a 6" mechanical joint inlet

complete with an auxiliary gate valve (close coupled), a 6" mechanical joint shoe, and all appurtenances.

Response: *Noted, will take under advisement.*

18. Comment: Fire hydrants shall be rated for a working pressure of 250 Psi. Fire hydrants shall be sized for a 4'-6" bury.

Response: *Noted, will take under advisement.*

The following is our response to Michael G. Carnazza, Director of Code Enforcement for the Town of Carmel, letter dated September 15, 2021:

1. Comment: The applicants propose to add a PFAS Treatment Building to the water treatment facility off Geymer Dr. in Mahopac.

Response: *Statement; no response required.*

2. Comment: A Use Variance is required for the Private Utility. Only Public Utilities are permitted in the Town of Carmel.

Response: *The Zoning Board of Appeals (ZBA) determined at their October 28, 2021 meeting that SUEZ is a public water company. Use variance would therefore not be required.*

3. Comment: Provide a detail of the buffer. Code§ l56-37C requires "A landscaped buffer area at least 10 feet in width and six feet in height shall be provided and maintained along all property lines to satisfactorily screen public utility substations and any other buildings from surrounding uses of land. An enhanced buffer should be provided toward Parker Dr. East and the adjacent property on Geymer Dr.

Response: *A tree plan has been provided with this submission, and a photo package has also been provided to supplement our request for a landscape waiver pertaining to this site.*

4. Comment: Referral to the ECB, Fire Department and Putnam County Dept. of Health are required by code.

Response: *Noted.*

CREAMER

J. FLETCHER CREAMER & SON, INC.

POWERED BY API Group

Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541

Re: **Site Plan Application**
SUEZ Water New York, Inc. – Geymer Wells 1 & 2
Proposed Building Materials Narrative

All,

Due to extensive lead time delays for the design, fabrication and delivery of the original prefabricated metal building, we explored other material or manufacturer options for the building to better meet schedule requirements.

After exploring several different options, we were able to proceed with a different prefabricated metal building vendor to furnish and install the building. We were able to expedite the design process and improve the fabrication duration of the prefabricated building in order to meet our schedule.

We will be installing a prefabricated metal building, with steel framing, insulated metal wall panels with an exterior color, standing seam roof system, with a cast in place concrete foundation designed to accommodate the load of the building structure, equipment, vessels, and all other loads impacting the foundation.

The color of the building will be Hemlock Green and the roof trim, gutters and downspouts color will be cool harvest. The building will have a 4' split face masonry wall along the perimeter of the building for aesthetics and durability and will be Tribeca Tan. Please refer to renderings for visual representation of the building and masonry wall.

Sincerely,
J. Fletcher Creamer & Son, Inc.

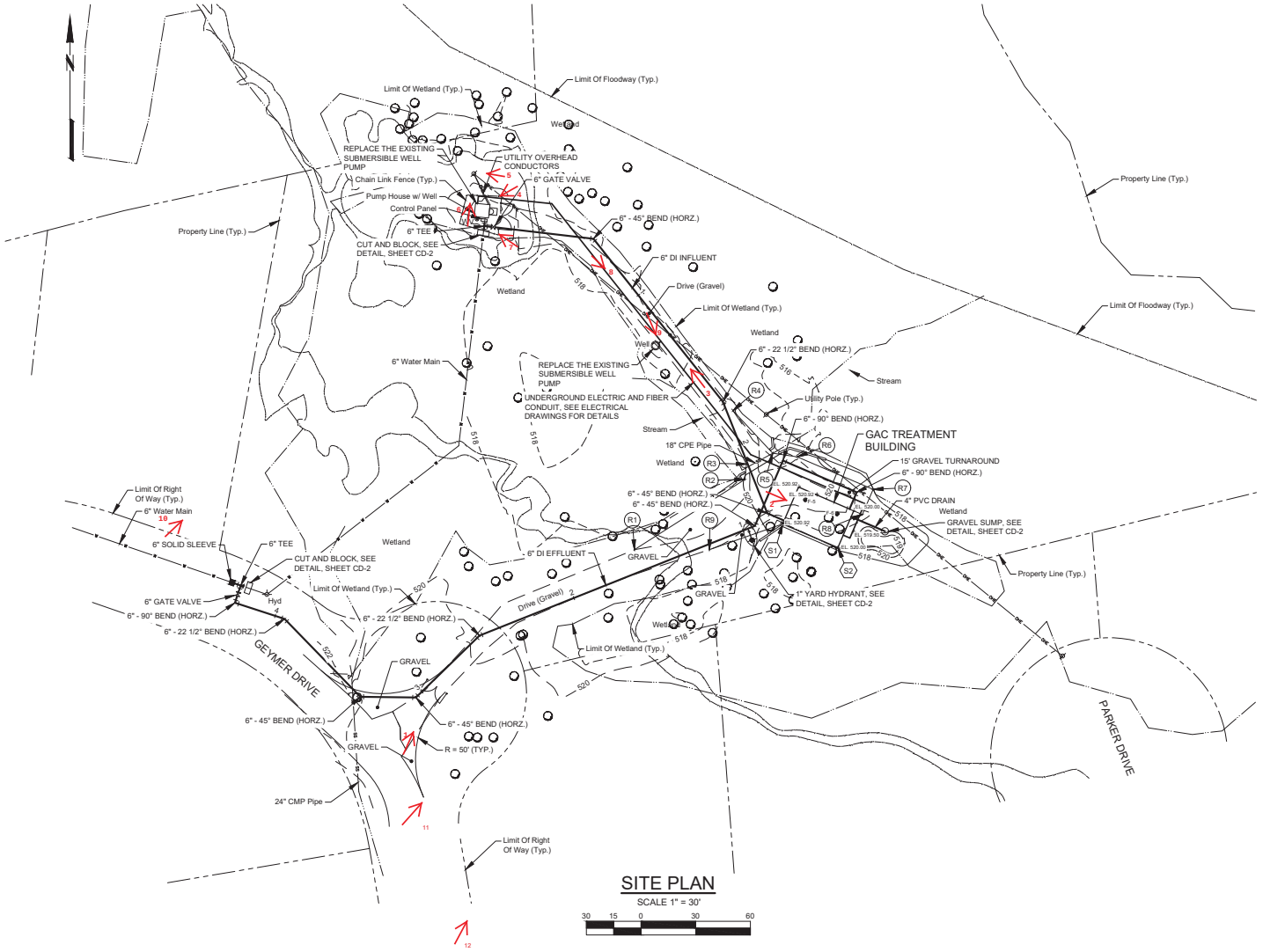
101 East Broadway
Hackensack, NJ 07601-6851
Phone (201) 488-9800 | Fax (201) 488-2901

JFCSON.COM

Copy to:


SWNY PFAS COMPLIANCE
Geymer Well Site
Secor Brook
Drag vertically to tilt view, clic


SWNY PFAS COMPLIANCE
Geymer Well Site



SITE PLAN

SCALE 1" = 30'

30 15 0 30 60

STRUCTURAL CONTROL

S1	SOUTHWEST CORNER OF GAC TREATMENT BUILDING	N 922795.02	E 690529.94
S2	SOUTHEAST CORNER OF GAC TREATMENT BUILDING	N 922781.98	E 690560.26

BORINGS

F-5	N 922808.25	E 690542.51
F-6	N 922800.49	E 690559.86

ACCESS ROAD CONTROL

R1	N 922780.87	E 690448.69
R2	N 922819.47	E 690509.27
R3	N 922827.84	E 690510.10
R4	N 922857.19	E 690502.73
R5	N 922833.81	E 690524.50
R6	N 922831.82	E 690538.02
R7	N 922813.95	E 690579.58
R8	N 922800.17	E 690573.66
R9	N 922780.88	E 690489.75

NOTES

1. ALL PIPING TO BE DUCTILE IRON UNLESS NOTED OTHERWISE.
2. PIPING AND FITTINGS TO BE RESTRAINED JOINT UNLESS NOTED OTHERWISE.
3. AT POINTS OF CONNECTION, CONTRACTOR SHALL EXPOSE EXISTING WATER MAINS TO VERIFY LOCATION, GEOMETRY, AND MATERIAL REQUIREMENTS PRIOR TO ORDERING MATERIALS OR STARTING CONSTRUCTION OF ANY MAIN CONNECTING THERE TO.

PIPELINE CONTROL

NAME	SIZE	FITTING	STATION	NORTHING	EASTING	℄ ELEVATION
INFLUENT	6"	TEE	0+00.00	922958.51	690366.15	517.57±
	6"	GATE VALVE	0+05.00	922958.00	690371.13	517.57±
	6"	11 1/4° BEND VERT.	0+10.00	922957.35	690376.09	517.57±
	6"	11 1/4° BEND VERT.	0+21.54	922956.03	690387.56	515.00
	6"	45° BEND HORZ.	0+60.41	922951.56	690426.19	514.00
	6"	22 1/2° BEND HORZ.	1+74.67	922862.00	690497.15	512.24
	6"	45° BEND HORZ.	2+40.56	922800.81	690521.54	516.25
EFFLUENT	6"	90° BEND HORZ.	0+10.00	922812.37	690570.60	516.25
	6"	90° BEND HORZ.	0+54.05	922829.77	690530.14	514.14
	6"	45° BEND HORZ.	0+93.08	922793.91	690514.72	514.40
	6"	22 1/2° BEND HORZ.	2+55.75	922733.68	690363.61	515.55
	6"	45° BEND HORZ.	3+04.45	922699.71	690328.72	516.46
	6"	45° BEND HORZ.	3+34.98	922700.12	690298.19	516.65
	6"	22 1/2° BEND HORZ.	3+94.57	922742.82	690256.62	518.35
	6"	90° BEND HORZ.	4+23.19	922751.74	690229.43	518.60±
	6"	GATE VALVE	4+28.19	922756.47	690231.04	518.60±
	6"	TEE	4+33.19	922761.24	690232.54	518.60±
	6"	SOLID SLEEVE	——	922762.86	690227.80	518.60±

FILE PATH: Z:\DRAWINGS\68577 Suez\NY PFAS-Proj-F-And-H\CIVIL\68577C300.dwg
DATE SAVED: 10/13/2021 12:35 PM BY: jgriffe DATE PLOTTED: 10/19/2021 12:51 PM

No.	DESCRIPTION	DATE	BY
	REVISIONS		

90% SUBMISSION

DESIGNED	CADD	SCALE
J.L.G.	J.L.G.	AS NOTED
CHECKED	APPROVED	APPROVED
S.Z.L.	.	.

GANNETT FLEMING
ENGINEERS AND ARCHITECTS, P.C.

CREAMER
A FLETCHER CREAMER & SON, INC. COMPANY

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

GEYMER WELLS
CIVIL
SITE PLAN

JOB No. 68577

DATE OCTOBER 2021

SHEET No. C-300

Geymer Picture

1

1

2

2

3

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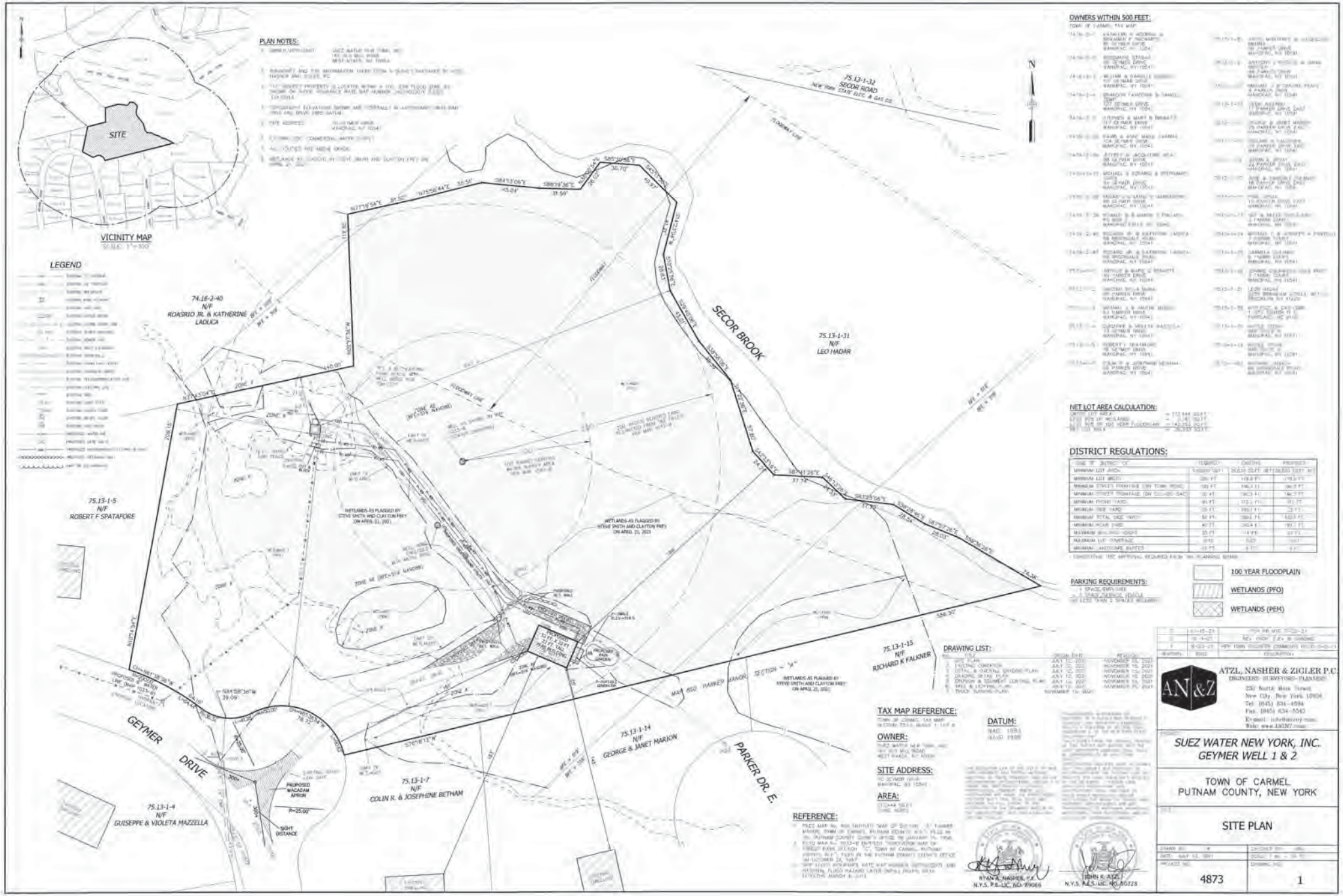
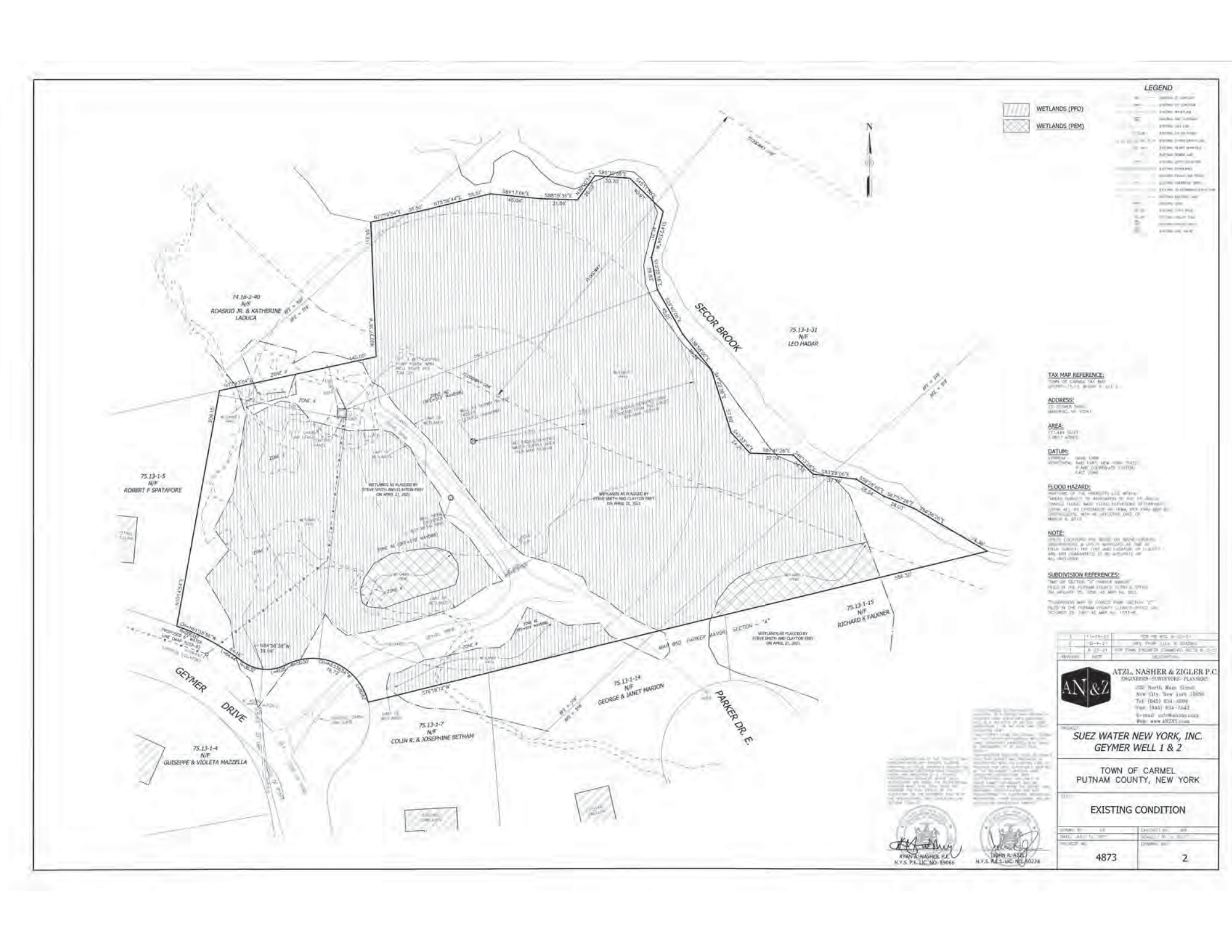
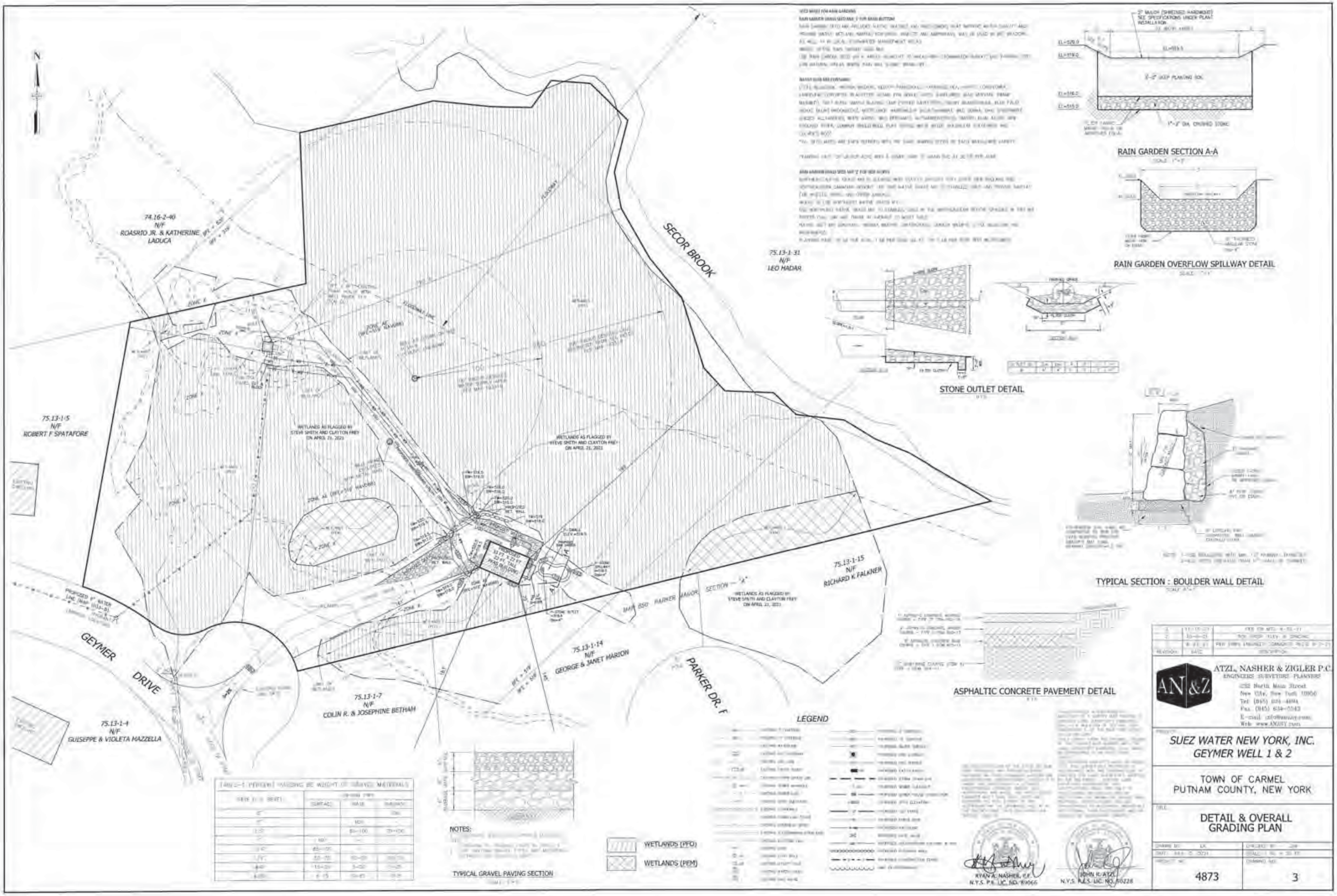
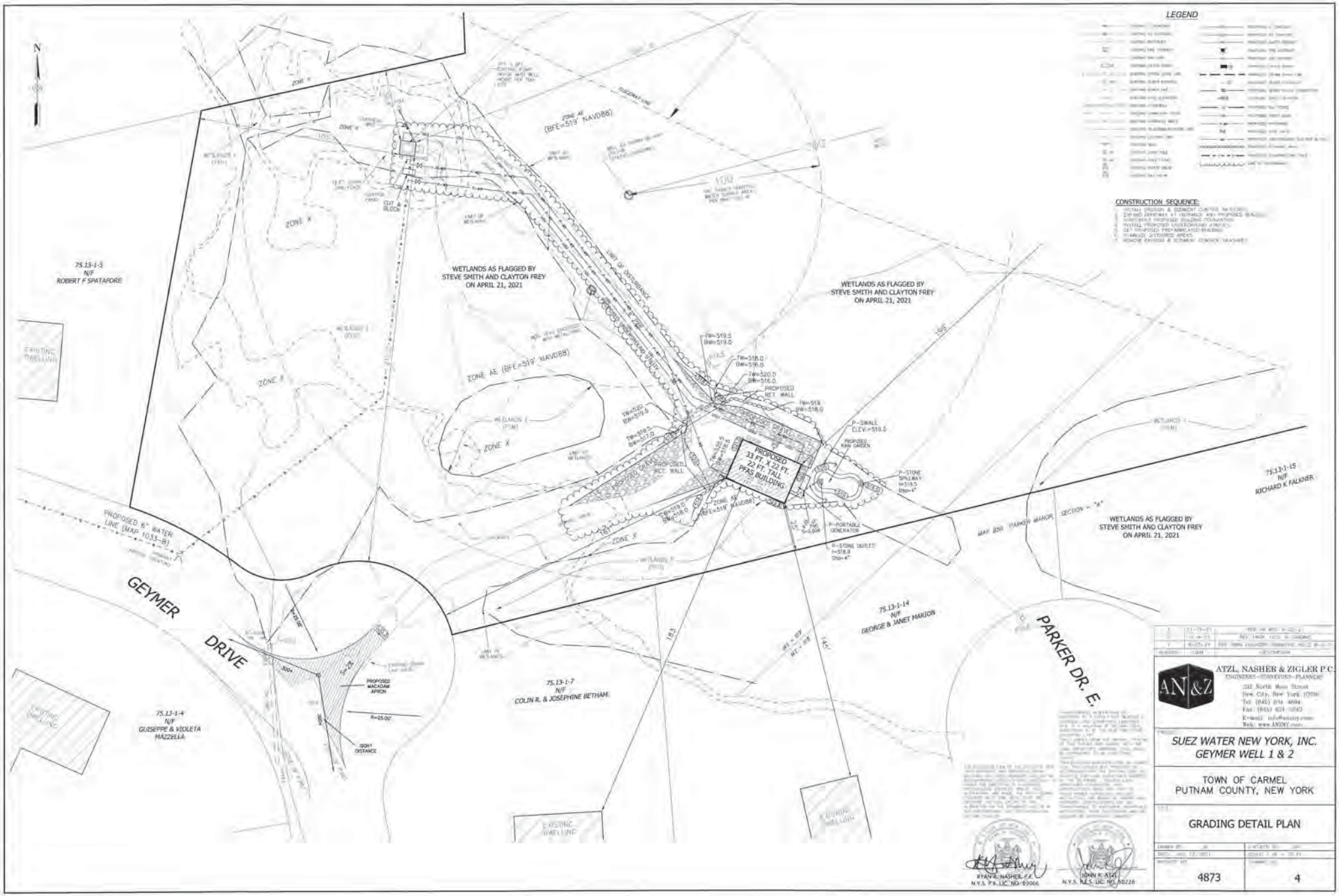

VICINITY MAP
SCALE: 1" = 500'
SITE
LEGEND
PLAN NOTES:
OWNERS WITHIN 500 FEET:
NET LOT AREA CALCULATION:
DISTRICT REGULATIONS:
PARKING REQUIREMENTS:
100 YEAR FLOODPLAIN
WETLANDS (PFO)
WETLANDS (PEM)
DRAWING LIST:
TAX MAP REFERENCE:
OWNER:
SITE ADDRESS:
AREA:
DATUM:
REFERENCE:
74.16-2-40
N/F
ROASRIO JR. & KATHERINE LADUCA
75.13-1-31
N/F
LEO HADAR
75.13-1-32
SECOR ROAD
NEW YORK STATE GAS CO.
75.13-1-5
N/F
ROBERT F SPATAFORE
75.13-1-15
N/F
RICHARD K FALKNER
75.13-1-14
N/F
GEORGE & JANET MARION
75.13-1-7
N/F
COLIN R. & JOSEPHINE BETHAM
75.13-1-4
N/F
GUISEPPE & VIOLETA MAZZELLA
SECOR BROOK
GEYMER DRIVE
PARKER DR. E.
PROPOSED MACADAM APRON
SIGHT DISTANCE
WETLANDS AS FLAGGED BY STEVE SMITH AND CLAYTON FREY ON APRIL 21, 2021
ATZL, NASHER & ZIGLER P.C.
ENGINEERS SURVEYORS PLANNERS
SUEZ WATER NEW YORK, INC.
GEYMER WELL 1 & 2
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK
SITE PLAN
4873
1


LEGEND
WETLANDS (PFO)
WETLANDS (PEM)
N
SECOR BROOK
GEYMER DRIVE
PARKER DR. E.
MAP 850 PARKER MANOR SECTION – "A"
74.16-2-40
N/F
ROASRIO JR. & KATHERINE LADUCA
75.13-1-31
N/F
LEO HADAR
75.13-1-5
N/F
ROBERT F SPATAFORE
75.13-1-15
N/F
RICHARD K FALKNER
75.13-1-14
N/F
GEORGE & JANET MARION
75.13-1-7
N/F
COLIN R. & JOSEPHINE BETHAM
75.13-1-4
N/F
GUISEPPE & VIOLETA MAZZELLA
WETLANDS AS FLAGGED BY STEVE SMITH AND CLAYTON FREY ON APRIL 21, 2021
TAX MAP REFERENCE:
ADDRESS:
AREA:
DATUM:
FLOOD HAZARD:
NOTE:
SUBDIVISION REFERENCES:
ATZL, NASHER & ZIGLER P.C.
ENGINEERS–SURVEYORS– PLANNERS
SUEZ WATER NEW YORK, INC.
GEYMER WELL 1 & 2
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK
EXISTING CONDITION
4873
2


N
74.16-2-40
N/F
ROASRIO JR. & KATHERINE
LADUCA
SECOR BROOK
75.13-1-31
N/F
LEO HADAR
75.13-1-5
N/F
ROBERT F SPATAFORE
WETLANDS AS FLAGGED BY
STEVE SMITH AND CLAYTON FREY
ON APRIL 21, 2021
75.13-1-15
N/F
RICHARD K FALKNER
75.13-1-14
N/F
GEORGE & JANET MARION
75.13-1-7
N/F
COLIN R. & JOSEPHINE BETHAH
75.13-1-4
N/F
GUISEPPE & VIOLETA MAZZELLA
GEYMER
DRIVE
PARKER DR. E
RAIN GARDEN SECTION A-A
RAIN GARDEN OVERFLOW SPILLWAY DETAIL
STONE OUTLET DETAIL
TYPICAL SECTION : BOULDER WALL DETAIL
ASPHALTIC CONCRETE PAVEMENT DETAIL
LEGEND
NOTES:
TYPICAL GRAVEL PAVING SECTION
WETLANDS (PFO)
WETLANDS (PEM)
RYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 89066
JOHN R. ATZL
N.Y.S. P.L.S. LIC. NO. 50228
ATZL, NASHER & ZIGLER P.C.
ENGINEERS SURVEYORS PLANNERS
AN&Z
SUEZ WATER NEW YORK, INC.
GEYMER WELL 1 & 2
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK
DETAIL & OVERALL
GRADING PLAN
4873
3


LEGEND
CONSTRUCTION SEQUENCE:
1. INSTALL EROSION & SEDIMENT CONTROL MEASURES
2. GRADE DRIVEWAY AT ENTRANCE AND PROPOSED BUILDING
3. CONSTRUCT PROPOSED BUILDING FOUNDATION
4. INSTALL PROPOSED UNDERGROUND UTILITIES
5. SET PROPOSED PREFABRICATED BUILDING
6. STABILIZE DISTURBED AREAS
7. REMOVE EROSION & SEDIMENT CONTROL MEASURES
N
WETLANDS AS FLAGGED BY STEVE SMITH AND CLAYTON FREY ON APRIL 21, 2021
WETLANDS AS FLAGGED BY STEVE SMITH AND CLAYTON FREY ON APRIL 21, 2021
WETLANDS AS FLAGGED BY STEVE SMITH AND CLAYTON FREY ON APRIL 21, 2021
75.13-1-5 N/F ROBERT F SPATAFORE
75.13-1-15 N/F RICHARD K FALKNER
75.13-1-14 N/F GEORGE & JANET MARION
75.13-1-7 N/F COLIN R. & JOSEPHINE BETHAM
75.13-1-4 N/F GUISEPPE & VIOLETA MAZZELLA
ZONE AE (BFE=519' NAVD88)
ZONE X
LIMIT OF DISTURBANCE
PROPOSED 33 FT. X 22 FT. 22 FT. TALL PFAS BUILDING
PROPOSED RET. WALL
PROPOSED RAIN GARDEN
P-STONE SPILLWAY
P-PORTABLE GENERATOR
P-STONE OUTLET
PROPOSED 6" WATER LINE (MAP 1033-B)
GEYMER DRIVE
PARKER DR. E.
MAP 850 PARKER MANOR, SECTION "A"
PROPOSED MACADAM APRON
SIGN DISTANCE
EXISTING DWELLING
EXISTING WELL LINE
ATZL, NASHER & ZIGLER P.C.
ENGINEERS–SURVEYORS–PLANNERS
SUEZ WATER NEW YORK, INC.
GEYMER WELL 1 & 2
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK
GRADING DETAIL PLAN
RYAN C. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 89066
JOHN R. ATZL
N.Y.S. L.S. LIC. NO. 50228
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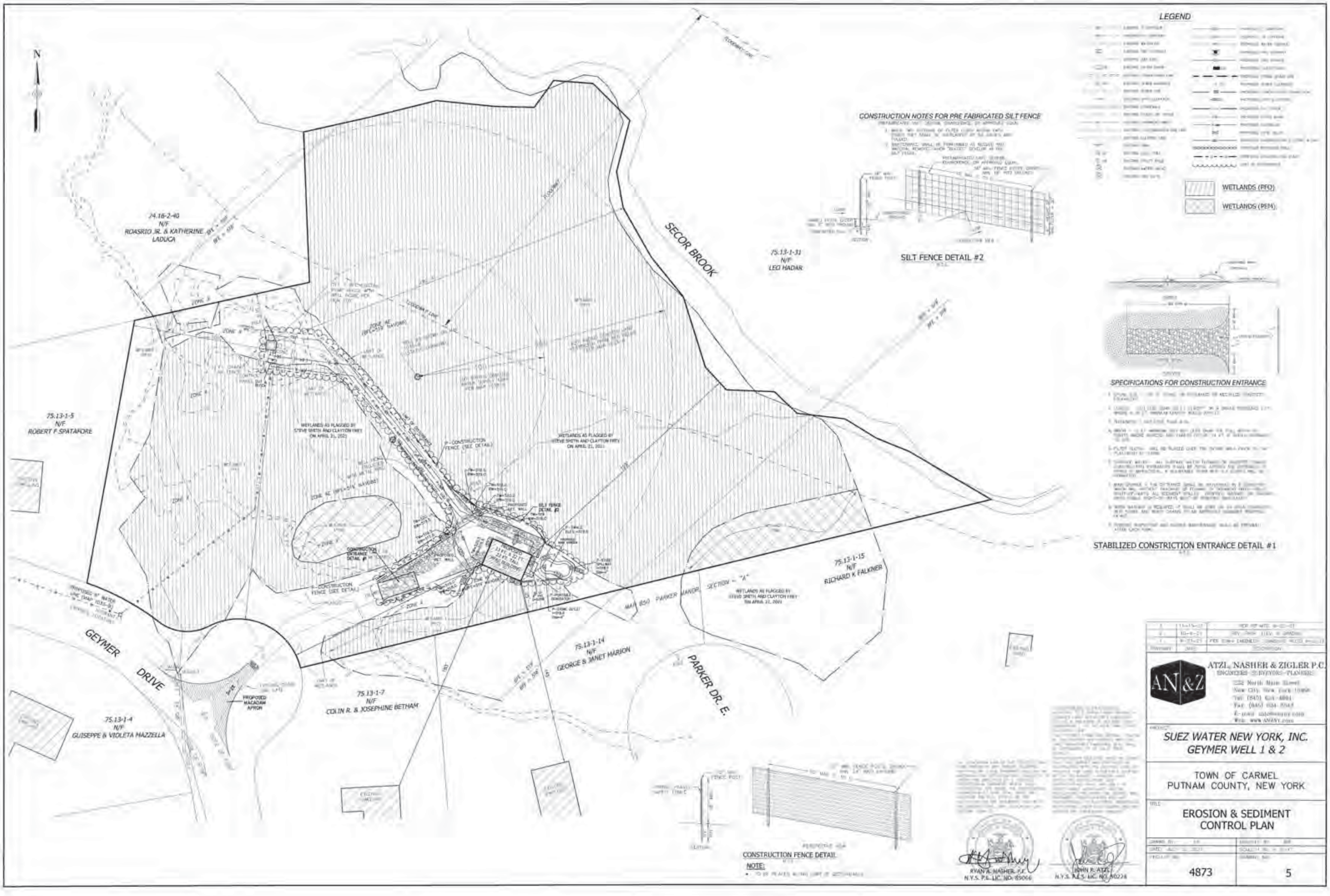
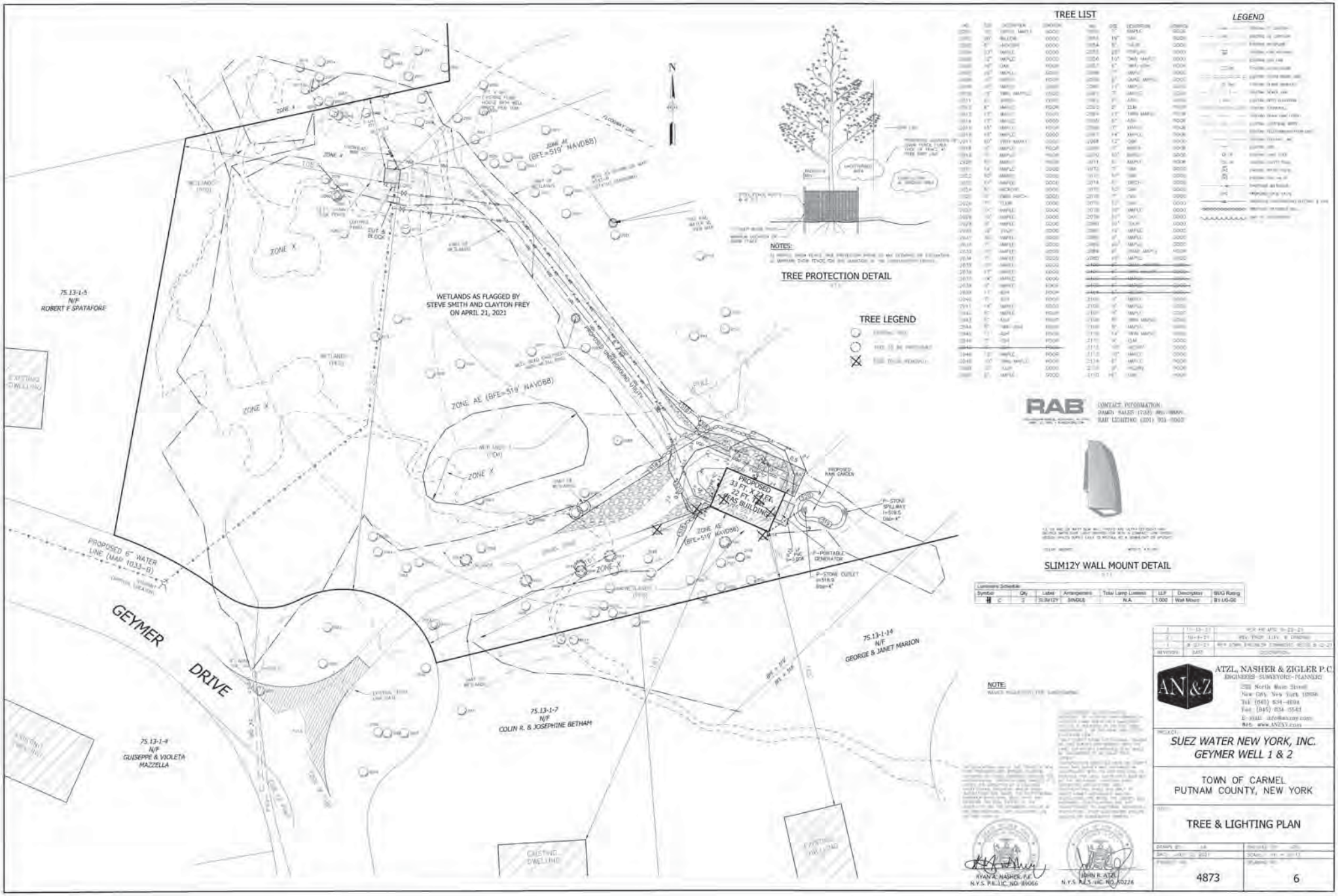

N
LEGEND
WETLANDS (PFO)
WETLANDS (PEM)
CONSTRUCTION NOTES FOR PRE FABRICATED SILT FENCE
SILT FENCE DETAIL #2
SPECIFICATIONS FOR CONSTRUCTION ENTRANCE
STABILIZED CONSTRICTION ENTRANCE DETAIL #1
SECOR BROOK
74.16-2-40
N/F
ROASRIO JR. & KATHERINE LADUCA
75.13-1-31
N/F
LECI HADAR
75.13-1-5
N/F
ROBERT F SPATAFORE
WETLANDS AS FLAGGED BY STEVE SMITH AND CLAYTON FREY ON APRIL 21, 2021
75.13-1-15
N/F
RICHARD K FALKNER
MAP 850 PARKER MANOR SECTION "A"
75.13-1-14
N/F
GEORGE & JANET MARION
GEYMER DRIVE
PARKER DR. E.
PROPOSED MACADAM APRON
75.13-1-7
N/F
COLIN R. & JOSEPHINE BETHAM
75.13-1-4
N/F
GUISEPPE & VIOLETA MAZZELLA
CONSTRUCTION FENCE DETAIL
NOTE:
ATZL, NASHER & ZIGLER P.C.
AN&Z
SUEZ WATER NEW YORK, INC.
GEYMER WELL 1 & 2
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK
EROSION & SEDIMENT
CONTROL PLAN
RYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 85066
JOHN R. ATZL
N.Y.S. P.L.S. LIC. NO. 50224
4873
5



Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description	BUG Rating
	2	SLIM12Y	SINGLE	N.A.	1.000	Wall Mount	B1-U0-G0

NO.	DATE	DESCRIPTION
3	11-13-21	PER PB MTG 9-22-21
2	10-4-21	REV. PROP. LAY. & GRADING
1	8-27-21	PER TOWN ENGINEER COMMENTS DATED 8-12-21

ATZL, NASHER & ZIGLER P.C.
ENGINEERS - SURVEYORS - PLANNERS
220 North Main Street
New City, New York 10956
Tel: (845) 634-0554
Fax: (845) 634-0542
E-mail: info@anzny.com
Web: www.ANZNY.com

PROJECT:
SUEZ WATER NEW YORK, INC.
GEYMER WELL 1 & 2

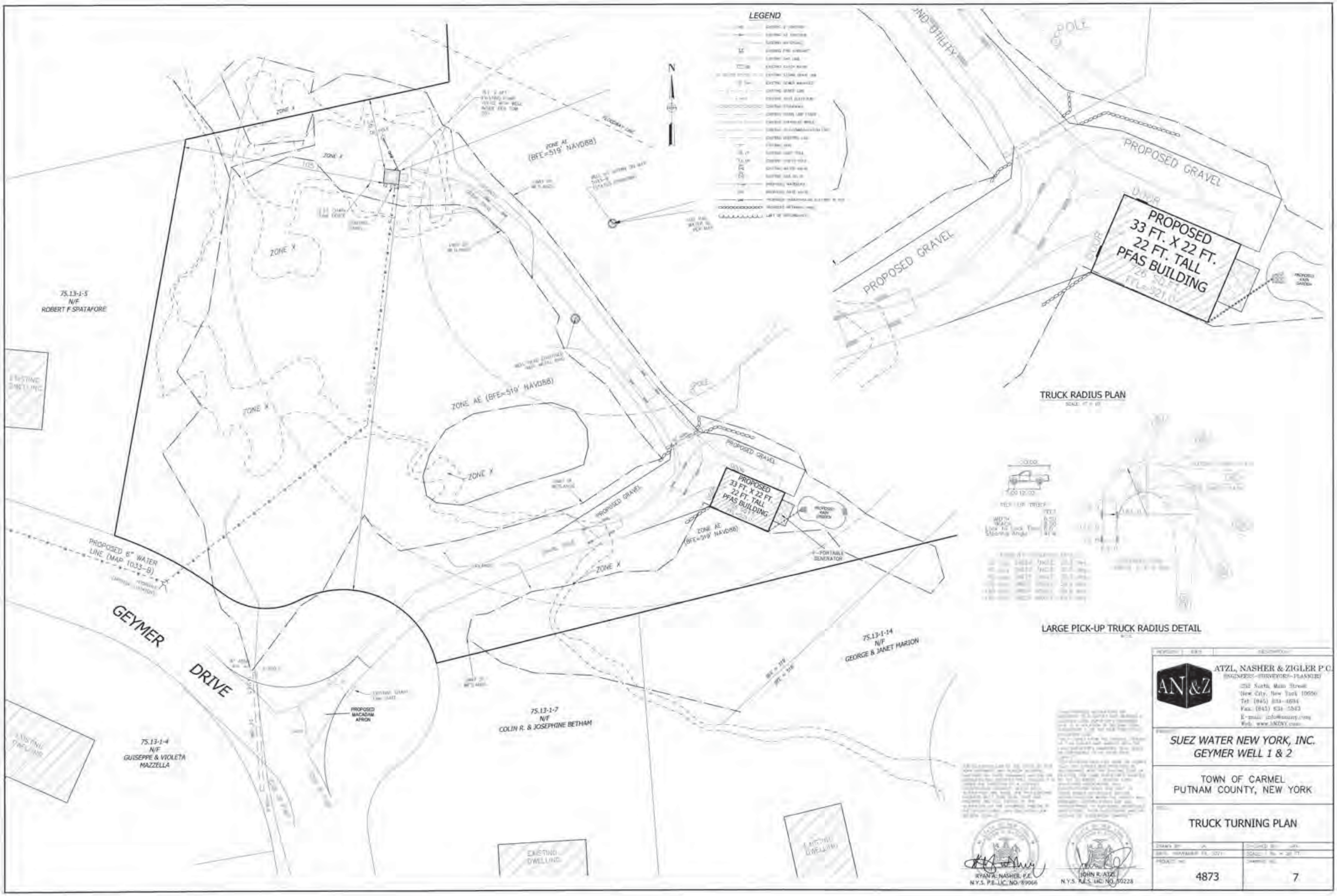
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

TITLE:
TREE & LIGHTING PLAN

RYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 89066

JOHN R. ATZL
N.Y.S. P.L.S. LIC. NO. 50226

DRAWN BY:	CHECKED BY:
DATE: JUNE 21, 2021	SCALE: 1" = 30'-0"
PROJECT NO. 4873	DRAWING NO. 6



ATZL, NASHER & ZIGLER P.C.
ENGINEERS–SURVEYORS–PLANNERS
232 North Main Street
New City, New York 10956
Tel: (845) 634-4694
Fax: (845) 634-5543
E-mail: info@anzny.com
Web: www.ANZNY.com

SUEZ WATER NEW YORK, INC.
GEYMER WELL 1 & 2

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

TRUCK TURNING PLAN

4873	7

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ENGINEERS - SURVEYORS - PLANNERS
Web: www.anzny.com

November 15, 2021

SUEZ WATER NEW YORK INC
PFAS COMPLIANCE FOR CHATEAU WELL SITE

Narrative Summary

SUEZ Water New York Inc. (SWNY) owns and operates the existing Chateau well site located in a residential area 180 feet northwest of 60 McNair Drive in Mahopac, Putnam County, New York and serve approximately 180 customers. SWNY plans to construct upgrades to the existing Chateau well site using the Engineering, Procurement, and Construction (EPC) project delivery method. This method will be utilized to comply with the state drinking water regulations for per - and polyfluoroalkyl substances (PFAS).

The existing facility pump capacity is 150 gallons per minute (gpm). The chemical feed uses Sodium hypochlorite (disinfectant). The onsite controls include the ability to operate the site remotely through the supervisory control and data acquisition SCADA program.

The proposed treatment system will include upsizing the pumps to compensate for headloss during the GAC treatment. The dimensions of the proposed PFAS treatment building is 38.67 ft. x 24 ft. x 24 ft. It will not increase firm capacity of the well. Raw water will pass through a prefilter unit followed by the granular activated carbon (GAC) treatment system in lead-lag configuration. Water will be dosed with sodium hypochlorite and then routed to the existing three storage tanks (20,000-gallon pressure tank, 20,000-gallon interior tank and a 20,000-gallon exterior tank). The water will be sent to the distribution system through the three existing booster pumps.

The planned upgrade will not increase the firm capacity of the well, but will add treatment for PFAS to comply with the New York State Drinking Water maximum contaminant level (MCL) of 10 ppt for PFOA and PFOS. The well will remain operational during the course of construction with limited disruption during tying in and testing of the new treatment system.

Architectural treatment/elements will be consistent with the existing visible on-site structures and area residential structures to conform and provide a consistent appearance acceptable to the Owner and be approved by applicable Municipal Agencies and review boards.

All work will be in full conformance with the New York State Department of Environmental Conservation (NYSDEC), New York State and Putnam County Departments of Health, the Town of Carmel, and other authorities having jurisdiction.

ATZL, NASHER & ZIGLER P.C.
ENGINEERS - SURVEYORS - PLANNERS
Web: www.anzny.com

November 15, 2021

Planning Board
Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541
Attn: Craig Paeprer, Chairman

Re: Suez Water (Chateau Wells 1, 2 & 3)
Tax Lot 75.20-1-16

Dear Chairman Paeprer and Honorable Board Members,

The following is our response to comments received during the Planning Board meeting held on September 22, 2021:

Process Related Comments

1. Comment: How often are the filters replaced and how?

   Response: *The GAC vessels will be replaced once in twenty years. Carbon is changed once in every one to two years. Replacement of bio filters depends on flow and water quantity, but it would probably occur once in every two to three months. There is overhead space available at these facilities to replace these filters.*

2. Comment: Have the existing facilities deteriorated and do they require upgrading?

   Response: *The existing facilities are not deteriorated. They need to be upgraded so as to meet the NYS mandated Drinking Water maximum contaminant levels (MCL) of 10 ppt for PFAS and PFOA.*

232 North Main Street • New City, NY 10956 • info@anzny.com • Tel: (845) 634-4694 • Fax: (845) 634-5543

3. Comment: Are there alternative vessels, particularly shorter ones?

Response: *Short vessels are not available.*

4. Comment: Can the facilities be combined into one structure?

Response: *Combined facilities will not be feasible as the proposed GAC treatment building cannot be accommodated in the existing pump house. The existing pump house must remain operational and secure during construction and hence cannot be expanded.*

Site Plan Comments

1. Comment: For sites with larger areas, is there any scope of moving the proposed buildings away from the property lines so as to minimize the visibility from neighboring residences to the extent possible?

Response: *Moving the proposed buildings would not be feasible given site development constraint, presence of wetlands etc.*

2. Comment: The planning board would prefer seeing a simple comparison of what existed, and what exists on site presently, and what is being proposed by use of colors, hatches, etc.

Response: *The site plan set submitted has an existing conditions plan and a proposed development plan. We believe attempting to merge these drawings would result in confusion regarding project details.*

3. Comment: Building sizes, dimensions and height must be clearly mentioned in the narratives as well as on the site plans. Both on the existing and proposed plans.

Response: *Provided in both narrative and site plan.*

4. Comment: On the site plan, show the distance in feet of existing homes from the proposed buildings on all facilities.

Response: Provided on grading plan.

5. Comment: If there are onsite power generators, mark them on the site plans. If these are portable generators, mark areas where these would be placed on site.

Response: Portable power generators will be used on site when required. The site plan indicates the location where these portable generators would be installed.

Floodplains and Storm Events

1. Comment: Is elevating buildings above based flood elevations (BFE) enough to take care of a 500-year storm?

Response: There is no 500-year floodplain per FEMA at this site.

2. Comment: Can the new buildings and vessels be set into the ground to reduce height? Justify the height needed.

Response: The vessels have to be maintained, meaning removal of building panels is necessary, and therefore it would not be possible to set the building and vessels into the ground and still be able to perform maintenance.

3. Comment: Floodproofing for all proposed developments is recommended in lieu of prudent planning.

Response: Floodproofing is not required for this site.

Landscape Plan

1. Comment: Some sites denotes tree clearances that seem excessive. Please reconsider and limit the amount of trees that need to be removed due to the proposed action. Please justify why and how many number of trees are being proposed to be removed.

   Response: *Tree clearing has been kept to a minimum. Trees to be removed are behind the proposed building.*

2. Comment: Existing trees on all sites must be analyzed so as to understand if these are evergreens. This would help determine if yearly screening would be possible, or if additional landscaping would be required to shield the proposed developments from residential areas.

   Response: *There are two (2) evergreen trees on site presently. None of these have been proposed for removal. A tree plan has been provided with this submission to screen the proposed building from the surrounding uses of land.*

3. Comment: Provide more landscaping on the side where it needs a yard variance.

   Response: *Additional landscaping has been provided along the east property line.*

Lighting Plan

1. Comment: Describe the timing for when the site would be illuminated for general use and maintenance (during most time of the day), and for security purposes (nighttime or early mornings). Can timers be installed?

   Response: *Although we have not received final Department of Health (DOH) comments, where we have received DOH comments on our other PFAS facilities, they are requesting "The perimeter of the treatment plant property should be illuminated with street-type lighting fixtures". It is our intention to utilize downward facing, wall mounted, LED lights, controlled by photocells to automatically illuminate at night, over the doorways of the treatment building. However, we must make sure this lighting is acceptable to the DOH.*

The following is our response to Patrick Cleary, AICP, CEP, PP, LEED AP of Cleary Consulting, letter dated September 22, 2021:

Site Plan Review Comments

1. Comment: The site is located in the R - Residential zoning district. Pursuant to a determination by the Director of Code Enforcement, Suez is a private water company, and not a public utility installation, and therefore is not classified as a permitted Conditional Use, subject to the conditions established in §156-37. As a result, the proposed use is prohibited, and a use variance is required.

   Response: *The Zoning Board of Appeals (ZBA) determined at their October 28, 2021 meeting that SUEZ is a public water company. Use variance would therefore not be required.*

2. Comment: The new water treatment building does not meet the applicable side yard setback requirements. Variances are required. All other dimensional regulations are met.

   Response: *Variances from these requirements will be requested from the ZBA.*

3. Comment: The facility is proposed within the buffer of a NYSDEC wetland. In accordance with Article 24, a Freshwater Wetland Permit is required from the NYSDEC.

   Response: *NYSDEC and ACOE permits will be obtained. The Code Enforcement Officer has referred this project to the ECB of the Town of Carmel.*

4. Comment: The boundary of Plumb Brook and the on-site pond are not clearly defined on the site plan. Clarification is required.

   Response: *Plans have been revised and clarified.*

5. Comment: New evergreen landscaping is proposed along the southern property line along McNair Drive. Landscaping should also be provided on the east side of the building (in the area of the deficient side yard setback).

Response: *A tree plan has been provided with this submission to screen the new building from the surrounding residences.*

6. Comment: Is the PFAS treatment facility a permanent and on-going operation, or is it a temporary measure?

Response: *PFAS treatment facility is a permanent and on-going operation.*

7. Comment: Given the adjacency of the existing pump house and the proposed PFAS building, is a single building a viable option on this environmentally constrained parcel?

Response: *Combined facilities will not be feasible as the proposed GAC treatment building cannot be accommodated in the existing pump house. The existing pump house must remain operational and secure during construction and so cannot be combined.*

8. Comment: Clarify if fencing is proposed.

Response: *No fencing is proposed at this site, the existing gate at the entrance will remain.*

9. Comment: Provide the noise generation specifications for the new pumps. Noise generation must comply with the sound level standards for residential districts established in Chapter 105 of the Town Code.

Response: *The Applicant will comply with the sound level standards in accordance with Chapter 105 of the Town code. The pumps are located within the wells and are 168' below grade, and will not change ambient noise level.*

10. Comment: Clarify if any special chemical storage provisions are required.

Response: *There is a secondary containment under the chemical tanks in this facility, able to hold the whole volume of chemicals in case of a spill. Level of chemicals is constantly monitored remotely via SCADA.*

11. Comment: How often will the site be accessed by maintenance and or operational personnel?

Response: *The operators currently visit the site once per day.*

Under future conditions, we anticipate the operators will visit the site once per day. In addition, once annually to once every two years the carbon will need to be replaced in one of the GAC vessels.

12. Comment: Clarify the illumination of the lighting wall packs (in footcandles).

Response: *Footcandles provided on Lighting Plan.*

13. Comment: Correspondence included with the site plan application from Creamer indicates that the building was to be a prefabricated metal building with a standing seam roof system. However, due to extensive lead time delays, the applicant is exploring other material options. The architectural treatment of the building must be established at this time, as the Planning Board also serves in the capacity of Architectural Review Board.

Response: *A new architectural narrative has been provided with this submission.*

SEQRA Review Comments

1. Comment: The project is classified as a Type II Action pursuant to §617 of the SEQRA regulations. No further SEQRA environmental review is required.

Response: *No response required.*

The following is our response to Richard J. Franzetti, P.E, letter September 8, 2021:

General Comments

1. The following referrals are required:

a. Comment: New York State Department of Environmental Conservation (NYSDEC).

Response: *Noted.*

b. Comment: Putnam County Department of Health (PCDOH).

Response: *Noted.*

c. Comment: The Town of Carmel Environmental Conservation Board (ECB).

Response: *Noted.*

d. Comment: Mahopac Falls Fire Department.

Response: *Noted.*

2. The following permits are required:

a. Comment: NYSDEC - for stormwater and wetlands.

Response: *Noted.*

b. Comment: PCDOH for well and treatment system.

Response: *Noted.*

c. Comment: ECB for wetlands.

Response: *Noted.*

3. Comment: The area of disturbance for the work as provided is 13,607 sf. The threshold criteria of disturbances for the NYSDEC stormwater regulation are between 5,000 square feet and one (1) acre and over one (1) acre. The project will require coverage under the NYSEC SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) and the development of Stormwater Pollution Prevention Plan (SWPPP) that has erosion and sediment controls.

The applicant has provided a SWPPP which is currently under review.

Response: *Agreed. A Stormwater Pollution Prevention Plan (SWPPP) is provided accordingly.*

4. Comment: All re-grading required to accomplish the intended development should be provided. It is unclear from the drawings provide the extent of cut and fill proposed for the site.

Response: *A grading plan has been provided with this submission.*

5. Traffic and Vehicle Movement Plans should be provided which provide the following:

a. Comment: Graphic representation of vehicle movements through the site should be provided to illustrate that sufficient space exists to maneuver vehicles on the site.

Response: *A truck turning plan has been added to the plan set.*

b. Comment: All turning radii for the site should be graphically provided. This includes the turning radii into the site entrance.

Response: *A truck turning plan has been added to the plan set.*

c. Comment: Slopes at the entrance way need to be defined. It is suggested that slopes of less than 6% be used for the first 20 feet of entry and that slopes of no greater than 8% be used entering the site. Please refer to AASHTO guidelines for commercial properties.

Response: *Driveway slope is 6% for the first 20 feet which transitions to 12%, close to the existing terrain. Trucks accessing the site are large pickup trucks with high ground clearance. Driveway slopes will not be an issue for these vehicles.*

6. Comment: A light spill plan should be provided.

Response: *A Lighting Plan has been provided with this submission.*

7. Comment: Should any public improvements be deemed necessary as part of the development of the tract, a Performance Bond and associated Engineering Fee must eventually be established for the work. The applicant will need to develop a quantity take off for bonding purposes.

Response: *Noted.*

Detailed Comments

1. Comment: A landscaping plan has been provided. The applicant should add a note that all plantings shall be installed per §142 of the Town of Carmel Town Code.

Response: *Note added to the site plan. See note 8.*

2. Comment: The rain garden calculations have been provided. The applicant should note that then must meet the criteria as defined by the NYSDEC. This includes providing sufficient depth to groundwater.

Response: *Noted. Calculations will be provided prior to construction.*

3. Comment: Adequate protection should be provided in the stormwater management practice (SMP) areas to minimize disturbance during construction. Details should be provided to show how the rain garden will be protected during construction.

Response: *The final grading and the installation of the rain garden will be performed at the Final phase of the construction after upland stabilization. Please refer to the construction sequence on the Erosion and Sediment Control Plan.*

4. Comment: All water service connections must be K-copper.

Response: *Noted, will comply.*

5. Comment: It is unclear if additional electrical utilities are being installed.

Response: *Electrical utilities will be upgraded on this site, and the new service will be provided via overhead wires for the proposed GAC building.*

6. Comment: The area of disturbance must be shown on the drawing and delineated by orange construction fencing.

Response: *Provided on grading plan, and Erosion and Sediment Control Plan with a detail.*

7. Comment: Gate valves shall be AWWA non-rising stem type, as manufactured by Mueller Company, Model A-2360-23, or approved equal, conforming to the latest AWWA Standard for Gate Valves - 3" through 48" - for Water and Other Liquids, AWWA Designation C-509.

Response: *Noted, will take under advisement.*

8. Comment: Sizes up to and including 12" shall be 250 psi working pressure. The valve body and bonnet shall be ductile iron. All interior and exterior metal surfaces shall be coated with a two-part thermosetting epoxy complying with AWWA C550.

Response: *Noted, will take under advisement.*

9. Comment: Valves shall have dual "O" ring seals, inside screw, resilient wedge seats in accordance with AWWA Designation C-550 and shall be constructed so as to provide unobstructed full port clearance when fully open and immediate complete closure when closed. The ends of the valves shall be mechanical joint.

Response: *Noted, will take under advisement.*

10. Comment: All valves shall be arranged to open in counterclockwise direction unless otherwise specifically indicated and operating nuts shall be 2" square.

Response: *The SUEZ standard is open right.*

11. Comment: Valves shall be tested to a pressure of not less than two times the working pressure.

Response: *Noted, will take under advisement.*

12. Comment: All hydrants shall be six inches in size with six-inch mechanical joint inlet connection and shall be equal to the Mueller Centurion A-421, with one (1) 4 ½ " pumper nozzle and two (2) 2 ½ " hose nozzles.

Response: *Noted, will take under advisement.*

13. Comment: Water Service Saddles shall be equal to those manufactured by Mueller, Model 7 ½” x 1” SS Series Stainless Steel Saddle, Double Stud.

Response: *Noted, will take under advisement.*

14. Comment: Corporation stops shall be equal to those as manufactured by Mueller Company, Model B-25000Series, NRS and of the size required. Such corporation stops shall meet the requirements of AWWA Specification No. C800.

Response: *Noted, will take under advisement.*

15. Comment: Curb valves (stops) shall be equal to those as manufactured by Mueller Company, Model H-15214 and shall conform to AWWA Specification No. C800.

Response: *Noted, will take under advisement.*

16. Comment: Curb boxes shall be equal to those as manufactured by Mueller Company and similar to Mueller extension type with arch pattern base model H-10314 all extension rods shall be stainless steel.

Response: *Noted, will take under advisement.*

17. Comment: All fire hydrants shall be the approved AWWA type fire hydrants in conformance with the American Water Works Association Standard for Fire Hydrants for Ordinary Water Works Service, AWWA Designation C502, and shall have a 5-1/4" valve opening, a 6" mechanical joint inlet complete with an auxiliary gate valve (close coupled), a 6” mechanical joint shoe, and all appurtenances.

Response: *Noted, will take under advisement.*

18. Comment: Fire hydrants shall be rated for a working pressure of 250 Psi. Fire hydrants shall be sized for a 4’-6” bury.

Response: *Noted, will take under advisement.*

The following is our response to Michael G. Carnazza, Director of Code Enforcement for the Town of Carmel, letter dated September 15, 2021:

1. Comment: The applicants propose to add a PFAS Treatment Building to the water treatment facility off McNair Dr. in Mahopac.

   Response: *Statement; no response required.*

2. Comment: A Use Variance is required for the Private Utility. Only Public Utilities are permitted in the Town of Carmel.

   Response: *The Zoning Board of Appeals (ZBA) determined at their October 28, 2021 meeting that SUEZ is a public water company. Use variance would therefore not be required.*

3. Comment: Provide a detail of the buffer. Code § l 56-37C requires "A landscaped buffer area at least 10 feet in width and six feet in height shall be provided and maintained along all property lines to satisfactorily screen public utility substations and any other buildings from surrounding uses of land.

   Response: *A tree and landscape plan has been provided with this submission to screen the new building from the surrounding residences.*

4. Comment: Referral to the ECB, Fire Department and Putnam County Dept. of Health are required by code.

   Response: *Noted.*

The following is our response to Residents of McNair Drive, Mahopac letter dated October 11, 2011:

1. Comment: As McNair is a completely residential street and the pump house is the first thing you notice as you drive to the end of McNair (visual impact), we request a structure that blends into the surrounding residential area. That is, a retrofitted single unit or a new structure that looks like a house (like the current pump station behind Maple Grove Nursery in the Town of Mahopac). We do not approve of the pre-fab metal-looking commercial 33 x 24 foot high structure in the photo presented on page 107 of the 9/22 Agenda. This preliminary structure will be completely out of place and visible by surrounding houses and by anyone who drives to the McNair Drive cul-de-sac.

   We are concerned that if the wrong decisions are made about the structure(s) they will negatively impact the home values on McNair Drive.

   Response: *A revised architectural narrative and rendering has been provided.*

2. Comment: As the pump house is in a wooded area, we request that appropriate landscaping be done around the structure(s) to hide its view. We need a landscape buffer around the building.

   Response: *Refer to the landscape plan provided with this submission.*

3. Comment: We are also concerned with the type of chemicals that will be stored on site and how well-contained they will be.

   Response: *Sodium hydrochloride (chlorine) will be stored in a 55-gallon tank with containment.*

4. Comment: At the 9/22 Planning Board meeting, there was discussion about outside lighting. We request that the lighting does not disturb adjacent homes (perhaps use a motion detector light).

   Response: *Although we have not received final Department of Health (DOH) comments, where we have received DOH comments on our other PFAS facilities, they are requesting "The perimeter of the treatment plant property should be illuminated with street-type lighting fixtures". It is our*

intention to utilize downward facing, wall mounted, LED lights, controlled by photocells to automatically illuminate at night, over the doorways of the treatment building. However, we must make sure this lighting is acceptable to the DOH.

5. Comment: We also suggest using cameras to contain crime as current hardware is very affordable.

Response: *Suez is not currently planning to install video cameras at this facility. Suez has found that lighting provides an immediate deterrent, whereas cameras only record what has happened. Additionally, those intent on malfeasance can easily disguise themselves from video by something as simple as a hooded sweatshirt.*

CREAMER

J. FLETCHER CREAMER & SON, INC.

POWERED BY API Group

Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541

Re: **Site Plan Application**
SUEZ Water New York, Inc. – Chateau Well 1, 2 & 3
Proposed Building Materials Narrative

All,

Due to extensive lead time delays for the design, fabrication and delivery of the original prefabricated metal building, we explored other material or manufacturer options for the building to better meet schedule requirements.

After exploring several different options, we were able to proceed with a different prefabricated metal building vendor to furnish and install the building. We were able to expedite the design process and improve the fabrication duration of the prefabricated building in order to meet our schedule.

We will be installing a prefabricated metal building, with steel framing, insulated metal wall panels with an exterior color, standing seam roof system, with a cast in place concrete foundation designed to accommodate the load of the building structure, equipment, vessels, and all other loads impacting the foundation.

The color of the building will be Hemlock Green and the roof trim, gutters and downspouts color will be cool harvest. The building will have a 4' split face masonry wall along the perimeter of the building for aesthetics and durability and will be Tribeca Tan. Please refer to renderings for visual representation of the building and masonry wall.

Sincerely,
J. Fletcher Creamer & Son, Inc.

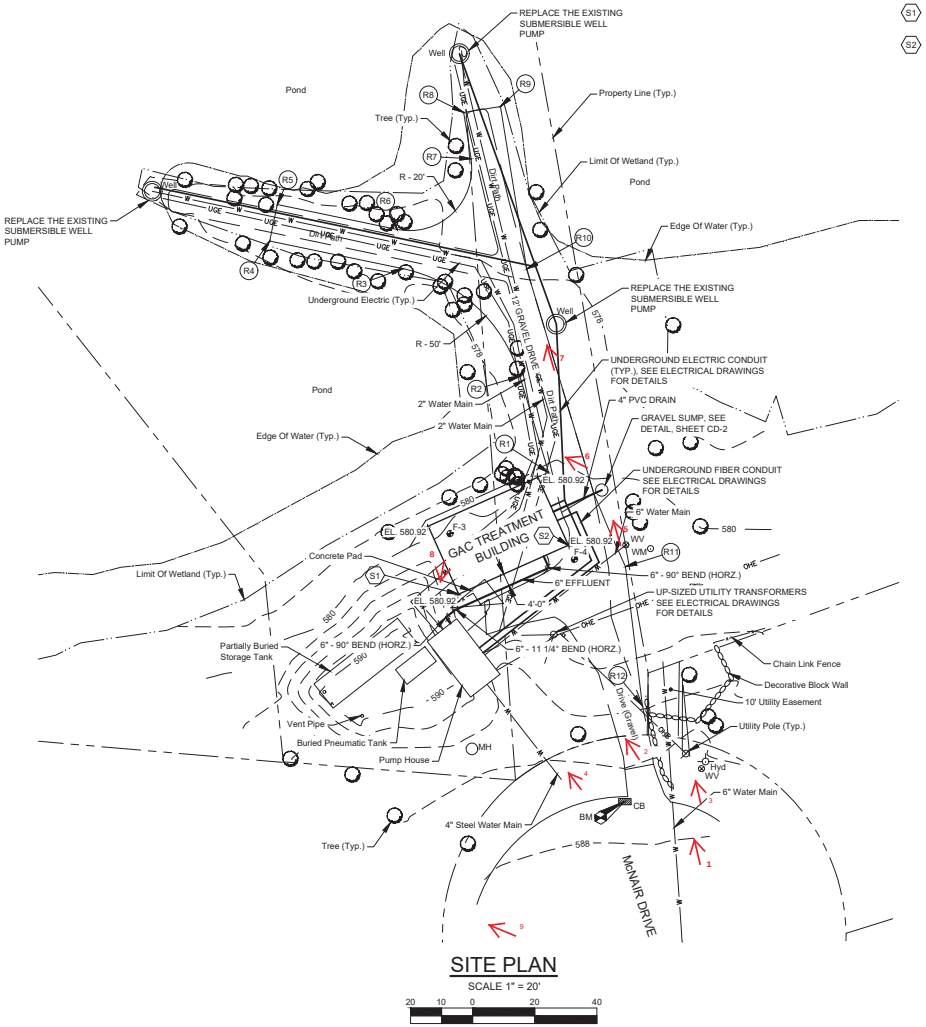
101 East Broadway
Hackensack, NJ 07601-6851
Phone (201) 488-9800 | Fax (201) 488-2901

JFCSON.COM

Copy to:


SWNY PFAS COMPLIANCE
Chateau Well Site - 6 to 8 Ft Trees


SWNY PFAS COMPLIANCE
Chateau Well Site - 20 Ft Trees



SITE PLAN

SCALE 1" = 20'

20 10 0 20 40

STRUCTURAL CONTROL

S1	SOUTHWEST CORNER OF GAC TREATMENT BUILDING	N 920057.48	E 700724.60
S2	SOUTHEAST CORNER OF GAC TREATMENT BUILDING	N 920073.25	E 700777.91

BENCHMARK

BM - TOP OF GRATE OF STORM INLET
ELEVATION - 587.50

BORINGS

F-3	N 920077.00	E 700739.89
F-4	N 920068.68	E 700779.95

ACCESS ROAD CONTROL

R1	——	N 920096.70	E 700771.57
R2	POINT OF CURVE	N 920127.66	E 700762.31
R3	POINT OF TANGENT	N 920162.29	E 700724.60
R4	——	N 920171.21	E 700681.79
R5	——	N 920182.95	E 700684.23
R6	POINT OF CURVE	N 920174.93	E 700722.80
R7	POINT OF TANGENT	N 920197.70	E 700746.62
R8	——	N 920212.60	E 700744.21
R9	——	N 920214.52	E 700756.06
R10	——	N 920162.19	E 700764.52
R11	——	N 920066.35	E 700796.32
R12	——	N 920021.62	E 700801.76

NOTES

1. ALL PIPING TO BE DUCTILE IRON UNLESS NOTED OTHERWISE.
2. PIPING AND FITTINGS TO BE RESTRAINED JOINT UNLESS NOTED OTHERWISE.
3. AT POINTS OF CONNECTION, CONTRACTOR SHALL EXPOSE EXISTING WATER MAINS TO VERIFY LOCATION, GEOMETRY, AND MATERIAL REQUIREMENTS PRIOR TO ORDERING MATERIALS OR STARTING CONSTRUCTION OF ANY MAIN CONNECTING THERE TO.

FILE PATH: Z:\DRAWINGS\68577 SuezNY PFAS-Proj-F-And-HCIVIL\68577C200.dwg
DATE SAVED: 9/29/2021 2:13 PM BY: jgriffe DATE PLOTTED: 10/19/2021 12:51 PM

No.	DESCRIPTION	DATE	BY
	REVISIONS		

DESIGNED	CADD	SCALE
J.L.G.	J.L.G.	AS NOTED
CHECKED	APPROVED	APPROVED
S.Z.L.	.	.

GANNETT FLEMING
ENGINEERS AND ARCHITECTS, P.C.

CREAMER
A FLETCHER CREAMER & SON, INC. COMPANY

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

CHATEAU WELLS
CIVIL
SITE PLAN

JOB No. 68577
DATE OCTOBER 2021
SHEET No. C-200

Chateau Pictures

1

2

3

4

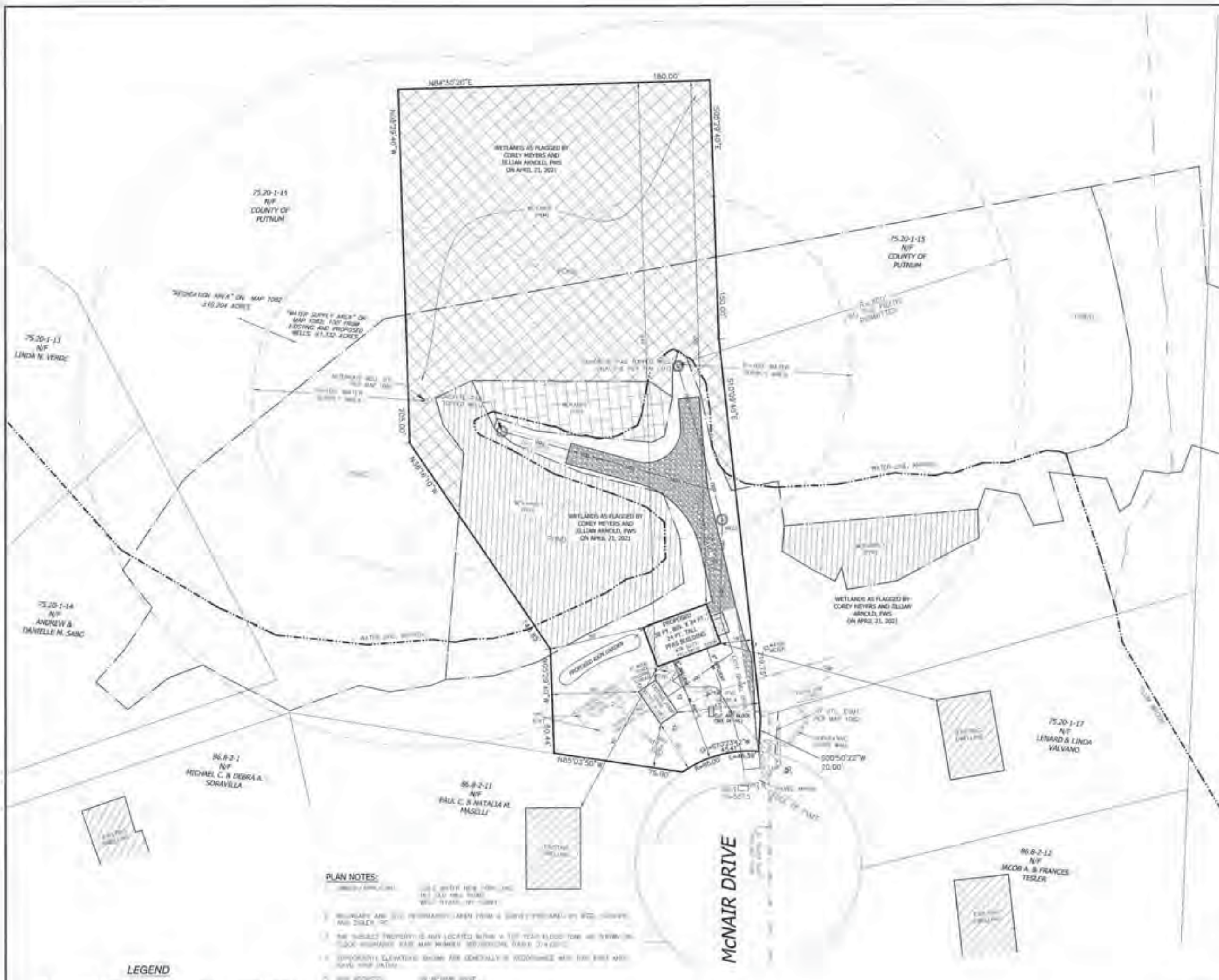
4

5

6

7

8



VICINITY MAP

OWNERS WITHIN 500 FEET:

DRAWING LIST:

PLAN NOTES:

LEGEND

WETLANDS (PFO)

WETLANDS (PEM)

WETLANDS (PSS)

NET LOT AREA CALCULATIONS:

PARKING REQUIREMENTS:

DISTRICT REGULATIONS:

ZONE "R" DISTRICT "D"	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA	120,000 SQ.FT.	[illegible]	[illegible]
MINIMUM LOT WIDTH	[illegible]	117 FT	117 FT
MINIMUM STREET FRONTAGE (ON TOWN ROAD)	100 FT	N/A	N/A
MINIMUM STREET FRONTAGE (ON CUL DE SAC)	50 FT	46.8 FT	46.8 FT
MINIMUM FRONT YARD	40 FT	[illegible]	[illegible]
MINIMUM SIDE YARD	25 FT	25 FT	[illegible] *
MINIMUM TOTAL SIDE YARD	50 FT	[illegible]	[illegible] *
MINIMUM REAR YARD	40 FT	[illegible]	[illegible]
MAXIMUM BUILDING HEIGHT	35 FT	[illegible]	[illegible]
MAXIMUM LOT COVERAGE	0.15	[illegible]	[illegible]
MINIMUM LANDSCAPE BUFFER	10 FT	10 FT	10 FT

* ZONING VARIANCE REQUIRED
CONDITIONAL USE APPROVAL FROM THE PLANNING BOARD REQUIRED

FLOOD HAZARD:

NOTE:

SUBDIVISION REFERENCE:

TAX MAP REFERENCE:

OWNER & APPLICANT:

SITE ADDRESS:

AREA:

DATUM:

REVISION	DATE	DESCRIPTION
1	[illegible]	[illegible]

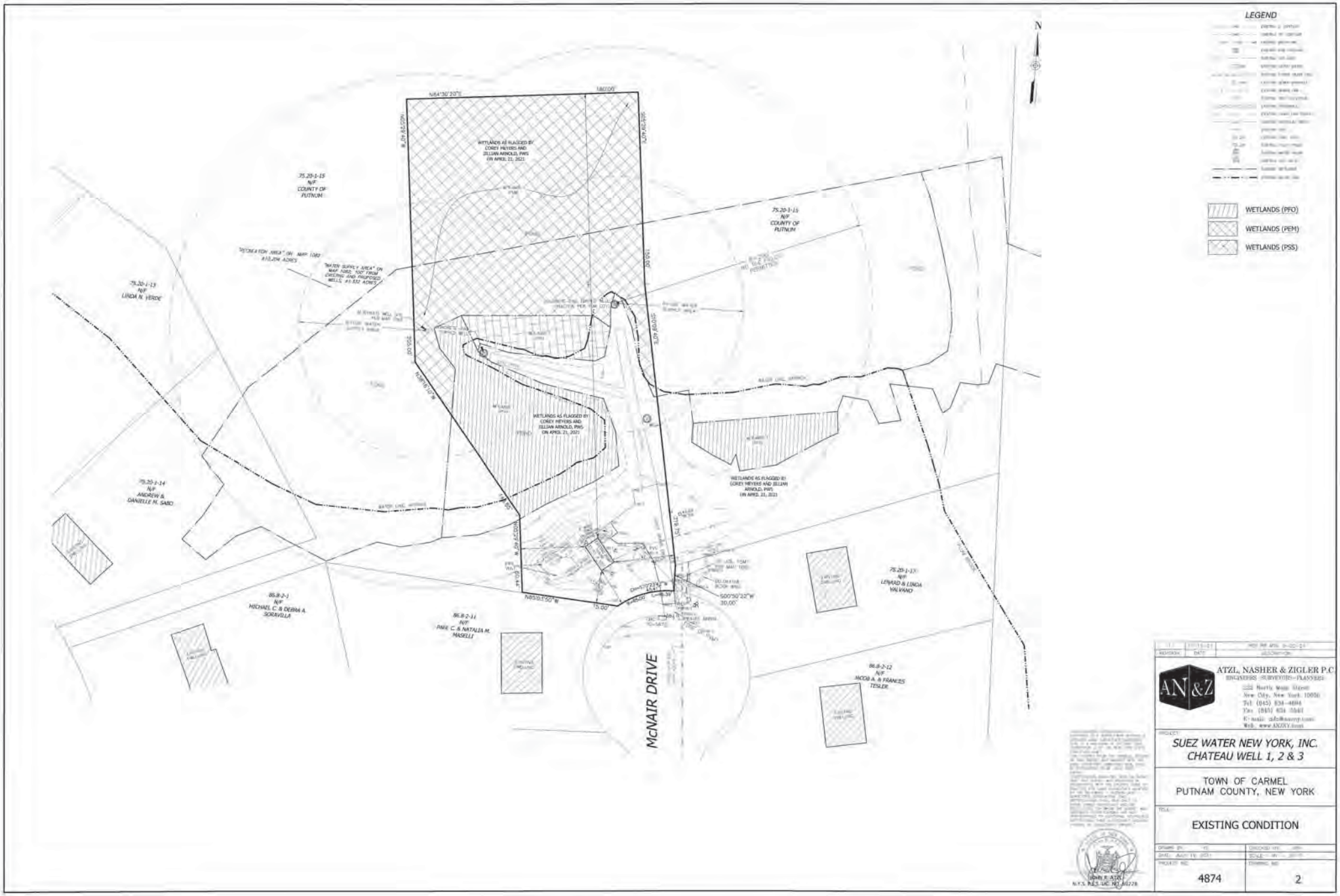
ATZL, NASHER & ZIGLER P.C.
ENGINEERS - SURVEYORS - PLANNERS

PROJECT:
SUEZ WATER NEW YORK, INC.
CHATEAU WELL 1, 2 & 3

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

TITLE:
SITE PLAN

PROJECT NO.	DRAWING NO.
4874	1



ATZL, NASHER & ZIGLER P.C.
ENGINEERS · SURVEYORS · PLANNERS
238 North Main Street
New City, New York 10956
Tel: (845) 634-4004
Fax: (845) 634-3440
E-mail: info@anzcorp.com
Web: www.ANZCORP.com

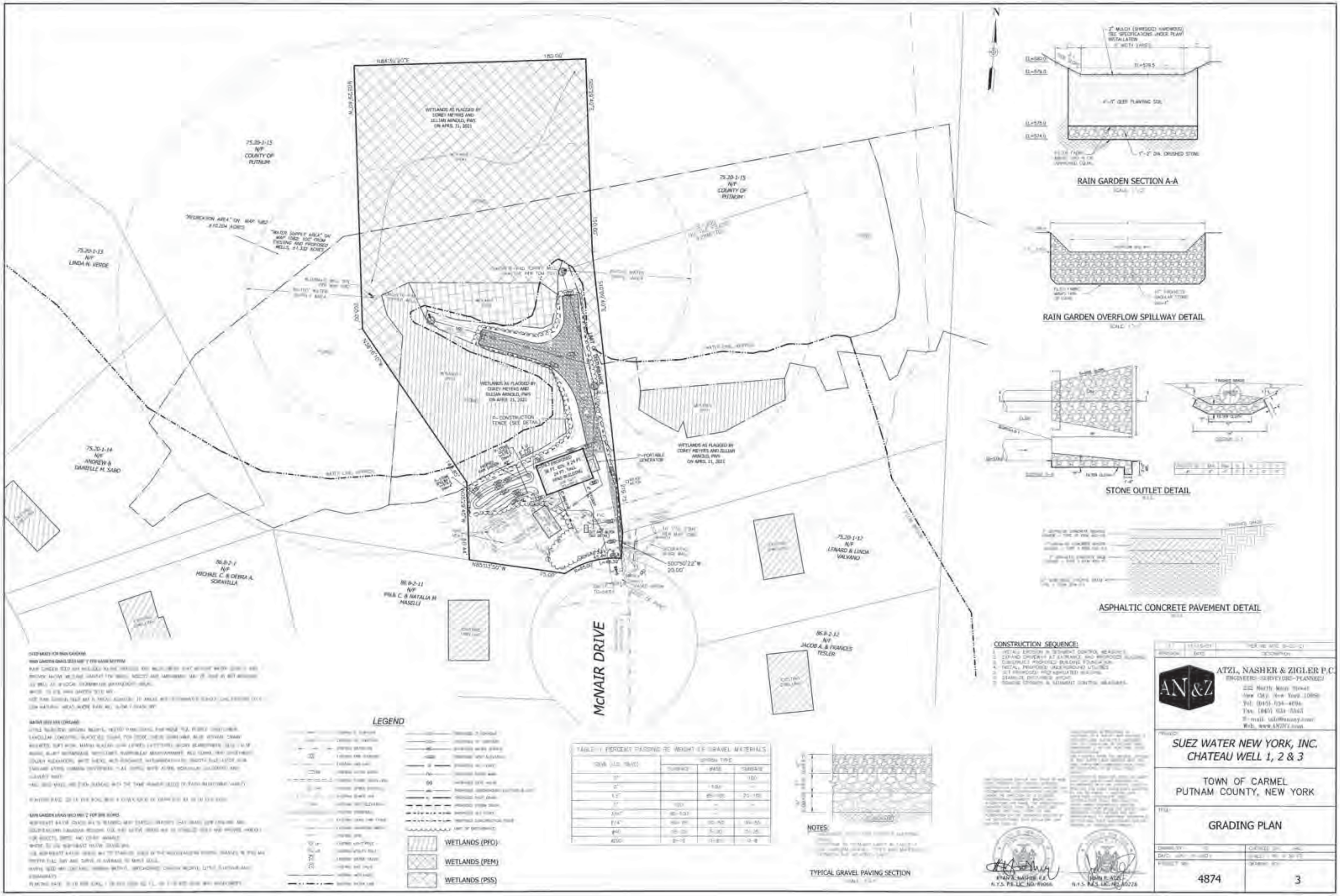
PROJECT:
SUEZ WATER NEW YORK, INC.
CHATEAU WELL 1, 2 & 3

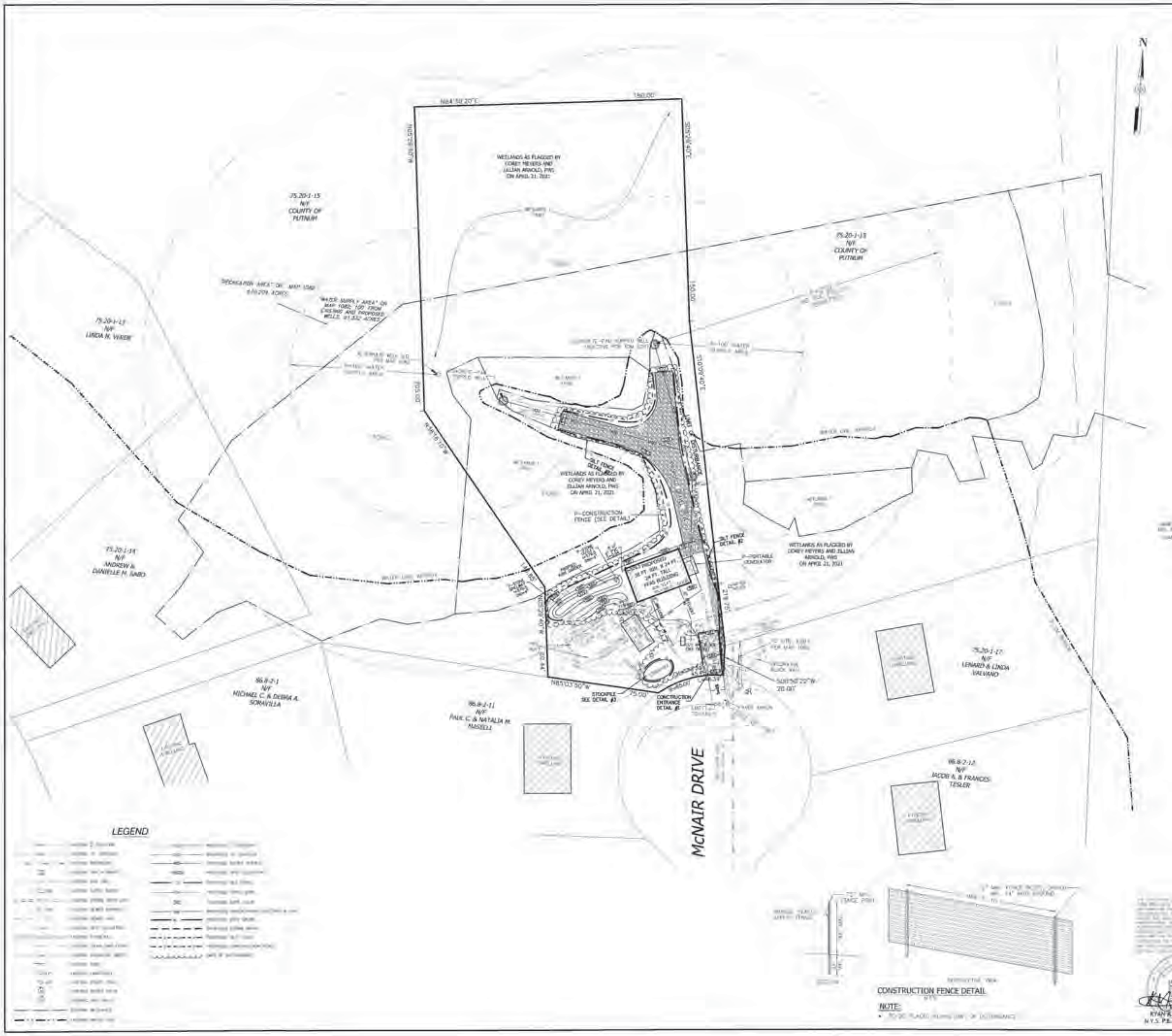
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

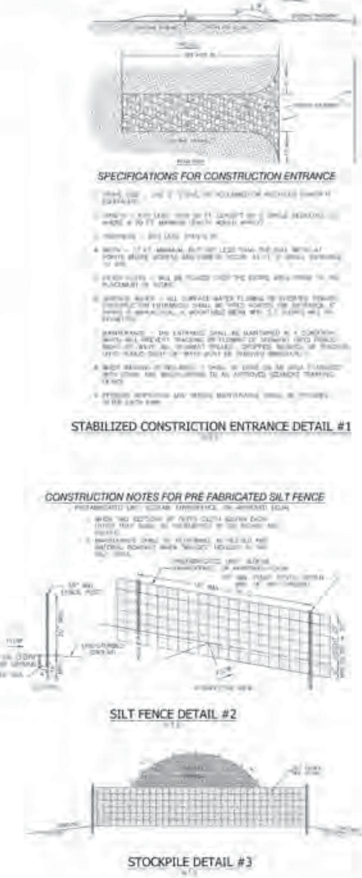
TITLE:
EXISTING CONDITION

DRAWN BY: TC	CHECKED BY: JMN
DATE: AUGUST 19, 2021	SCALE: 1" = 50'
PROJECT NO. 4874	DRAWING NO. 2

JOHN R. NASHER
N.Y.S. P.E.S. LIC. NO. 60228


N
RAIN GARDEN SECTION A-A
RAIN GARDEN OVERFLOW SPILLWAY DETAIL
STONE OUTLET DETAIL
ASPHALTIC CONCRETE PAVEMENT DETAIL
WETLANDS AS FLAGGED BY COREY MEYERS AND ZILLIAN ARNOLD, PWS ON APRIL 21, 2021
75.20-1-15 N/F COUNTY OF PUTNAM
75.20-1-13 N/F LINDA M. VERDE
75.20-1-14 N/F ANDREW & DANIELLE M. SABO
86.8-2-1 N/F MICHAEL C. & DEBRA A. SORAVILLA
86.8-2-11 N/F PAUL C. & NATALIA M. MASELLI
75.20-1-12 N/F LENARD & LINDA VALVANO
86.8-2-12 N/F JACOB A. & FRANCES TESLER
McNAIR DRIVE
S00°50'22"W 20.00'
LEGEND
WETLANDS (PFO)
WETLANDS (PEM)
WETLANDS (PSS)
NOTES:
TYPICAL GRAVEL PAVING SECTION
CONSTRUCTION SEQUENCE:
ATZL, NASHER & ZIGLER P.C.
AN&Z
SUEZ WATER NEW YORK, INC.
CHATEAU WELL 1, 2 & 3
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK
GRADING PLAN
4874
3


N
N84°50'20"E
150.00'
WETLANDS AS FLAGGED BY COREY MEYERS AND JILLIAN ARNOLD, PWS ON APRIL 21, 2021
75.20-1-15
N/F
COUNTY OF PUTNUM
75.20-1-13
N/F
LINDA M. VERDE
75.20-1-14
N/F
ANDREW & DANIELLE M. SABO
WATER LINE ARROW
CONSTRUCTION FENCE (SEE DETAIL)
SILT FENCE DETAIL #2
PORTABLE GENERATOR
WETLANDS AS FLAGGED BY COREY MEYERS AND JILLIAN ARNOLD, PWS ON APRIL 21, 2021
75.20-1-17
N/F
LENARD & LINDA VALVANO
96.8-2-1
N/F
MICHAEL C. & DEBRA A. SORAVILLA
96.8-2-11
N/F
PAUL C. & NATALIA M. FUSELLI
96.8-2-12
N/F
JACOB A. & FRANCES TESLER
N85°03'50"W
75.00'
STOCKPILE SEE DETAIL #3
CONSTRUCTION ENTRANCE DETAIL #1
S00°50'22"W
20.00'
McNAIR DRIVE
LEGEND
CONSTRUCTION FENCE DETAIL
NOTE:
RYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 89066
N.Y.S. P.L.S. LIC. NO. 49228



ATZL, NASHER & ZIGLER P.C.
ENGINEERS–SURVEYORS–PLANNERS

SUEZ WATER NEW YORK, INC.
CHATEAU WELL 1, 2 & 3

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

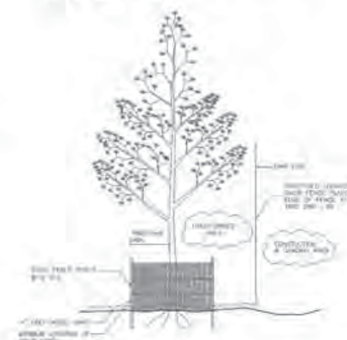
EROSION & SEDIMENT CONTROL PLAN

4874	4

TREE LIST

NO.	SIZE	DESCRIPTION	CONDITION	NO.	SIZE	DESCRIPTION	CONDITION
[illegible]	[illegible]	MAPLE	GOOD	[illegible]	[illegible]	MAPLE	POOR
[illegible]	[illegible]	PINE	GOOD	[illegible]	[illegible]	MAPLE	POOR
[illegible]	[illegible]	PINE	GOOD	[illegible]	[illegible]	MAPLE	GOOD
[illegible]	[illegible]	LOCUST	GOOD	~~[illegible]~~	~~[illegible]~~	~~MAPLE~~	~~GOOD~~
[illegible]	[illegible]	LOCUST	[illegible]	[illegible]	[illegible]	MAPLE	POOR
~~[illegible]~~	~~[illegible]~~	~~MAPLE~~	~~POOR~~	[illegible]	[illegible]	MAPLE	POOR
~~[illegible]~~	~~[illegible]~~	~~MAPLE~~	~~POOR~~	250	[illegible]	MAPLE	POOR
~~[illegible]~~	~~[illegible]~~	~~MAPLE~~	~~POOR~~	[illegible]	[illegible]	MAPLE	POOR
~~[illegible]~~	~~[illegible]~~	~~MAPLE~~	~~POOR~~	[illegible]	[illegible]	MAPLE	GOOD
~~[illegible]~~	~~[illegible]~~	~~MAPLE~~	~~POOR~~	[illegible]	[illegible]	MAPLE	GOOD
~~[illegible]~~	~~[illegible]~~	~~MAPLE~~	~~POOR~~	[illegible]	[illegible]	MAPLE	GOOD
~~[illegible]~~	~~[illegible]~~	~~MAPLE~~	~~POOR~~	[illegible]	[illegible]	MAPLE	POOR
~~[illegible]~~	~~[illegible]~~	~~MAPLE~~	~~POOR~~	[illegible]	[illegible]	MAPLE	GOOD
~~[illegible]~~	~~[illegible]~~	~~MAPLE~~	~~POOR~~	[illegible]	[illegible]	MAPLE	GOOD
~~[illegible]~~	~~[illegible]~~	~~LOCUST~~	~~POOR~~	[illegible]	[illegible]	MAPLE	POOR
~~[illegible]~~	~~[illegible]~~	~~LOCUST~~	~~POOR~~	[illegible]	[illegible]	[illegible] MAPLE	GOOD
[illegible]	[illegible]	MAPLE	POOR	[illegible]	[illegible]	MAPLE	[illegible]
[illegible]	[illegible]	MAPLE	GOOD	[illegible]	[illegible]	MAPLE	[illegible]
[illegible]	[illegible]	TWIN MAPLE	GOOD	[illegible]	[illegible]	MAPLE	POOR
[illegible]	[illegible]	MAPLE	GOOD	[illegible]	[illegible]	MAPLE	POOR
[illegible]	[illegible]	QUAD MAPLE	GOOD	[illegible]	[illegible]	MAPLE	POOR
[illegible]	[illegible]	[illegible]	GOOD	[illegible]	[illegible]	MAPLE	POOR
[illegible]	[illegible]	MAPLE	GOOD	[illegible]	[illegible]	MAPLE	POOR
[illegible]	[illegible]	TRIP MAPLE	POOR	~~[illegible]~~	~~[illegible]~~	~~MAPLE~~	~~POOR~~
[illegible]	[illegible]	QUAD MAPLE	GOOD	[illegible]	[illegible]	MAPLE	POOR
[illegible]	[illegible]	TWIN MAPLE	GOOD	~~[illegible]~~	~~[illegible]~~	~~MAPLE~~	~~POOR~~
[illegible]	[illegible]	[illegible] MAPLE	GOOD	~~[illegible]~~	~~[illegible]~~	~~MAPLE~~	~~POOR~~
[illegible]	[illegible]	MAPLE	GOOD	251	[illegible]	MAPLE	GOOD
[illegible]	[illegible]	MAPLE	GOOD	252	[illegible]	MAPLE	GOOD
[illegible]	[illegible]	QUAD MAPLE	GOOD	~~[illegible]~~	~~[illegible]~~	~~MAPLE~~	~~POOR~~
[illegible]	[illegible]	[illegible]	POOR				

TREE LEGEND



NOTES:

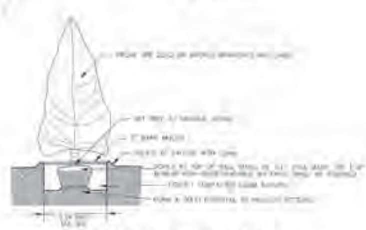
TREE PROTECTION DETAIL

PLANT LIST

SYMBOL	No.	PLANT NAME	HEIGHT	QUANTITY	SIZE & REMARKS
GG	[illegible]	THUJA PLICATA Green Giant Arborvitae	[illegible] FT. TO [illegible] FT.	11	[illegible] FT. to [illegible] FT. H. Plant [illegible] o.c.
ERC	[illegible]	JUNIPERUS VIRGINIANA Eastern Red Cedar	[illegible] FT. TO [illegible] FT.	11	[illegible] FT. to [illegible] FT. H. Plant [illegible] o.c.
NS	[illegible]	NORWAY SPRUCE Picea Abies	[illegible] FT. TO [illegible] FT.	12	[illegible] FT. to [illegible] FT. H. Plant [illegible] o.c.
J	[illegible]	JUNIPERUS SCOPULORUM Sky Rocket	[illegible] FT.	13	[illegible] FT. to [illegible] FT. H. Plant [illegible] o.c.

LEGEND

PLANTING SPECIFICATIONS:



EVERGREEN PLANTING DETAIL

RYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 93066

N.Y.S. P.L.S. LIC. NO. 50228

REVISION	DATE	DESCRIPTION

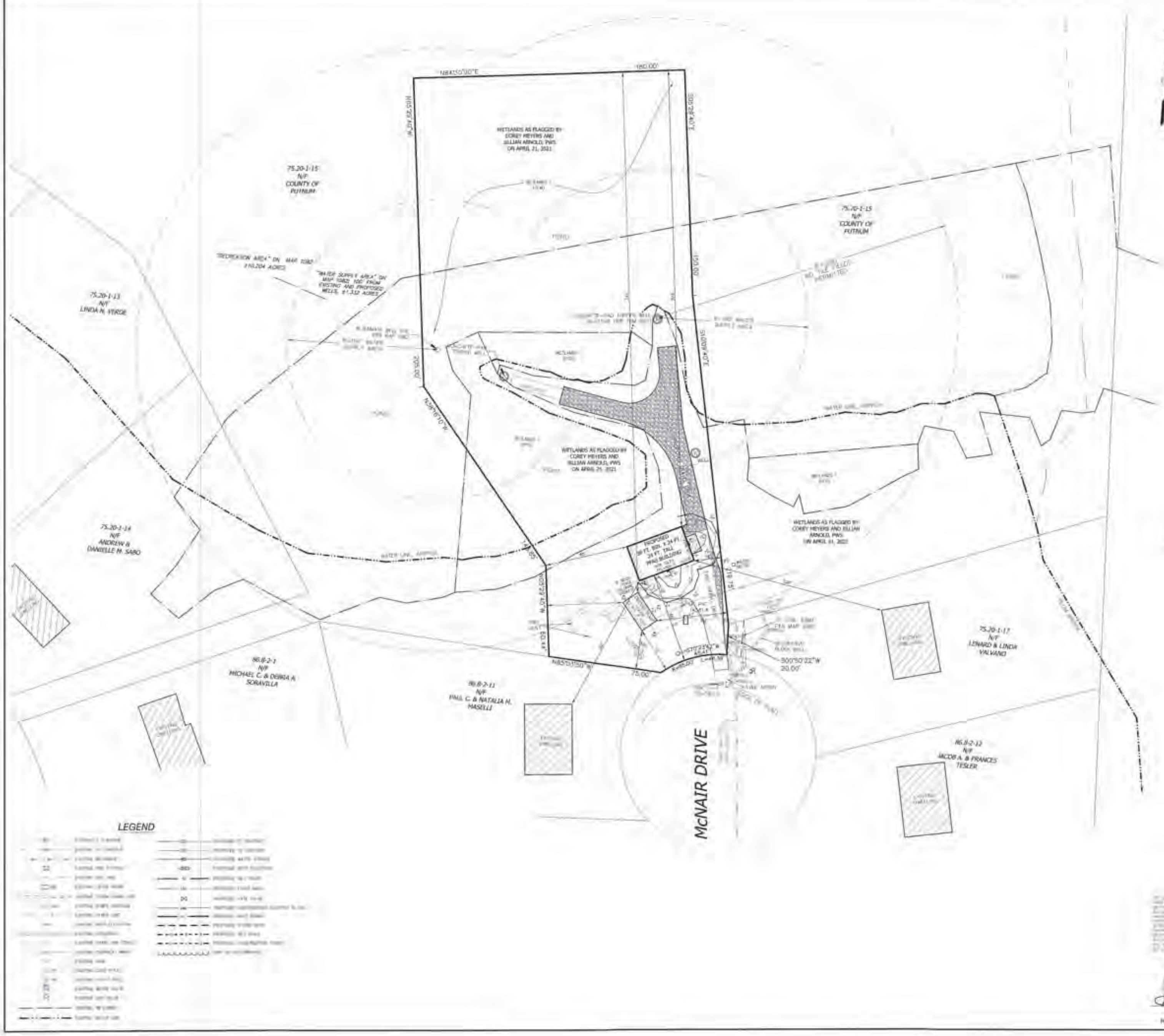
ATZL, NASHER & ZIGLER P.C.
ENGINEERS–SURVEYORS–PLANNERS
Tel. (845) 634-4694
Fax (845) 634-5543
Web. www.ANZNY.com

PROJECT:
SUEZ WATER NEW YORK, INC.
CHATEAU WELL 1, 2 & 3

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

TITLE:
TREE & LANDSCAPE PLAN

PROJECT NO.: 4874
DRAWING NO.: 5



RAB

CONTACT INFORMATION

SLIM12Y WALL MOUNT DETAIL

Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description	BUG Rating
C	3	SLIM12Y	SINGLE	N.A.	1.000	Wall Mount	B1-U0-G0

ATZL, NASHER & ZIGLER P.C.

ENGINEERS - SURVEYORS - PLANNERS

PROJECT:

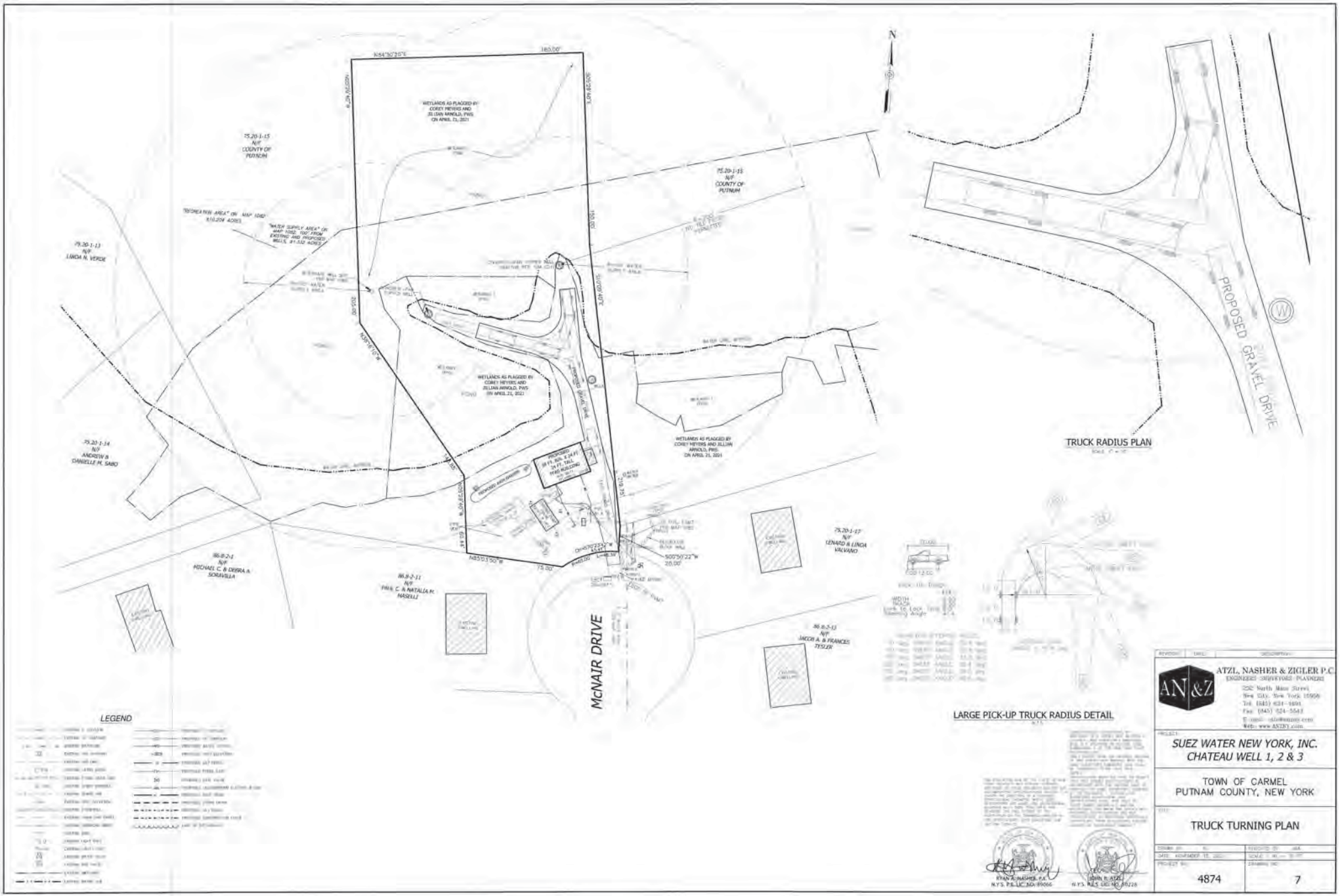
SUEZ WATER NEW YORK, INC.
CHATEAU WELL 1, 2 & 3

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

TITLE:

LIGHTING PLAN

PROJECT NO.	DRAWING NO.
4874	6



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SUEZ WATER NEW YORK, INC.
CHATEAU WELL 1, 2 & 3

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

TRUCK TURNING PLAN

PROJECT No. 4874

DRAWING No. 7

RYAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 89066

JOHN R. ATZL
N.Y.S. R.L.S. LIC. NO. 50228

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November 15, 2021

SUEZ WATER NEW YORK INC
PFAS COMPLIANCE FOR MAHOPAC WELL SITE

Narrative Summary

SUEZ Water New York Inc. (SWNY) owns and operates the existing Mahopac Wells 1, 2, & 3 site located in a residential area 150 feet southwest of 34 Coventry Circle, Mahopac, Putnam County, New York and serve approximately 300 customers. SWNY plans to construct upgrades to the existing Mahopac well site using the Engineering, Procurement, and Construction (EPC) project delivery method. This method will be utilized to comply with the state drinking water regulations for per - and polyfluoroalkyl substances (PFAS).

The existing facility pump capacity is 130 gallons per minute (gpm). The chemical feed uses Sodium hypochlorite (disinfectant) and SeaQuest. The onsite controls include the ability to operate the site remotely through the supervisory control and data acquisition SCADA program.

The proposed treatment system will include upsizing the pumps to compensate for headloss during the GAC treatment. The dimensions of the proposed GAC treatment building is 45 ft. x 29 ft. x 20 ft. It will not increase firm capacity of the well. The well water comes from three constant speed well pumps that convey water into Greensand units. Raw water will be dosed with sodium hypochlorite for oxidation before passing through the unit. Backwash waste is transferred to a decant tank to separate the sludge. Decant water is recycled back to the inlet of the Greensand units. Following the Greensand units, the water passes through granular activated carbon (GAC) treatment system in lead-lag configuration. That water will be dosed with sodium hypochlorite at 1.5 gph and corrosion inhibitor (SeaQuest) with 0.5 gph from the 50 gallon double walled chemical storage tanks. The treated water is transferred into an off-site 34,200-gallon above ground finished water storage tank before distribution.

The planned upgrade will not increase the firm capacity of the well, but will add treatment for PFAS to comply with the New York State Drinking Water maximum contaminant level (MCL) of 10 ppt for PFOA and PFOS. The well will remain operational during the course of construction with limited disruption during tying in and testing of the new treatment system.

Architectural treatment/elements will be consistent with the existing visible on-site structures and area residential structures to conform and provide a consistent appearance acceptable to the Owner and be approved by applicable Municipal Agencies and review boards.

All work will be in full conformance with the New York State Department of

Environmental Conservation (NYSDEC), New York State and Putnam County Departments of Health, the Town of Carmel, and other authorities having jurisdiction.

ATZL, NASHER & ZIGLER P.C.
ENGINEERS - SURVEYORS - PLANNERS
Web: www.anzny.com

November 15, 2021

Planning Board
Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541
Attn: Craig Paeprer, Chairman

Re: Suez Water (Mahopac Wells 1, 2 & 3)
Tax Lot 75.20-2-68

Dear Chairman Paeprer and Honorable Board Members,

The following is our response to comments received during the Planning Board meeting held on September 22, 2021:

General Comments

1. Comment: Clarify all access driveways and easements.

   Response: The driveways and easements are illustrated on the submitted site plan.

Process Related Comments

1. Comment: How often are the filters replaced and how?

   Response: The GAC vessels will be replaced once in twenty years. Carbon is changed once in every one to two years. Replacement of bio filters depends on flow and water quantity, but it would probably occur once in every two to three months. There is overhead space available at these facilities to replace these filters.

232 North Main Street • New City, NY 10956 • info@anzny.com • Tel: (845) 634-4694 • Fax: (845) 634-5543

2. Comment: Have the existing facilities deteriorated and do they require upgrading?

Response: *The existing facilities are not deteriorated. They need to be upgraded so as to meet the NYS mandated Drinking Water maximum contaminant levels (MCL) of 10 ppt for PFAS and PFOA.*

3. Comment: Are there alternative vessels, particularly shorter ones?

Response: *Short vessels are not available.*

4. Comment: Can the facilities be combined into one structure?

Response: *Combined facilities will not be feasible as the proposed GAC treatment building cannot be accommodated in the existing pump house. The existing pump house must remain operational and secure during construction and hence cannot be expanded.*

Site Plan Comments

1. Comment: For sites with larger areas, is there any scope of moving the proposed buildings away from the property lines so as to minimize the visibility from neighboring residences to the extent possible?

Response: *Moving the proposed buildings would not be feasible given site development constraints, presence of wetlands etc.*

2. Comment: The planning board would prefer seeing a simple comparison of what existed, and what exists on site presently, and what is being proposed by use of colors, hatches, etc.

Response: *The site plan set submitted has an existing conditions plan and a proposed development plan. We believe attempting to merge these drawings would result in confusion regarding project details.*

3. Comment: Building sizes, dimensions and height must be clearly mentioned in the narratives as well as on the site plans. Both on the existing and proposed plans.

Response: *Provided in both narrative and site plan.*

4. Comment: On the site plan, show the distance in feet of existing homes from the proposed buildings on all facilities.

Response: *Provided on grading plan.*

5. Comment: If there are onsite power generators, mark them on the site plans. If these are portable generators, mark areas where these would be placed on site.

Response: *Portable power generators will be used on site when required. The site plan indicates the location where these portable generators would be installed.*

Floodplains and Storm Events

1. Comment: Is elevating buildings above based flood elevations (BFE) enough to take care of a 500-year storm?

Response: *There is no 500-year floodplain per FEMA at this site.*

2. Comment: Can the new buildings and vessels be set into the ground to reduce height? Justify the height needed.

Response: *The vessels have to be maintained, meaning removal of building panels is necessary, and therefore it would not be possible to set the building and vessels into the ground and still be able to perform maintenance.*

3. Comment: Floodproofing for all proposed developments is recommended in lieu of prudent planning.

Response: *Floodproofing is not required for this site.*

Landscape Plan

1. Comment: Some sites denotes tree clearances that seem excessive. Please reconsider and limit the amount of trees that need to be removed due to the proposed action. Please justify why and how many number of trees are being proposed to be removed.

Response: *There are nine (9) evergreen trees on site presently. None of these have been proposed for removal. Grading and site development requirements necessitate the removal of the demarcated trees. A tree plan has been provided with this submission to screen the proposed buildings from residences on Coventry Circle.*

2. Comment: Existing trees on all sites must be analyzed so as to understand if these are evergreens. This would help determine if yearly screening would be possible, or if additional landscaping would be required to shield the proposed developments from residential areas.

Response: *There are nine (9) evergreen trees on site presently. None of these have been proposed for removal. A tree plan has been provided with this submission to screen the proposed building from residences on Coventry Circle.*

Lighting Plan

1. Comment: Describe the timing for when the site would be illuminated for general use and maintenance (during most time of the day), and for security purposes (nighttime or early mornings). Can timers be installed?

Response: *Although we have not received final Department of Health (DOH) comments, where we have received DOH comments on our other PFAS*

facilities, they are requesting "The perimeter of the treatment plant property should be illuminated with street-type lighting fixtures". It is our intention to utilize downward facing, wall mounted, LED lights, controlled by photocells to automatically illuminate at night, over the doorways of the treatment building. However, we must make sure this lighting is acceptable to the DOH.

The following is our response to Patrick Cleary, AICP, CEP, PP, LEED AP of Cleary Consulting, letter dated September 22, 2021:

Site Plan Review Comments

1. Comment: The site is located in the R - Residential zoning district. Pursuant to a determination by the Director of Code Enforcement, Suez is a private water company, and not a public utility installation, and therefore is not classified as a permitted Conditional Use, subject to the conditions established in §156-37. As a result, the proposed use is prohibited, and a use variance is required.

   Response: The Zoning Board of Appeals (ZBA) determined at their October 28, 2021 meeting that SUEZ is a public water company. Use variance would therefore not be required.

2. Comment: The site plan notes the location of a "marsh". Clarification of this feature is required, and a determination made if a NYSDEC or Town of Carmel wetland permit is required.

   Response: The site plan notes the location of a wetland which requires permits from NYSDEC and ACOE. The Code Enforcement Officer has referred this project to the Town of Carmel ECB.

3. Comment: Clarify if the project is located within the floodplain of Plumb Brook or Bloomer Pond.

   Response: This facility is not located in a floodplain.

4. Comment: Is the PFAS treatment facility a permanent and on-going operation, or is it a temporary measure?

Response: *PFAS treatment facility is a permanent and on-going operation.*

5. Comment: Clarify if fencing is proposed.

Response: *No fencing is proposed at this site, the existing gate at the entrance will remain.*

6. Comment: Provide the noise generation specifications for the new pumps. Noise generation must comply with the sound level standards for residential districts established in Chapter 105 of the Town Code.

Response: *The Applicant will comply with the sound level standards in accordance with Chapter 105 of the Town code. The pumps are located within the wells and are between 100' and 189' below grade, and will not change ambient noise level.*

7. Comment: Clarify if any special chemical storage provisions are required.

Response: *There is a secondary containment under the chemical tanks in this facility, able to hold the whole volume of chemicals in case of a spill. Level of chemicals is constantly monitored remotely via SCADA.*

8. Comment: How often will the site be accessed by maintenance and or operational personnel?

Response: *The operators currently visit the site twice per day as required by the Department of Health, for the operation of the iron/manganese pilot treatment system. In addition, approximately once every 1.5 weeks the backwash water from the iron/manganese pilot plant is removed from the site by a waste hauler.*

Under future conditions, we do not anticipate the operators visiting the site more than once or twice per day. The backwash water from the iron/manganese treatment system will be discharged to the sanitary sewer assuming approval to connect to the sewer is granted by the town. Once annually to once every two years the carbon will need to be replaced in one of the GAC vessels.

9. Comment: Clarify the illumination of the lighting wall packs (in footcandles).

Response: Footcandle values have been provided in the lighting plan.

10. Comment: The proposal calls for the removal of 14 trees. Landscape buffer screening may be warranted between the new building and the homes on Coventry Circle.

Response: A tree plan has been provided with this submission to screen the new building from the residences on Coventry Circle.

11. Comment: Correspondence included with the site plan application from Creamer indicates that the building was to be a prefabricated metal building with a standing seam roof system. However, due to extensive lead time delays, the applicant is exploring other material options. The architectural treatment of the building must be established at this time, as the Planning Board also serves in the capacity of Architectural Review Board.

Response: A revised architectural narrative has been provided with this submission.

SEQRA Review Comments

1. Comment: The project is classified as a Type II Action pursuant to §617 of the SEQRA regulations. No further SEQRA environmental review is required.

Response: No response required.

The following is our response to Richard J. Franzetti, P.E, letter dated September 13, 2021:

General Comments

1. The following referrals are required:

a. Comment: New York State Department of Environmental Conservation (NYSDEC).

Response: *Noted.*

b. Comment: Putnam County Department of Health (PCDOH).

Response: *Noted.*

c. Comment: The Town of Carmel Environmental Conservation Board (ECB).

Response: *Noted.*

d. Comment: The Town of Carmel Highway Department.

Response: *Noted.*

e. Comment: Mahopac Fire Department.

Response: *Noted.*

2. The following permits are required.

a. Comment: NYSDEC - for stormwater and wetlands.

Response: *Noted.*

b. Comment: PCDOH for well and treatment system.

Response: *Noted.*

c. Comment: Town of Carmel Highway- work permit.

Response: *Noted.*

d. Comment: ECB for wetlands.

Response: *Noted.*

3. Comment: The area of disturbance for the work as provided is 18,644 sf. The threshold criteria of disturbances for the NYSDEC stormwater regulation are between 5,000 square feet and one (1) acre and over one (1) acre. The project will require coverage under the NYSEC SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) and the development of Stormwater Pollution Prevention Plan (SWPPP) that has erosion and sediment controls.

The applicant has provided a SWPPP which is currently under review. The applicant should note the area of disturbance must include the areas for the proposed underground utility service.

Response: *Agreed. A Stormwater Pollution Prevention Plan (SWPPP) is provided accordingly.*

4. Comment: All re-grading required to accomplish the intended development should be provided. It is unclear from the drawings provide the extent of cut and fill proposed for the site. This includes the areas for the proposed underground utility service.

Response: *A grading plan has been provided with this submission.*

5. Traffic and Vehicle Movement Plans should be provided which provide the following:

a. Comment: Graphic representation of vehicle movements through the site should be provided to illustrate that sufficient space exists to maneuver vehicles on the site.

Response: *A truck turning plan has been added to the plan set.*

b. Comment: All turning radii for the site should be graphically provided. This includes the turning radii into the site entrance.

Response: *A truck turning plan has been added to the plan set.*

c. Comment: Slopes at the entrance way need to be defined. It is suggested that slopes of less than 6% be used for the first 20 feet of entry and that slopes of no greater than 8% be used entering the site. Please refer to AASHTO guidelines for commercial properties.

Response: *Centerline slope entering the site is flat. Bucks Hollow Road has a slope along its edge of about 6% along the new apron. The centerline slope of the new access road is 3%.*

6. Comment: A light spill plan should be provided.

Response: *A Lighting Plan has been provided with this submission.*

7. Comment: All easement information regarding the areas for the proposed underground utility service must be provided.

Response: *The driveways and easements are illustrated on the submitted site plan.*

8. Comment: Should any public improvements be deemed necessary as part of the development of the tract, a Performance Bond and associated Engineering Fee must eventually be established for the work. The applicant will need to develop a quantity take off for bonding purposes.

Response: *Noted.*

Detailed Comments

1. Comment: A landscaping plan should be provided to show the location and extent of all plantings. Applicant has requested a waiver of this requirement.

   Response: *A tree plan has been provided with this submission.*

2. Comment: The rain garden calculations have been provided. The applicant should note that they must meet the criteria as defined by the NYSDEC. This includes providing sufficient depth to groundwater.

   Response: *Noted. Calculations will be provided prior to construction.*

3. Comment: Adequate protection should be provided in the stormwater management practice (SMP) areas to minimize disturbance during construction. Details should be provided to show how the rain garden will be protected during construction.

   Response: *The final grading and the installation of the rain garden will be performed at the Final phase of the construction after upland stabilization. Please refer to the construction sequence on the Erosion and Sediment Control Plan.*

4. Comment: All water service connections must be K-copper.

   Response: *Noted, will comply.*

5. Comment: It is unclear if additional electrical utilities are being installed.

   Response: *SUEZ is upgrading power on site to 3-phase. This is being installed underground beneath the driveway.*

6. Comment: The area of disturbance must be shown on the drawing and delineated by orange construction fencing.

Response: *Area of disturbance has been provided on plans. Orange construction fence detail provided on Erosion and Sediment Control Plan.*

7. Comment: The wastewater report should provide loading values (#/dy) for the proposed system. Concentration values provided are for the existing treatment system and not the proposed.

Response: *The wastewater report has been modified to show the proposed loading rate for the system. The existing pilot is treating the well with the highest concentration of iron and manganese, and therefore represents the worst case concentrations going to the Town's sewer system.*

8. Comment: Details for the proposed connection into the Town of Carmel Sewer system must be provided.

Response: *Details for manhole connection, roadway trenching, etc. have been provided with this submission.*

9. Comment: Road cut details must be provided.

Response: *Detail provided on drawing 4.*

10. Comment: Typical Town Road paving requirements are 12" item 4, 3" based, 2" binder and 1" top.

Response: *Noted, will comply.*

11. Comment: Gate valves shall be AWWA non-rising stem type, as manufactured by Mueller Company, Model A-2360-23, or approved equal, conforming to the latest AWWA Standard for Gate Valves - 3" through 48" - for Water and Other Liquids, AWWA Designation C-509.

Response: *Noted, will take under advisement.*

12. Comment: Sizes up to and including 12" shall be 250 psi working pressure. The valve body and bonnet shall be ductile iron. All interior and exterior metal surfaces shall be coated with a two-part thermo setting epoxy complying with AWWA C550.

Response: *Noted, will take under advisement.*

13. Comment: Valves shall have dual "O" ring seals, inside screw, resilient wedge seats in accordance with AWWA Designation C-550 and shall be constructed so as to provide unobstructed full port clearance when fully open and immediate complete closure when closed. The ends of the valves shall be mechanical joint.

Response: *Noted, will take under advisement.*

14. Comment: All valves shall be arranged to open in counterclockwise direction unless otherwise specifically indicated and operating nuts shall be 2" square.

Response: *The SUEZ standard is open right.*

15. Comment: Valves shall be tested to a pressure of not less than two times the working pressure.

Response: *Noted, will take under advisement.*

16. Comment: All hydrants shall be six inches in size with six-inch mechanical joint inlet connection and shall be equal to the Mueller Centurion A-421, with one (1) 4 ½" pumper nozzle and two (2) 2½ " hose nozzles.

Response: *Noted, will take under advisement.*

17. Comment: Water Service Saddles shall be equal to those manufactured by Mueller, Model 7 ½" x 1" SS Series Stainless Steel Saddle, Double Stud.

Response: *Noted, will take under advisement.*

18. Comment: Corporation stops shall be equal to those as manufactured by Mueller Company, Model B- 25000Series, NRS and of the size required. Such corporation stops shall meet the requirements of AWWA Specification No. C800.

Response: *Noted, will take under advisement.*

19. Comment: Curb valves (stops) shall be equal to those as manufactured by Mueller Company, Model H- 15214 and shall conform to AVVWA Specification No. C800.

Response: *Noted, will take under advisement.*

20. Comment: Curb boxes shall be equal to those as manufactured by Mueller Company and similar to Mueller extension type with arch pattern base model H-10314 all extension rods shall be stainless steel.

Response: *Noted, will take under advisement.*

21. Comment: All fire hydrants shall be the approved AWWA type fire hydrants in conformance with the American Water Works Association Standard for Fire Hydrants for Ordinary Water Works Service, AWWA Designation C502, and shall have a 5-1/4" valve opening, a 6" mechanical joint inlet complete with an auxiliary gate valve (close coupled), a 6" mechanical joint shoe, and all appurtenances.

Response: *Noted, will take under advisement.*

22. Comment: Fire hydrants shall be rated for a working pressure of 250 Psi. Fire hydrants shall be sized fora 4'-6" bury.

Response: Noted, will take under advisement.

The following is our response to Michael G. Carnazza, Director of Code Enforcement for the Town of Carmel, letter dated September 15, 2021:

1. Comment: The applicants proposes to add a GAC Treatment Facility Building to the water treatment facility off Bucks Hollow Rd. in Mahopac.

Response: Statement; no response required.

2. Comment: A Use Variance is required for the Private Utility. Only Public Utilities are permitted in the Town of Carmel.

Response: The Zoning Board of Appeals (ZBA) determined at their October 28, 2021 meeting that SUEZ is a public water company. Use variance would therefore not be required.

3. Comment: Provide a detail of the buffer. Code§155,37c requires "A landscaped buffer area at least 10 feet in width and six feet in height shall be provided and maintained along all property lines to satisfactorily screen public utility substations and any other buildings from surrounding uses of land, Provide- an enhanced buffer to the houses on Coventry Circle and Nottingham Way. I received a few calls already asking about visibility during the fall/winter months.

Response: A tree plan has been provided with this submission to screen the new building from the residences on Coventry Circle.

4. Comment: Referral to the ECB, Fire Department and Putnam County Dept. of Health are required by code.

Response: *Noted.*

The following is our response to Marinee Buffone, Mahopac letter dated September 27, 2021:

1. Comment: The noise and activity are daily and quite a nuisance, but we understand the need for the improvements for the town.

Response: *Please see the response under comment #6 (Cleary Consulting).*

2. Comment: SUEZ verbally confirmed to us, as the homeowners, that they will plant trees/bushes to help with the visual and the noise buffering especially since they are planning to construct a 24 -30 foot structure behind my house.

Response: *Refer to the tree plan provided with this submission.*

3. Comment: During the board meeting we heard SUEZ is requesting a waiver for plant replacements? Does that mean SUEZ is requesting not to put plantings?

Response: *Based on discussion with the Board, the Applicant has provided a tree plan with this submission.*

4. Comment: SUEZ also indicated at town hall that they will be planning to remove at least 14 additional trees for this project.

Response: *There are nine (9) evergreen trees on site presently. None of these have been proposed for removal. Grading and site development requirements necessitate the removal of the demarcated trees. A tree plan has been provided with this submission to screen the proposed buildings from residences on Coventry Circle.*

5. Comment: Are they planning a sewer line? We were not aware of that as well.

Response: *A short sewer connection from the grinder pumps to the Town's sanitary sewer is proposed.*

SUEZ Water New York, Inc.

PFAS COMPLIANCE PROJECT F
MAHOPAC WELLS

Putnam County, New York

TOWN OF CARMEL
WASTEWATER DISCHARGE PERMIT PACKAGE

SUEZ Water New York Inc.
162 Old Mill Road
West Nyack, NY 10944

Prepared by:

Gannett Fleming

December 2021

Project Number: 068577

CONTENTS

APPENDICES

1. PROJECT DESCRIPTION

1.1. Background

Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) are chemical substances that have been used for decades to manufacture firefighting foam and many common household and consumer products the public uses frequently, including non-stick cookware, fast food packaging, adhesives, paints, shampoo and cosmetics. 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.

To comply with these new MCLs, SUEZ Water New York, Inc. (SWNY) plans to construct a treatment facility at the existing Mahopac Well site. The planned upgrade will not increase the firm capacity of the wells but add Granular Activated Carbon (GAC) as treatment to remove the PFOS and PFOA prior to entering the distribution system and ensuring compliance with the new regulations. To maintain effectivity, Greensand filters will also be installed to remove the excess iron and manganese from the water and will serve to prevent solids from plugging the GAC and requiring regular backwashing. As a result, the GAC will only be backwashed when it is replaced. SWNY will use frac tanks to contain the spent backwash water during the carbon installation/ replacement process. Backwash from the proposed Greensand filters decant tank is proposed to be discharged into the existing Town's sewer through a new sewer connection.

A pilot system using the well with the highest level of iron and manganese is currently at the site. This pilot system has been used to confirm proof of concept for the iron and manganese removal, as well as to provide specimens to analyze the water quality makeup of both the effluent and the backwash waste. The backwash waste information is presented below as well as the quality of backwash that will enter the Town's sewer system per day.

1.2. Existing Conditions

Mahopac Wells 1, 2, & 3 are located in a residential area 150 feet southwest of 34 Coventry Circle, Mahopac, Putnam County, New York and serve approximately 300 customers. The site is surrounded by Federal and State wetland areas. It is also located in an area with confirmed bog turtle and bat habitats.

The well water comes from three constant speed well pumps that convey water into a 34,200-gallon above ground finished water storage tank. Well No. 2 has been closed for production until iron and manganese mitigation is achieved. An existing temporary iron and manganese treatment trailer is currently in place at the Well No. 2 location. Existing on-site control includes the ability to operate the site remotely through the SCADA system.

The Mahopac Well site has a capacity of 130 gpm that will not be increased. The Standard Industrial Classification (SIC) Code for this facility is 4941, which corresponds to facilities primarily engaged in distributing water for domestic, commercial, and industrial use.

2. PROPOSED SYSTEM

The proposed treatment system will include upsizing of the well pumps. The well water will be conveyed by three variable speed well pumps into Greensand filtration units. Raw water will be dosed with sodium hypochlorite for oxidation before passing thru the filtration units. Backwash waste is transferred to a decant tank to separate the sludge. Decant water is recycled back to the inlet of the Greensand units and sludge will be discharge into the existing sewer thru a new sewer connection.

Following the Greensand units, the water shall pass through the GAC treatment system. Backwash water from the GAC treatment system will be transferred to a frac tank. The treated water will be dosed with sodium hypochlorite after treatment to achieve proper chlorination and will be transferred into an off-site 34,200-gallon aboveground finished water storage tank before distribution.
Sodium hypochlorite will be housed in two 50-gallon double walled chemical storage tanks.
Design drawings for the proposed treatment system are included in Appendix B.

2.1. Greensand Filtration System

A Greensand Plus Catalytic Filtration System will be provided to remove iron and manganese in the well water. Filtration will be provided via four vertical Greensand plus pressure filters operated in parallel and capable of automatic backwashes to clean the media. A 7,400-gallon decant tank for backwashing waste, along with sludge and decant pumps with associated piping and valves, are also included with the system.

Table 1 below summarizes the Greensand filtration criteria.

Table 1. Greensand Filtration Criteria

DESCRIPTION	MAHOPAC WELLS
Number Of Greensand Plus Vessels	4 (3 In Parallel And 1 Redundant)
Vessel Diameter (in)	42
Service Flow (gpm)	130
Filter Surface Area (ft^2)	9.62
Design Surface Loading Rate (gpm/Ft^2)	4.5
Backwash Rate Max Per Vessel (gpm @50f)	125
Rinse Rate (gpm)	130
Vessel Pressure Rating (psi)	150
Total Media Content (ft^3)	120
Backwash Duration	15 Min Plus A 2 Min Rinse

Backwashing is typically performed once every 24 to 48 hours depending on the contaminant levels. It can be performed sequentially or be set to go off at predetermined times. A maximum daily flow of 588.5 gal will be discharge into the sewer, flow calculations are presented below:

Backwash Rate=	125	gal/min*vessel
No. Vessels=	3	vessels
Backwash Duration=	15	min
Backwash Flow=	**5625**	**gal**
Rinse Rate=	130	gal/min
Rinse Duration=	2	min
Rinse Flow=	**260**	**gal**
Total Flow to Decant Tank=	**5885**	**gal**
90% Recycled=	5296.5	gal
10% Sewer Discharge=	588.5	gal

3. WATER QUALITY

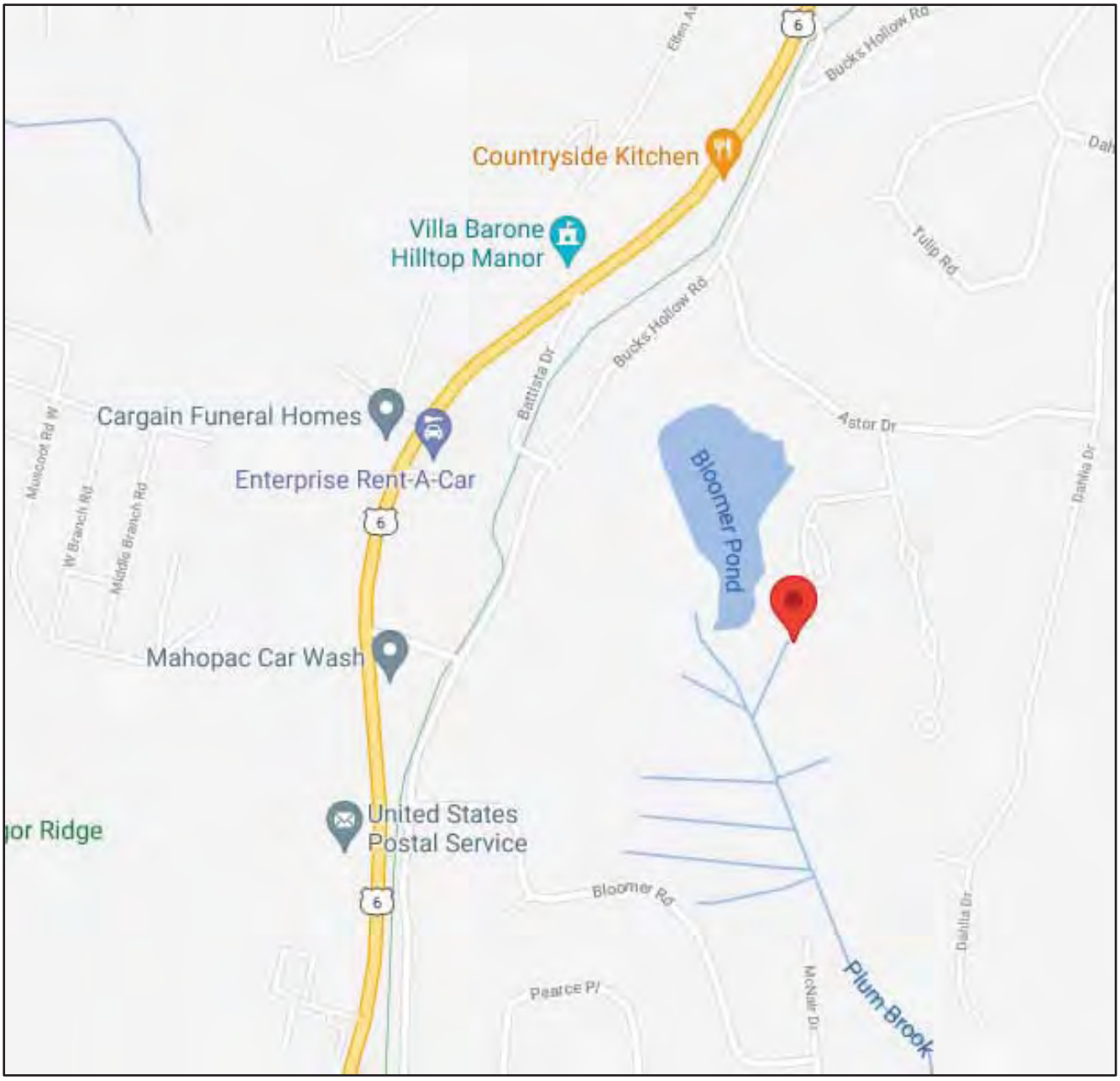
The temporary iron and manganese treatment system pilot is currently being operated at the Mahopac Wells site. On August 4, 2021, September 3, 2021, and November 22, 2021 representative samples were taken and tested from the backwash water line. Results are included in Appendix C and summarized in Table 2 below.

Table 2. Backwash Test Results

PARAMETER	RESULTS AUGUST SAMPLE	RESULTS SEPTEMBER SAMPLE	RESULTS NOVEMBER SAMPLE
Silver (lb/day)	-	0.000009	-
Arsenic (lb/day)	-	<0.000009	-
Cadmium (lb/day)	-	<0.000005	-
Chromium (lb/day)	-	0.000019	-
Copper (lb/day)	-	0.0001	-
Mercury (lb/day)	-	<0.0000009	-
Iron (lb/day)	-	-	0.163
Manganese (lb/day)	-	0.0717	0.239

PARAMETER	RESULTS AUGUST SAMPLE	RESULTS SEPTEMBER SAMPLE	RESULTS NOVEMBER SAMPLE
Molybdenum (lb/day)	-	<0.000017	-
Nickel (lb/day)	-	0.000061	-
Lead (lb/day)	-	0.000014	-
Selenium (lb/day)	-	<0.000023	-
Zinc (lb/day)	-	0.00137	-
BOD/5day (lb/day)	<0.0186	<0.186	-
Chlorine Demand (lb/day)	0.0093	-	-
COD (lb/day)	0.275	-	-
Ammonia as Nitrogen (lb/day)	0.0008	0.00047	-
Oil and Grease (lb/day)	<0.0065	<0.0065	-
pH	7.92	-	-
Nitrogen (lb/day)	0.0028	-	-
Total Cyanide (lb/day)	-	<0.000093	-
Phosphorus as P (lb/day)	0.0005	0.00095	-
Total Suspended Solids (lb/day)	0.466	0.978	-

APPENDIX A
LOCATION MAP



MAHOPAC WELLS

LOCATION MAP

APPENDIX B
CIVIL AND PROCESS
DESIGN DRAWINGS

SUEZ WATER NEW YORK INC

ONLY CIVIL AND PROCESS DRAWINGS INCLUDED

PUTNAM COUNTY, NEW YORK

PFAS COMPLIANCE
MAHOPAC WELLS

LOCATION MAP

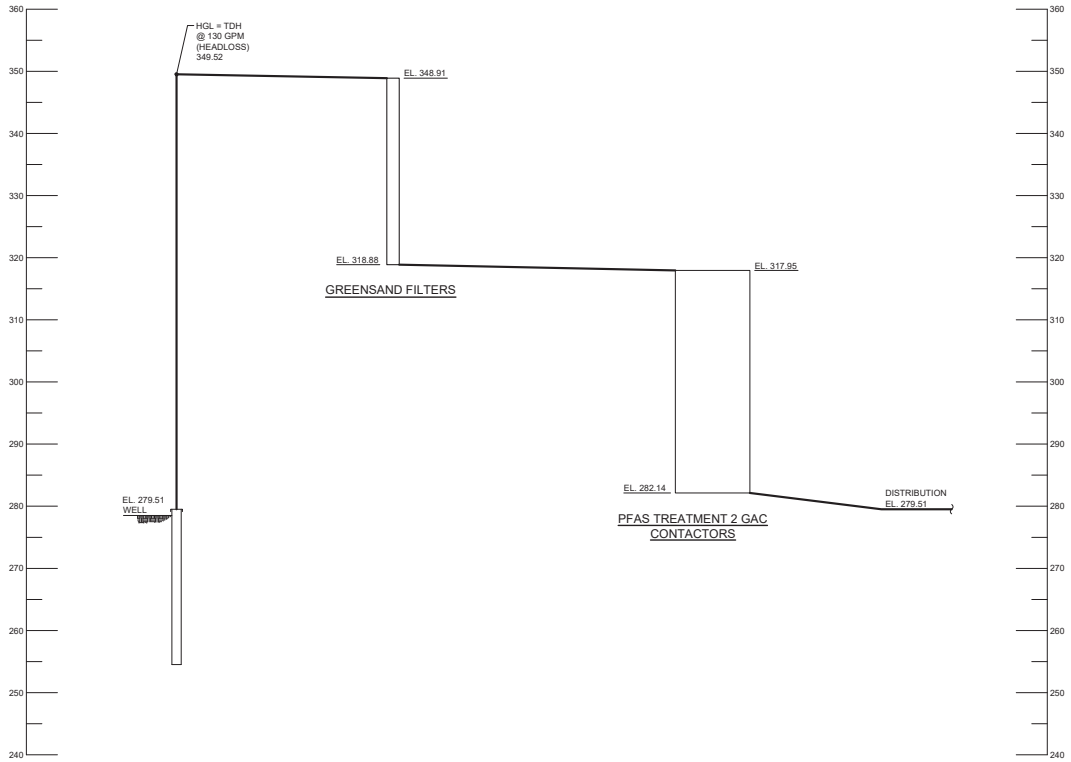
SCALE: 1" = 5000'

5000 -0- 5000 10000

68577

AUGUST 2021

Gannett Fleming



HYDRAULIC PROFILE

HORZ: NO SCALE
VERT: 1" = 10'

VERTICAL
10 -0- 10 20

No.	DESCRIPTION	DATE	BY
	REVISIONS		

DESIGNED	CADD	SCALE
.	T.L.M.	AS NOTED
CHECKED	APPROVED	APPROVED
.	.	.

GANNETT FLEMING
ENGINEERS AND ARCHITECTS, P.C.

CREAMER
J. FLETCHER CREAMER & SON, INC.

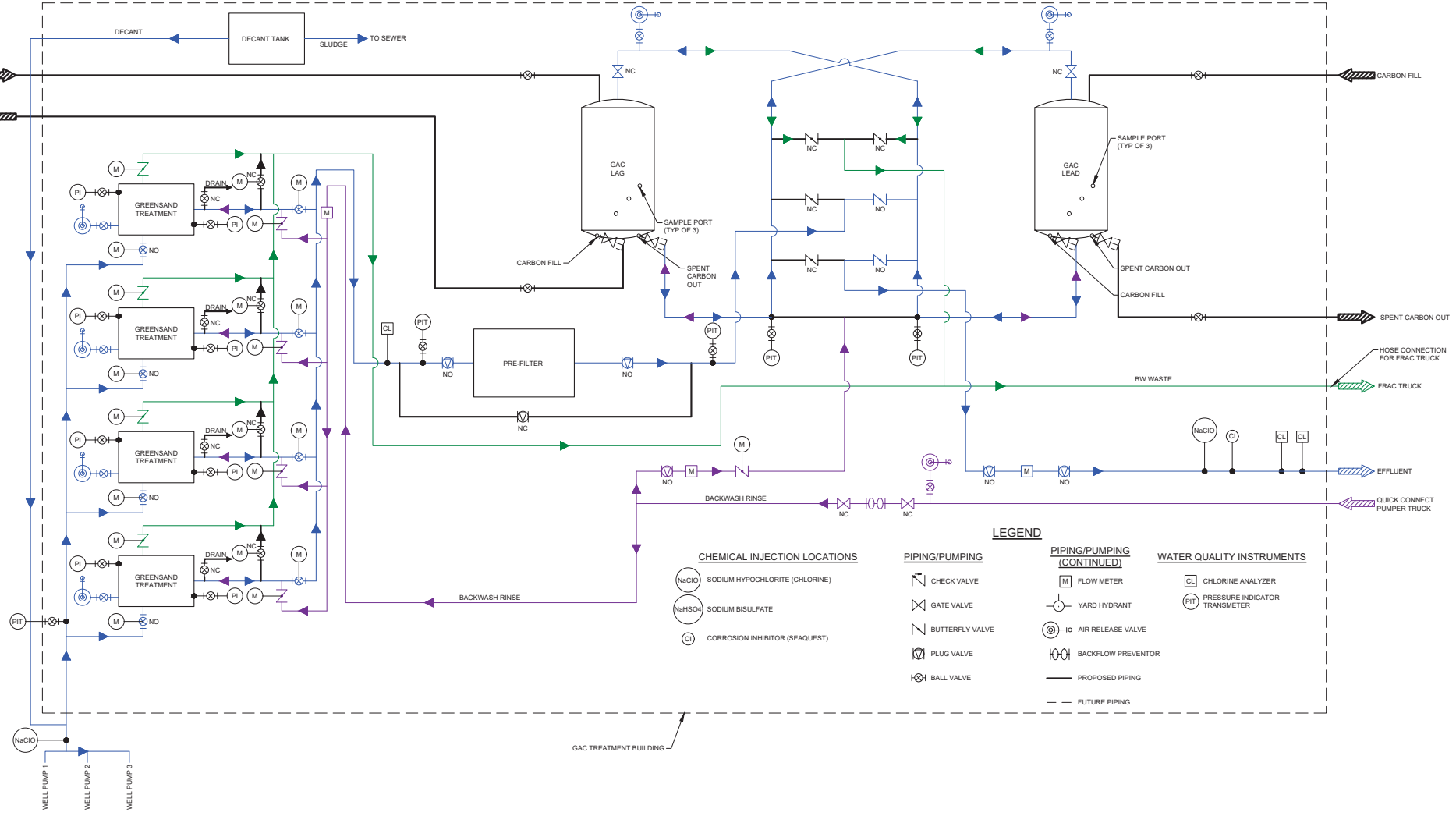
SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

MAHOPAC WELLS
PROCESS
HYDRAULIC PROFILE

JOB No. 68577
DATE OCTOBER 2021

SHEET No. G-501



No.	DESCRIPTION	DATE	BY
	REVISIONS		

DESIGNED	CADD	SCALE
•	T.L.M.	AS NOTED
CHECKED	APPROVED	APPROVED
•	•	•

GANNETT FLEMING
ENGINEERS AND ARCHITECTS, P.C.

CREAMER
J. FLETCHER CREAMER & SON, INC.

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

MAHOPAC WELLS
PROCESS
PROCESS FLOW DIAGRAM

JOB No. 68577
DATE OCTOBER 2021
SHEET No. G-502

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SHADED FACILITIES

- MASONRY WALL (PLANS AND SECTIONS)
- FILL CONCRETE (USED ON SECTIONS)
- REINFORCED CONCRETE (USED ON SECTIONS)
- DEMOLITION
- STABILIZED TURF

CIVIL/SITE SYMBOLS

- AIR RELEASE MANHOLE
- BENCH MARK (BM NO.1)
- BORING
- BUTTERFLY VALVE AND VALVE BOX
- CATCH BASIN/INLET
- CHECK VALVE
- CONTROL POINT
- EXISTING GAS VALVE
- EXISTING GAS CURB BOX
- GATE VALVE AND VALVE BOX
- HYDRANT
- LIGHT
- MANHOLE
- SIGN
- SIGNAL
- UTILITY POLE
- TEST PIT
- TREES, BUSHES AND SHRUBS
- VENT
- WATER CURB BOX
- EXISTING WATER VALVE

ANY BORINGS, SOUNDINGS, TEST PILES, SUBSURFACE CONDITIONS AND LOCATIONS OF AND NATURE OF EXISTING UNDERGROUND STRUCTURES SHOWN OR INDICATED ON THIS DRAWING ARE FOR THE INFORMATION OF THE OWNER AND IN NO EVENT IS THIS INFORMATION TO BE CONSIDERED AS PART OF THE CONTRACT. SEE PROJECT MANUAL.

THIS SHEET IS FOR CIVIL/SITE SYMBOLS AND ABBREVIATIONS ONLY. REFER TO ARCHITECTURAL, STRUCTURAL, PROCESS, INSTRUMENTATION, MECHANICAL AND ELECTRICAL DRAWINGS FOR SYMBOLS AND ABBREVIATIONS FOR THAT WORK.

EXISTING LINE WORK

- AIR LINE
- BITUMINOUS ROAD SURFACE AND DRIVES
- CENTER LINE
- CONCRETE SIDEWALK OR RETAINING WALL
- DITCH, STREAM OR SWALE
- FENCE
- FIVE FOOT CONTOUR INTERVAL
- GAS MAIN AND VALVE
- GRAVEL OR EARTH DRIVES
- MISCELLANEOUS UTILITY
- TWO FOOT CONTOUR INTERVAL
- OVERHEAD ELECTRIC LINE
- OVERHEAD TELEPHONE LINE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SANITARY FORCE MAIN
- SANITARY SEWER AND MANHOLE
- STORM SEWER AND INLET
- SOIL BOUNDARY LINE
- UNDERGROUND ELECTRIC CABLE
- UNDERGROUND TELEPHONE CABLE
- WASTEWATER MAIN
- WATER MAIN AND VALVE
- WOOD OR VEGETATION LINE

PROPOSED LINE WORK

- PROPOSED PIPE (4" DIA. AND LARGER)
- PROPOSED PIPE (3" DIA. AND SMALLER)
- STORM SEWER AND INLET
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- TEMP. CONSTRUCTION EASEMENT LINE
- GRADING SLOPE (2:1)
- SLOPE DIRECTION

LINE COMPOSITION

PROPOSED FACILITIES SHOWN WITH HEAVIER AND BOLDER LINE WORK WITH CALLOUTS IN UPPERCASE LETTERS. EXISTING FACILITIES SHOWN WITH LIGHT LINE WORK WITH CALLOUTS IN UPPER AND LOWERCASE LETTERS.
EXAMPLES:
Existing Callout
PROPOSED CALLOUT

CIVIL SHEET REFERENCE LEGEND

1 / C-8 — SECTION No. / SECTION No. WHERE SHOWN

GENERAL NOTES

1. ALL ELEVATIONS REFER TO U.S.G.S. NAVD 88 DATUM.
2. HORZONTAL CONTROL IS BASED UPON STATE PLANE COORDINATE SYSTEM.
3. INFORMATION SHOWN HEREIN IS BASED ON FIELD SURVEY PERFORMED BY ATZI, NASHER & ZIGLER P.C. APRIL AND MAY 2021.
4. FROM INVESTIGATIONS AND FIELD SURVEYS, IT IS ASSUMED THAT LOCATIONS OF PHYSICAL CONDITIONS, UTILITIES, ETC., ARE APPROXIMATE AND THE NATURE OF MATERIALS IS NOT GUARANTEED.
5. THE CONTRACTOR SHALL BE REQUIRED TO VERIFY ALL CONDITIONS AND DIMENSIONS OF THE JOB SITE BEFORE PROCEEDING WITH THE WORK AND SHALL MAKE MINOR ADJUSTMENTS AS REQUIRED ON THE JOB. SUCH ADJUSTMENTS ARE TO BE APPROVED BY THE ENGINEER AND THE OWNER.
6. LOCATION AND DEPTH OF EXISTING UTILITY LINES INCLUDING SERVICES SHALL BE VERIFIED BY THE CONTRACTOR IN ADVANCE OF THE NEW UTILITIES CONSTRUCTION. EXTREME CARE SHALL BE EXERCISED WHEN EXCAVATING EXISTING UTILITY LINES, HAND EXCAVATION ONLY WILL BE PERMITTED IN THE VICINITY OF EXISTING PIPES AND/OR CONDUITS. ANY DAMAGE TO UTILITIES SHALL REPAIRED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
7. THE CONTRACTOR SHALL SUSTAIN IN THEIR PLACES AND PROTECT FROM DIRECT OR INDIRECT INJURY ALL PIPES, CONDUITS, TRACKS, UTILITY POLES, GUIDE RAILS, GUARD POSTS, WALLS, FOUNDATIONS, BUILDINGS, AND OTHER STRUCTURES OR PROPERTY IN THE VICINITY OF HIS WORK, WHETHER ABOVE OR BELOW GROUND, OR THAT MAY APPEAR IN THE TRENCH. PIPES AND UNDERGROUND CONDUITS EXPOSED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE ADEQUATELY SUPPORTED ALONG THEIR ENTIRE EXPOSED LENGTHS.
8. AT POINTS OF CONNECTION, CONTRACTOR SHALL EXPOSE EXISTING WATER MAINS TO VERIFY LOCATION, GEOMETRY, AND MATERIAL REQUIREMENTS PRIOR TO ORDERING MATERIALS OR STARTING CONSTRUCTION OF ANY MAIN CONNECTING THERE TO.

GENERAL ABBREVIATIONS

CLR	—	CLEARANCE
℄	—	CENTERLINE
CMU	—	CONCRETE MASONRY UNIT
DIA	—	DIAMETER
EC	—	ELECTRICAL CONTRACT
EL or ELEV	—	ELEVATION
EX	—	EXISTING
FT	—	FOOT OR FEET
GC	—	GENERAL CONTRACT
ID	—	INSIDE DIAMETER
INV	—	INVERT
MAX	—	MAXIMUM
MC	—	MECHANICAL CONTRACT
MIN	—	MINIMUM
NA	—	NOT APPLICABLE
NTS	—	NOT TO SCALE
OD	—	OUTSIDE DIAMETER
PC	—	PLUMBING CONTRACT
℔	—	PLATE
SHT	—	SHEET
SQ	—	SQUARE
STA	—	STATION
TYP	—	TYPICAL
W	—	WATER
WW	—	WASTEWATER
LOX	—	LIQUID OXYGEN
LIN	—	LIQUID NITROGEN

MATERIAL

AL	—	ALUMINUM
ACP	—	ASBESTOS CEMENT PIPE
CI	—	CAST IRON
CIP	—	CAST IRON PIPE
CISP	—	CAST IRON SOIL PIPE
CMP	—	CORRUGATED METAL PIPE
CPVC	—	CHLORINATED POLYVINYL CHLORIDE PIPE
CU	—	COPPER
DI	—	DUCTILE IRON
DIP	—	DUCTILE IRON PIPE
FRP	—	FIBERGLASS REINFORCED PLASTIC
GI	—	GALVANIZED IRON
GLDIP	—	GLASS LINED DUCTILE IRON PIPE
HDPE	—	HIGH DENSITY POLYETHYLENE
PCCP	—	PRESTRESSED CONCRETE CYLINDER PIPE
PEX	—	CROSS-LINKED POLYETHYLENE
PVC	—	POLYVINYL CHLORIDE PIPE
RCCP	—	REINFORCED CEMENT CONCRETE PIPE
SS	—	STAINLESS STEEL
STL	—	STEEL

CIVIL/SITE ABBREVIATIONS

AVE	—	AVENUE
BIT	—	BITUMINOUS
CB	—	CATCH BASIN
CC	—	CHEMICAL CONDUIT
CIR	—	CIRCLE
CM	—	CONCRETE MONUMENT
D	—	DRAIN
DR	—	DRIVE
FH	—	FIRE HYDRANT
G	—	GAS
GCB	—	GAS CURB BOX
GV	—	GAS VALVE
HYD	—	HYDRANT
IP	—	IRON PIN
MAC	—	MACADAM
MH	—	MANHOLE
MJ	—	MECHANICAL JOINT
NC	—	NETWORK CABLE
OE	—	OVERHEAD ELECTRICAL
OT	—	OVERHEAD TELEPHONE
℄	—	PROPERTY LINE
PM	—	PIPELINE MARKER
PC	—	POINT OF CURVE
PI	—	POINT OF INTERSECTION
POB	—	POINT OF BEGINNING
POE	—	POINT OF ENDING
POL	—	POINT ON LINE
PT	—	POINT OF TANGENT
PVC	—	POINT OF VERTICAL CURVE
PVT	—	POINT OF VERTICAL TANGENT
RD	—	ROAD
RJ	—	RESTRAINED JOINT
RTE	—	ROUTE
RW	—	RAW WATER
S	—	SANITARY SEWER
SD	—	STORM DRAIN
SEG	—	SEGMENT
SS	—	STORM SEWER
ST	—	STREET
SWS	—	SHORT WATER SERVICE
UGE	—	UNDERGROUND ELECTRIC
UGT	—	UNDERGROUND TELEPHONE
W	—	WATER
WARG	—	WEDGE ACTION RETAINING GLAND
WCB	—	WATER CURB BOX
WS	—	WATER SERVICE
WV	—	WATER VALVE

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	REVISIONS		

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J.L.G.	J.L.G.	AS NOTED
CHECKED	APPROVED	APPROVED
S.Z.L.	.	.

GANNETT FLEMING
ENGINEERS AND ARCHITECTS, P.C.

CREAMER
A FLETCHER CREAMER & SON, INC. COMPANY

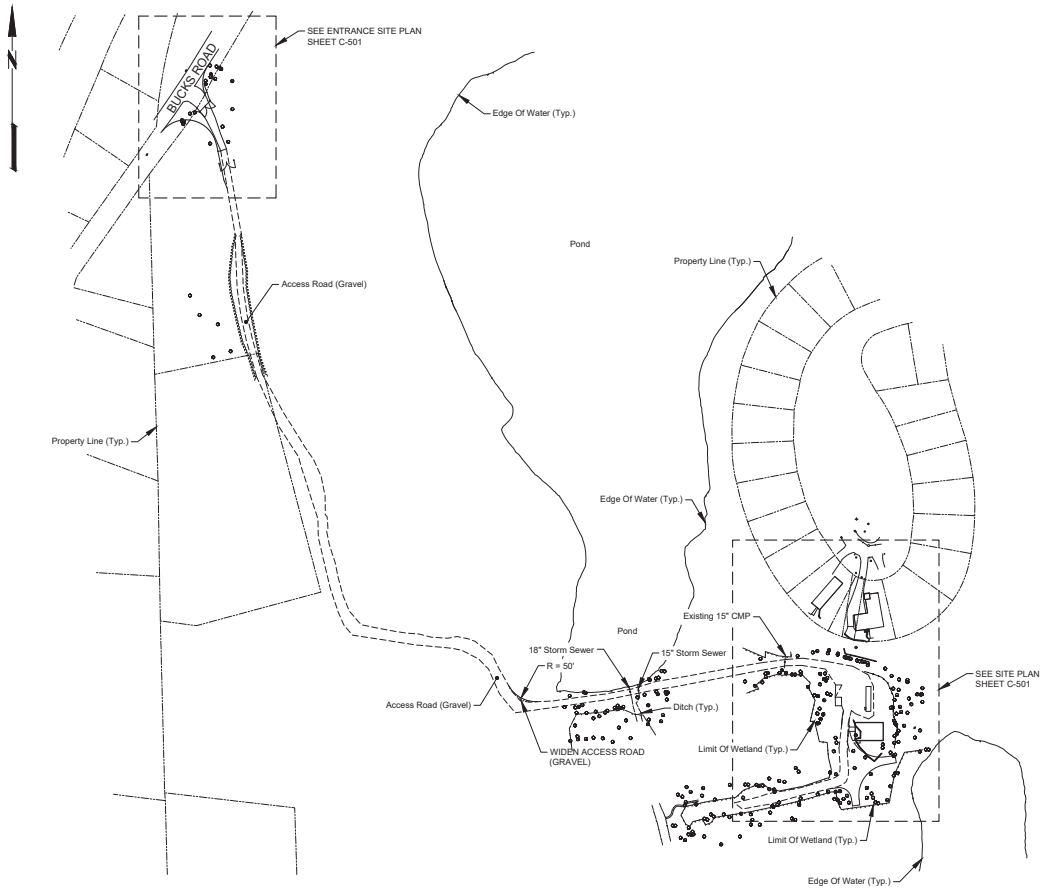
SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

CIVIL
GENERAL NOTES, LEGENDS AND ABBREVIATIONS

JOB No. 68577
DATE OCTOBER 2021

SHEET No. C-1



LOCATION PLAN

SCALE 1" = 100'

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	REVISIONS		

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CHECKED	APPROVED	APPROVED
S.Z.L.	.	.

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ENGINEERS AND ARCHITECTS, P.C.

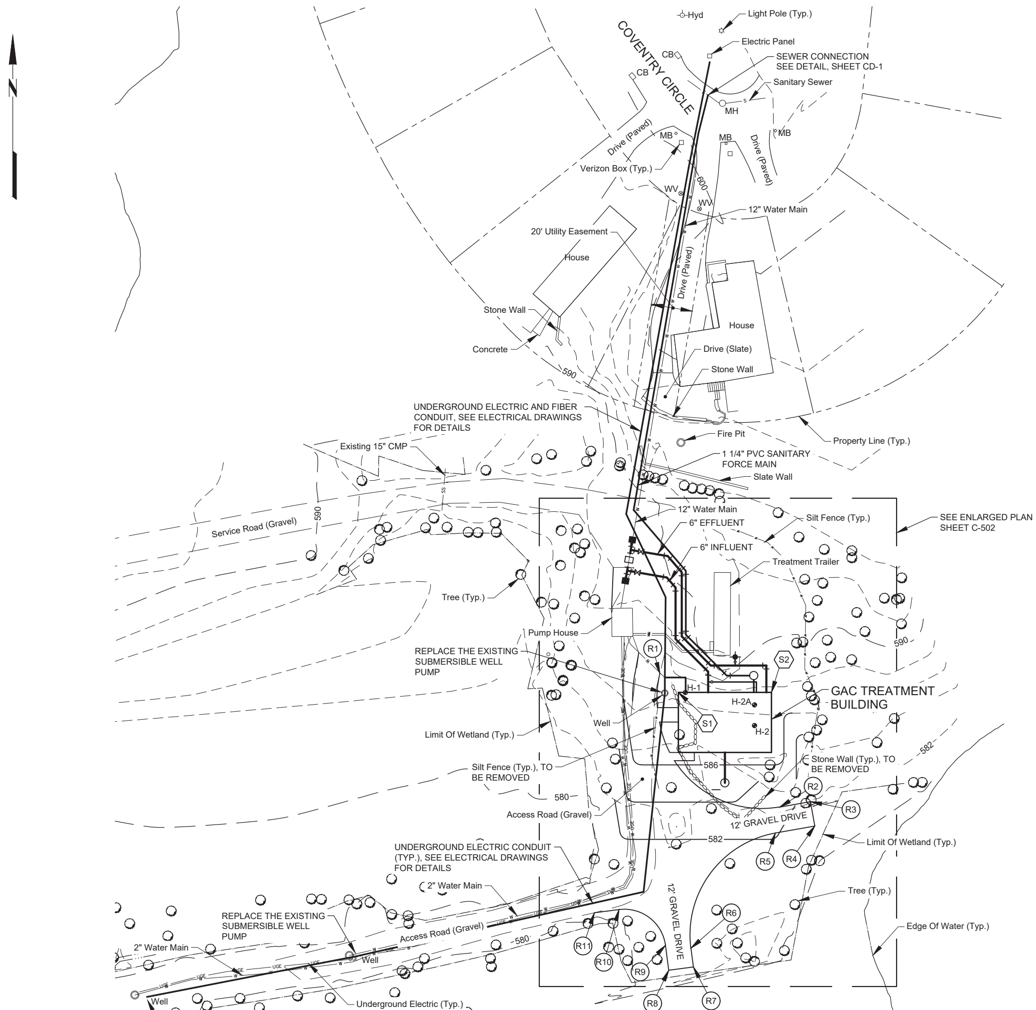
CREAMER
J. FLETCHER CREAMER & SON, INC.

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

MAHOPAC WELLS
CIVIL
LOCATION PLAN

JOB No. 68577
DATE OCTOBER 2021
SHEET No. C-500



SITE PLAN

SCALE 1" = 30'

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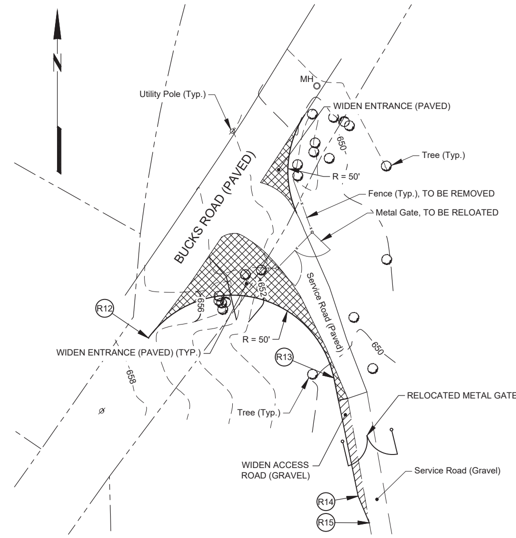


ENTRANCE SITE PLAN

SCALE 1" = 30'

30 15 0 30 60

STRUCTURAL CONTROL

S1	NORTHWEST CORNER OF GAC TREATMENT BUILDING	N 921278.26	E 700822.37
S2	NORTHEAST CORNER OF GAC TREATMENT BUILDING	N 921278.26	E 700867.37

BORINGS

H-1	N 921279.19	E 700825.77
H-2	N 921262.19	E 700859.18
H-2A	N 921272.19	E 700859.18

ACCESS ROAD CONTROL

R1	POINT OF CURVE	N 921287.31	E 700813.41
R2	POINT OF TANGENT	N 921222.86	E 700871.39
R3	———	N 921225.49	E 700886.15
R4	———	N 921213.68	E 700888.26
R5	POINT OF CURVE	N 921210.28	E 700869.21
R6	POINT OF TANGENT	N 921154.64	E 700828.40
R7	———	N 921145.56	E 700829.57
R8	———	N 921144.02	E 700817.67
R9	POINT OF CURVE	N 921156.02	E 700816.12
R10	POINT OF TANGENT	N 921173.29	E 700793.72
R11	———	N 921171.74	E 700781.74
R12	POINT OF CURVE	N 922227.86	E 699704.43
R13	POINT OF TANGENT	N 922208.56	E 699793.87
R14	———	N 922151.45	E 699805.62
R15	———	N 922138.55	E 699811.00

PIPELINE CONTROL

NAME	SIZE	FITTING	STATION	NORTHING	EASTING	℄ ELEVATION
INFLUENT	12" X 6"	TEE	0+00.00	921337.08	700797.64	584.45±
	12"	SOLID SLEEVE	———	921332.15	700796.79	584.45±
	6"	GATE VALVE	0+05.00	921336.22	700802.56	584.45±
	6"	45° BEND VERT.	0+19.40	921333.79	700816.75	584.25
	6"	45° BEND HORZ.	0+25.85	921328.89	700820.95	584.25
	6"	45° BEND HORZ.	0+50.67	921304.08	700820.95	583.25
	6"	45° BEND HORZ.	0+73.03	921288.26	700836.77	583.25
EFFLUENT	6"	90° BEND HORZ.	0+13.00	921291.26	700864.87	583.25
	6"	45° BEND VERT.	0+39.86	921291.26	700838.00	583.25
	6"	45° BEND HORZ.	0+59.74	921305.32	700823.95	583.25
	6"	45° BEND HORZ.	0+90.74	921336.26	700823.95	584.50
	6"	45° BEND HORZ.	1+01.05	921344.13	700817.20	584.50
	6"	GATE VALVE	1+14.15	921346.26	700804.26	584.66±
	12" X 6"	TEE	1+19.15	921347.09	700799.33	584.66±
	12"	SOLID SLEEVE	———	921352.02	700800.15	584.66±

NOTES

1. ALL PIPING TO BE DUCTILE IRON UNLESS NOTED OTHERWISE.
2. PIPING AND FITTINGS TO BE RESTRAINED JOINT UNLESS NOTED OTHERWISE.
3. AT POINTS OF CONNECTION, CONTRACTOR SHALL EXPOSE EXISTING WATER MAINS TO VERIFY LOCATION, GEOMETRY, AND MATERIAL REQUIREMENTS PRIOR TO ORDERING MATERIALS OR STARTING CONSTRUCTION OF ANY MAIN CONNECTING THERE TO.
4. INFORMATION SHOWN HEREIN IS BASED ON FIELD SURVEY PERFORMED BY ATZI, NASHER & ZIGLER P.C. MAY 2021.

STATE OF NEW YORK
PETER J. PETRICCIONE
LICENSED PROFESSIONAL ENGINEER

No.	DESCRIPTION	DATE	BY
	REVISIONS		

DESIGNED	CADD	SCALE
J.L.G.	J.L.G.	AS NOTED
CHECKED	APPROVED	APPROVED
S.Z.L.	-	-

GANNETT FLEMING ENGINEERS AND ARCHITECTS, P.C.

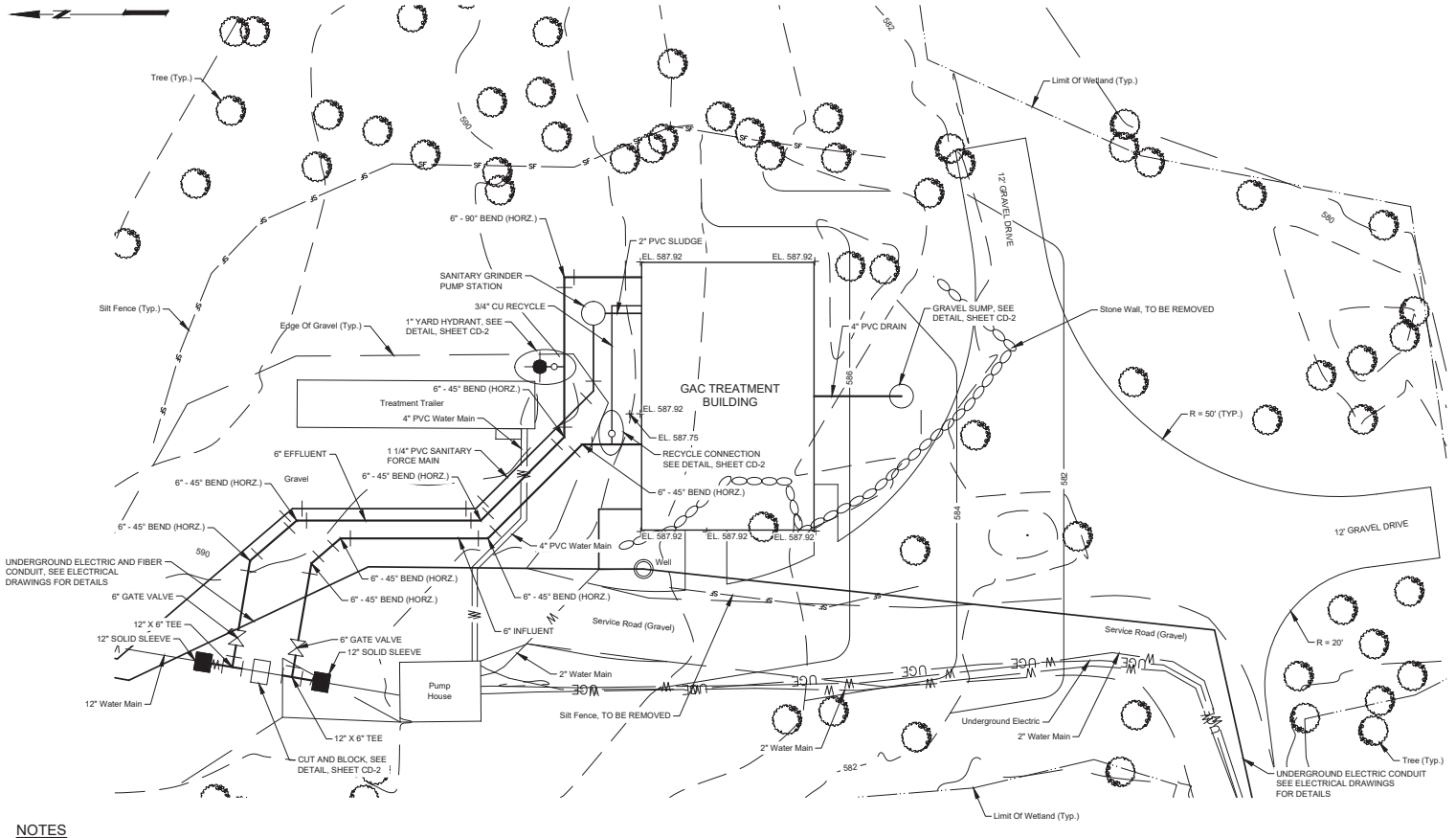
CREAMER
J. FLETCHER CREAMER & SON, INC.

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

MAHOPAC WELLS
CIVIL
SITE AND ENTRANCE SITE PLANS

JOB No. 68577
DATE OCTOBER 2021
SHEET No. C-501



NOTES

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3. AT POINTS OF CONNECTION, CONTRACTOR SHALL EXPOSE EXISTING WATER MAINS TO VERIFY LOCATION, GEOMETRY, AND MATERIAL REQUIREMENTS PRIOR TO ORDERING MATERIALS OR STARTING CONSTRUCTION OF ANY MAIN CONNECTING THERE TO.

ENLARGED PLAN

SCALE 1" = 10'

10 5 0 10 20

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S.Z.L.	.	.

GANNETT FLEMING
ENGINEERS AND ARCHITECTS, P.C.

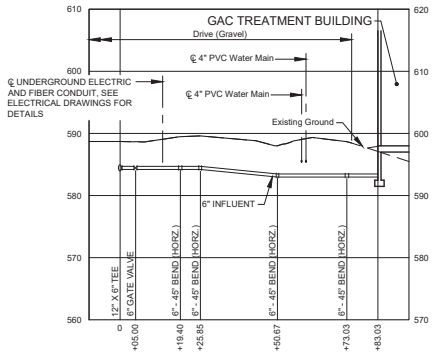
CREAMER
A FLETCHER CREAMER & SON, INC. COMPANY

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

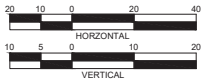
MAHOPAC WELLS
CIVIL
ENLARGED PLAN

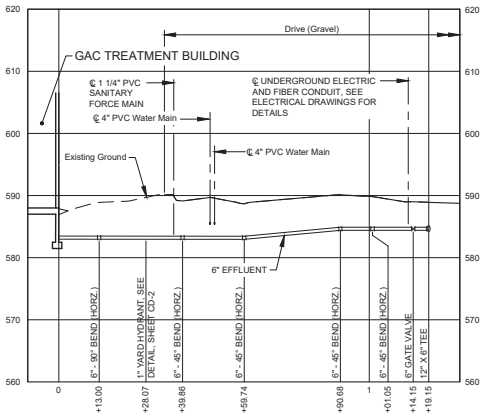
JOB No. 68577
DATE OCTOBER 2021
SHEET No. C-502



INFLUENT

SCALE HORZ. 1" = 20'
VERT. 1" = 10'





EFFLUENT

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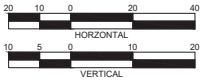

NOTES

1. ALL PIPING TO BE DUCTILE IRON UNLESS NOTED OTHERWISE.
2. PIPING AND FITTINGS TO BE RESTRAINED JOINT UNLESS NOTED OTHERWISE.
3. AT POINTS OF CONNECTION, CONTRACTOR SHALL EXPOSE EXISTING WATER MAINS TO VERIFY LOCATION, GEOMETRY, AND MATERIAL REQUIREMENTS PRIOR TO ORDERING MATERIALS OR STARTING CONSTRUCTION OF ANY MAIN CONNECTING THERE TO.

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DESIGNED	CADD	SCALE
J.L.G.	J.L.G.	AS NOTED
CHECKED	APPROVED	APPROVED
S.Z.L.	.	.

GANNETT FLEMING
ENGINEERS AND ARCHITECTS, P.C.

CREAMER
A FLETCHER CREAMER & SON, INC. COMPANY

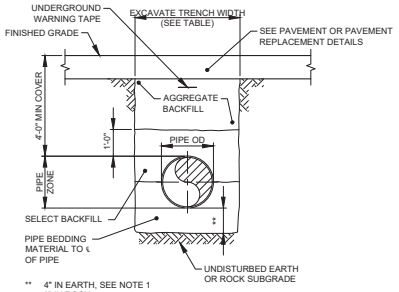
SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

MAHOPAC WELLS
CIVIL
PROFILES

JOB No. 68577
DATE OCTOBER 2021

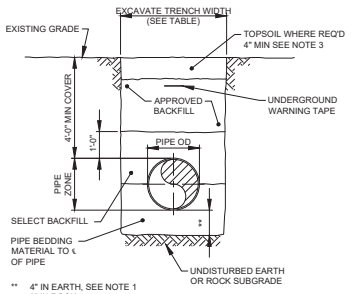
SHEET No. C-503



** 4" IN EARTH, SEE NOTE 1
8" IN ROCK

TYPICAL TRENCH PAVED AREAS

NO SCALE



** 4" IN EARTH, SEE NOTE 1
8" IN ROCK

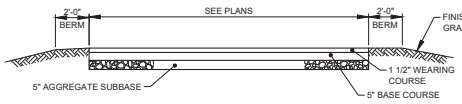
TYPICAL TRENCH UNPAVED AREAS

NO SCALE

PRESSURIZED PIPE TRENCH WIDTH TABLE	
DIAMETER OF PIPE	MAX TRENCH WIDTH (OD OF PIPE AT BARREL PLUS)
3" - 36"	24"

TRENCH NOTES:

1. IF UNSUITABLE SUBSOIL IS ENCOUNTERED AT THE NORMAL TRENCH SUBGRADE, THE CONTRACTOR SHALL REMOVE IT TO THE DEPTH DIRECTED BY THE ENGINEER IN THE FIELD, AND BACKFILL w/ PIPE BEDDING MATERIAL IN 4" LAYERS.
2. BOTTOM OF TRENCH SHALL BE FREE OF WATER PRIOR TO PLACING BEDDING.
3. PROVIDE 4" OF TOPSOIL WHERE SEEDING IS REQUIRED.
4. CONTRACTOR SHALL SHORE THE TRENCH IN ACCORDANCE WITH SECTION 02255 OF THE SPECIFICATIONS.
5. GRAVEL AND PAVED DRIVEWAYS TO BE RESTORED IN KIND WITH MINIMUM REQUIREMENTS AS INDICATED ON THIS SHEET.

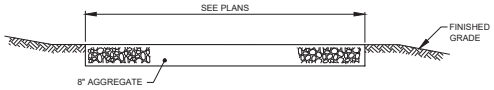


NOTES:

1. WHERE STRUCTURES ARE INDICATED ON DRAWINGS, NO BERM REQUIRED, SEE CONCRETE CURB SECTION THIS SHEET.
2. SEE PLANS FOR SLOPE OF ROAD.

PAVING DETAIL

NO SCALE



GRAVEL ROAD DETAIL

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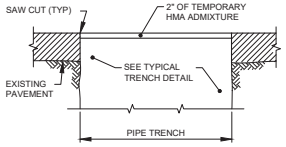
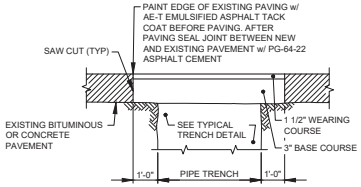


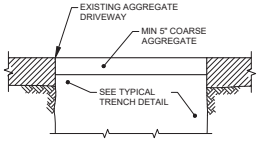
TEMPORARY PAVEMENT REPLACEMENT

NO SCALE



BITUMINOUS DRIVEWAY PAVEMENT REPLACEMENT

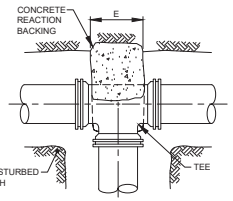
NO SCALE



AGGREGATE DRIVEWAY REPLACEMENT

NO SCALE

TABLE OF REACTION BACKING DIMENSIONS																				
PIPE DIA	TEST PRESSURE (PSI)	A	B	C	D	E	F	G	H				I			J			K	L	M
									45	22 1/2	11 1/4	45	22 1/2	11 1/4	45	22 1/2	11 1/4			
8"	150	3'-6"	2'-0"	1'-0"	1'-0"	2'-6"	2'-0"	2'-8"	1'-6"	1'-0"	1'-0"	1'-10"	0'-8"	0'-4"	8'-0"	2'-8"	2'-0"	1'-4"	2'-4"	1'-4"
6"	150	2'-8"	1'-6"	1'-0"	1'-0"	2'-0"	1'-6"	2'-8"	1'-0"	1'-0"	1'-0"	1'-0"	0'-8"	0'-4"	6'-0"	2'-0"	2'-0"	1'-3"	2'-3"	1'-3"
4"	150	2'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	2'-4"	1'-0"	1'-0"	1'-0"	0'-4"	0'-4"	0'-4"	4'-0"	2'-0"	2'-0"	1'-3"	2'-3"	1'-2"
2"	150	1'-8"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	1'-0"	1'-0"	1'-0"	0'-4"	0'-4"	0'-4"	4'-0"	2'-0"	2'-0"	1'-3"	2'-3"	1'-2"



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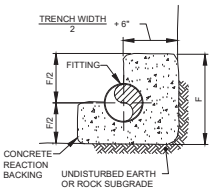
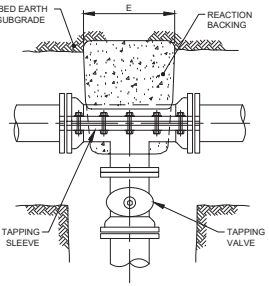


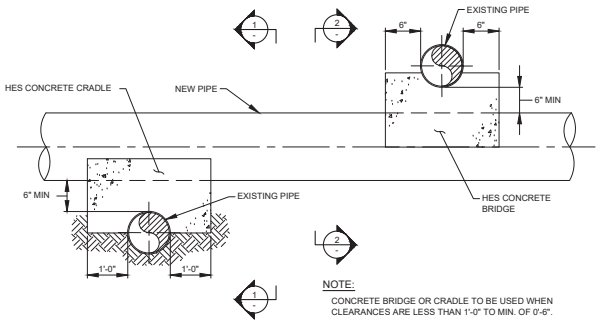
SECTION

REACTION BACKINGS

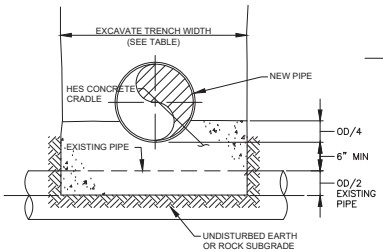
NO SCALE



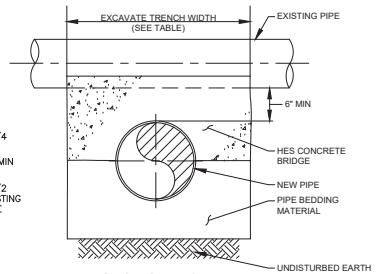
TAPPING SLEEVE AND VALVE



NOTE:
CONCRETE BRIDGE OR CRADLE TO BE USED WHEN CLEARANCES ARE LESS THAN 1'-0" TO MIN. OF 0'-6".



SECTION 1



SECTION 2

CONCRETE CRADLE AND CONCRETE BRIDGE

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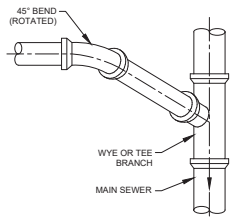
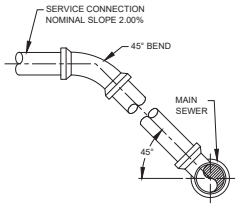


PLAN



ELEVATION

SERVICE CONNECTION

NO SCALE

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S.Z.L.		

GANNETT FLEMING
ENGINEERS AND ARCHITECTS, P.C.

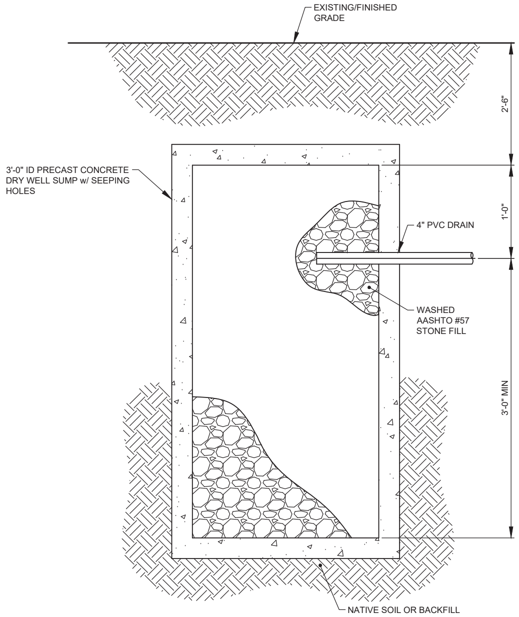
CREAMER
J. FLETCHER CREAMER & SON, INC.

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

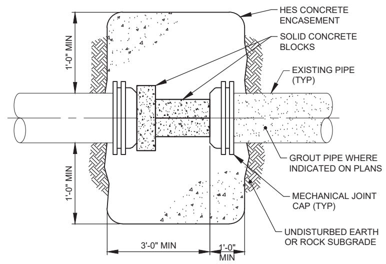
CIVIL
TRENCH, PAVING AND PIPING DETAILS

JOB No.	SHEET No.
68577	CD-1
DATE	
OCTOBER 2021	



GRAVEL SUMP

NO SCALE



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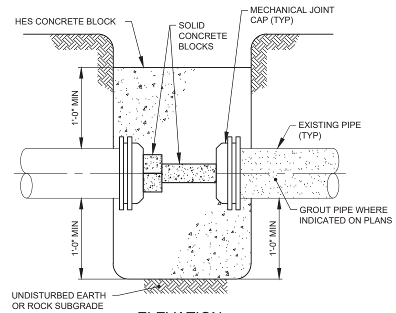


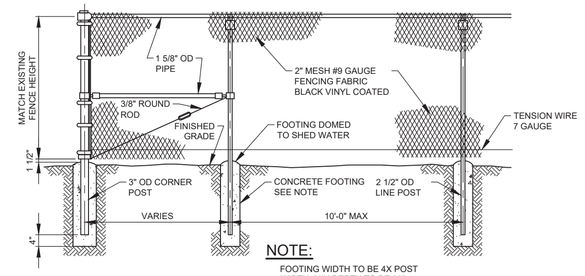
ELEVATION

NOTES:

1. UNCOVER EXISTING PIPE.
2. CUT 2'-0" SECTION FROM MAIN IN CENTER OF EXCAVATION.
3. CAP EXISTING MAIN.
4. PLACE SOLID CONCRETE BLOCKS AS SHOWN. WEDGE TIGHTLY BETWEEN ENDS OF PIPE CAPS OR PLUGS.
5. CONCRETE ENCASEMENT OPPOSITE CAP MUST BEAR ON UNDISTURBED EARTH.

CUT AND BLOCK

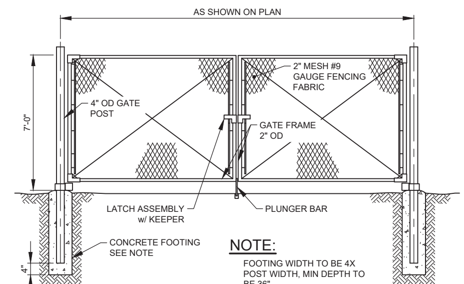
NO SCALE



NOTE:
FOOTING WIDTH TO BE 4X POST WIDTH, MIN DEPTH TO BE 36".

CHAIN LINK FENCE

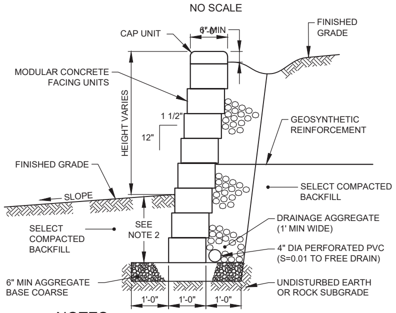
NO SCALE



NOTE:
FOOTING WIDTH TO BE 4X POST WIDTH, MIN DEPTH TO BE 36".

DOUBLE SWING GATE

NO SCALE

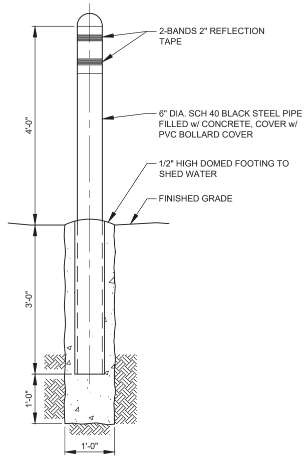


NOTES:

1. SEE SITE GRADING PLAN FOR ELEVATIONS.
2. ALL CONSTRUCTION SHALL CONFORM TO THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION RECOMMENDATIONS.

MODULAR CONCRETE RETAINING WALL

NO SCALE



PIPE BOLLARD

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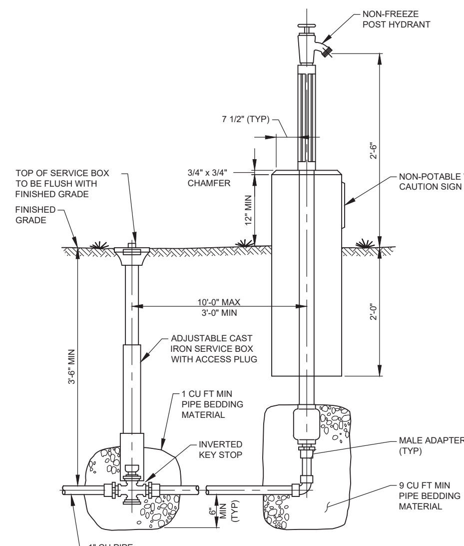
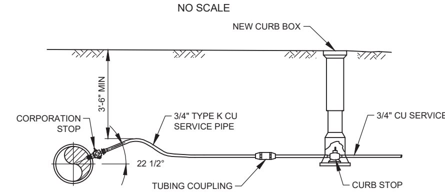


ELEVATION

YARD HYDRANT

NO SCALE



RECYCLE CONNECTION

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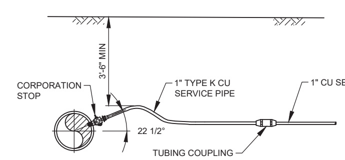

YARD HYDRANT CONNECTION

NO SCALE

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CHECKED	APPROVED	APPROVED
S.Z.L.	-	-

GANNETT FLEMING ENGINEERS AND ARCHITECTS, P.C.

CREAMER — J. FLETCHER CREAMER & SON, INC.

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

CIVIL
MISCELLANEOUS DETAILS

JOB No.	SHEET No.
68577	CD-2
DATE: OCTOBER 2021	

SHADED FACILITIES

MASONRY WALL (PLANS AND SECTIONS)

FILL CONCRETE (USED ON SECTIONS)

REINFORCED CONCRETE (USED ON SECTIONS)

CHEMICAL FEED SYSTEMS

A	—	ALUM
AC	—	ALTERNATE COAGULANT
AM	—	AMMONIA
CA	—	COAGULANT AID
CD	—	CHLORINE DIOXIDE
CI	—	CORROSION INHIBITOR
CL	—	CHLORINE
CO	—	CARBON DIOXIDE
CP	—	COAGULANT POLYMER
CS	—	CAUSTIC SODA
F	—	FLUORIDE
FA	—	FILTER AID
FC	—	FERRIC CHLORIDE
FS	—	FERRIC SULFATE
HP	—	HYDROGEN PEROXIDE
HW	—	HOT WATER
K	—	POTASSIUM PERMANGANATE
L	—	LIME
O	—	OXYGEN
OZ	—	OZONE
PAC	—	POWDERED ACTIVATED CARBON
PACL	—	POLYALUMINUM CHLORIDE
S	—	SPARE
SA	—	SODA ASH
SB	—	SODIUM BISULFITE
SBP	—	SLUDGE BLANKET POLYMER
SC	—	SODIUM CHLORITE
SCP	—	SLUDGE CONDITIONER POLYMER
SHC	—	SODIUM HYPOCHLORITE
SO	—	SULFUR DIOXIDE
WCP	—	WASTEWATER CONDITIONER POLYMER
'X' D	—	'X' DRAIN
'X' F	—	'X' FILL
'X' V	—	'X' VENT

PROCESS PIPING ABBREVIATIONS

AIR	—	AIR
B	—	BELL
BW	—	BACKWASH WATER
CE	—	CONTACTOR EFFLUENT
CI	—	CLEARWELL INFLUENT
D	—	DRAIN
FE	—	FILTER EFFLUENT
FI	—	FILTER INFLUENT
FLG	—	FLANGE
FR	—	FILTER RINSE
FW	—	FINISHED WATER
GAC	—	GRANULAR ACTIVATED CARBON
MJ	—	MECHANICAL JOINT
MW	—	MIXED WATER
PE	—	PLAIN END
PS	—	PLANT SERVICE
RJ	—	RESTRAINED JOINT
RW	—	RAW WATER
SL	—	SLUDGE
SW	—	SETTLED WATER
V	—	VENT
WW	—	WASTEWATER
W	—	WATER

SAMPLE LINES

CES	—	CONTACTOR EFFLUENT SAMPLE
CIS	—	CLEARWELL INFLUENT SAMPLE
FIS	—	FILTER INFLUENT SAMPLE
FES	—	FILTER EFFLUENT SAMPLE
FWS	—	FINISHED WATER SAMPLE
MWS	—	MIXED WATER SAMPLE
PES	—	PLANT EFFLUENT SAMPLE
PIS	—	PLANT INFLUENT SAMPLE
RWS	—	RAW WATER SAMPLE

PROCESS FLOW ABBREVIATIONS

CFM	—	CUBIC FEET PER MINUTE
CFS	—	CUBIC FEET PER SECOND
FPS	—	FEET PER SECOND
GPM	—	GALLONS PER MINUTE
MGD	—	MILLION GALLONS PER DAY

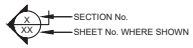
GENERAL ABBREVIATIONS

CLR	—	CLEARANCE
℄	—	CENTERLINE
CMU	—	CONCRETE MASONRY UNIT
DIA	—	DIAMETER
EC	—	ELECTRICAL CONTRACT
EL or ELEV	—	ELEVATION
EX	—	EXISTING
FT	—	FOOT OR FEET
GC	—	GENERAL CONTRACT
ID	—	INSIDE DIAMETER
INV	—	INVERT
MAX	—	MAXIMUM
MC	—	MECHANICAL CONTRACT
MIN	—	MINIMUM
NA	—	NOT APPLICABLE
NTS	—	NOT TO SCALE
OD	—	OUTSIDE DIAMETER
PC	—	PLUMBING CONTRACT
℄	—	PLATE
SHT	—	SHEET
SQ	—	SQUARE
STA	—	STATION
TYP	—	TYPICAL
W	—	WATER
WW	—	WASTEWATER

MATERIAL

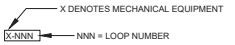
AL	—	ALUMINUM
ACP	—	ASBESTOS CEMENT PIPE
CI	—	CAST IRON
CIP	—	CAST IRON PIPE
CISP	—	CAST IRON SOIL PIPE
CMP	—	CORRUGATED METAL PIPE
CPVC	—	CHLORINATED POLYVINYL CHLORIDE PIPE
CU	—	COPPER
DI	—	DUCTILE IRON
DIP	—	DUCTILE IRON PIPE
FRP	—	FIBERGLASS REINFORCED PLASTIC
GI	—	GALVANIZED IRON
GLDIP	—	GLASS LINED DUCTILE IRON PIPE
HDPE	—	HIGH DENSITY POLYETHYLENE
PCCP	—	PRESTRESSED CONCRETE CYLINDER PIPE
PEX	—	CROSS-LINKED POLYETHYLENE
PVC	—	POLYVINYL CHLORIDE
RCCP	—	REINFORCED CEMENT CONCRETE PIPE
SS	—	STAINLESS STEEL
STL	—	STEEL

PROCESS SHEET REFERENCE LEGEND



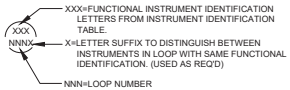
PROCESS INSTRUMENTATION IDENTIFICATION LEGEND

EQUIPMENT TAGGING



* SEE INSTRUMENTATION DRAWINGS FOR INSTRUMENTATION IDENTIFICATION ABBREVIATIONS.

INSTRUMENT & FUNCTION TAGGING



* SEE INSTRUMENTATION DRAWINGS FOR INSTRUMENTATION IDENTIFICATION ABBREVIATIONS.

NOTE:

'X' - INSERT CHEMICAL ABBREVIATION AS REQUIRED.
(EXAMPLE CSV - CAUSTIC SODA VENT)

THIS SHEET IS FOR PROCESS SYMBOLS AND ABBREVIATIONS ONLY. REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SYMBOLS AND ABBREVIATIONS FOR THAT WORK.

LINE COMPOSITION

1. NEW FACILITIES SHOWN WITH HEAVIER LINE WORK AND BOLDER TEXT THAN EXISTING FACILITIES.

No.	DESCRIPTION	DATE	BY
	REVISIONS		

DESIGNED	CADD	SCALE
.	.	AS NOTED
CHECKED	APPROVED	APPROVED
.	.	.

GANNETT FLEMING
ENGINEERS AND ARCHITECTS, P.C.

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A FLETCHER CREAMER & SON, INC. COMPANY

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

PROCESS
PROCESS LEGEND AND ABBREVIATIONS

JOB No. 68577

DATE OCTOBER 2021

SHEET No. P-1

WALL FITTINGS

DESCRIPTION	SINGLE LINE	THREE LINE
WALL SLEEVE CAULKED (P.E., F. & P.E.)		
WALL SLEEVE MODULAR TYPE SEAL (P.E., F. & P.E.)		
WALL SLEEVE (M.J., F. & M.J.)		
WALL PIPE (F., F. & F.)		
WALL PIPE (B., F. & B.)		
WALL PIPE B., F. & F.)		
WALL PIPE (M.J., F. & F.)		
WALL PIPE (F., F. & P.E.)		

NOTE: APPLIES TO FLOOR SLEEVES ALSO.

PIPE JOINTS

DESCRIPTION	SINGLE LINE	THREE LINE
FLANGE		
MECHANICAL JOINT		
RESTRAINED JOINT	R.	R.
PUSH ON OR BELL AND SPIGOT		
THREADED		
VICTAULIC COUPLING		
WELDED	N.A.	

PIPE FITTINGS (CONT.)

DESCRIPTION	SINGLE LINE	THREE LINE
REDUCER		
ECCENTRIC REDUCER		
BLIND FLANGE		
CLAMPED RESTRAINED COUPLING		
MECHANICAL COUPLING		
RESTRAINED MECH. COUPLING		
FLANGED ADAPTOR	N.A.	
FLANGED ADAPTOR W/ ANCHOR STUDS	N.A.	A.S.

PIPING ACCESSORIES

DESCRIPTION	SINGLE LINE	THREE LINE
VENTURI METER		
STRAINER		
PRESSURE SWITCH	P.S.	P.S.
PRESSURE GAUGE	P.G.	P.G.
PRESSURE GAUGE W/ PRESSURE SWITCH		
THERMOMETER		
PROPELLER OR TURBINE METER		N.A.
MAGNETIC FLOWMETER	M	M

VALVE SYMBOLS

DESCRIPTION	SINGLE LINE	THREE LINE PLAN	THREE LINE ELEVATION
GATE			
BUTTERFLY			
BALL			
BALL CHECK		N.A.	N.A.
CHECK			
DIAPHRAGM		N.A.	N.A.
PLUG			
GLOBE		N.A.	N.A.
PINCH		N.A.	N.A.
NEEDLE		N.A.	N.A.
SOLENOID		N.A.	N.A.
AIR RELEASE	N.A.	1" A.R.	1" A.R.
AIR VACUUM	N.A.	1" A.V.	1" A.V.
COMBINATION AIR RELEASE - AIR/VACUUM	N.A.	1" C.A.V.	1" C.A.V.
KINETIC AIR VACUUM	N.A.	1" K.A.V.	1" K.A.V.
KINETIC COMBINATION AIR RELEASE - AIR VACUUM	N.A.	1" K.C.A.V.	1" K.C.A.V.
PRESSURE REDUCING		N.A.	N.A.
HOSE BIBB			
STOP AND DRAIN			
PRESSURE RELIEF		N.A.	N.A.

PIPE FITTINGS

DESCRIPTION	SINGLE LINE	THREE LINE
CROSS		
CROSS (VERT.)		
TEE		
TEE (VERT. UP)		
TEE (VERT. DOWN)		
90 ELBOW		
90 ELBOW (VERT. DOWN)		
90 ELBOW (VERT. UP)		
90 LONG RADIUS ELBOW	L.R.	L.R.
45 ELBOW		
90 BASE ELBOW		
45^ WYE		
UNION (SCREWED)		N.A.
ADAPTOR		N.A.
HOSE CONNECTION		N.A.

VALVE OPERATOR

DESCRIPTION	SINGLE LINE	THREE LINE
MANUAL OPERATOR	N.A.	BFV 351
MOTOR OPERATOR	N.A.	
CYLINDER OPERATOR	N.A.	C

No.	DESCRIPTION	DATE	BY

REVISIONS

DESIGNED	CADD	SCALE
M.J.C./M.M.S.	M.T.K.	AS NOTED
CHECKED	APPROVED	APPROVED
J.L.R.	-	-

GANNETT FLEMING ENGINEERS AND ARCHITECTS, P.C.

CREAMER J. FLETCHER CREAMER & SON, INC.

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

PROCESS
PROCESS PIPING SYMBOLS

JOB No. 68577
DATE OCTOBER 2021
SHEET No. P-2

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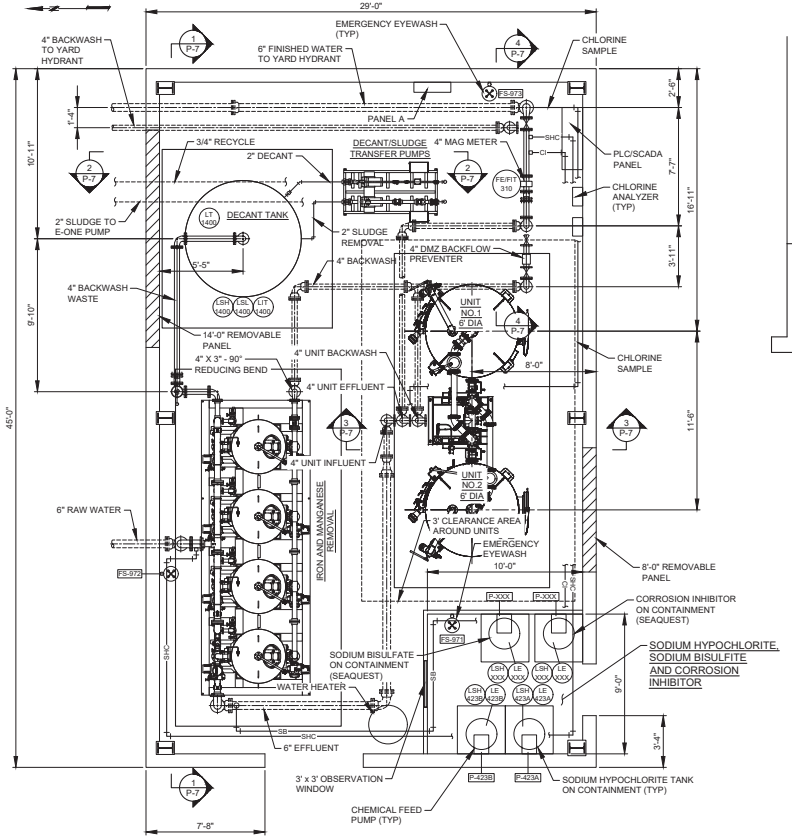
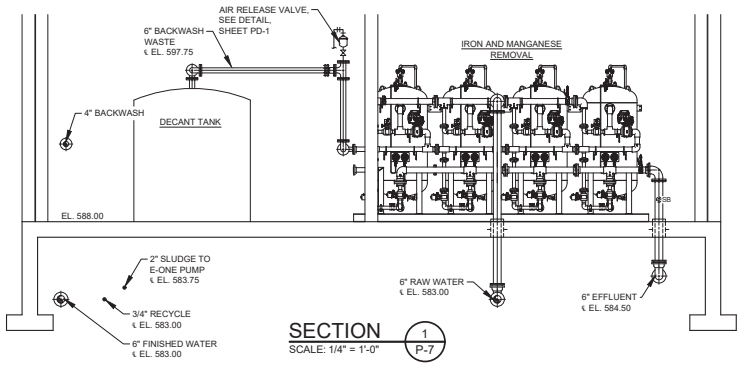


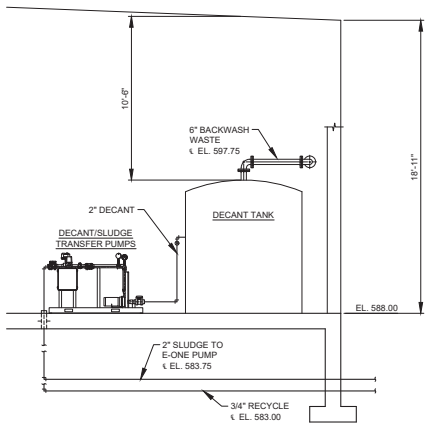
FLOOR PLAN

SCALE 1/4" = 1'-0"



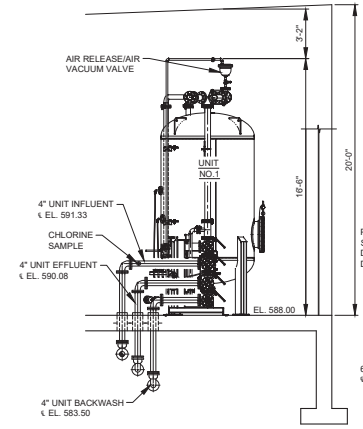
SECTION 1/P-7

SCALE: 1/4" = 1'-0"



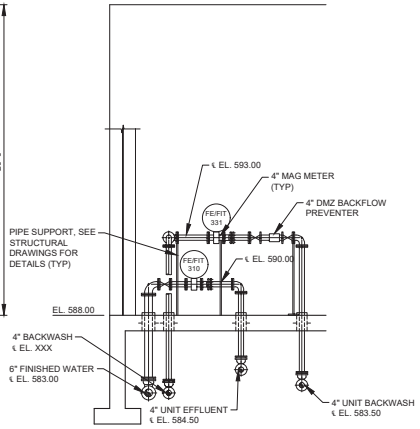
SECTION 2/P-7

SCALE: 1/4" = 1'-0"



SECTION 3/P-7

SCALE: 1/4" = 1'-0"



SECTION 4/P-7

SCALE: 1/4" = 1'-0"

NOTES

1. PROVIDE AIR RELEASE/AIR VACUUM VALVES ON TOP OF FILTER AND UNITS.
2. PROVIDE PRESSURE RELIEF VALVE AT EACH UNIT.

CHEMICAL PIPING NOTES:

1. PIPING 3" OR SMALLER TO BE WALL MOUNTED WITH PVC COATED UNISTRUT SUPPORTS UNLESS OTHERWISE NOTED.
2. ALL SMALL PIPING TO BE MOUNTED A MINIMUM 9'-0" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.
3. PROVIDE DOUBLE CONTAINMENT PIPE FOR CHEMICAL FILL LINES ON THE CHEMICAL SCHEMATICS.
4. SEE CHEMICAL FEED SYSTEM SCHEMATICS FOR ADDITIONAL SMALL PIPING INFORMATION.
5. CHEMICAL PIPING OUTSIDE CONTAINMENT AREA TO BE DOUBLE CONTAINMENT PIPE.

FILE PATH: C:\Users\mkline\ACCDocs\GANNETT FLEMING INC\068577-SuezNY_PFAS_Project_F_and_H_DB\Project Files\Water\DWGs\Process\68577P501.dwg
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No.	DESCRIPTION	DATE	BY
	REVISIONS		

DESIGNED	CADD	SCALE
.	.	AS NOTED
CHECKED	APPROVED	APPROVED
.	.	.

GANNETT FLEMING
ENGINEERS AND ARCHITECTS, P.C.

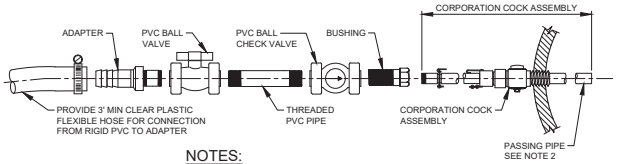
CREAMER
A FLETCHER CREAMER & SON, INC. COMPANY

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

MAHOPAC WELLS
PROCESS
FLOOR PLAN AND SECTIONS

JOB No.	SHEET No.
68577	P-501
DATE	
OCTOBER 2021	

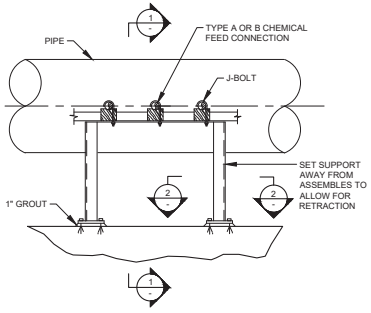


NOTES:

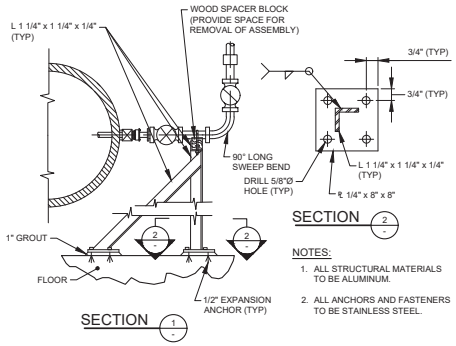
1. TYPE 'A' CONNECTION IS WHERE FEED LINE PROJECTS 1/3 DIA TO 1/2 DIA INTO MAIN.
2. FEED LINES UP TO AND INCLUDING 1" IN SIZE SHALL USE A 1/2" PASSING PIPE IN THE ASSEMBLY. ALL LARGER FEED LINES SHALL USE A 1 1/2" PASSING PIPE.

TYPE 'A' CONNECTION

NO SCALE



ELEVATION



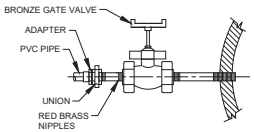
SECTION

NOTES:

1. ALL STRUCTURAL MATERIALS TO BE ALUMINUM.
2. ALL ANCHORS AND FASTENERS TO BE STAINLESS STEEL.

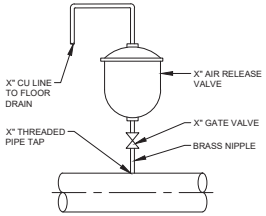
FLOOR SUPPORT FOR CHEMICAL FEED CONNECTIONS

NO SCALE



TYPE 'C' CONNECTION

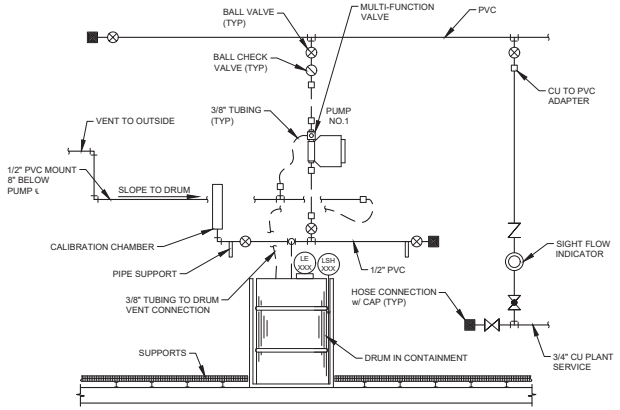
NO SCALE



NOTE:
"X" = SIZE OF AIR VALVE NOTED ON PLANS.

AIR RELEASE VALVE

NO SCALE



TYPICAL CHEMICAL SCHEMATIC

NO SCALE

No.	DESCRIPTION	DATE	BY
	REVISIONS		

DESIGNED	CADD	SCALE
.	K.R.S.	AS NOTED
CHECKED	APPROVED	APPROVED
.	.	.

GANNETT FLEMING
ENGINEERS AND ARCHITECTS, P.C.

CREAMER
J. FLETCHER CREAMER & SON, INC.

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

PROCESS
DETAILS AND CHEMICAL
FEED SYSTEM SCHEMATIC

JOB No. 68577

DATE OCTOBER 2021

SHEET No. PD-1

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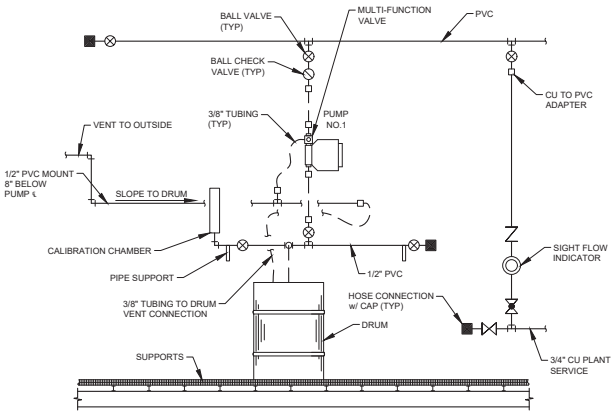
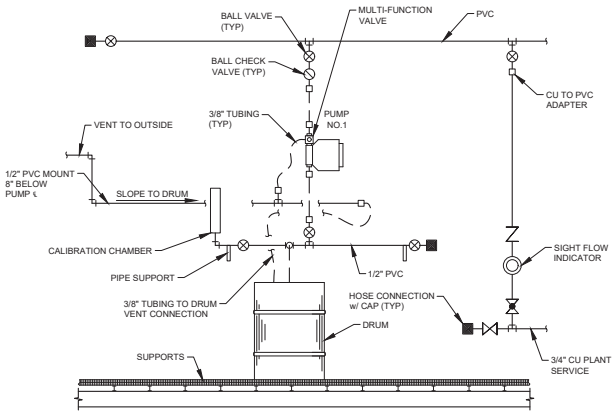


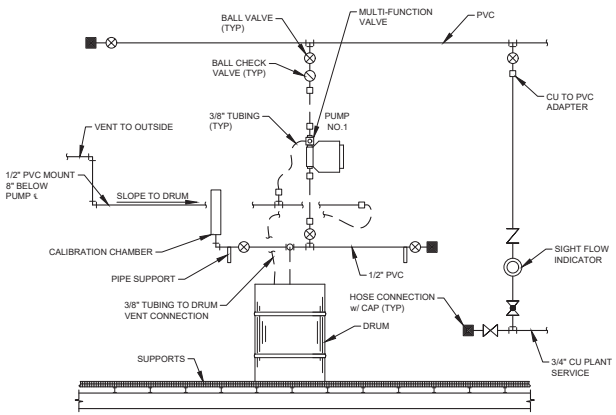
SODIUM HYPCHLORITE SCHEMATIC

CHATEAU
NO SCALE



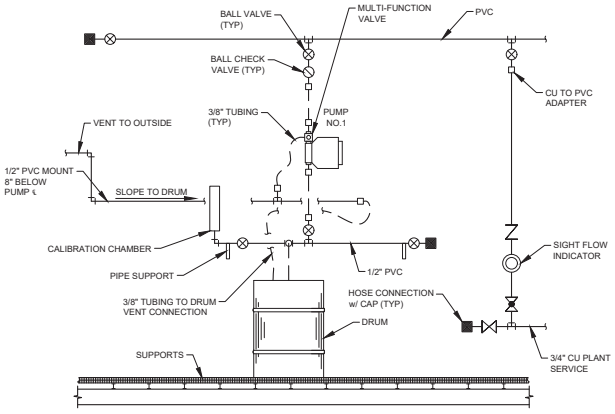
CORROSION INHIBITOR SCHEMATIC

MAHOPAC
NO SCALE



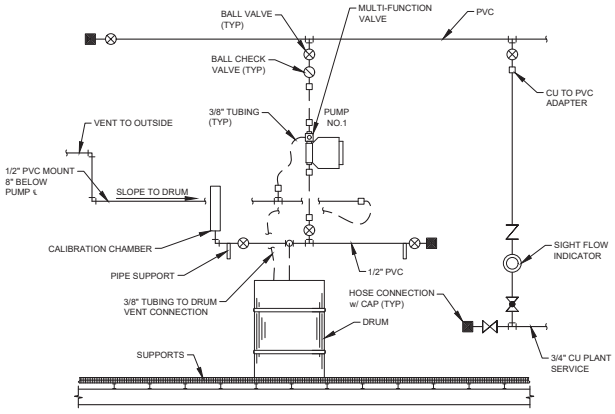
SODIUM HYPCHLORITE SCHEMATIC

MAHOPAC
NO SCALE



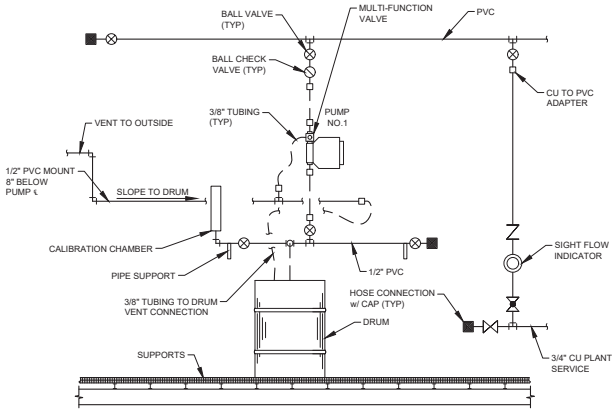
SODIUM HYPCHLORITE SCHEMATIC

ARCHER
NO SCALE



CORROSION INHIBITOR SCHEMATIC

ARCHER
NO SCALE



CAUSTIC SODA SCHEMATIC

ARCHER
NO SCALE

No.	DESCRIPTION	DATE	BY
	REVISIONS		

DESIGNED	CADD	SCALE
.	T.L.M.	AS NOTED
CHECKED	APPROVED	APPROVED
.	.	.

GANNETT FLEMING
ENGINEERS AND ARCHITECTS, P.C.

CREAMER
J. FLETCHER CREAMER & SON, INC.

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

PROCESS
CHEMICAL FEED SYSTEM SCHEMATICS

JOB No. 68577
DATE OCTOBER 2021
SHEET No. PD-2

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APPENDIX C
BACKWASH LABORATORY
TEST RESULTS

PHOENIX
Environmental Laboratories, Inc.

Friday, August 13, 2021

Attn: Roy Barticciotto
CEMCO Water & Wastewater Specialists Inc
59 Healey Lane
Stormville, NY 12582

Project ID: MAHPOPAC TREATMENT TRAILER
SDG ID: GCI88573
Sample ID#s: CI88573

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Sample Id Cross Reference

August 13, 2021

SDG I.D.: GCI88573

Project ID: MAHPOPAC TREATMENT TRAILER

Client Id	Lab Id	Matrix
BACKWASH	CI88573	WATER

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

August 13, 2021

FOR: Attn: Roy Barticciotto
CEMCO Water & Wastewater Specialists Inc
59 Healey Lane
Stormville, NY 12582

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		08/04/21	11:00
Location Code:	CEMCO	Received by:	LB	08/04/21	17:34
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCI88573
Phoenix ID: CI88573

Project ID: MAHPOPAC TREATMENT TRAILER
Client ID: BACKWASH

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
B.O.D./5 day	< 4.0	4.0	mg/L	2	08/04/21 17:34	J/LJ	SM 5210B-11	
B.O.D./5 day End Incubation					08/09/21 15:00	J/LJ	SM 5210B-11	
Chlorine Demand	2.00	0.1	mg/L	1	08/13/21	KDB	SM2350	1
C.O.D.	59	10	mg/L	1	08/05/21	QH	SM 5220D-11	
Ammonia as Nitrogen	0.18	0.10	mg/L	2	08/11/21	KDB	E350.1	
Oil and Grease by EPA 1664A	< 1.4	1.4	mg/L	1	08/06/21	BJA	EPA 1664	
pH	7.92	1.00	pH Units	1	08/05/21 01:25	MW/EG	SM4500-H B-11	1
Nitrogen Tot Kjeldahl	0.60	0.20	mg/L	2	08/11/21	KDB	E351.1	
Phosphorus, as P	0.11	0.10	mg/L	10	08/06/21	JR	SM4500PE-11	
Total Suspended Solids	100	6.3	mg/L	1.3	08/05/21	MCH/QH	SM 2540D-11	

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low

Comments:

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
August 13, 2021
Reviewed and Released by: Helen Geoghegan, Project Manager

Ver 1

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

August 13, 2021

QA/QC Data

SDG I.D.: GCI88573

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 586491 (pH), QC Sample No: CI88378 (CI88573)													
pH			8.4	8.16	2.90	97.9						85 - 115	20
QA/QC Batch 586721 (mg/L), QC Sample No: CI88387 (CI88573)													
Phosphorus, as P	BRL	0.01	0.019	0.022	NC	95.2			104			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 586589 (mg/L), QC Sample No: CI88430 (CI88573)													
C.O.D.	BRL	10	31	31	NC	104			105			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 586542 (mg/L), QC Sample No: CI88558 (CI88573)													
Total Suspended Solids	BRL	2.5	<3.3	<3.5	NC	93.0						85 - 115	20
QA/QC Batch 586394 (mg/L), QC Sample No: CI88570 (CI88573)													
B.O.D./5 day	BRL	2.0	<4.0	<4.0	NC	100			92.5			70 - 130	20
B.O.D./5 day GGA BOD						111						84 - 115	20
QA/QC Batch 586699 (mg/L), QC Sample No: CI89235 (CI88573)													
Oil and Grease by EPA 1664A	BRL	1.4	<1.4	<1.4	NC	103			97.0			85 - 115	20
Comment:													
Additional: MS acceptance range 75-125%.													
QA/QC Batch 587135 (mg/L), QC Sample No: CI88389 (CI88573)													
Ammonia as Nitrogen	BRL	0.05	21.8	21.9	0.50	96.1			101			90 - 110	20
Nitrogen Tot Kjeldahl	BRL	0.10	28.8	29.34	1.90	99.0			104			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
August 13, 2021

Friday, August 13, 2021

Criteria: None

State: NY

Sample Criteria Exceedances Report

GCI88573 - CEMCO

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

August 13, 2021 SDG I.D.: GCI88573

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

NY Temperature Narration

August 13, 2021

SDG I.D.: GCI88573

The samples in this delivery group were received at 1.4°C.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

WWTP

PHOENIX
Environmental Laboratories, Inc.

NY/NJ CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 1.4 Pg of

Data Delivery:
☐ Fax #: _____
☒ Email: Cemco59@gmail.com

Customer: Cemco Water and Wastewater Specialists, Inc.
Address: 59 Healey Lane
Stormville, NY 12582

Project: Mahopac Treatment Trailer
Report to: Cemco
Invoice to: Cemco

Project P.O: _____
Phone #: 845-878-9711
Fax #: 845-878-6578

Client Sample - Information - Identification

Sampler's Signature _____ Date: 8/4

Matrix Code:
DW=drinking water **WW**=wastewater **S**=soil/solid **O**=oil
GW=groundwater **SL**=sludge **A**=air **X**=other

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	BOD (FIVE DAY)	PH, TSS, CHLORINE DEMAND	TP, NH3, TKN, COD	OIL & GREASE	+	+	+	+	+	+	+	GL AMBER 32 oz. H2SO4	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [X] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
88573	Backwash	DW	8/4	11:00	X															X						
	Backwash	DW	↓	↓		X														X						
	Backwash	DW					X															X				
	Backwash	DW						X								X										

Relinquished by:	Accepted by:	Date:	Time:
		8/4	13:58
		8/4/21	734

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other
* SURCHARGE APPLIES

NJ
☐ Res. Criteria
☐ Non-Res. Criteria
☐ Impact to GW Soil Cleanup Criteria
☐ GW Criteria

NY
☐ TAGM 4046 GW
☐ TAGM 4046 SOIL
☐ NY375 Unrestricted Soil
☐ NY375 Residential Soil
☐ NY375 Restricted Non-Residential Soil

Data Format
☒ Phoenix Std Report
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ NJ Hazsite EDD
☐ NY EZ EDD (ASP)
☐ Other _____

Data Package
☐ NJ Reduced Deliv. *
☐ NY Enhanced (ASP B) *
☐ Other

Comments, Special Requirements or Regulations:

Cl2 residual: Sample is not DW per Cecelia (LB)

State where samples were collected: NY

PHOENIX
Environmental Laboratories, Inc.

Monday, September 13, 2021

Attn: Roy Barticciotto
CEMCO Water & Wastewater Specialists Inc
59 Healey Lane
Stormville, NY 12582

Project ID: MAHOPAC TREATMENT TRAILER
SDG ID: GCJ19988
Sample ID#s: CJ19988

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Sample Id Cross Reference

September 13, 2021

SDG I.D.: GCJ19988

Project ID: MAHOPAC TREATMENT TRAILER

Client Id	Lab Id	Matrix
BACKWASH	CJ19988	WASTE WATER

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

September 13, 2021

FOR: Attn: Roy Barticciotto
CEMCO Water & Wastewater Specialists Inc
59 Healey Lane
Stormville, NY 12582

Sample Information		Custody Information		Date	Time
Matrix:	WASTE WATER	Collected by:		09/03/21	11:00
Location Code:	CEMCO	Received by:	LB	09/03/21	17:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCJ19988
Phoenix ID: CJ19988

Project ID: MAHOPAC TREATMENT TRAILER
Client ID: BACKWASH

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Silver	0.002	0.001		mg/L	1	09/08/21	EK	E200.7
Arsenic	< 0.002	0.002		mg/L	1	09/08/21	EK	E200.7
Cadmium	< 0.001	0.001		mg/L	1	09/08/21	EK	E200.7
Chromium	0.004	0.001		mg/L	1	09/08/21	EK	E200.7
Copper	0.022	0.003		mg/L	1	09/08/21	EK	E200.7
Mercury	< 0.0002	0.0002		mg/L	1	09/08/21	AT	E245.1
Manganese	15.4	0.050		mg/L	100	09/09/21	EK	E200.7
Molybdenum	< 0.003	0.003		mg/L	1	09/08/21	EK	E200.7
Nickel	0.013	0.001		mg/L	1	09/08/21	EK	E200.7
Lead	0.003	0.001		mg/L	1	09/08/21	EK	E200.7
Selenium	< 0.005	0.005		mg/L	1	09/08/21	EK	E200.7
Zinc	0.294	0.002		mg/L	1	09/08/21	EK	E200.7
B.O.D./5 day	< 40	40		mg/L	30	09/03/21 17:05	A/LJ	SM 5210B-11
B.O.D./5 day End Incubation						09/08/21 15:01	A/LJ	SM 5210B-11
Ammonia as Nitrogen	0.10	0.05		mg/L	1	09/10/21	KDB	E350.1
Oil and Grease by EPA 1664A	< 1.4	1.4		mg/L	1	09/11/21	MSF	EPA 1664
Total Cyanide	< 0.020	0.020		mg/L	2	09/13/21	ARC/GD	E335.4
Phosphorus, as P	0.203	0.010		mg/L	1	09/09/21	JR	SM4500PE-11
Total Suspended Solids	210	13		mg/L	2.5	09/08/21	AMM/ARG	SM 2540D-11
Mercury Digestion	Completed					09/05/21	AB/AB	E245.1
Total Metals Digestion	Completed					09/07/21	AG	

Acrolein, Acrylonitrile, 2 CEVE

2-Chloroethyl vinyl ether	ND	5.0	5.0	ug/L	1	09/03/21	MH	E624.1 As is
Acrolein	ND	5.0	1.0	ug/L	1	09/03/21	MH	E624.1 As is
Acrylonitrile	ND	5.0	0.50	ug/L	1	09/03/21	MH	E624.1 As is

Project ID: MAHOPAC TREATMENT TRAILER
Client ID: BACKWASH

Phoenix I.D.: CJ19988

Parameter	Result		RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
Volatiles										
1,1,1-Trichloroethane	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
1,1,2,2-tetrachloroethane	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
1,1-Dichloroethane	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
1,1-Dichloroethene	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
1,2-Dichlorobenzene	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
1,2-Dichloroethane	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
1,2-Dichloropropane	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
1,3-Dichlorobenzene	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
1,3-Dichloropropene	ND		5.0	5.0	ug/L	1	09/03/21	MH	E624.1	1
1,4-Dichlorobenzene	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Benzene	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Bromodichloromethane	9.1		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Bromoform	0.89	J	5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Bromomethane	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Carbon tetrachloride	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Chlorobenzene	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Chloroethane	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Chloroform	9.5		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Chloromethane	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
cis-1,2-Dichloroethene	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Dibromochloromethane	6.3		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Ethylbenzene	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
m&p-Xylenes	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Methyl t-butyl ether (MTBE)	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Methylene chloride	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
o-Xylene	ND		5.0	0.45	ug/L	1	09/03/21	MH	E624.1	
Tetrachloroethene	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Toluene	0.52	J	5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Total Xylenes	ND		5.0	5.0	ug/L	1	09/03/21	MH	E624.1	
trans-1,2-Dichloroethene	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Trichloroethene	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Trichlorofluoromethane	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
Vinyl chloride	ND		5.0	0.50	ug/L	1	09/03/21	MH	E624.1	
QA/QC Surrogates										
% 1,2-dichlorobenzene-d4	101				%	1	09/03/21	MH	70 - 130 %	
% Bromofluorobenzene	97				%	1	09/03/21	MH	70 - 130 %	
% Dibromofluoromethane	106				%	1	09/03/21	MH	70 - 130 %	
% Toluene-d8	102				%	1	09/03/21	MH	70 - 130 %	

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

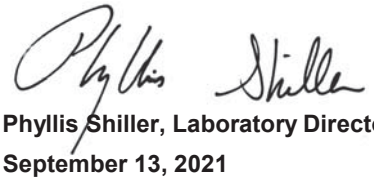
1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low J=Estimated Below RL LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Total Cyanide:
Chlorine was present; Sample was de-chlorinated prior to digestion/analysis. (EPA requires dechlorination at time of sampling.) A sample bias can not be ruled out.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

September 13, 2021

Reviewed and Released by: Helen Geoghegan, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

September 13, 2021

QA/QC Data

SDG I.D.: GCJ19988

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 590698 (mg/L), QC Sample No: CJ19853 (CJ19988)													
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	96.0			99.9			80 - 120	20
Comment:													
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.													
QA/QC Batch 590802 (mg/L), QC Sample No: CJ20437 (CJ19988)													
ICP Metals - Aqueous													
Arsenic	BRL	0.0020	<0.002	<0.0020	NC	97.5	97.0	0.5	96.2			80 - 120	20
Cadmium	BRL	0.0005	<0.001	<0.0005	NC	97.2	96.8	0.4	93.0			80 - 120	20
Chromium	BRL	0.0005	<0.001	0.0007	NC	97.6	96.8	0.8	94.3			80 - 120	20
Copper	BRL	0.0025	0.009	0.0084	NC	101	100	1.0	102			80 - 120	20
Lead	BRL	0.0010	<0.001	<0.0010	NC	98.7	98.6	0.1	95.8			80 - 120	20
Manganese	BRL	0.0005	0.160	0.160	0	98.9	98.6	0.3	95.0			80 - 120	20
Molybdenum	BRL	0.0025	<0.003	<0.0025	NC	100	99.0	1.0	97.2			80 - 120	20
Nickel	BRL	0.0005	0.005	0.0045	10.5	98.7	98.4	0.3	94.8			80 - 120	20
Selenium	BRL	0.0050	<0.005	<0.0050	NC	90.9	90.8	0.1	88.9			80 - 120	20
Silver	BRL	0.0005	<0.001	<0.0005	NC	95.4	95.8	0.4	96.4			80 - 120	20
Zinc	BRL	0.0020	0.083	0.0819	1.30	95.8	95.4	0.4	94.5			80 - 120	20
Comment:													
Additional Criteria: LCS acceptance range is 80-120% MS acceptance range 75-125%.													

PHOENIX

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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

September 13, 2021

QA/QC Data

SDG I.D.: GCJ19988

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 591319 (mg/L), QC Sample No: CJ21229 (CJ19988)													
Total Cyanide	BRL	0.010	0.102	0.103	1.00	102			94.0			90 - 110	20
Comment:													
Additional: LCS acceptance range is 80-120% for soils MS acceptance range 75-125% for soils													
QA/QC Batch 590611 (mg/L), QC Sample No: CJ19902 (CJ19988 (10X))													
B.O.D./5 day	BRL	2.0	<4.0	<4.0	NC	102			104			70 - 130	20
B.O.D./5 day GGA BOD						107						84 - 115	20
QA/QC Batch 590946 (mg/L), QC Sample No: CJ19903 (CJ19988)													
Total Suspended Solids	BRL	2.5	6.7	7.3	NC	108						85 - 115	20
QA/QC Batch 591534 (mg/L), QC Sample No: CJ19988 (CJ19988)													
Oil and Grease by EPA 1664A	BRL	1.4				96.0	98.0	2.1				85 - 115	20
Comment:													
Additional: MS acceptance range 75-125%.													
QA/QC Batch 591165 (mg/L), QC Sample No: CJ20520 (CJ19988)													
Phosphorus, as P	BRL	0.01	4.10	4.19	2.20	97.8			101			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 591233 (mg/L), QC Sample No: CJ19322 (CJ19988)													
Ammonia as Nitrogen	BRL	0.05	<0.10	0.12	NC	94.9			100			90 - 110	20

PHOENIX

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Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

September 13, 2021

QA/QC Data

SDG I.D.: GCJ19988

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 590759 (ug/L), QC Sample No: CJ19372 (CJ19988)										
Volatiles - Waste Water										
1,1,1-Trichloroethane	ND	1.0	84	84	0.0				75 - 125	20
1,1,2,2-Tetrachloroethane	ND	0.50	81	80	1.2				60 - 140	20
1,1,2-Trichloroethane	ND	1.0	90	89	1.1				71 - 129	20
1,1-Dichloroethane	ND	1.0	95	92	3.2				72 - 128	20
1,1-Dichloroethene	ND	1.0	81	81	0.0				50 - 150	20
1,2-Dichlorobenzene	ND	1.0	87	86	1.2				63 - 137	20
1,2-Dichloroethane	ND	1.0	91	89	2.2				68 - 132	20
1,2-Dichloropropane	ND	1.0	98	98	0.0				40 - 160	20
1,3-Dichlorobenzene	ND	1.0	92	90	2.2				73 - 127	20
1,4-Dichlorobenzene	ND	1.0	85	84	1.2				63 - 137	20
2 chlorethyl vinyl ether	ND	1.0	84	80	4.9				50 - 150	20
Acrolein	ND	5.0	90	88	2.2				50 - 150	20
Acrylonitrile	ND	5.0	83	80	3.7				50 - 150	20
Benzene	ND	0.70	97	95	2.1				64 - 136	20
Bromodichloromethane	ND	0.50	92	91	1.1				65 - 135	20
Bromoform	ND	1.0	77	75	2.6				71 - 129	20
Bromomethane	ND	1.0	90	89	1.1				40 - 160	20
Carbon tetrachloride	ND	1.0	91	91	0.0				73 - 127	20
Chlorobenzene	ND	1.0	89	87	2.3				66 - 134	20
Chloroethane	ND	1.0	89	89	0.0				40 - 160	20
Chloroform	ND	1.0	90	89	1.1				67 - 133	20
Chloromethane	ND	1.0	93	93	0.0				40 - 160	20
cis-1,2-Dichloroethene	ND	1.0	99	99	0.0				69 - 131	20
cis-1,3-Dichloropropene	ND	0.40	101	99	2.0				40 - 160	20
Dibromochloromethane	ND	0.50	87	83	4.7				67 - 133	20
Ethylbenzene	ND	1.0	91	88	3.4				59 - 141	20
m&p-Xylene	ND	1.0	91	90	1.1				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	94	92	2.2				70 - 130	30
Methylene chloride	ND	1.0	98	97	1.0				60 - 140	20
o-Xylene	ND	1.0	96	93	3.2				70 - 130	30
Tetrachloroethene	ND	1.0	83	83	0.0				73 - 127	20
Toluene	ND	1.0	93	91	2.2				74 - 126	20
trans-1,2-Dichloroethene	ND	1.0	92	92	0.0				69 - 131	20
trans-1,3-Dichloropropene	ND	0.40	96	94	2.1				50 - 150	20
Trichloroethene	ND	1.0	87	86	1.2				66 - 134	20
Trichlorofluoromethane	ND	1.0	82	82	0.0				48 - 152	20
Vinyl chloride	ND	1.0	93	94	1.1				40 - 160	20
% 1,2-dichlorobenzene-d4	103	%	97	98	1.0				70 - 130	30
% Bromofluorobenzene	99	%	101	100	1.0				70 - 130	30
% Dibromofluoromethane	127	%	101	103	2.0				70 - 130	30
% Toluene-d8	104	%	102	102	0.0				70 - 130	30

QA/QC Data

SDG I.D.: GCJ19988

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

Comment:

The MS/MSD are not reported for this batch.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
September 13, 2021

Monday, September 13, 2021

Criteria: None

State: NY

Sample Criteria Exceedances Report

GCJ19988 - CEMCO

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

September 13, 2021 SDG I.D.: GCJ19988

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

NY Temperature Narration

September 13, 2021

SDG I.D.: GCJ19988

The samples in this delivery group were received at 1.4°C.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

PHOENIX Environmental Laboratories, Inc.

NY/NJ CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

WC
JPK

Temp 1.4 Pg of

Data Delivery:
☐ Fax #:
☒ Email: Cemco59@gmail.com

Customer: Cemco Water and Wastewater Specialists, Inc.
Address: 59 Healey Lane
Stormville, NY 12582

Project: Mahopac Treatment Trailer
Report to: Cemco
Invoice to: Cemco

Project P.O:
Phone #: 845-878-9711
Fax #: 845-878-6578

Client Sample - Information - Identification

Sampler's Signature

Date: 9/3

Matrix Code:
DW=drinking water **WW**=wastewater **S**=soil/solid **O**=oil
GW=groundwater **SL**=sludge **A**=air **X**=other

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	BOD	TSS	Cyanide	624	metals	oil and grease	ammonia and TP	x	x	x	x	120 mL AS IS	Soil VOA [ ] Methanol [ ] 5 Bisulfate [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [X] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
19988	backwash	ww	9/3/2021	11am	X																					
	backwash	ww	9/3/2021	11am		x																				
	backwash	ww	9/3/2021	11am			x																			
	backwash	ww	9/3/2021	11am				x																		
	backwash	ww	9/3/2021	11am				x																		
	backwash	ww	9/3/2021	11am				x																		
	backwash	ww	9/3/2021	11am				x																		
	backwash	ww	9/3/2021	11am				x																		
	backwash	ww	9/3/2021	11am					x																	
	backwash	ww	3-Sep	11am						x																
	backwash	ww	3-Sep	11am							x															

Relinquished by:	Accepted by:	Date:	Time:
		9/3	13:30
	Manisa Mario	9/3/21	17:05

Comments, Special Requirements or Regulations:
NO Phenols per BDL

Cl2 residual:

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other
* SURCHARGE APPLIES

NJ
☐ Res. Criteria
☐ Non-Res. Criteria
☐ Impact to GW Soil Cleanup Criteria
☐ GW Criteria

NY
☐ TAGM 4046 GW
☐ TAGM 4046 SOIL
☐ NY375 Unrestricted Soil
☐ NY375 Residential Soil
☐ NY375 Restricted Non-Residential Soil

Data Format
☒ Phoenix Std Report
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ NJ Hazsite EDD
☐ NY EZ EDD (ASP)
☐ Other

Data Package
☐ NJ Reduced Deliv. *
☐ NY Enhanced (ASP B) *
☐ Other

State where samples were collected: NY

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

December 02, 2021

FOR: Attn: Roy Barticciotto
CEMCO Water & Wastewater Specialists Inc
59 Healey Lane
Stormville, NY 12582

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:		11/22/21	13:09
Location Code:	CEMCO	Received by:	CP	11/23/21	17:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCJ84535
Phoenix ID: CJ84537

Project ID: MAHOPAC TREATMENT TRAILER
Client ID: TREATMENT TRAILER WASTE

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference
Iron	35.1	0.20	1	mg/L		0.3		11/27/21	CPP	E200.7
***** Iron exceeds MCL levels of 0.3 *****										
Manganese	51.4	0.20	10	mg/L		0.3		12/01/21	EK	E200.7
***** Manganese exceeds MCL levels of 0.3 *****										
Total Metal Digestion	Completed							11/24/21		E200.5/E200.7

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
AL = Action Level MCL = Maximum Contaminant Level MCLG = Maximum Contaminant Level Goal

Comments:

Maximum Contaminant Level (MCL): New York State Public Health Law, Section 225 Part 5. The highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards.

Secondary DW Maximum Contaminant Level Goal (MCLG): 40 CFR Part 143 Secondary Goals. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are non-enforceable public health goals.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller

Phyllis Shiller, Laboratory Director
December 02, 2021
Reviewed and Released by: Helen Geoghegan, Project Manager

CREAMER

J. FLETCHER CREAMER & SON, INC.

POWERED BY API Group

Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541

Re: **Site Plan Application**
SUEZ Water New York, Inc. – Mahopac Wells 1, 2, & 3
Proposed Building Materials Narrative

All,

Due to extensive lead time delays for the design, fabrication and delivery of the original prefabricated metal building, we explored other material or manufacturer options for the building to better meet schedule requirements.

After exploring several different options, we were able to proceed with a different prefabricated metal building vendor to furnish and install the building. We were able to expedite the design process and improve the fabrication duration of the prefabricated building in order to meet our schedule.

We will be installing a prefabricated metal building, with steel framing, insulated metal wall panels with an exterior color, standing seam roof system, with a cast in place concrete foundation designed to accommodate the load of the building structure, equipment, vessels, and all other loads impacting the foundation.

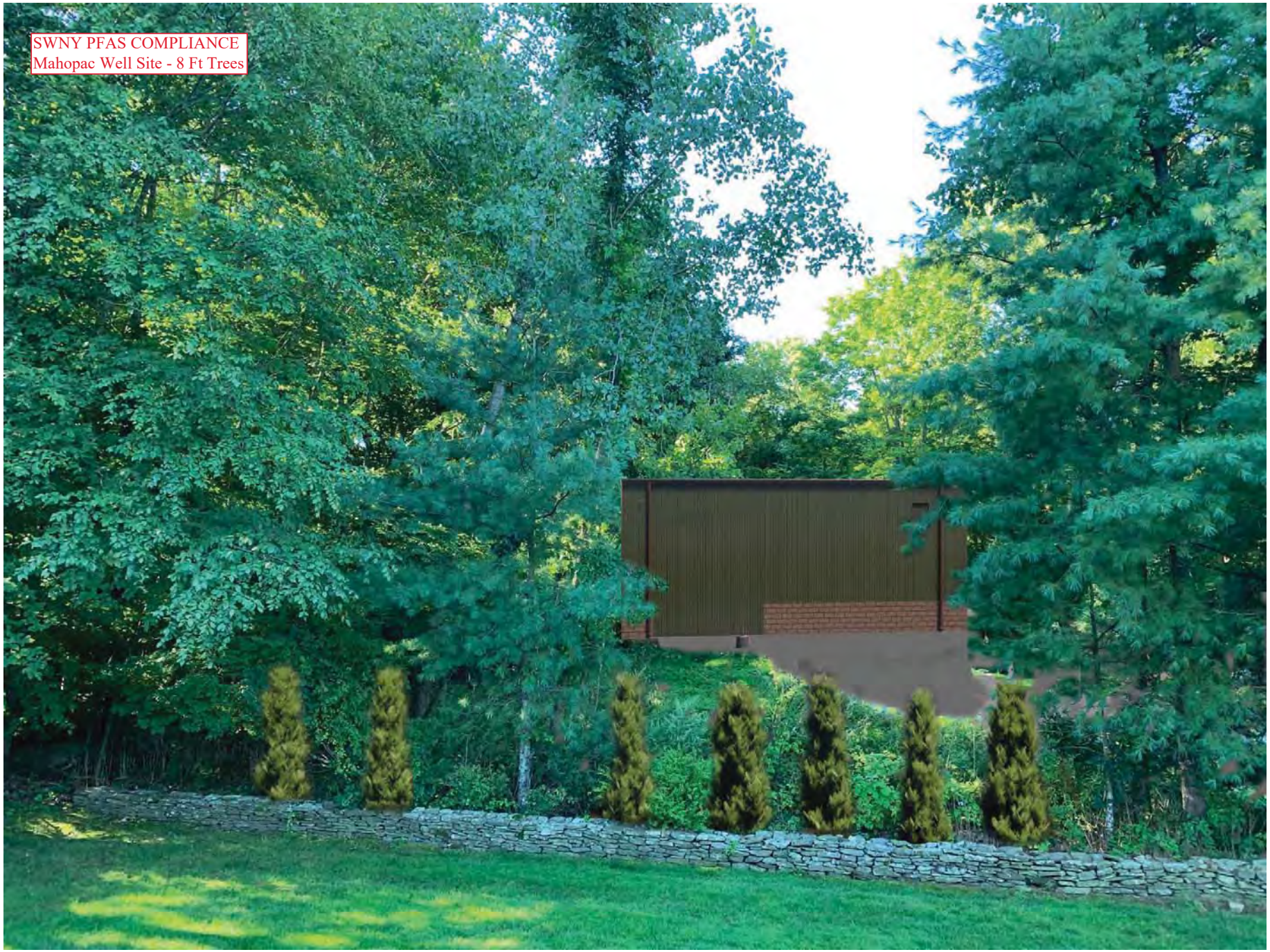
The color of the building will be Hemlock Green and the roof trim, gutters and downspouts color will be cool harvest. The building will have a 4' split face masonry wall along the perimeter of the building for aesthetics and durability and will be Tribeca Tan. Please refer to renderings for visual representation of the building and masonry wall.

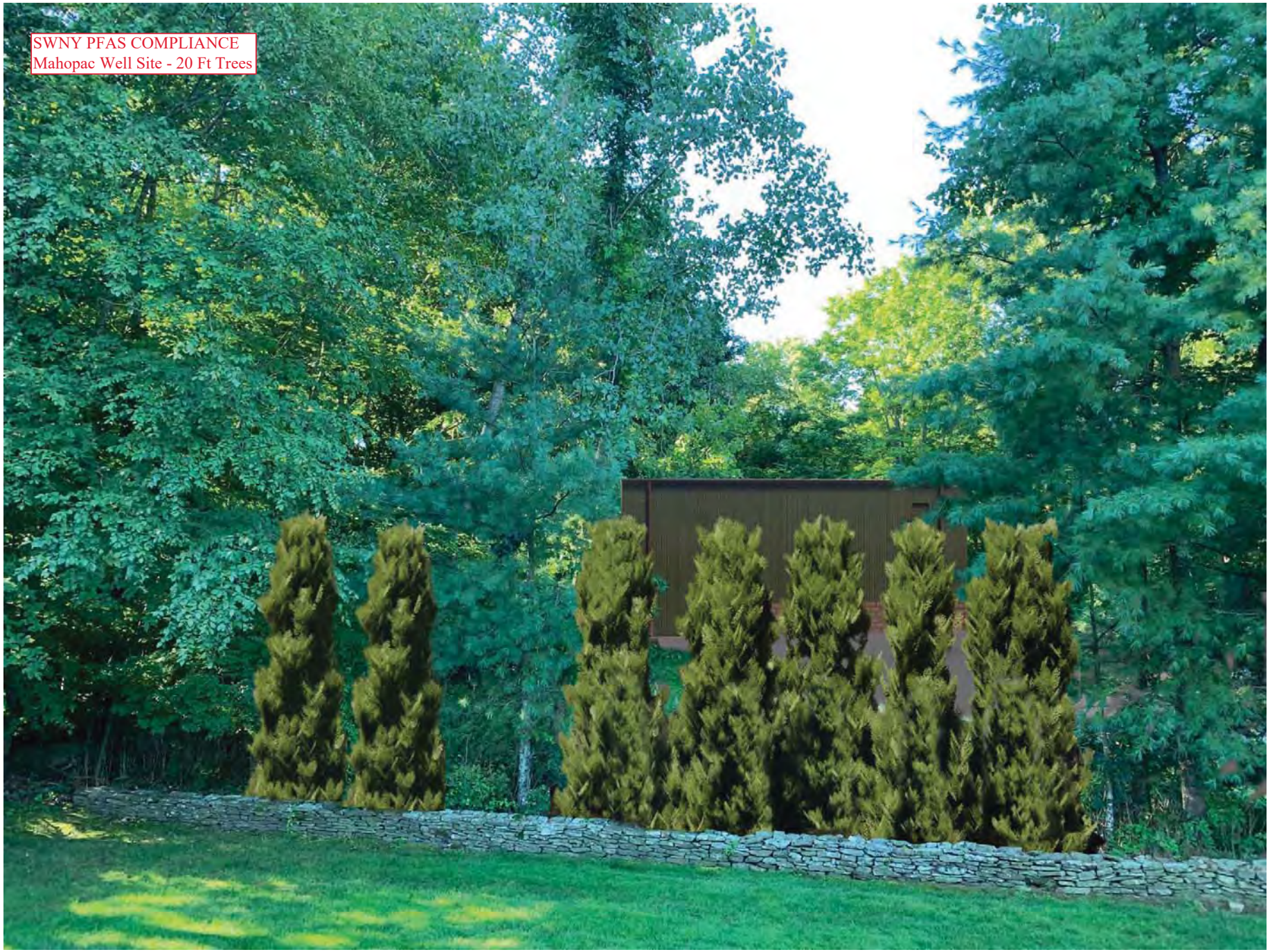
Sincerely,
J. Fletcher Creamer & Son, Inc.

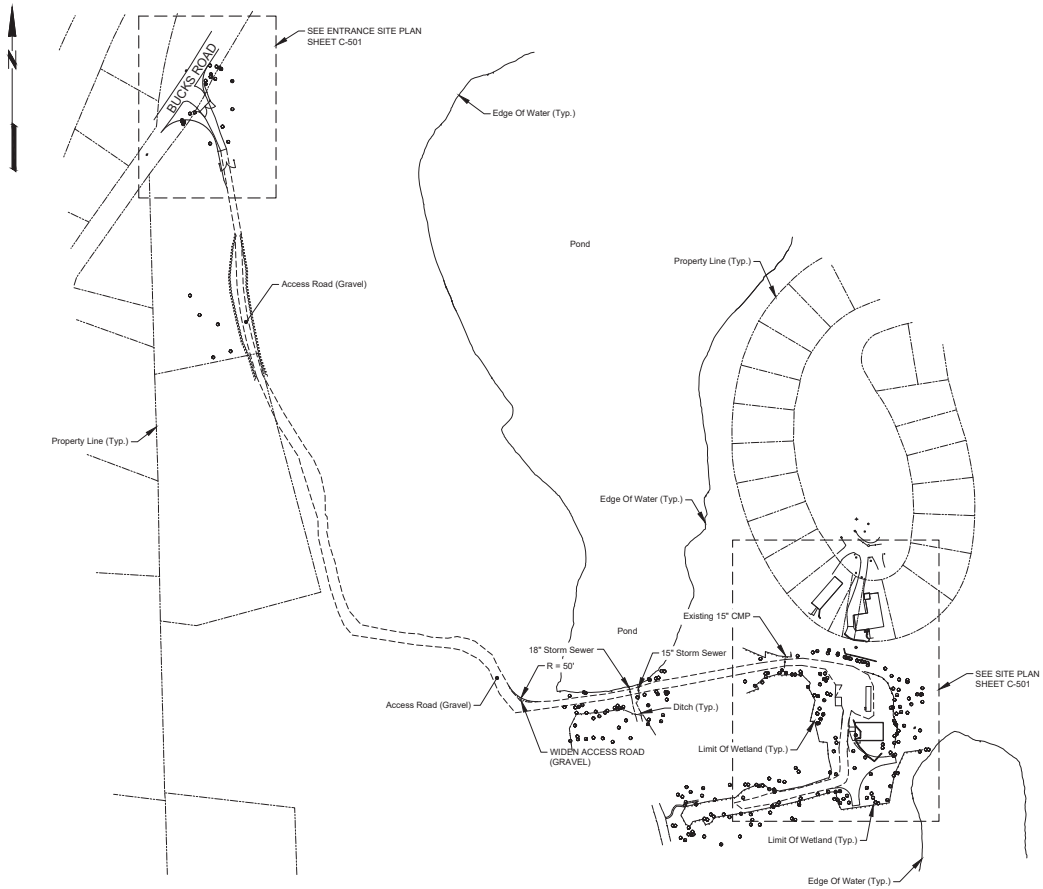
101 East Broadway
Hackensack, NJ 07601-6851
Phone (201) 488-9800 | Fax (201) 488-2901

JFCSON.COM

Copy to:


SWNY PFAS COMPLIANCE
Mahopac Well Site - 8 Ft Trees


SWNY PFAS COMPLIANCE
Mahopac Well Site - 20 Ft Trees



LOCATION PLAN

SCALE 1" = 100'

100 50 0 100 200

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No.	DESCRIPTION	DATE	BY
	REVISIONS		

DESIGNED	CADD	SCALE
J.L.:G.	J.L.:G.	AS NOTED
CHECKED	APPROVED	APPROVED
S.Z.L.	.	.

GANNETT FLEMING
ENGINEERS AND ARCHITECTS, P.C.

CREAMER
A FLETCHER CREAMER & SON, INC. COMPANY

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

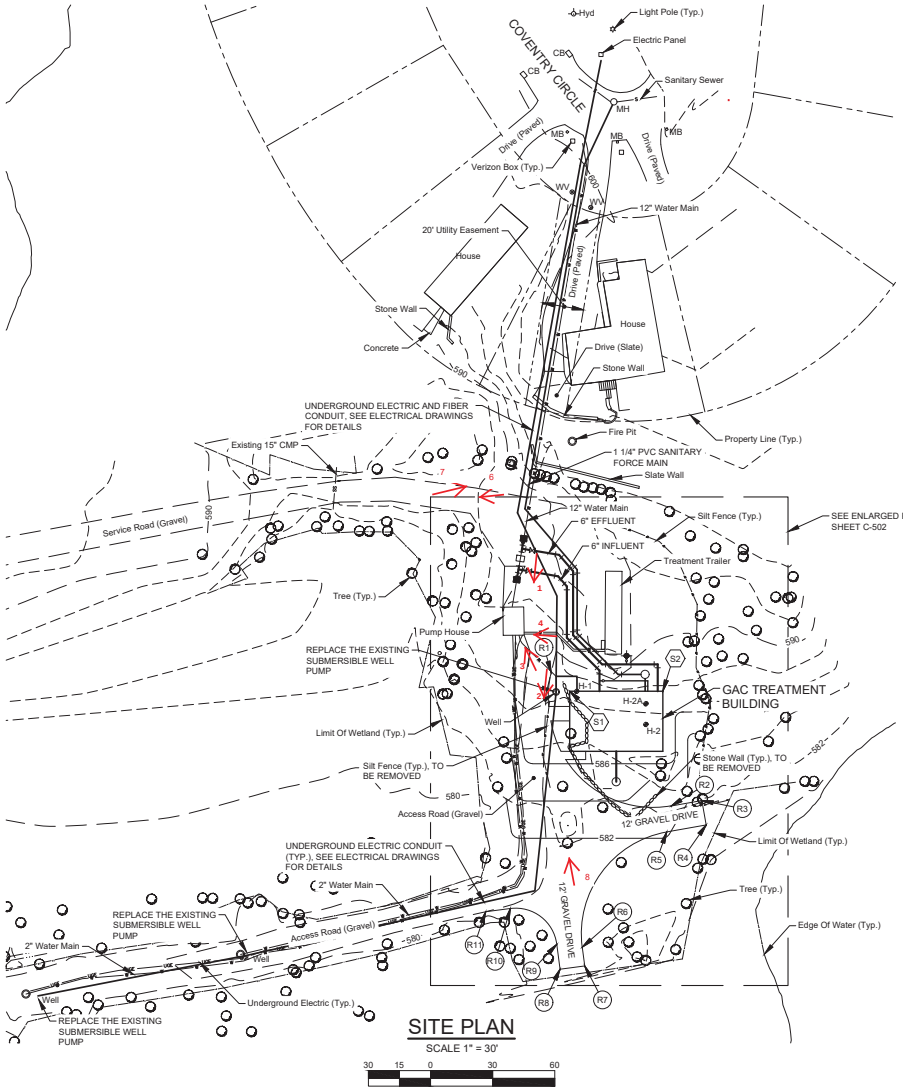
PFAS COMPLIANCE

MAHOPAC WELLS
CIVIL
LOCATION PLAN

JOB No. 68577

DATE OCTOBER 2021

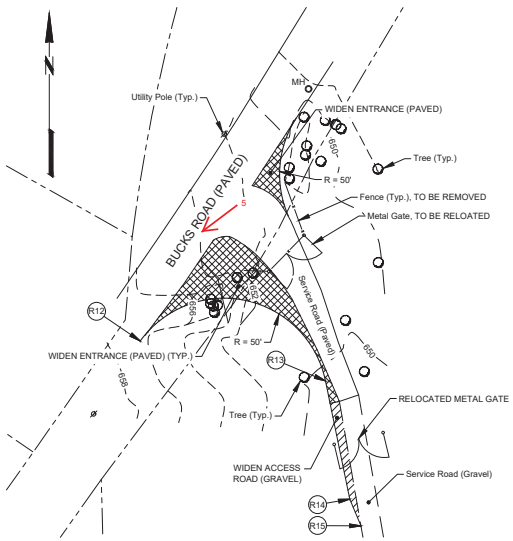
SHEET No. C-500



SITE PLAN

SCALE 1" = 30'

30 15 0 30 60



ENTRANCE SITE PLAN

SCALE 1" = 30'

30 15 0 30 60

STRUCTURAL CONTROL

S1	NORTHWEST CORNER OF GAC TREATMENT BUILDING	N 921278.26	E 700822.37
S2	NORTHEAST CORNER OF GAC TREATMENT BUILDING	N 921278.26	E 700867.37

BORINGS

H-1	N 921279.19	E 700825.77
H-2	N 921262.19	E 700859.18
H-2A	N 921272.19	E 700859.18

ACCESS ROAD CONTROL

R1	POINT OF CURVE	N 921287.31	E 700813.41
R2	POINT OF TANGENT	N 921222.86	E 700871.39
R3	———	N 921225.49	E 700886.15
R4	———	N 921213.68	E 700888.26
R5	POINT OF CURVE	N 921210.28	E 700869.21
R6	POINT OF TANGENT	N 921154.64	E 700828.40
R7	———	N 921145.56	E 700829.57
R8	———	N 921144.02	E 700817.67
R9	POINT OF CURVE	N 921156.02	E 700816.12
R10	POINT OF TANGENT	N 921173.29	E 700793.72
R11	———	N 921171.74	E 700781.74
R12	POINT OF CURVE	N 922227.86	E 699704.43
R13	POINT OF TANGENT	N 922208.56	E 699793.87
R14	———	N 922151.45	E 699805.62
R15	———	N 922138.55	E 699811.00

PIPELINE CONTROL

NAME	SIZE	FITTING	STATION	NORTHING	EASTING	℄ ELEVATION
INFLUENT	12" X 6"	TEE	0+00.00	921337.08	700797.64	584.45±
	12"	SOLID SLEEVE	———	921332.15	700796.79	584.45±
	6"	GATE VALVE	0+05.00	921336.22	700802.56	584.45±
	6"	45° BEND VERT.	0+19.40	921333.79	700816.75	584.25
	6"	45° BEND HORZ.	0+25.85	921328.89	700820.95	584.25
	6"	45° BEND HORZ.	0+50.67	921304.08	700820.95	583.25
	6"	45° BEND HORZ.	0+73.03	921288.26	700836.77	583.25
EFFLUENT	6"	90° BEND HORZ.	0+13.00	921291.26	700864.87	583.25
	6"	45° BEND VERT.	0+39.86	921291.26	700838.00	583.25
	6"	45° BEND HORZ.	0+59.74	921305.32	700823.95	583.25
	6"	45° BEND HORZ.	0+90.74	921336.26	700823.95	584.50
	6"	45° BEND HORZ.	1+01.05	921344.13	700817.20	584.50
	6"	GATE VALVE	1+14.15	921346.26	700804.26	584.66±
	12" X 6"	TEE	1+19.15	921347.09	700799.33	584.66±
	12"	SOLID SLEEVE	———	921352.02	700800.15	584.66±

NOTES

1. ALL PIPING TO BE DUCTILE IRON UNLESS NOTED OTHERWISE.
2. PIPING AND FITTINGS TO BE RESTRAINED JOINT UNLESS NOTED OTHERWISE.
3. AT POINTS OF CONNECTION, CONTRACTOR SHALL EXPOSE EXISTING WATER MAINS TO VERIFY LOCATION, GEOMETRY, AND MATERIAL REQUIREMENTS PRIOR TO ORDERING MATERIALS OR STARTING CONSTRUCTION OF ANY MAIN CONNECTING THERE TO.
4. INFORMATION SHOWN HEREIN IS BASED ON FIELD SURVEY PERFORMED BY ATZI, NASHER & ZIGLER P.C. MAY 2021.

No.	DESCRIPTION	DATE	BY
	REVISIONS		

DESIGNED	CADD	SCALE
J.L.G.	J.L.G.	AS NOTED
CHECKED	APPROVED	APPROVED
S.Z.L.	.	.

GANNETT FLEMING
ENGINEERS AND ARCHITECTS, P.C.

CREAMER
A FLETCHER CREAMER & SON, INC. COMPANY

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

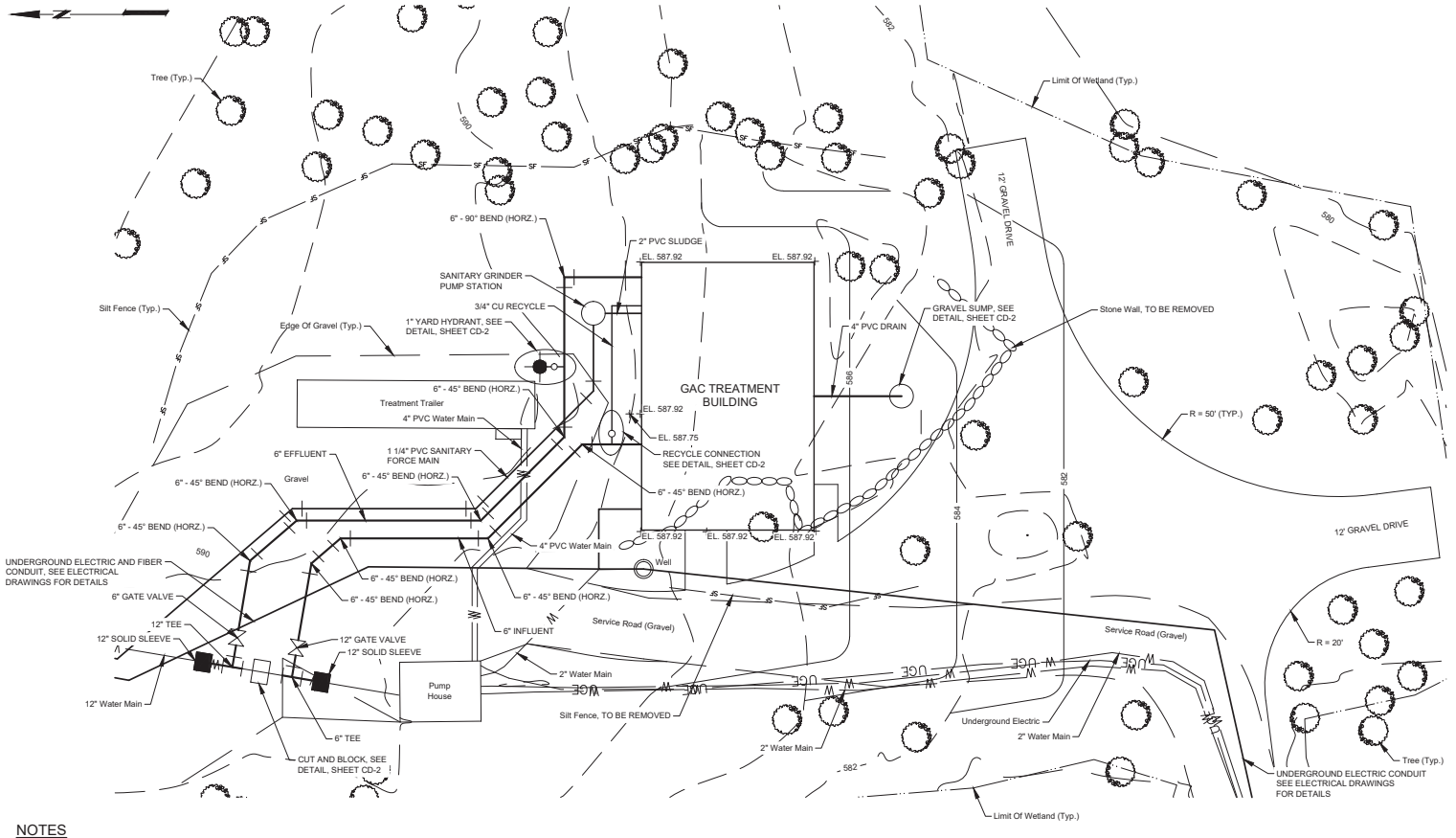
PFAS COMPLIANCE

MAHOPAC WELLS
CIVIL
SITE AND ENTRANCE SITE PLANS

JOB No. 68577

DATE OCTOBER 2021

SHEET No. C-501



NOTES

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3. AT POINTS OF CONNECTION, CONTRACTOR SHALL EXPOSE EXISTING WATER MAINS TO VERIFY LOCATION, GEOMETRY, AND MATERIAL REQUIREMENTS PRIOR TO ORDERING MATERIALS OR STARTING CONSTRUCTION OF ANY MAIN CONNECTING THERE TO.

ENLARGED PLAN

SCALE 1" = 10'

10 5 0 10 20

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No.	DESCRIPTION	DATE	BY
	REVISIONS		

DESIGNED	CADD	SCALE
J.L.G.	J.L.G.	AS NOTED
CHECKED	APPROVED	APPROVED
S.Z.L.	.	.

GANNETT FLEMING
ENGINEERS AND ARCHITECTS, P.C.

CREAMER
A FLETCHER CREAMER & SON, INC. COMPANY

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

MAHOPAC WELLS
CIVIL
ENLARGED PLAN

JOB No. 68577
DATE OCTOBER 2021
SHEET No. C-502

Mahopac Pictures

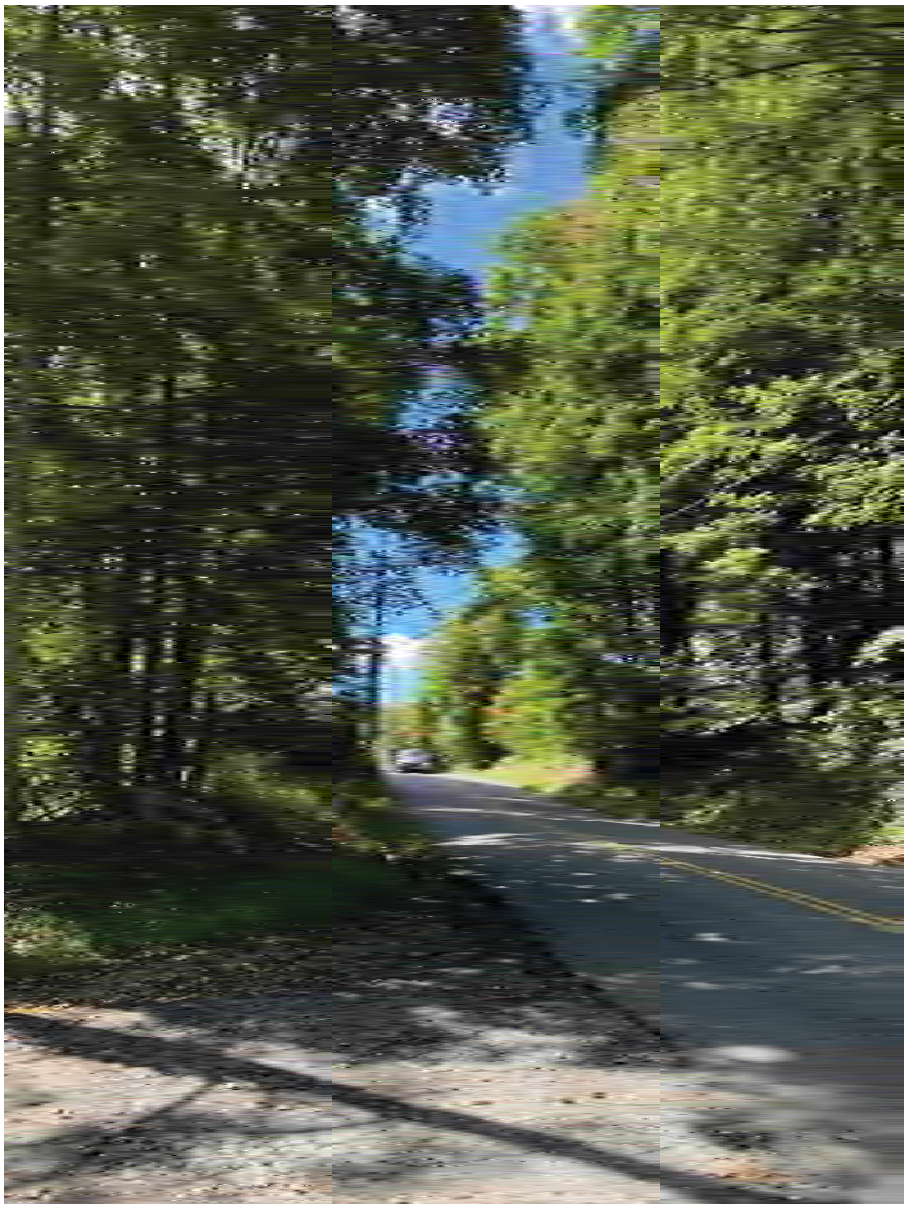
1

1

2

3

4



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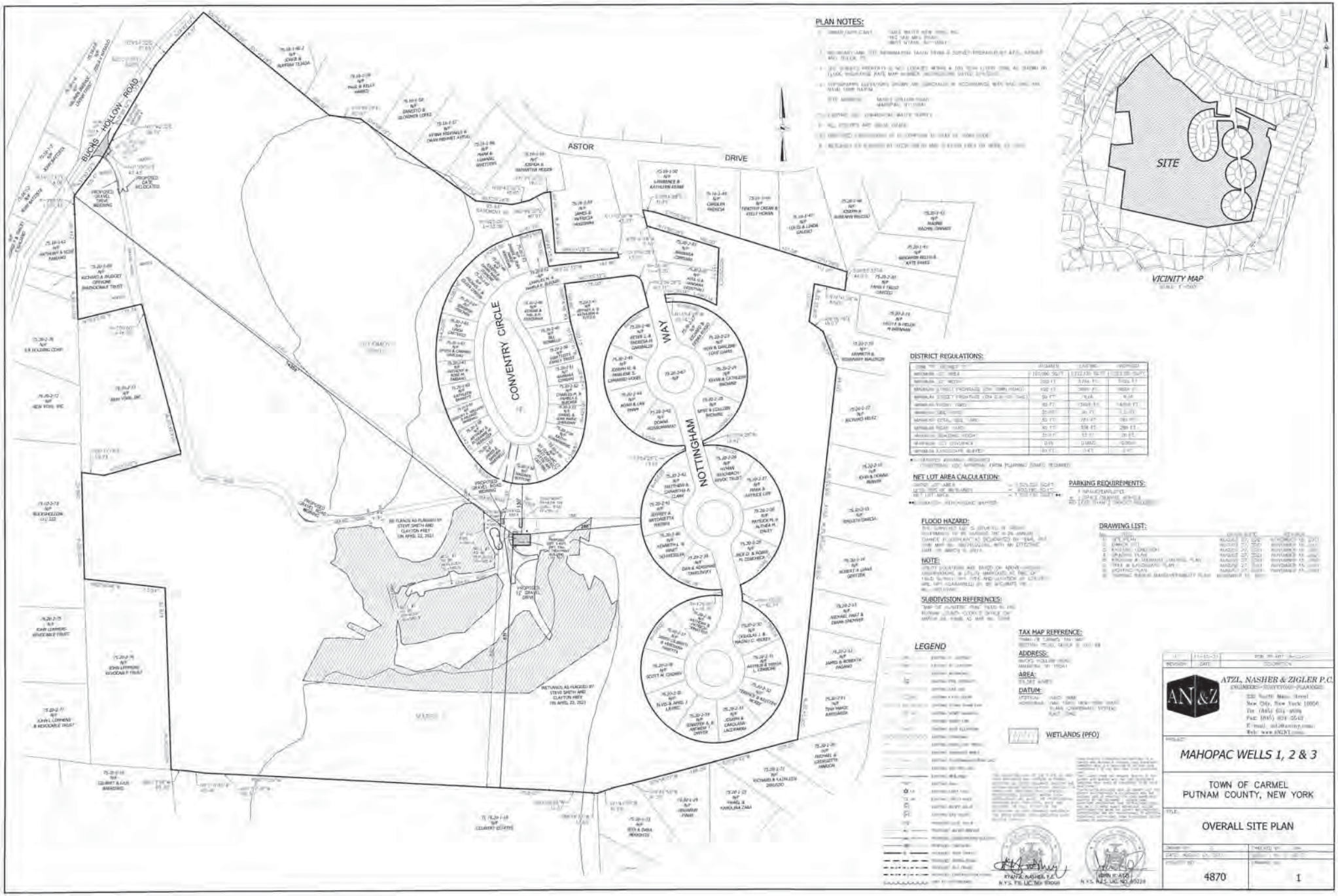

PLAN NOTES:
BUCKS HOLLOW ROAD
ASTOR DRIVE
CONVENTRY CIRCLE
WAY
NOTTINGHAM
PROPOSED GRAVEL ROAD WIDENING
PROPOSED GRAVEL TURNAROUND
PROPOSED GATE RELOCATED
PROPOSED DRIVE
WETLANDS AS FLAGGED BY STEVE SMITH AND CLAYTON FREY ON APRIL 22, 2021
SITE
VICINITY MAP
DISTRICT REGULATIONS:
NET LOT AREA CALCULATION:
PARKING REQUIREMENTS:
FLOOD HAZARD:
NOTE:
SUBDIVISION REFERENCES:
DRAWING LIST:
LEGEND
WETLANDS (PFO)
TAX MAP REFERENCE:
ADDRESS:
AREA:
DATUM:
ATZL, NASHER & ZIGLER P.C.
MAHOPAC WELLS 1, 2 & 3
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK
OVERALL SITE PLAN
4870
1

OWNERS WITHIN 500 FEET:

TYPING IN TURNED TAX MAP

VICINITY MAP

LEGEND

ATZL, NASHER & ZIGLER P.C.
ENGINEERS · SURVEYORS · PLANNERS
202 North Main Street
New City, New York 10956
Tel: (845) 634-4694
Fax: (845) 634-5042
E-mail: info@atzlny.com
Web: www.ATZLNY.com

RYAN E. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 80066

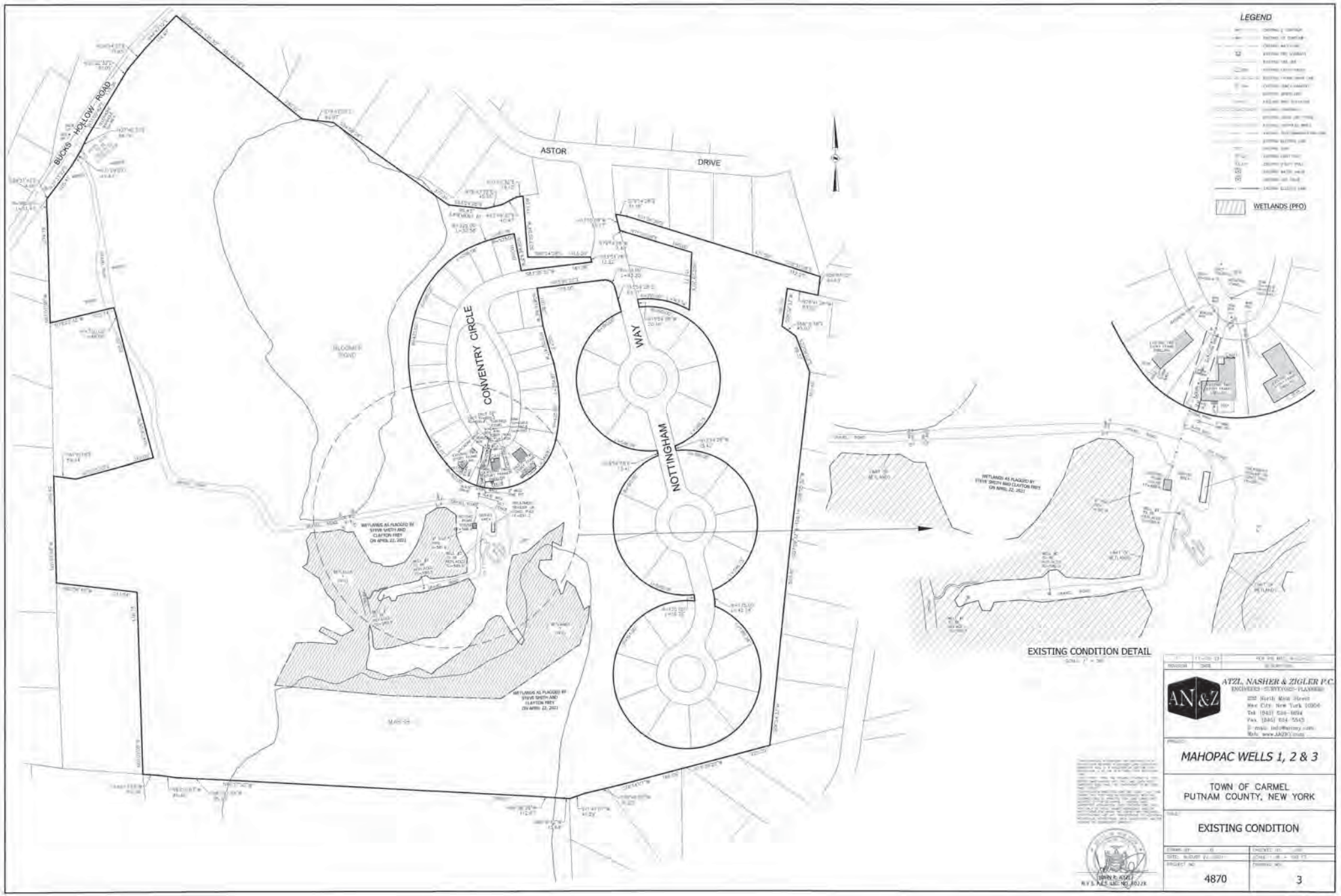
JOHN R. ATZL
N.Y.S. P.L.S. LIC. NO. 050229

MAHOPAC WELLS 1, 2 & 3

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

OWNERS WITHIN 500 FT. LIST

PROJECT NO.	DRAWING NO.
4870	2



ATZL, NASHER & ZIGLER P.C.
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232 North Main Street
New City, New York 10956
Tel: (845) 634-1634
Fax: (845) 634-1643
E-mail: info@anzny.com
Web: www.ANZNY.com

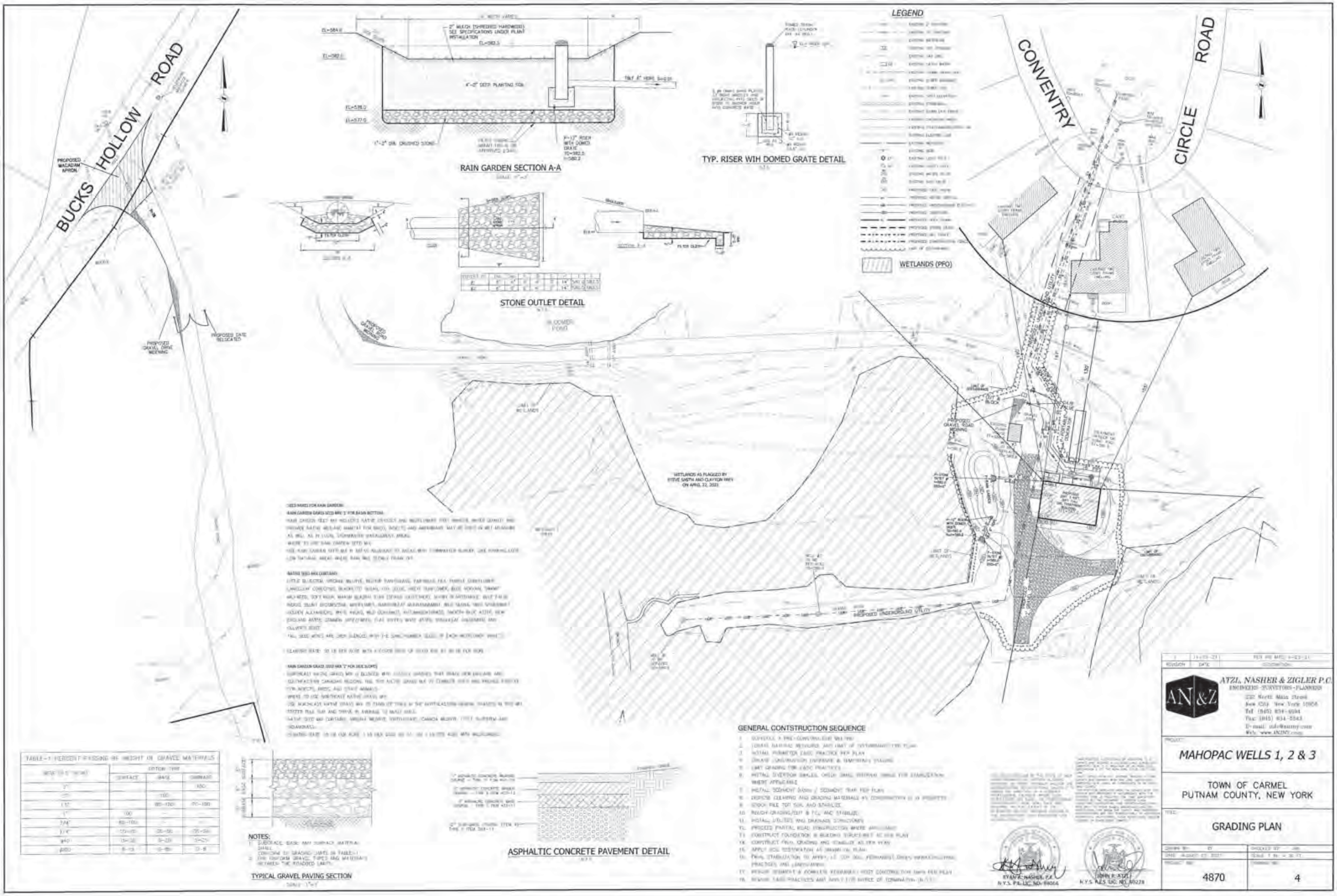
MAHOPAC WELLS 1, 2 & 3

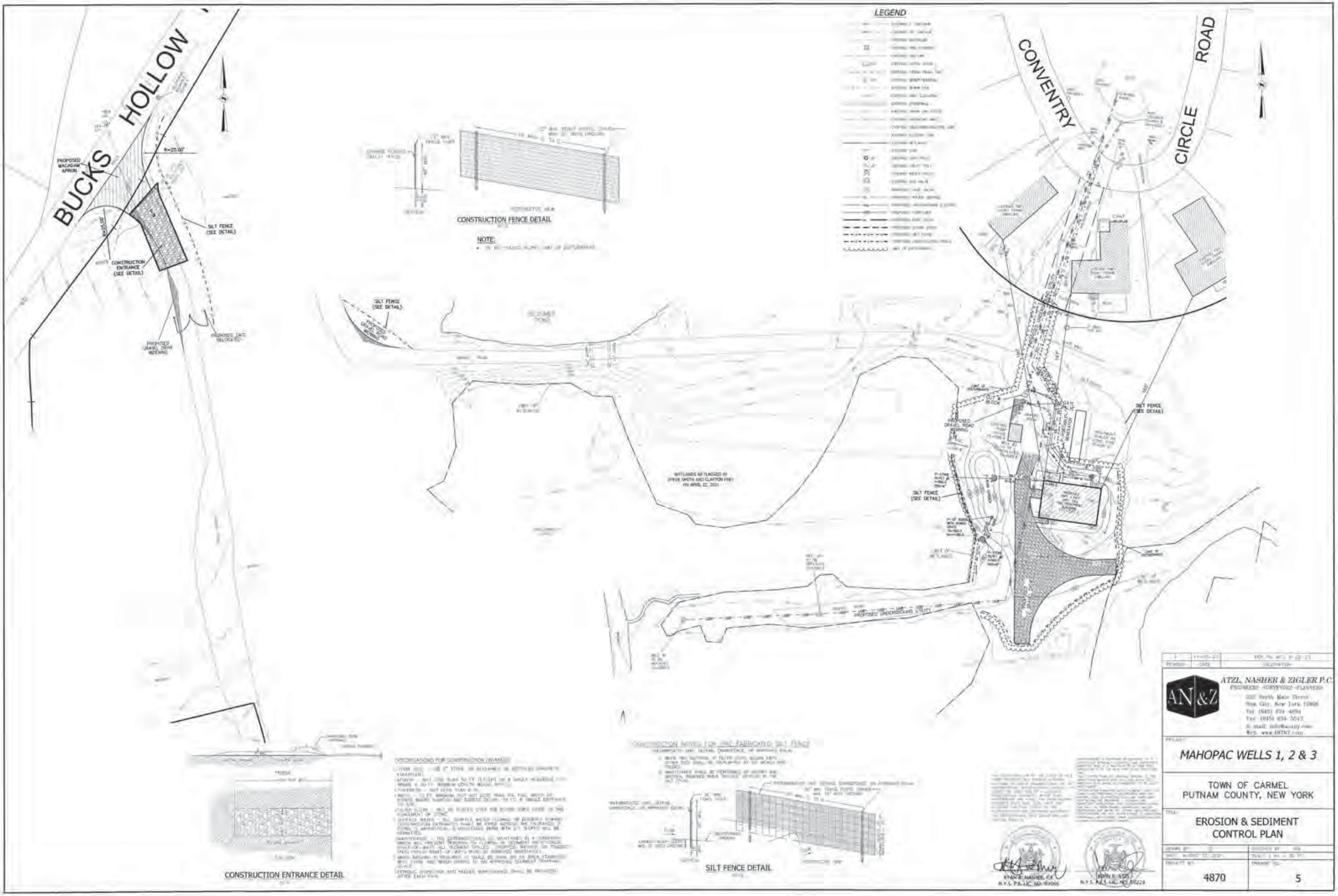
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

EXISTING CONDITION

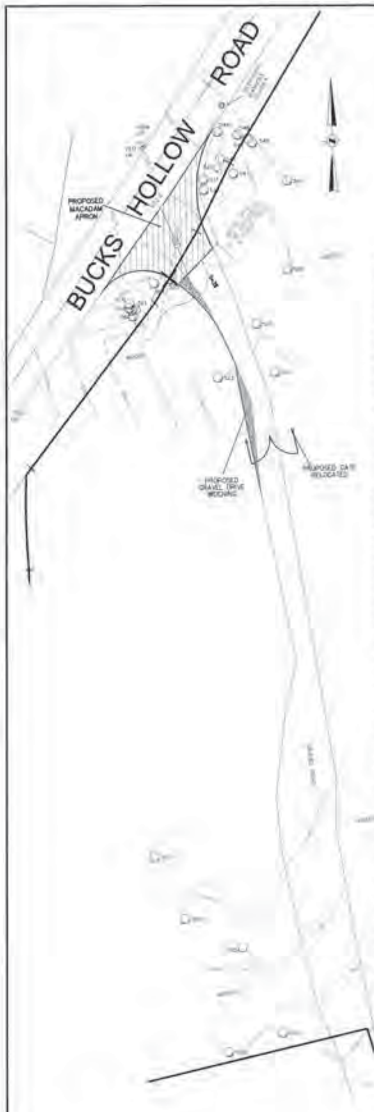
JOHN R. ATZL
N.Y.S. PLS LIC. NO. 49028

PROJECT NO.	SHEET NO.
4870	3


BUCKS HOLLOW ROAD
CONVENTRY CIRCLE ROAD
RAIN GARDEN SECTION A-A
TYP. RISER WIH DOMED GRATE DETAIL
LEGEND
WETLANDS (PFO)
STONE OUTLET DETAIL
4"-6" DEEP PLANTING SOIL
PROPOSED MACADAM APRON
PROPOSED GRAVEL DRIVE WIDENING
PROPOSED GATE RELOCATED
PROPOSED GRAVEL ROAD WIDENING
PROPOSED UNDERGROUND UTILITY
WETLANDS AS FLAGGED BY STEVE SMITH AND CLAYTON FREY ON APRIL 22, 2021
GENERAL CONTSTRUCTION SEQUENCE
NOTES:
TYPICAL GRAVEL PAVING SECTION
ASPHALTIC CONCRETE PAVEMENT DETAIL
ATZL, NASHER & ZIGLER P.C.
AN&Z
MAHOPAC WELLS 1, 2 & 3
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK
GRADING PLAN
4870
4



LEGEND
BUCKS HOLLOW
CONVENTRY
CIRCLE
ROAD
PROPOSED MACADAM APRON
R=25.00'
CONSTRUCTION ENTRANCE (SEE DETAIL)
SILT FENCE (SEE DETAIL)
CONSTRUCTION FENCE DETAIL
NOTE:
WETLANDS AS FLAGGED BY STEVE SMITH AND CLAYTON FINEY ON APRIL 22, 2021
PROPOSED GRAVEL ROAD WIDENING
PROPOSED UNDERGROUND UTILITY
CONSTRUCTION ENTRANCE DETAIL
SPECIFICATIONS FOR CONSTRUCTION ENTRANCE
CONSTRUCTION NOTES FOR PRE-FABRICATED SILT FENCE
SILT FENCE DETAIL
ATZL, NASHER & ZIGLER P.C.
AN&Z
MAHOPAC WELLS 1, 2 & 3
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK
EROSION & SEDIMENT CONTROL PLAN
4870
5



TREE LEGEND

TREE LIST

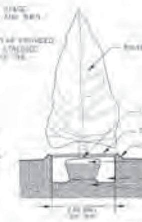
[illegible]

PLANTING SPECIFICATIONS:

[illegible]

PLANT LIST

SYMBOL	No.	PLANT NAME	HEIGHT	QUANTITY	SIZE & REMARKS
[illegible]	[illegible]	JUNIPERUS VIRGINIANA Eastern Red Cedar	[illegible]	[illegible]	[illegible]



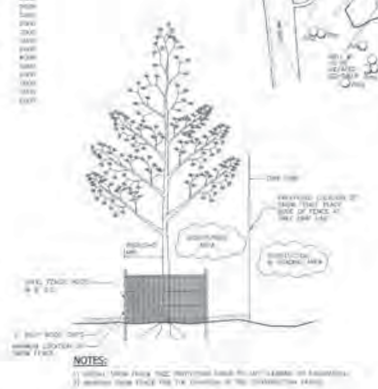
EVERGREEN PLANTING DETAIL

LEGEND

[illegible]

TREE LIST

[illegible]



NOTES:

[illegible]

TREE PROTECTION DETAIL

ATZL, NASHER & ZIGLER P.C.

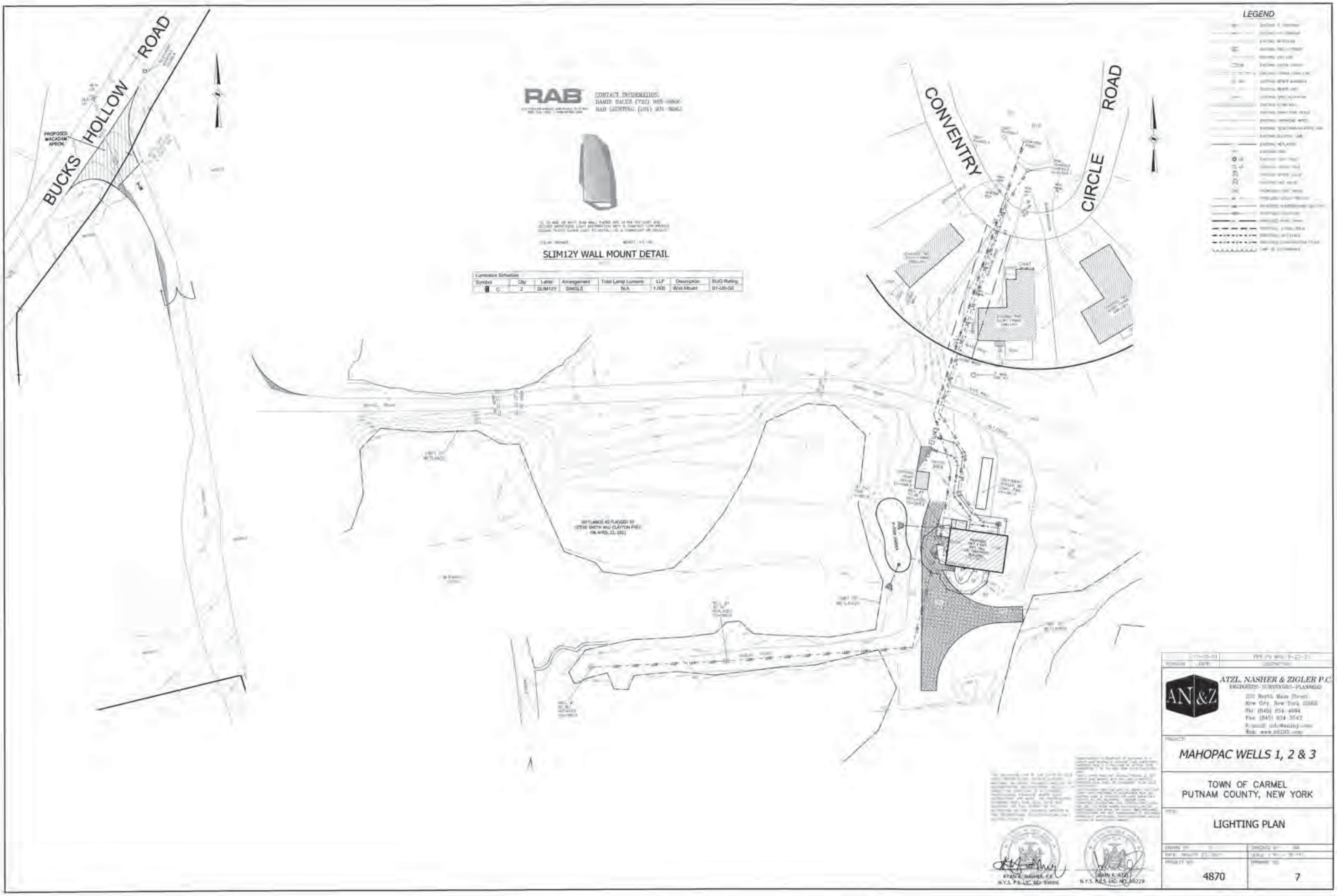
MAHOPAC WELLS 1, 2 & 3

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

TREE & LANDSCAPE PLAN

4870

6



Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description	BUG Rating
C	2	SLIM12Y	SINGLE	N.A.	1.000	Wall Mount	B1-U0-G0

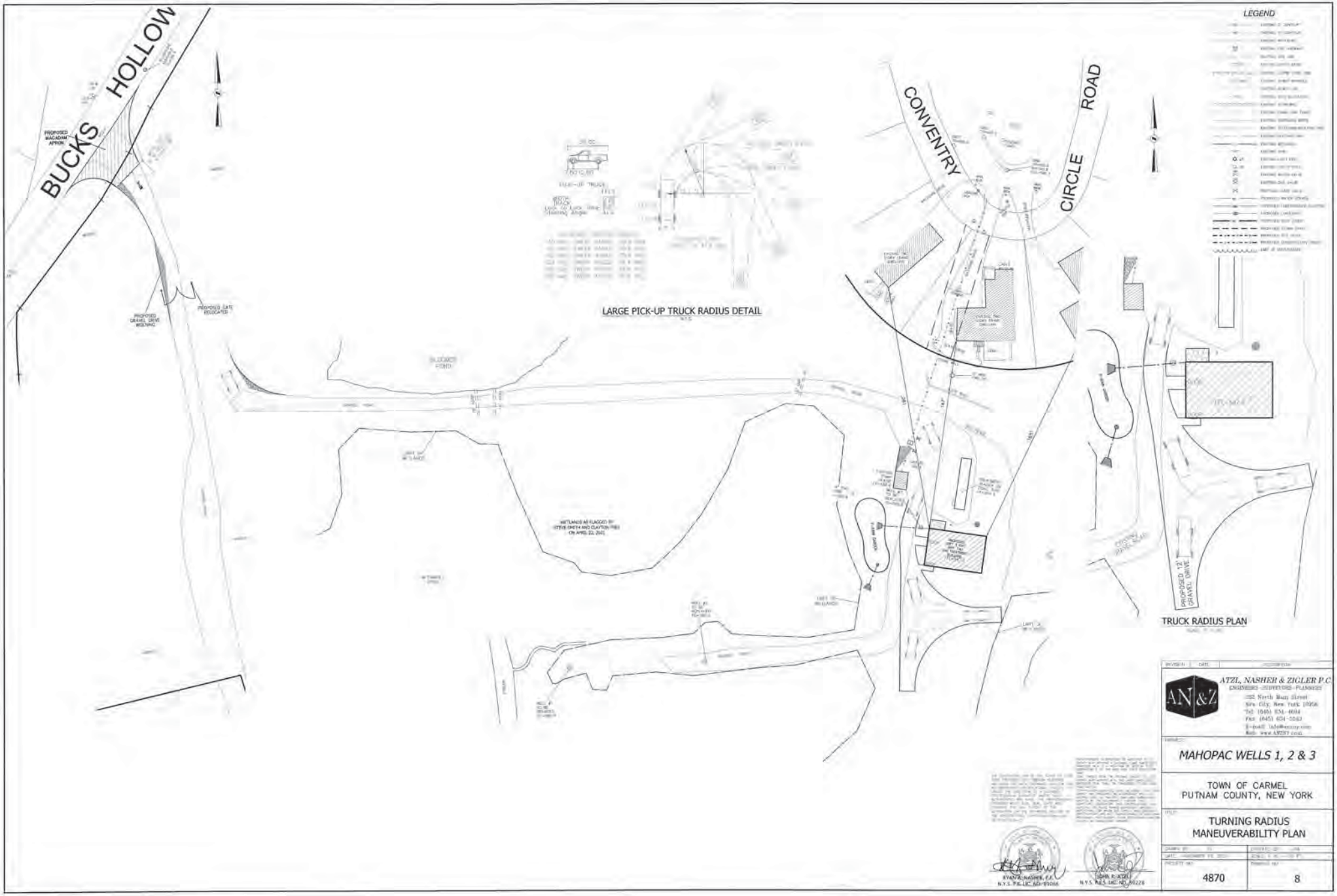
ATZL, NASHER & ZIGLER P.C.
ENGINEERS–SURVEYORS–PLANNERS
New City, New York
Ph: (845) 634-4694

PROJECT:
MAHOPAC WELLS 1, 2 & 3

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

LIGHTING PLAN

PROJECT NO. 4870
DRAWING NO. 7



ATZI, NASHER & ZIGLER P.C.
ENGINEERS - SURVEYORS - PLANNERS
202 North Main Street
New City, New York 10956
Tel (845) 634-4604
Fax (845) 634-5243
E-mail: info@anzcny.com
Web: www.ANZNY.com

MAHOPAC WELLS 1, 2 & 3

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

TURNING RADIUS MANEUVERABILITY PLAN

RYAN C. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 95016

JOHN P. ATZI
N.Y.S. P.E.S. LIC. NO. 50228

PROJECT NO.	SHEET NO.
4870	8

ATZL, NASHER & ZIGLER P.C.
ENGINEERS - SURVEYORS - PLANNERS
Web: www.anzny.com

November 15, 2021

SUEZ WATER NEW YORK INC
PFAS COMPLIANCE FOR ARCHER WELL SITE

Narrative Summary

SUEZ Water New York Inc. (SWNY) owns and operates the existing Archer well site located in a residential area behind 9 Colton Road (access gained through 31 Archer Road) in Mahopac, Putnam County, New York and serve approximately 32 customers. SWNY plans to construct upgrades to the existing Archer well site using the Engineering, Procurement, and Construction (EPC) project delivery method. This method will be utilized to comply with the state drinking water regulations for per - and polyfluoroalkyl substances (PFAS).

The existing facility pump capacity is 75 gallons per minute (gpm). The chemical feed uses Sodium hypochlorite (disinfectant), caustic soda and phosphates. The onsite controls include the ability to operate the site remotely through the supervisory control and data acquisition SCADA program.

The proposed treatment system will include upsizing the pumps to compensate for headloss during the GAC treatment. The dimensions of the proposed GAC treatment building is 33 ft. x 22 ft. x 22 ft. It will not increase firm capacity of the well. Raw water will pass through a prefilter unit followed by the granular activated carbon (GAC) treatment system in lead-lag configuration. The water will be dosed with sodium hypochlorite, caustic soda and phosphates from the existing 50 gallon double walled chemical storage tanks. Due to moderate levels of nitrate in the raw water, a connection for an ion exchange system will be provided as part of this project in case it has to be added in the future.

The planned upgrade will not increase the firm capacity of the well, but will add treatment for PFAS to comply with the New York State Drinking Water maximum contaminant level (MCL) of 10 ppt for PFOA and PFOS. The well will remain operational during the course of construction with limited disruption during tying in and testing of the new treatment system.

Architectural treatment/elements will be consistent with the existing visible on-site structures and area residential structures to conform and provide a consistent appearance acceptable to the Owner and be approved by applicable Municipal Agencies and review boards.

All work will be in full conformance with the New York State Department of Environmental Conservation (NYSDEC), New York State and Putnam County Departments of Health, the Town of Carmel, and other authorities having jurisdiction.

We are respectfully requesting a waiver of the landscaping requirement. The location for the proposed improvements from the existing homes is approximately 270 feet away. Also, the density of the existing foliage is quite extensive, and should serve as an adequate buffer to the homes.

ATZL, NASHER & ZIGLER P.C.
ENGINEERS - SURVEYORS - PLANNERS
Web: www.anzny.com

November 15, 2021

Planning Board
Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541
Attn: Craig Paeprer, Chairman

Re: Suez Water (Archer Wells 1&2)
Tax Lot 85.12-1-8

Dear Chairman Paeprer and Honorable Board Members,

The following is our response to comments received during the Planning Board meeting held on September 22, 2021:

General Comments

1. Comment: Clarify all access driveways and easements. Also, document all easements.

Response: *The driveways and easements are illustrated on the submitted site plan. Further, please see response to comment 7 below.*

2. Comment: Describe more fully visibility from the other houses.

Response: *The location for the proposed improvements from the existing homes is approximately 270 feet away. Also, the density of the existing foliage is quite extensive, and should serve as an adequate buffer to the homes. A landscape waiver has been requested for this site, and a photo package has been submitted to supplement this request.*

232 North Main Street • New City, NY 10956 • info@anzny.com • Tel: (845) 634-4694 • Fax: (845) 634-5543

Process Related Comments

1. Comment: How often are the filters replaced and how?

   Response: *The GAC vessels will be replaced once in twenty years. Carbon is changed once in every one to two years. Replacement of bio filters depends on flow and water quantity, but it would probably occur once in every two to three months. There is overhead space available at these facilities to replace these filters.*

2. Comment: Have the existing facilities deteriorated and do they require upgrading?

   Response: *The existing facilities are not deteriorated. They need to be upgraded so as to meet the NYS mandated Drinking Water maximum contaminant levels (MCL) of 10 ppt for PFAS and PFOA.*

3. Comment: Are there alternative vessels, particularly shorter ones?

   Response: *Short vessels are not available.*

4. Comment: Can the facilities be combined into one structure?

   Response: *Combined facilities will not be feasible as the proposed GAC treatment building cannot be accommodated in the existing pump house. The existing pump house must remain operational and secure during construction and hence cannot be expanded.*

Site Plan Comments

1. Comment: For sites with larger areas, is there any scope of moving the proposed buildings away from the property lines so as to minimize the visibility from neighboring residences to the extent possible?

Response: *Moving the proposed buildings would not be feasible given site development constraints, presence of wetlands etc.*

2. Comment: The planning board would prefer seeing a simple comparison of what existed, and what exists on site presently, and what is being proposed by use of colors, hatches, etc.

   Response: *The site plan set submitted has an existing conditions plan and a proposed development plan. We believe attempting to merge these drawings would result in confusion regarding project details.*

3. Comment: Building sizes, dimensions and height must be clearly mentioned in the narratives as well as on the site plans. Both on the existing and proposed plans.

   Response: *Provided in both narrative and site plan.*

4. Comment: On the site plan, show the distance in feet of existing homes from the proposed buildings on all facilities.

   Response: *Provided on grading plan.*

5. Comment: If there are onsite power generators, mark them on the site plans. If these are portable generators, mark areas where these would be placed on site.

   Response: *Portable power generators will be used on site when required. The site plan indicates the location where these portable generators would be installed.*

6. Comment: Will there be a sewer connection added to the water easement between the houses?

   Response: *No sewer connections are proposed for Archer.*

7. Comment: Will the final access design include a driveway in someone's backyard? Explicate all the access options being considered.

Response: *There are currently two access locations/driveways being considered. The preferred driveway location is via Archer Road, across parcel ID: 85.8-1-15, which has been the historic access way to the site. The backup location is via the county property, parcel ID: 85.12-1-9, which has frontage on Colton Road between homes #15 and 19. Unfortunately, the resident at #19 Colton Road has encroached on the county property and asserted an adverse possession claim for the portion of the county property with frontage on Colton Road. Suez was working with the county to purchase the property, but the purchase was delayed based on the county's request that Suez work with the 19 Colton Road resident to reach an agreement on clearing the encroachment. Likewise, unfortunately, the Archer Road owner (who purchased the property in 2016) has claimed Suez has no right to use the driveway historically used (since at least 1988). Internally Suez has commenced the process of eminent domain on both parcels in order to simply clarify its rights and has put the property owners on notice of its intent and the process. Since the PFAS treatment is a DOH mandated improvement, Suez was left with no other alternatives, and must move quickly. A map showing the two access road locations is attached with this comment response.*

Floodplains and Storm Events

1. Comment: Is elevating buildings above based flood elevations (BFE) enough to take care of a 500-year storm?

Response: *There is no 500-year floodplain per FEMA at this site.*

2. Comment: Can the new buildings and vessels be set into the ground to reduce height? Justify the height needed.

Response: *The vessels have to be maintained, meaning removal of building panels is necessary, and therefore it would not be possible to set the building and vessels into the ground and still be able to perform maintenance.*

3. Comment: Floodproofing for all proposed developments is recommended in lieu of prudent planning.

Response: *Floodproofing is not required for this site.*

Landscape Plan

1. Comment: Some sites denotes tree clearances that seem excessive. Please reconsider and limit the amount of trees that need to be removed due to the proposed action. Please justify why and how many number of trees are being proposed to be removed.

Response: *Tree clearing has been kept to a minimum. The site is heavily wooded, and a landscaping waiver is being requested for this. A photo package has been submitted to supplement this request.*

2. Comment: Existing trees on all sites must be analyzed so as to understand if these are evergreens. This would help determine if yearly screening would be possible, or if additional landscaping would be required to shield the proposed developments from residential areas.

Response: *There are five (5) evergreen trees on site presently. None of these have been proposed for removal. A tree plan has been provided with this submission.*

3. Comment: More landscaping is needed on the north side.

Response: *The location for the proposed improvements from the existing homes is approximately 270 feet away. Also, the density of the existing foliage is quite extensive, and should serve as an adequate buffer to the homes. A landscape waiver has been requested for this site, and a photo package has been submitted to supplement this request.*

Lighting Plan

1. Comment: Describe the timing for when the site would be illuminated for general use and maintenance (during most time of the day), and for security purposes (nighttime or early mornings). Can timers be installed?

Response: *Although we have not received final Department of Health (DOH) comments, where we have received DOH comments on our other PFAS facilities, they are requesting "The perimeter of the treatment plant property should be illuminated with street-type lighting fixtures". It is our intention to utilize downward facing, wall mounted, LED lights, controlled by photocells to automatically illuminate at night, over the doorways of the treatment building. However, we must make sure this lighting is acceptable to the DOH.*

The following is our response to Patrick Cleary, AICP, CEP, PP, LEED AP of Cleary Consulting, letter dated September 22, 2021:

Site Plan Review Comments

1. Comment: The site is located in the R - Residential zoning district. Pursuant to a determination by the Director of Code Enforcement, Suez is a private water company, and not a public utility installation, and therefore is not classified as a permitted Conditional Use, subject to the conditions established in §156-37. As a result, the proposed use is prohibited, and a use variance is required.

Response: *The Zoning Board of Appeals (ZBA) determined at their October 28, 2021 meeting that SUEZ is a public water company. Use variance would therefore not be required.*

2. Comment: The facility is proposed within the buffer of a NYSDEC wetland. In accordance with Article 24, a Freshwater Wetland Permit is required from the NYSDEC.

Response: *There is no DEC wetland on site, only ACOE permit would be required. The Code Enforcement Officer has referred this project to the ECB.*

3. Comment: Is the PFAS treatment facility a permanent and on-going operation, or is it a temporary measure?

Response: *PFAS treatment facility is a permanent and on-going operation.*

4. Comment: It is noted that several existing utility easements exist on the site. Are any encroachments into the easement areas proposed?

Response: *There are no encroachments on existing easements and SUEZ has the right to develop the property as shown on the site plan.*

5. Comment: The applicant should document the existing condition of the on-site vegetation on the north side of the proposed treatment building, and the vegetation on the adjacent property, to ascertain if the buffer landscaping is necessary. Currently, no landscaping is proposed.

Response: *There are 5 evergreen trees on site presently. A landscape waiver is requested, and a photo package has been submitted to supplement this request. The location for the proposed improvements from the existing homes is approximately 270 feet away. Also, the density of the existing foliage is quite extensive, and should serve as an adequate buffer to the homes.*

6. Comment: Provide the noise generation specifications for the new pumps. Noise generation must comply with the sound level standards for residential districts established in Chapter 105 of the Town Code.

Response: *The Applicant will comply with the sound level standards in accordance with Chapter 105 of the Town code. The pumps are located within the wells and are 180' below grade, and will not change ambient noise level.*

7. Comment: Clarify if any special chemical storage provisions are required.

Response: *There is a secondary containment under the chemical tanks in this facility, able to hold the whole volume of chemicals in case of a spill. Level of chemicals is constantly monitored remotely via SCADA.*

8. Comment: How often will the site be accessed by maintenance and or operational personnel?

Response: *The operators currently visit the site once per day.*

Under future conditions, we anticipate the operators will visit the site once per day. In addition, once annually to once every two years the carbon will need to be replaced in one of the GAC vessels.

9. Comment: Clarify the illumination of the lighting wall packs (in footcandles).

Response: *Footcandles are provided on Lighting Plan.*

10. Comment: Correspondence included with the site plan application from Creamer indicates that the building was to be a prefabricated metal building with a standing seam roof system. However, due to extensive lead time delays, the applicant is exploring other material options. The architectural treatment of the building must be established at this time, as the Planning Board also serves in the capacity of Architectural Review Board.

Response: *A new architectural narrative has been provided with this submission.*

SEQRA Review Comments

1. Comment: The project is classified as a Type II Action pursuant to §617 of the SEQRA regulations. No further SEQRA environmental review is required.

Response: *No response required.*

The following is our response to Richard J. Franzetti, P.E, letter September 13, 2021:

General Comments

1. The following referrals are required:

a. Comment: New York State Department of Environmental Conservation (NYSDEC).

Response: *Noted.*

b. Comment: Putnam County Department of Health (PCDOH).

Response: *Noted.*

c. Comment: The Town of Carmel Environmental Conservation Board (ECB).

Response: *Noted.*

d. Comment: The Town of Carmel Highway Department.

Response: *Noted.*

e. Comment: Mahopac Falls Fire Department.

Response: *Noted.*

2. The following permits are required:

a. Comment: NYSDEC - for stormwater and wetlands.

Response: *Noted.*

b. Comment: PCDOH for well and treatment system.

Response: *Noted.*

c. Comment: Town of Carmel Highway – work permit.

Response: *Noted.*

d. Comment: ECB for wetlands.

Response: *Noted.*

3. Comment: The area of disturbance for the work as provided is 0.2 ac (8,712 sf.) The threshold criteria of disturbances for the NYSDEC stormwater regulation are between 5,000 square feet and one (1) acre and over one (1) acre. The project will require coverage under the NYSEC SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) and the development of Stormwater Pollution Prevention Plan (SWPPP) that has erosion and sediment controls.

The applicant has provided a SWPPP which is currently under review.

Response: *Agreed. A Stormwater Pollution Prevention Plan (SWPPP) is provided accordingly.*

4. Comment: All re-grading required to accomplish the intended development should be provided. It is unclear from the drawings provide the extent of cut and fill proposed for the site. This includes the areas for the proposed underground utility service.

Response: *A grading plan has been provided with this submission.*

5. Traffic and Vehicle Movement Plans should be provided which provide the following:

a. Comment: Graphic representation of vehicle movements through the site should be provided to illustrate that sufficient space exists to maneuver vehicles on the site.

Response: *A truck turning plan has been added to the plan set.*

b. Comment: All turning radii for the site should be graphically provided. This includes the turning radii into the site entrance.

Response: *A truck turning plan has been added to the plan set.*

c. Comment: Slopes at the entrance way need to be defined. It is suggested that slopes of less than 6% be used for the first 20 feet of entry and that slopes of no greater than 8% be used entering the site. Please refer to AASHTO guidelines for commercial properties.

Response: *Assuming access is via the historic access drive to Archer Road, only minor upgrades to this drive are required, with no changes in grade.*

6. Comment: A light spill plan should be provided.

Response: *A Lighting Plan has been provided with this submission.*

7. Comment: All easement information regarding the areas for the proposed underground utility service must be provided.

Response: *The driveways and easements are illustrated on the submitted site plan.*

8. Comment: Should any public improvements be deemed necessary as part of the development of the tract, a Performance Bond and associated Engineering Fee must eventually be established for the work. The applicant will need to develop a quantity take off for bonding purposes.

Response: *Noted.*

Detailed Comments

1. Comment: A landscaping plan should be provided to show the location and extent of all plantings. Applicant has requested a waiver of this requirement.

   Response: *A tree plan has been provided with this submission. A landscape waiver has been requested and a photo package has been submitted to supplement this request.*

2. Comment: The rain garden calculations have been provided. The applicant should note that then must meet the criteria as defined by the NYSDEC. This includes providing sufficient depth to groundwater.

   Response: *Noted. Calculations will be provided prior to construction.*

3. Comment: Adequate protection should be provided in the stormwater management practice (SMP) areas to minimize disturbance during construction. Details should be provided to show how the rain garden will be protected during construction.

   Response: *The final grading and the installation of the rain garden will be performed at the Final phase of the construction after upland stabilization. Please refer to the construction sequence on the Erosion and Sediment Control Plan.*

4. Comment: All water service connections must be K-copper.

   Response: *Noted, will comply.*

5. Comment: It is unclear if additional electrical utilities are being installed.

   Response: *No electrical upgrades are occurring at this site. However, overhead wires will be used to connect power to the GAC building.*

6. Comment: It is unclear how the property will be accessed and if additional site work for access is needed.

Response: *Please see the response to comment # 7 (Planning Board) for a discussion on the access options. With regard to additional site work, if the Archer site is accessed via the Archer Road driveway, then minimal improvements will be needed (e.g., addition of some gravel in low areas and ruts). However, if site access is via Colton Road, between houses #15 and 19, then significant improvements including clearing, grading, paving and drainage improvements, will likely be needed.*

7. Comment: The area of disturbance must be shown on the drawing and delineated by orange construction fencing.

Response: *Area of disturbance has been provided on plans. Orange construction fence detail provided on Erosion and Sediment Control plan.*

8. Comment: Details for the proposed connection into the existing water system must be provided.

Response: *Once treated in the GAC building, the effluent will go into the existing well building where it will get sufficient chlorine contact before going to the distribution system. The effluent water line from the well building is going to continue to be the line leading to the distribution system and there will not be a need for additional connections.*

9. Comment: Road cut details must be provided.

Response: *This would not be required currently per response to comment 5(c) under Traffic and Vehicular Movement.*

10. Comment: Typical Town Road paving requirements are 12" item 4, 3" based, 2" binder and 1" top.

Response: *Detail provided on the plans where applicable.*

11. Comment: Gate valves shall be AWWA non-rising stem type, as manufactured by Mueller Company, Model A-2360-23, or approved equal, conforming to the latest AWWA Standard for Gate Valves -311 through 4811 -for Water and Other Liquids, AWWA Designation C-509.

Response: *Noted, will take under advisement.*

12. Comment: Sizes up to and including 1211 shall be 250 psi working pressure. The valve body and bonnet shall be ductile iron. All interior and exterior metal surfaces shall be coated with a two-part thermosetting epoxy complying with AWWA C550.

Response: *Noted, will take under advisement.*

13. Comment: Valves shall have dual 11011 ring seals, inside screw, resilient wedge seats in accordance with AWWA Designation C-550 and shall be constructed so as to provide unobstructed full port clearance when fully open and immediate complete closure when closed. The ends of the valves shall be mechanical joint.

Response: *Noted, will take under advisement.*

14. Comment: All valves shall be arranged to open in counterclockwise direction unless otherwise specifically indicated and operating nuts shall be 211 square.

Response: *The SUEZ standard is open right.*

15. Comment: Valves shall be tested to a pressure of not less than two times the working pressure.

Response: *Noted, will take under advisement.*

16. Comment: All hydrants shall be six inches in size with six-inch mechanical joint inlet connection and shall be equal to the Mueller Centurion A-421, with one (1) 4 ½ 11" pumper nozzle and two (2) 2 ½ hose nozzles.

Response: *Noted, will take under advisement.*

17. Comment: Water Service Saddles shall be equal to those manufactured by Mueller, Model 7 ½" x 1" SS Series Stainless Steel Saddle, Double Stud.

Response: *Noted, will take under advisement.*

18. Comment: Corporation stops shall be equal to those as manufactured by Mueller Company, Model B- 25000Series, NRS and of the size required. Such corporation stops shall meet the requirements of AWWA Specification No. C800.

Response: *Noted, will take under advisement.*

19. Comment: Curb valves (stops) shall be equal to those as manufactured by Mueller Company, Model H- 15214 and shall conform to AWWA Specification No. C800.

Response: *Noted, will take under advisement.*

20. Comment: Curb boxes shall be equal to those as manufactured by Mueller Company and similar to Mueller extension type with arch pattern base model H-10314 all extension rods shall be stainless steel.

Response: *Noted, will take under advisement.*

21. Comment: All fire hydrants shall be the approved AWWA type fire hydrants in conformance with the American Water Works Association Standard for Fire Hydrants for Ordinary Water Works Service, AWWA Designation C502, and shall have a 5-1/411 valve opening, a 611 mechanical

joint inlet complete with an auxiliary gate valve (close coupled), a 6" mechanical joint shoe, and all appurtenances.

Response: *Noted, will take under advisement.*

22. Comment: Fire hydrants shall be rated for a working pressure of 250 Psi. Fire hydrants shall be sized for a 4'-6" bury.

Response: *Noted, will take under advisement.*

The following is our response to Michael G. Carnazza, Director of Code Enforcement for the Town of Carmel, letter dated September 15, 2021:

1. Comment: The applicants propose to add a GAC Treatment Building to the water treatment facility off Archer Rd. in Mahopac.

Response: *Statement; no response required.*

2. Comment: A Use Variance is required for the Private Utility. Only Public Utilities are permitted in the Town of Carmel.

Response: *The Zoning Board of Appeals (ZBA) determined at their October 28, 2021 meeting that SUEZ is a public water company. Use variance would therefore not be required.*

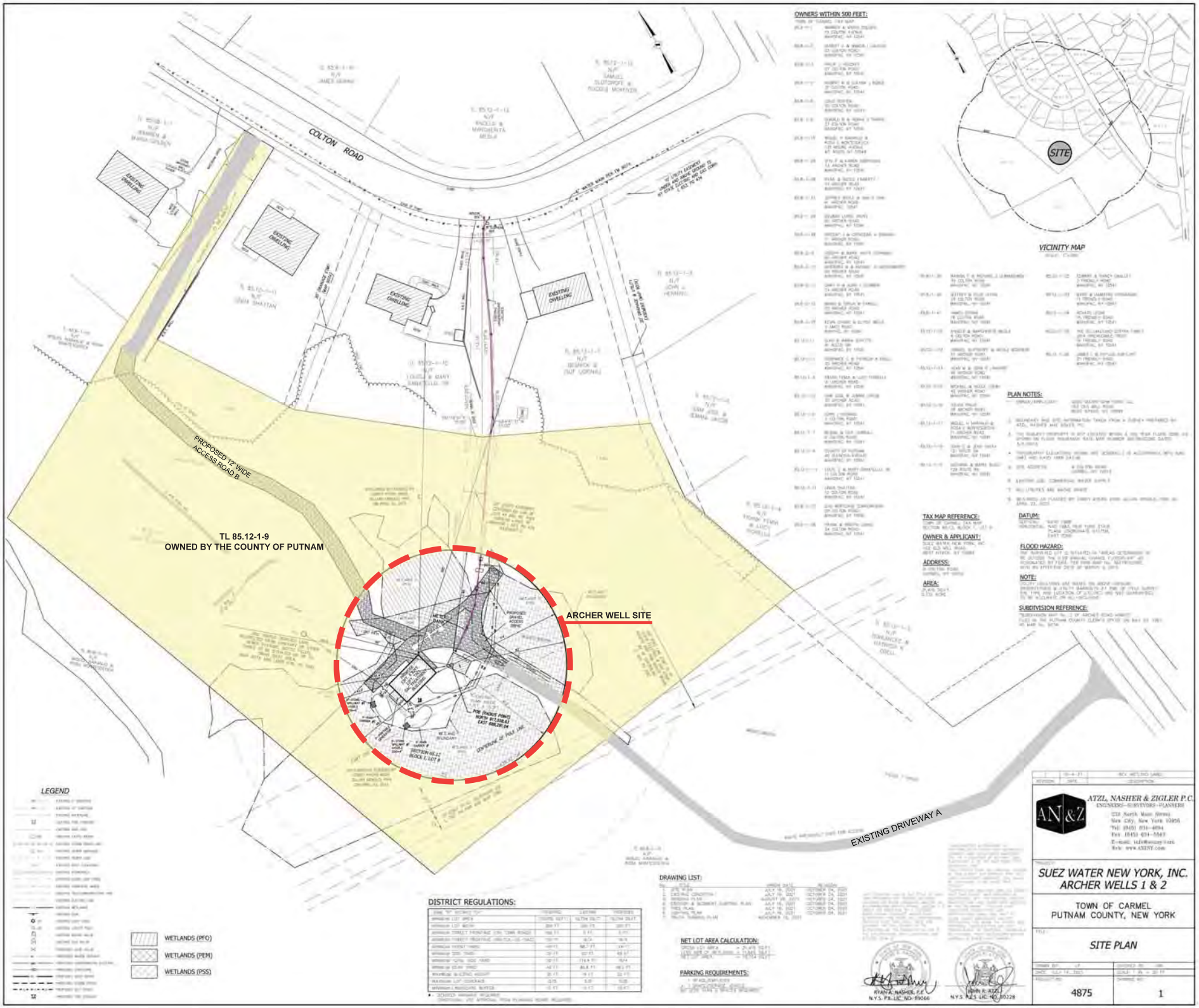
3. Comment: Provide a detail of the buffer. Code § l 56-37C requires "A landscaped buffer area at least 10 feet in width and six feet in height shall be provided and maintained along all property lines to satisfactorily screen public utility substations and any other buildings from surrounding uses of land. An enhanced buffer should be provided toward Archer Rd.

Response: *The location for the proposed improvements from the existing homes is approximately 270 feet away. Also, the density of the existing foliage is quite extensive, and should serve as an adequate buffer to the homes. Due to the remote location of the improvements, a landscape waiver is*

requested, and a photo package has been submitted to supplement this request.

4. Comment: Referral to the ECB, Fire Department and Putnam County Dept. of Health are required by code.

Response: *Noted.*


COLTON ROAD
PROPOSED 12' WIDE ACCESS ROAD B
TL 85.12-1-9
OWNED BY THE COUNTY OF PUTNAM
ARCHER WELL SITE
EXISTING DRIVEWAY A
EXISTING DWELLING
OWNERS WITHIN 500 FEET:
PLAN NOTES:
TAX MAP REFERENCE:
OWNER & APPLICANT:
ADDRESS:
AREA:
DATUM:
FLOOD HAZARD:
NOTE:
SUBDIVISION REFERENCE:
VICINITY MAP
SITE
LEGEND
WETLANDS (PFO)
WETLANDS (PEM)
WETLANDS (PSS)
DRAWING LIST:
DISTRICT REGULATIONS:
NET LOT AREA CALCULATION:
PARKING REQUIREMENTS:
EVAN A. NASHER, P.E.
N.Y.S. P.E. LIC. NO. 89066
JOHN R. ATZL
N.Y.S. P.L.S. LIC. NO. 50228
ATZL, NASHER & ZIGLER P.C.
ENGINEERS - SURVEYORS - PLANNERS
SUEZ WATER NEW YORK, INC.
ARCHER WELLS 1 & 2
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK
SITE PLAN
4875
1

CREAMER

J. FLETCHER CREAMER & SON, INC.

POWERED BY API Group

Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541

Re: **Site Plan Application**
SUEZ Water New York, Inc. – Archer Wells 1 & 2
Proposed Building Materials Narrative

All,

Due to extensive lead time delays for the design, fabrication and delivery of the original prefabricated metal building, we explored other material or manufacturer options for the building to better meet schedule requirements.

After exploring several different options, we were able to proceed with a different prefabricated metal building vendor to furnish and install the building. We were able to expedite the design process and improve the fabrication duration of the prefabricated building in order to meet our schedule.

We will be installing a prefabricated metal building, with steel framing, insulated metal wall panels with an exterior color, standing seam roof system, with a cast in place concrete foundation designed to accommodate the load of the building structure, equipment, vessels, and all other loads impacting the foundation.

The color of the building will be Hemlock Green and the roof trim, gutters and downspouts color will be cool harvest. The building will have a 4' split face masonry wall along the perimeter of the building for aesthetics and durability and will be Tribeca Tan. Please refer to renderings for visual representation of the building and masonry wall.

Sincerely,
J. Fletcher Creamer & Son, Inc.

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

JFCSON.COM

Copy to:


SWNY PFAS COMPLIANCE
Archer Well Site - Aerial View

SWNY PFAS COMPLIANCE
Archer Well Site

SITE PLAN

SCALE 1" = 30'

30 15 0 30 60

STRUCTURAL CONTROL

S1	NORTHWEST CORNER OF GAC TREATMENT BUILDING	N 917571.47	E 688235.75
S2	NORTHEAST CORNER OF GAC TREATMENT BUILDING	N 917580.79	E 688270.53

BORINGS

F-7	N 917573.44	E 688266.28
F-8	N 917563.88	E 688246.07

ACCESS ROAD CONTROL

R1	POINT OF CURVE	N 917552.51	E 688313.58
R2	POINT OF TANGENT	N 917581.17	E 688254.08
R3	———	N 917570.32	E 688214.00
R4	———	N 917581.90	E 688210.86
R5	POINT OF CURVE	N 917596.50	E 688264.77
R6	POINT OF TANGENT	N 917598.19	E 688275.68
R7	POINT OF CURVE	N 917600.12	E 688320.06
R8	POINT OF TANGENT	N 917604.14	E 688327.66
R9	———	N 917617.62	E 688368.97
R10	———	N 917606.60	E 688373.71
R11	POINT OF CURVE	N 917601.84	E 688362.65
R12	POINT OF TANGENT	N 917530.83	E 688339.29

NOTES

1. ALL PIPING TO BE DUCTILE IRON UNLESS NOTED OTHERWISE.
2. PIPING AND FITTINGS TO BE RESTRAINED JOINT UNLESS NOTED OTHERWISE.
3. AT POINTS OF CONNECTION, CONTRACTOR SHALL EXPOSE EXISTING WATER MAINS TO VERIFY LOCATION, GEOMETRY, AND MATERIAL REQUIREMENTS PRIOR TO ORDERING MATERIALS OR STARTING CONSTRUCTION OF ANY MAIN CONNECTING THERE TO.

FILE PATH: Z:\DRAWINGS\68577 Suez\NY PFAS-Proj-F-And-H\CIVIL\68577C400.dwg
DATE SAVED: 10/7/2021 10:15 AM BY: jgriffe DATE PLOTTED: 10/19/2021 12:53 PM

No.	DESCRIPTION	DATE	BY
	REVISIONS		

90% SUBMISSION

DESIGNED	CADD	SCALE
J.L.G.	J.L.G.	AS NOTED
CHECKED	APPROVED	APPROVED
S.Z.L.	.	.

GANNETT FLEMING
ENGINEERS AND ARCHITECTS, P.C.

CREAMER
A FLETCHER CREAMER & SON, INC. COMPANY

SUEZ WATER NEW YORK INC.
WEST NYACK, ROCKLAND COUNTY, NEW YORK

PFAS COMPLIANCE

ARCHER WELLS
CIVIL
SITE PLAN

JOB No. 68577
DATE OCTOBER 2021
SHEET No. C-400

Archer Pictures

1

2

3

4

5

7

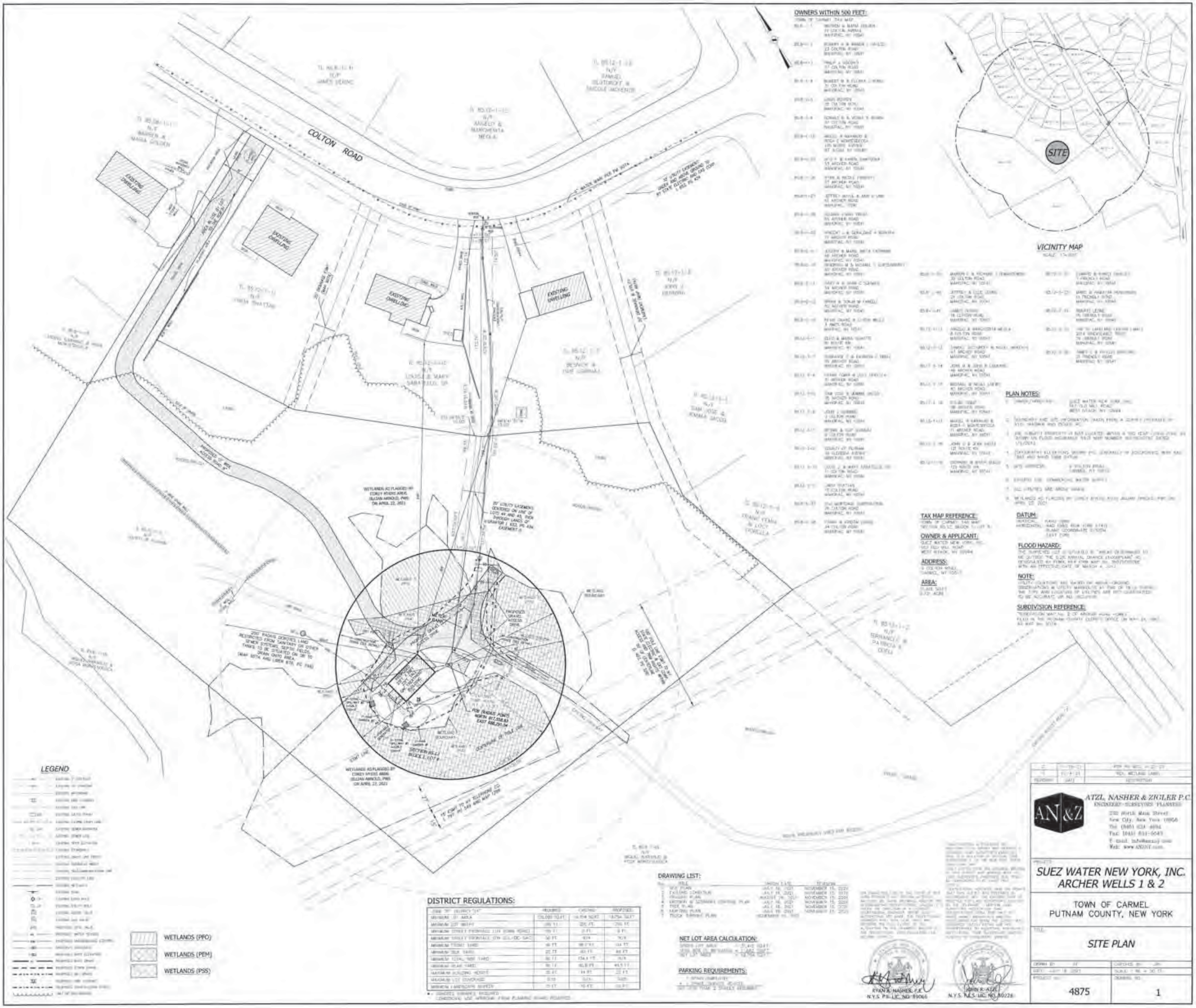
8


suez
BLUE ST★R

11

15

16 - not shown on plan. In front of House 15(left) and 19 (right) on Colton Road looking south


OWNERS WITHIN 500 FEET:
COLTON ROAD
EXISTING DWELLING
VICINITY MAP
SITE
PLAN NOTES:
TAX MAP REFERENCE:
OWNER & APPLICANT:
ADDRESS:
AREA:
DATUM:
FLOOD HAZARD:
NOTE:
SUBDIVISION REFERENCE:
LEGEND
WETLANDS (PFO)
WETLANDS (PEM)
WETLANDS (PSS)
DISTRICT REGULATIONS:
DRAWING LIST:
NET LOT AREA CALCULATION:
PARKING REQUIREMENTS:
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SUEZ WATER NEW YORK, INC.
ARCHER WELLS 1 & 2
TOWN OF CARMEL
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SITE PLAN
4875
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ATZL, NASHER & ZIGLER P.C.

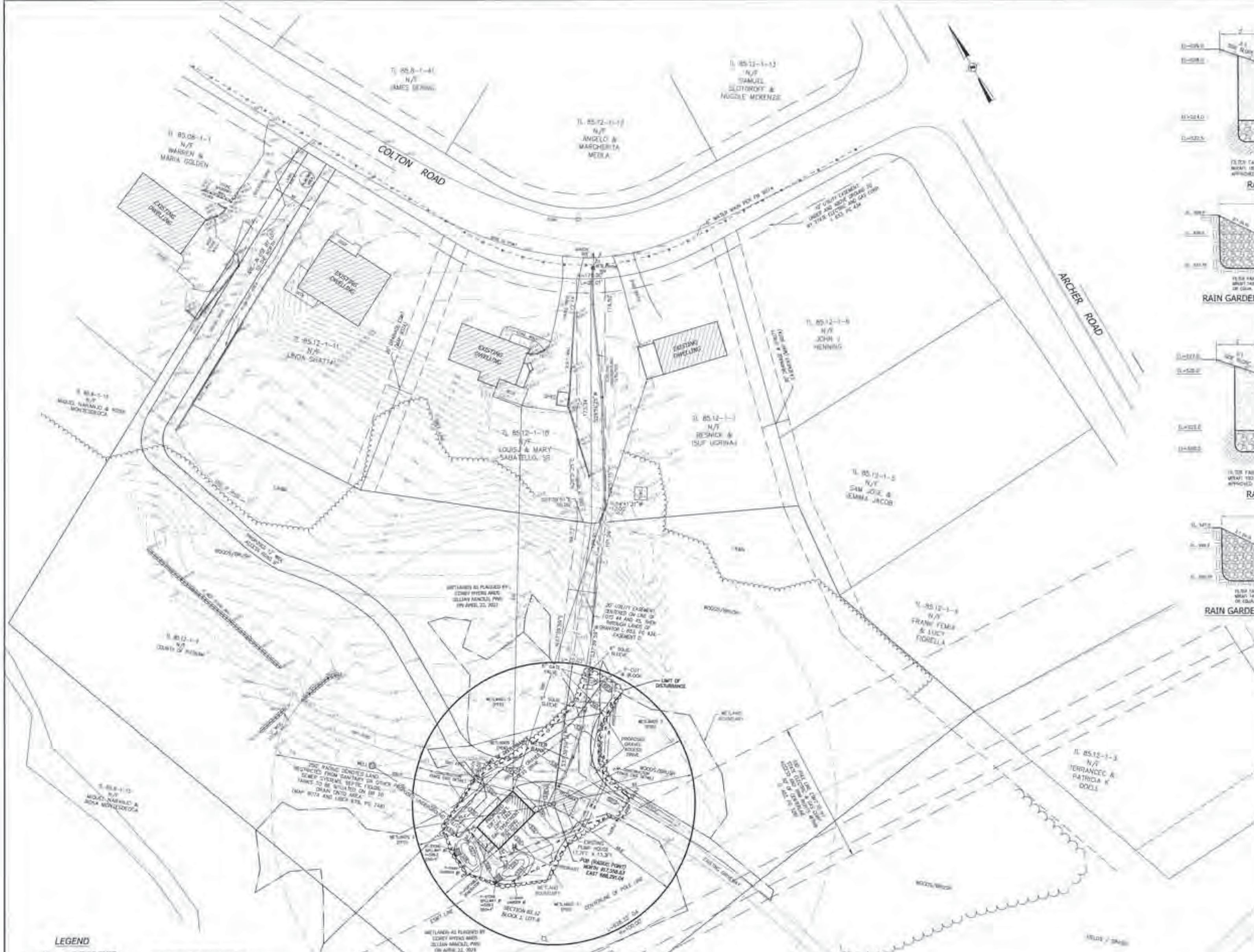
AN&Z

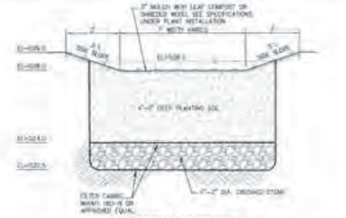
SUEZ WATER NEW YORK, INC.
ARCHER WELLS 1 & 2

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

EXISTING CONDITION

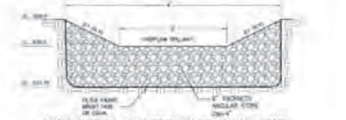
PROJECT NO.	DRAWING NO.
4875	2





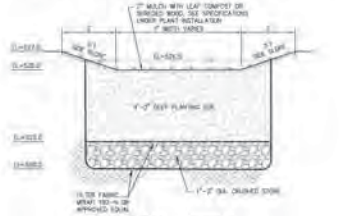
RAIN GARDEN #1 SECTION

SCALE: 1"=1'



RAIN GARDEN #1 OVERFLOW SPILLWAY DETAIL

SCALE: 1"=1'



RAIN GARDEN #2 SECTION

SCALE: 1"=1'

RAIN GARDEN #2 OVERFLOW SPILLWAY DETAIL

SCALE: 1"=1'

LEGEND

SEED MIXES FOR RAIN GARDENS:

RAIN GARDEN GRASS SEED MIX '1' FOR BASIN BOTTOM

RAIN GARDEN SEED MIX INCLUDES NATIVE GRASSES AND WILDFLOWERS THAT IMPROVE WATER QUALITY AND PROVIDE NATIVE WETLAND HABITAT FOR BIRDS, INSECTS AND AMPHIBIANS. MAY BE USED IN WET MEADOWS AS WELL AS IN LOCAL STORMWATER MANAGEMENT AREAS.

WHERE TO USE RAIN GARDEN SEED MIX:

USE RAIN GARDEN SEED MIX IN AREAS ADJACENT TO AREAS WITH STORMWATER RUNOFF, LIKE PARKING LOTS, LOW NATURAL AREAS WHERE RAIN WILL SLOWLY DRAIN OFF.

NATIVE SEED MIX CONTAINS:

LITTLE BLUESTEM, VIRGINIA WILDRYE, REDTOP PANICGRASS, PARTRIDGE PEA, PURPLE CONEFLOWER, LANCELEAF COREOPSIS, BLACKEYED SUSAN, FOX SEDGE, OXEYE SUNFLOWER, BLUE VERVAIN, SWAMP MILKWEED, SOFT RUSH, MARSH BLAZING STAR, SHOWY BEARDTONGUE, BLUE FALSE INDIGO, BLUNT BROOMSEDGE, MISTFLOWER, NARROWLEAF MOUNTAINMINT, WILD SENNA, OHIO SPIDERWORT, GOLDEN ALEXANDERS, WHITE AVENS, WILD BERGAMOT, AUTUMN BENTGRASS, SMOOTH BLUE ASTER, NEW ENGLAND ASTER, COMMON SNEEZEWEED, FLAT TOPPED WHITE ASTER, ROUGHLEAF GOLDENROD AND CULVER'S ROOT.

*ALL SEED MIXES ARE EVEN BLENDED WITH THE SAME NUMBER SEEDS OF EACH WILDFLOWER VARIETY.

PLANTING RATE: 20 LB PER ACRE WITH A COVER CROP OF GRAIN RYE AT 30 LB PER ACRE.

RAIN GARDEN GRASS SEED MIX '2' FOR SIDE SLOPES:

NORTHEAST NATIVE GRASS MIX IS BLENDED WITH STATELY GRASSES THAT GRACE NEW ENGLAND AND SOUTHEASTERN CANADIAN REGIONS. USE THIS NATIVE GRASS MIX TO STABILIZE SOILS AND PROVIDE HABITAT FOR INSECTS, BIRDS, AND OTHER ANIMALS.

WHERE TO USE NORTHEAST NATIVE GRASS MIX:

USE NORTHEAST NATIVE GRASS MIX TO STABILIZE SOILS IN THE NORTHEASTERN REGION. GRASSES IN THIS MIX PREFER FULL SUN AND THRIVE IN AVERAGE TO MOIST SOILS.

NATIVE SEED MIX CONTAINS: VIRGINIA WILDRYE, SWITCHGRASS, CANADA WILDRYE, LITTLE BLUESTEM AND INDIANGRASS.

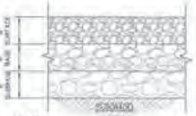
PLANTING RATE: 15 LB PER ACRE, 1 LB PER 2900 SQ. FT., OR 7 LB PER ACRE WITH WILDFLOWERS.

CONSTRUCTION SEQUENCE:

1. INSTALL EROSION & SEDIMENT CONTROL MEASURES.
2. EXPAND DRIVEWAY AT ENTRANCE AND PROPOSED BUILDING.
3. CONSTRUCT PROPOSED BUILDING FOUNDATION.
4. INSTALL PROPOSED UNDERGROUND UTILITIES.
5. SET PROPOSED PREFABRICATED BUILDING.
6. STABILIZE DISTURBED AREAS.
7. REMOVE EROSION & SEDIMENT CONTROL MEASURES.

TABLE-1 PERCENT PASSING (BY WEIGHT) OF GRAVEL MATERIALS

SIEVE (U.S. SIEVE)	OPTION TYPE		
	SURFACE	BASE	SUBBASE
3"			100
2"		100	—
1.5"		90-100	70-100
1"	100	—	—
3/4"	85-100	—	—
1/4"	50-75	30-50	30-58
#40	15-30	5-20	5-25
#200	8-15	0-8.5	0-8



NOTES:
1. SUBGRADE, BASE AND SURFACE MATERIAL SHALL CONFORM TO GRADING LIMITS IN TABLE-1.
2. USE UNIFORM GRAVEL TYPES AND MATERIALS BETWEEN THE REQUIRED LIMITS.

TYPICAL GRAVEL PAVING SECTION

SCALE: 1"=1'

REVISION	DATE	DESCRIPTION
2	11-15-21	PER PB MTG. 11-22-21
1	10-4-21	REV. WETLAND LABEL

ATZL, NASHER & ZIGLER P.C.
ENGINEERS - SURVEYORS - PLANNERS
232 North Main Street
New City, New York 10956
Tel: (845) 634-4694
Fax: (845) 634-5543
E-mail: info@anzny.com
Web: www.ANZNY.com

PROJECT:

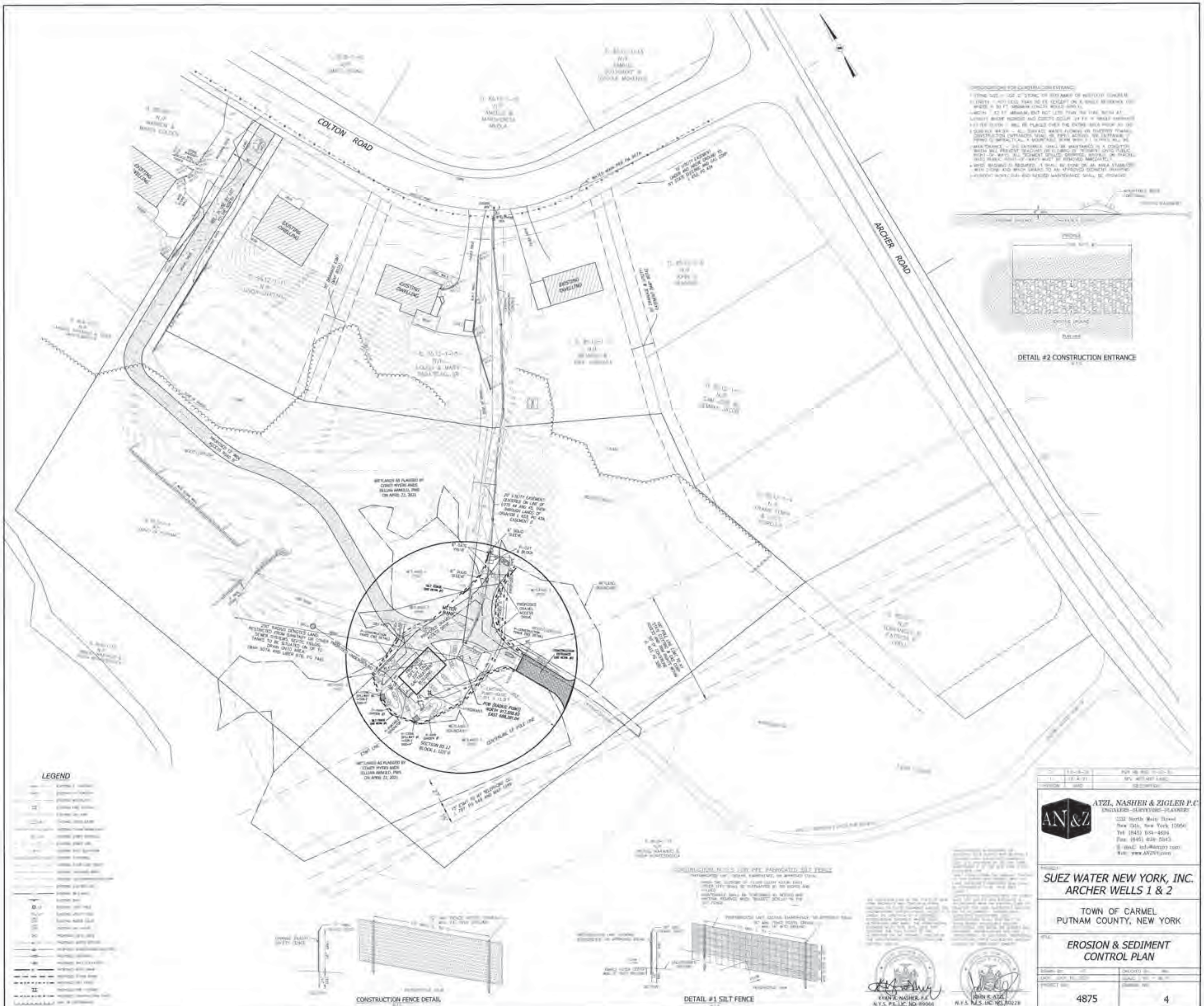
SUEZ WATER NEW YORK, INC.
ARCHER WELLS 1 & 2

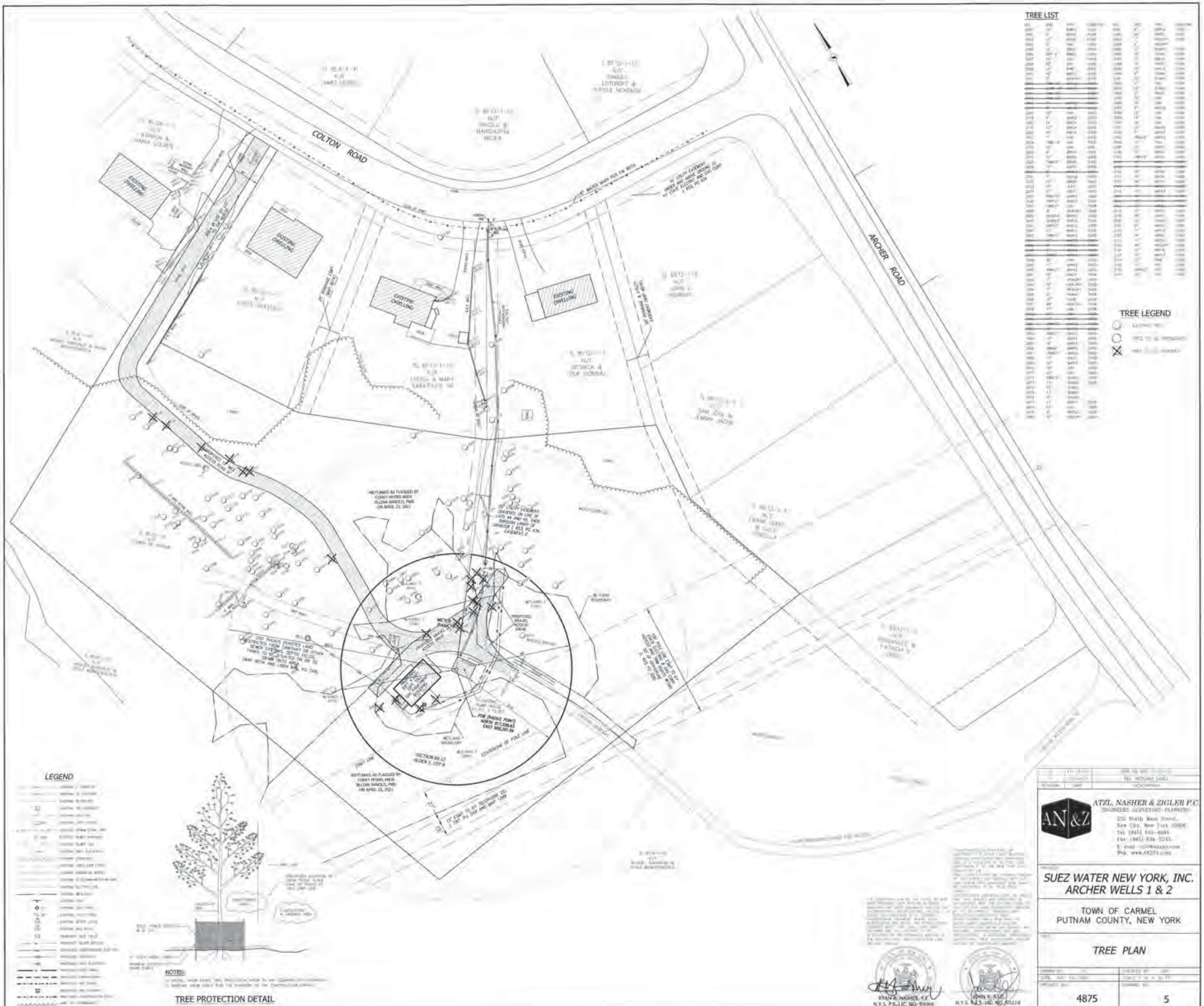
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

TITLE:

GRADING PLAN

DRAWN BY: JJ	CHECKED BY: JRN
DATE: AUGUST 26, 2021	SCALE: 1" = 30 FT.
PROJECT NO: 4875	DRAWING NO: 3


COLTON ROAD
ARCHER ROAD
EXISTING DWELLING
DETAIL #2 CONSTRUCTION ENTRANCE
LEGEND
CONSTRUCTION FENCE DETAIL
DETAIL #1 SILT FENCE
ATZL, NASHER & ZIGLER P.C.
SUEZ WATER NEW YORK, INC.
ARCHER WELLS 1 & 2
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK
EROSION & SEDIMENT
CONTROL PLAN
4875
4



ATZL, NASHER & ZIGLER P.C.

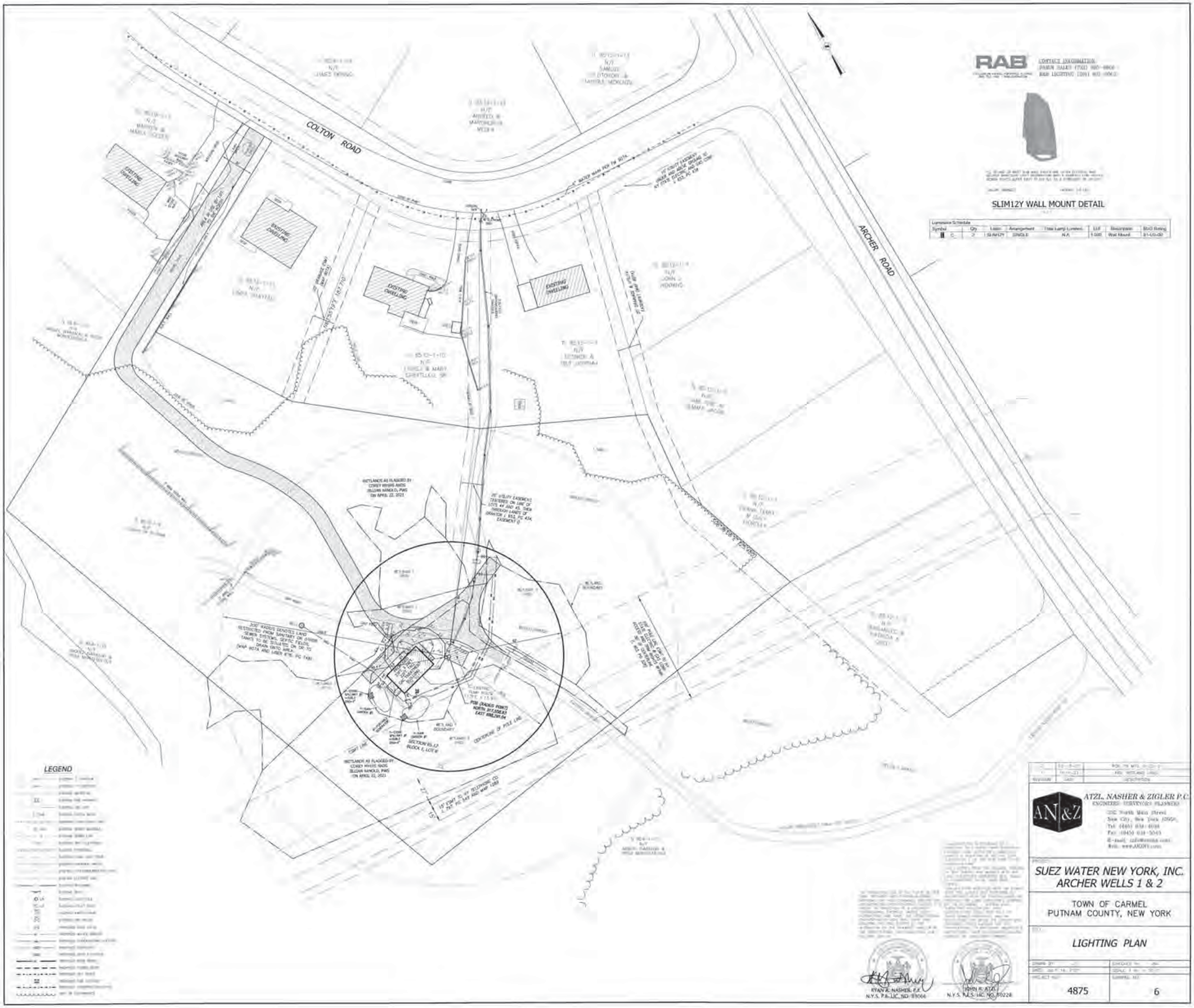
SUEZ WATER NEW YORK, INC.
ARCHER WELLS 1 & 2

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

TREE PLAN

4875

5



RAB
SLIM12Y WALL MOUNT DETAIL
COLTON ROAD
ARCHER ROAD
EXISTING DWELLING
LEGEND
ATZL, NASHER & ZIGLER P.C.
SUEZ WATER NEW YORK, INC.
ARCHER WELLS 1 & 2
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK
LIGHTING PLAN
4875
6

ATZL, NASHER & ZIGLER P.C.
ENGINEERS · SURVEYORS · PLANNERS

SUEZ WATER NEW YORK, INC.
ARCHER WELLS 1 & 2

TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

TRUCK TURNING PLAN

PROJECT NO.	DRAWING NO.
4875	7

KEANE & BEANE P.C.
ATTORNEYS AT LAW

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Phone 914.946.4777
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200 Westage Business Center
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505 Park Avenue
New York, NY 10022
Phone 646.794.5747

RICHARD L. O'ROURKE
Principal Member
ro'rourke@kblaw.com

November 8, 2021

Mr. Craig Paeprer, Chairperson
Planning Board
Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541

Re: Centennial Golf Properties and Toll Brothers
Centennial Townhomes
185 John Simpson Road (44.2-2.1) and John Simpson Road (44.2-4.2)
Letter of Intent – Site Plan Modification and Lot Line Adjustment
Zoning District: Residential

Dear Mr. Paeprer and Members of the Planning Board:
On behalf of our client, Centennial Golf Properties and Toll Brothers, we are respectfully requesting to be added to the November 18th Planning Board agenda for site plan modification and lot line adjustment regarding the development of 63 townhomes at the southwest corner of John Simpson Road and Fair Street in the Town of Carmel. A separate application is being made to the Town of Southeast requesting approval for a 181-space surface parking lot to serve the Centennial Golf Club.
The Project area is located at the northern tip of the Lakes and Meadows courses, north of the existing clubhouse and pavilion.

Existing Conditions

The properties at 185 John Simpson Road (97 acres) and John Simpson Road (23 acres) are currently developed as the Centennial Golf Club (CGC). A portion of 185 John Simpson Road is located in the Town of Southeast (164 acres). CGC offers three 9-hole courses identified as the "Meadows", "Lakes" and "Fairways." Fairways is in the Town of Carmel while Meadows is in the Town of Southeast. Lakes is in both towns.

The western portion of the site contains a wood lot and State and Federal wetlands. The eastern portion contains an underutilized and outdated 271-space surface parking lot which serves the CGC, a pond, and golf practice areas, tees, greens, traps, fairways, and golf cart paths.

The Project area gradually slopes up from John Simpson Road and Fair Street to about the location of the practice areas and the wetland buffer area, and then begins to slope down toward the southwest corner of the property.

Proposal

The proposal is to construct a 63-unit townhouse community with a clubhouse and pool for the residents in the Town of Carmel, and a 181-space surface parking lot in the Town of Southeast to serve CGC. The golf practice area and the underutilized 271-space parking lot will be eliminated to facilitate this Project.

The townhomes are all three bedroom units (a total of 189 bedrooms). Fifty-one units will be constructed where the existing surface parking lot and a former meadow is located. A resident clubhouse and pool will be located between the townhomes and Fair Street. Access to these units and the resident clubhouse and pool will be from John Simpson Road off the existing driveway for CGC. A new curb cut will be installed on Fair Street for emergency vehicle access only to satisfy the requirements of the Fire Code of New York State.

Twelve units will be constructed along Fair Street on an access drive that will run parallel to Fair Street. One new curb cuts is proposed on Fair Street for ingress and egress, and one curb cut is required for emergency vehicles only to satisfy the requirements of the Fire Code of New York State.

The Project includes the realignment of driveways and installation of new private drives for the townhomes, new water and sewer lines, on-site stormwater management, and bioretention areas, the replacement of a pump station a partial demolition of a portion of the existing cart barn, new/realigned cart paths, first tee modifications to both Lakes and Meadows, and installation of a new modern 181-space surface parking lot on the east side of John Simpson Road in the Town of Southeast for Centennial Golf Club patrons. A lot line adjustment is necessary to create a 24-acre parcel for the townhome development. Some tree and landscaping removal will occur in the open golf course areas; the wood lot and wetlands will not be disturbed to facilitate this project.

Water supply and wastewater generation by the Project will be connected to Carmel Water District #2 and Carmel Sewer District #2.

Green infrastructure methods will be used to meet the requirements of the New York State Stormwater Management Design Manual relative to water quality and quantity on the site. Stormwater management upgrades are also proposed that meet the current New York City Department of Environmental Protection (NYCDEP).

The outdated surface parking lot lacks sufficient lighting and positive drainage. The proposed parking lot in the Town of Southeast will offer dark sky compliant lighting, proper drainage, and ample landscaping.

Comprehensive Plan

The Town of Carmel Comprehensive Master Plan 2000 focuses on population characteristics, the environment, transportation and community facilities. Chapter 8 summarizes the policies and goals of the community to protect the existing development pattern, tax base, and commercial areas, while further protecting the natural environment. The Project is in conformance with the following goals of the Comprehensive Plan:

Land Use: *Carmel should establish a balance among protection of the natural environment and resources, maintaining quality neighborhoods, providing necessary community services and insuring a sound economic base.*

It is the desire of the community to balance the protection of natural resources with the high quality of life for its residents, including the desire for a diverse housing stock. The Project will provide 63, three-bedroom, market-rate townhomes on a 24-acre parcel. The townhouse community will be developed in an area of the property that has been previously developed and contains existing impervious surfaces.

Environmental Protection: *Carmel should preserve its natural resources and protect the quality of drinking water supplies.*

This goal recognizes the need to protect watercourses, wetlands, steeply sloped lands and an integrated open space system. Approximately 97% of the Project site have slopes of 10% or less. Slopes up to 15% can be found in the northwest corner of the property. This area and the adjacent wetlands will not be disturbed by this Project. Stormwater management and bioretention areas will be designed to manage on-site runoff relative to water quality and quantity in compliance with the New York

State and New York City Department of Environmental Protection Stormwater Management regulation.

Infrastructure: *Carmel should support its existing settled neighborhoods and commercial and industrial areas by maximizing existing public sewer capabilities, ensuring sound environmental operation of private septic systems, and constructing or expanding sewer districts.*

This goal is an extension of the environmental protection goal in that it is the desire to ensure there is adequate water and sanitary sewer collection, distribution, and treatment facilities to support the needs the Town hamlet centers. It is also stated that Carmel should take appropriate action to continue to protect its water supply from contamination and expand potable water districts as the need arises.

It should be noted that CGC has contributed $3M+ in capital costs over the past 25+ years to the Town of Carmel for improvements to the infrastructure and capacity of CSD#2 for the benefit of the golf course, and anticipated residential developments on the property(ies) that never came to fruition. It is anticipated that there is adequate infrastructure and capacity at the street to support the 63-unit townhouse development.

Economic Development: *Carmel should sensitively develop its economic sector so as to strengthen its tax base consistent with the other goals of this plan.*

CGC is an economic generator in the Hudson Valley, offering 27 holes of golf, golf school and camp, private lessons, hosting special and catered events, fundraisers for charities, and is home to the Annual Centennial Troon Challenge. A greater focus will be on supporting the existing offerings at CGC, such as the Centennial Troon Challenge, and TroonFit, which raises awareness of the health benefits related to playing golf and promotes non-golf fitness activities such as yoga and running. The townhouses will provide a housing choice that is complementary to the community character, and it will add to the Town's tax base with minimal impact on public services, infrastructure, and the environment. The Project is likely to stimulate economic growth in the town by providing new services to support the residential development. Refer to the Fiscal Analysis Report prepared by Storrs Associates, LLC, dated October 18, 2021.

State Environmental Quality Review Act (SEQR)

The Centennial Golf Club was developed in the mid 1990's, and was the subject of environmental impact statements (EIS) pursuant to the State Environmental Quality Review Act (SEQRA) culminating in the adoption of a Findings Statement. The project consisted of the development of 321 acres in the Towns of Carmel and Southeast as a 27-hole golf course, including a clubhouse with a pro shop and other amenities, a pavilion, a cart storage building and parking areas. The Findings Statement was issued in February 1996.

This project received the following approvals:

1. Site Plan, Subdivision, Tree Conservation Law, and Wetland Approvals, and an Earthwork Operations Permit from the Town of Carmel.
2. Special Permit, Site Plan, Subdivision, and Wetland Approvals from the Town of Southeast.
3. Curb Cut, Highway Work Permit, and Sewer System Design Approvals from Putnam County.
4. A Protection of Waters, Dam, and State Pollutant Elimination Discharge System Permits (SPDES) from New York State Department of Environmental Conservation.
5. A Section 404 Nationwide Permit from the US Army Corp of Engineers.

The EIS evaluated significant environmental impacts associated with the construction of the golf course. Of notable concern was:

- blasting to aid in earth removal;
- excavation and grading of approximately 28.8 acres within the 15 to 20% slope category;
- groundwater aquifer and well protection, including capacity and potential impairment concerns for neighboring wells requiring water quality monitoring for 10 years after completion of the project;
- vegetation removal of 92 acres of Woodlands, 27 acres of Old Field, 78 acres of Field/Residential, and 0.6 acres of Wooded Swamp;
- a traffic impact study;

- a fiscal impact analysis; and
- the extension of the water and sewer districts to adequately serve the project.

The proposal to construct 63 townhouse units to replace an existing surface parking lot does not present any significant environmental impacts on the environment. The FEAF and supporting documentation identify that 97% of the Project area contains 10% or less slope; blasting is not proposed; there are no threatened or endangered plant or animal species in the Project area; and there are no significant impacts on ground water, wetlands, the transportation network, utilities, public services, noise, air or odors.

This Project presents a benefit to the community by eliminating an underutilized and outdated surface parking lot with non-dark sky compliant lighting; providing a new, modern housing choice for the community; and it will realize an increase in tax revenue for the benefit of the school district and the Town of Carmel.

In the Land Use and Zoning section of the Findings Statement, it is noted that during the preparation of the DEIS, the Project Sponsor (CGC) considered hypothetical residential development, even though no proposal for the development had been made. The Findings Statement points out that if and when an actual proposal is made to the Planning Board, the proposal will be reviewed on its own merits, including a site-specific environmental analysis.
CGC has as intimate knowledge of these properties and has been good stewards of the land for the past 30 years. With that in mind, this Project has been designed to ensure mutual benefits for the applicant and the community by protecting the natural environment, providing a housing choice to the community, and providing tax revenue with little to no impact on the existing infrastructure and public services.

The following information is being provided to supplement the Part 1 Full Environmental Assessment Form for this Project:

Fiscal Analysis

A Fiscal Analysis was conducted by Storrs Associates, LLC, October 19, 2021, and is included with the Project materials. The report concludes that the increase in assessment results in an increase in annual tax revenue of $845,998, shared by the Carmel Central School District, Reed Library, and ambulance and fire service. Over a period of ten years, this adds $8,459,976 in new tax revenue.

Water and Sewer

The site is served by municipal water (Carmel Water District #2) and municipal sewer (Carmel Sewer District #2). The sewer system will connect to the clubhouse gravity main where it will be conveyed to a new pump house near Fair Street. From there it will be conveyed to the existing forcemain in the Fair Street right-of-way. A new 8" water service will be connected to the existing watermain in the Fair Street right-of-way.

Water usage at the existing golf course and country club based on actual usage records during the spring to summer period is 132 gallons per day (gpd). This was drawn from billing records from the clubhouse, cart barn and kitchen.

According to the New York State Department of Environmental Conservation (NYSDEC) Design Standards for Intermediate Sized Wastewater Treatment Systems, March 2014, a residential use is expected to have a water demand and wastewater generation of 110 gpd per bedroom for post-1994 plumbing fixtures.

The 63-unit townhouse development (a total of 189 bedrooms) has a demand of 20,790 gpd for water and will generate liquid waste to the municipal sewer system at the same rate. There is adequate water and sewer infrastructure and capacity to support the 63-unit residential development.

Wetlands

New York State wetlands are located near the center of the property, which is also the western limits of the area of disturbance. There is a wetland delineation in proximity to the majority of the development area which was completed in 2019 by Ecological Associates and the 100-foot buffer is identified on the site plan. Along Fair Street the 2021 delineation is pending regulatory verification. Currently, the golf practice area consisting of tees, traps, fairways and greens, and a former pasture are located within the 100-foot buffer. Regrading is necessary within the buffer to remove the golf practice area and pasture to construct the stormwater management areas.

Stormwater

The Project site is located within the New York City Department of Environmental Protection (NYCDEP) watershed. The Project includes the disturbance of 15+/- acres, which is subject to coverage under the State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared in conformance with the most current version of the New York State Stormwater Management Design Manual and New York State Standards and Specifications for Erosion and Sediment Control. Since the project is within a NYSDEP watershed, review of the SWPPP by the NYSDEP is required. An Erosion and Sediment Control Plan will be employed before construction begins, and properly maintained throughout construction to minimize adverse effects associated with sedimentation and erosion on adjacent land and water resources.

Traffic

Putnam County required the installation of a left turn lane at the main entrance of CGC on John Simpson Road when the golf course was constructed. The entrance to the Townhouses will use this main entrance and will benefit from the left turn lane.

According to the SEQR Findings Statement, the 27-hole golf course was projected to generate 87, 91 and 124 vehicle trips during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively.

Passero Associates prepared a Traffic Generation letter, dated November 8, 2021, Exhibit A of the Full Environmental Assessment Form (FEAF), analyzing the existing 27-hole golf course, and the addition of 63 residential units. The Institute of Transportation Engineers (ITE) Trip Generation 10th Edition Manual Research Data (2017) was used for this analysis.

ITE Trip Generation data has improved over the years based on actual traffic data and scenarios for nearly every type of land use. The 1994 trip generation data provided for the 27-hole golf course is significantly higher than the current ITE 10th Edition Manual Research Data for the same land use.

The peak weekday morning trips for a 27-hole golf course decreased from 87 trip to 48 trip between 1994 and 2017, a 44% decrease. The peak weekday evening trips decreased from 91 to 79 trips between 1994 and 2017, a 13% decrease.

The analysis using 2017 ITE data concluded that the proposed 63 residential units will generate roughly 29 more trips during the weekday morning peak hour and 36 more trips during the weekday evening peak hour.

Comparing the 1994 approval to the current proposal there will be 10 less trips during the weekday morning peak hour and 24 more trips during the evening peak hour. These projections are similar to the 1994 projections for the development of a 27-hole golf course with clubhouse, which necessitated the installation of a left turn lane on John Simpson Road northbound at the entrance driveway, an additional approach lane on John Simpson Road at the intersection of Fair Street, and a traffic signal at the intersection of John Simpson Road and Fair Street. These improvements, designed and implemented by Putnam County, required a contribution by CGC for their fair share of the improvements to ensure the traffic generated by the golf course would not exacerbate traffic flows on the existing transportation network.

The general industry practice for many municipalities is that an intersection should be analyzed for impact when a proposed development generates 100 or more new trips through an intersection. Although the traffic patterns will likely be altered by the proposed development, it is not anticipated that the proposed development will increase the traffic volumes by 100 or more vehicles during the peak hour at any specific intersection. Therefore, it is Passero Associates' opinion that no further traffic impact analysis is required as a result of traffic that would be generated by the proposed development.

Parking

Each townhouse will be constructed with an attached 2-car garage with space in the driveway for two guests to park. This townhouse community also includes a 2,400 sq. ft. clubhouse with a pool. The parking requirement for a townhouse is two spaces per dwelling. There is no parking requirement for the tenant clubhouse and pool.

The townhouse units require 126 spaces, and an additional 18 spaces are provided throughout the community for guests and users of the clubhouse and pool; a total of 144 spaces. There is sufficient on-site parking to accommodate the 63-unit townhouse community.

Endangered, Threatened and Rare Species and Significant Habitats

According to the NYSDEC EAF Mapper's automated response, there are known occurrences of the northern long-eared bat in the vicinity of the site. The US Fish & Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system was used to generate an Official Species List and final designated critical habitat analysis. The IPaC, (Exhibit E, FEAF Part 1), identifies the Indiana bat (State and Federally endangered), the northern long-eared bat (State and Federally threatened), and the bog turtle (State endangered and Federally Threatened) as species in the vicinity of the Project site. However, the USFWS also concluded that there are no critical habitats within the project area under their jurisdiction that would support these species.

There is minimal tree removal required to facilitate this project. Most of the trees are located on the golf course with some clearing anticipated in the 100-foot wetland buffer. CGC proposes to mitigate the potential impacts to the bat species by limiting tree removal to the period between November 1st and March 31st, as during this time, the bats would be hibernating and not present on site. If the bog turtle were to exist on the site, the species would most likely be located within the wetland area, which will not be disturbed.

Code Compliance

No area variances are required to facilitate this project. In accordance with The Town of Carmel Code, Section 156-61 – Zoning, site plan modification approval is required from the Planning Board for the construction of a 63-unit townhouse development at 185 John Simpson Road on a new 24-acre parcel. In addition, the Planning Board is authorized under Section 156-60B(2)(c), subject to Section 56-61M to grant a lot line adjustment.

The proposed residential development is as-of-right in the R Residential district and meets all of the lot, area, yard, bulk, and density requirements. The proposed pattern of development promotes the most appropriate and efficient use of land by:

- Eliminating an underutilized parking area.
- Providing a housing choice in the community.
- Maintaining the natural and scenic qualities of the Town of Carmel.
- Preserving areas of ecological significance on the site.

- Minimizes the amount of land required for roads and utilities by using an existing access point and connecting to existing utilities.

The proposed residential development is in full compliance in accordance with the interpretation of the Zoning Board of Appeals approved on May 27, 2021.

We look forward to presenting the Site Plan Application to the Planning Board at your meeting on November 18th.

In support of our application attached please find enclosed:

(11) Letters of Intent
(11) Site Plan Applications, signed and notarized
(11) Full Environmental Assessment Forms (FEAF)
(5) Full size sets of the Site Plan, including floor plans and elevations
(1) CD (in .pdf format) containing an electronic version of the Site Plan
(2) Disclosure Statements
(11) Site Plan Completeness Certification Forms
All supplemental studies, reports, plans and renderings
(2) Copies of the current deed
(2) Copies of all easements, covenants and restrictions
(1) List of property owners within 500 feet to be certified by Assessor
(1) Application fee $38,000
(11) Subdivision Applications (Lot Line Adjustment), signed and notarized
(11) Fiscal Analysis for Proposed Residential Development

If you have any questions or require any additional information, I may be reached at 914-946-7777 or rorourke@kblaw.com.

Very truly yours,

Richard L. O'Rourke

RLO/sb
cc: Christopher J. LaPorta, P.E., CDT
David Liebowitz

xc: Chief of Carmel Fire Department

TOWN OF CARMEL

V 2

SITE PLAN APPLICATION INSTRUCTIONS

Centennial Golf Course

The Town of Carmel Planning Board meetings are held twice a month, on the second and fourth Wednesday's, at 7:00 PM at Carmel Town Hall, 60 McAlpin Avenue, Carmel

The submission deadline is 10 days prior to the Planning Board meeting. New site plan applications that have been deemed complete will be placed on the agenda in the order they are received.

No application will be placed on the agenda that is incomplete

Pre-Submission:

Prior to the formal submission of the site plan, a pre-submission conference may be requested by the applicant to be conducted with representatives from the Town, which may include the Town Planner, Town Engineer, Director of Code Enforcement and/or the Planning Board Attorney. This conference will serve to educate the applicant on the process he/she must follow, clarify the information required to submit a complete site plan application, and to highlight any specific areas of concern. You may arrange a pre-submission conference through the Planning Board Secretary at (845) 628-1500 extension 190.

Submission Requirements:

At least 10 days prior to the Planning Board meeting, the site plan application shall be submitted to the Planning Board Secretary as follows:

All site plans shall be signed, sealed and folded with the title box legible. The application package shall include:

- ☒ 11 copies of the Site Plan Application Form, signed and notarized.
- ☒ 11 copies of the SEQR Environmental Assessment Form (use of short form or long form shall be determined at pre-submission conference).
- ☒ 5 full size sets of the Site Plan (including floor plans and elevations)
- ☒ 1 CD (in pdf. format) containing an electronic version of the Site Plan
- ☒ 2 copies of the Disclosure Statement
- ☒ 11 copies of the Site Plan Completeness Certification Form
- ☒ All supplemental studies, reports, plans and renderings.
- ☒ 2 copies of the current deed.
- ☒ 2 copies of all easements, covenants and restrictions.
- ☒ The appropriate fee, determined from the attached fee schedule. Make checks payable to the *Town of Carmel.*

Rose Grombetta 12/22/21

Planning Board Secretary; Date

Richard J. Tucker 12/22/2021

Town Engineer; Date

TOWN OF CARMEL
SITE PLAN APPLICATION

Per Town of Carmel Code – Section 156 - Zoning

SITE IDENTIFICATION INFORMATION		
Application Name: Centennial Golf Course	**Application #** 21-0018	**Date Submitted:** 11/08/21
Site Address: *No.* 185 *Street:* John Simpson Road *Hamlet:* Carmel		
Property Location: *(Identify landmarks, distance from intersections, etc.)* Centennial Golf Club (SW corner John Simpson Rd. and Fair St.)		
Town of Carmel Tax Map Designation: *Section* 44 *Block* 2 *Lot(s)* 4.2 & 2.1	**Zoning Designation of Site:** Residential (R)	
Property Deed Recorded in County Clerk's Office *Date* 03/07/08 *Liber* 1799 *Page* 217	**Liens, Mortgages or other Encumbrances** *Yes* (No)	
Existing Easements Relating to the Site *No* (Yes) *Describe and attach copies:* Utility	**Are Easements Proposed?** *No* (Yes) *Describe and attach copies:* Utility + Access	
Have Property Owners within a 500' Radius of the Site Been Identified? (Yes) No *Attach List to this Application Form*		

APPLICANT/OWNER INFORMATION		
Property Owner: Centennial Golf Properties	**Phone #:** 845-225-5700 **Fax#:**	**Email:** NA
Owners Address: *No.* 185 *Street:* John Simpson Road *Town:* Carmel *State:* NY *Zip:* 10512		
Applicant (If different than owner): Centennial Golf Club and Toll Brothers	**Phone #:** **Fax#:**	**Email:**
Applicant Address (If different than owner): *No.* *Street:* *Town:* *State:* *Zip:*		
Individual/ Firm Responsible for Preparing Site Plan: Passero Associates (Christopher LaPorta, P.E.)	**Phone #:** **Fax#:** 585-455-0157	**Email:** claporta@passero.com
Address: *No.* 17 *Street:* Front Street *Town:* Newburgh *State:* NY *Zip:* 12550		
Other Representatives: Larry Boudreau	**Phone #:** 404-357-9789 **Fax#:**	**Email:** lboudreau129@gmail.com
Owners Address: *No.* 185 *Street:* John Simpson Road *Town:* Carmel *State:* NY *Zip:* 10512		

PROJECT DESCRIPTION
Describe the project, proposed use and operation thereof:
To modify a previously approved site plan for the 327+/- acre Centennial Golf Course (44.2-2.1) to reflect a proposed development at the southwest corner of John Simpson Road and Fair Street consisting of a 63-unit townhouse project. The project includes the transfer of 4.18 +/- acres of land to the adjacent property (44.2-4.2) to create a 24 acre parcel for the residential development, modification to the tee boxes on the "Lakes" course to change from a par 5 to a par 4, and minor cart path and driveway modifications.

TOWN OF CARMEL SITE PLAN APPLICATION

PROJECT INFORMATION

Lot size: *Acres:* 127+/- *Square Feet:*	**Square footage of all existing structures (by floor):** No changes to existing structures
# of existing parking spaces: NA	**# of proposed parking spaces:** NA
# of existing dwelling units: NA	**# of proposed dwelling units** NA

Is the site served by the following public utility infrastructure:

- **Is project in sewer district or will private septic system(s) be installed?** Sewer District #2
- **If yes to Sanitary Sewer answer the following:**

  - **Does approval exist to connect to sewer main?** Yes: ☒ No: ☐
  - **Is this an in-district connection?** X **Out-of district connection?** _____
  - **What is the total sewer capacity at time of application?** 132 GPD
  - **What is your anticipated average and maximum daily flow** 132 GPD

For Town of Carmel Town Engineer

- *What is the sewer capacity* TO be determined

- **Water Supply** Yes: ■ No: ☐

  If Yes:
  - **Does approval exist to connect to water main?** Yes: ☒ No: ☐
  - **What is the total water capacity at time of application?** 132 GPD
  - **What is your anticipated average and maximum daily demand** 132 GPD

- **Storm Sewer** Yes: ☐ No: ■
- **Electric Service** Yes: ☐ No: ☐
- **Gas Service** Yes: ☐ No: ☐
- **Telephone/Cable Lines** Yes: ☐ No: ☐

plus 20,790 gpd from proposed Townhomes = 20,922 GPD

For Town of Carmel Town Engineer

Water Flows ~~TO Be~~ Determined
Sewer Flows _____

_____
Town Engineer; Date

What is the predominant soil type(s) on the site? Woodbridge Loam	**What is the approximate depth to water table?** 3 feet

Site slope categories:	**15-25%** 0 %	**25-35%** 0 %	**>35%** 0 %
Estimated quantity of excavation:	**Cut (C.Y.)** _____	**Fill (C.Y.)** _____	
Is Blasting Proposed Yes: ☐	No: ☐	Unknown: ☐	
Is the site located in a designated Critical Environmental Area?		Yes: ☐	No: ☐

Does a curb cut exist on the site? Yes: ☒ No: ☐	**Are new curb cuts proposed?** Yes: ■ No: ☐	**What is the sight distance?** Left_____ Right _____

Is the site located within 500' of:

- **The boundary of an adjoining city, town or village** Yes: ☒ No: ☐
- **The boundary of a state or county park, recreation area or road right-of-way** Yes: ☒ No: ☐
- **A county drainage channel line.** Yes: ☐ No: ☒
- **The boundary of state or county owned land on which a building is located** Yes: ☐ No: ☒

TOWN OF CARMEL SITE PLAN APPLICATION

Is the site listed on the State or Federal Register of Historic Place (or substantially contiguous) **Yes: ☐ No: ☒**
Is the site located in a designated floodplain? **Yes: ☐ No: ☒**
Will the project require coverage under the Current NYSDEC Stormwater Regulations **Yes: ☐ No: ☒** **Will the project require coverage under the Current NYCDEP Stormwater Regulations** **Yes: ☐ No: ☒** **Does the site disturb more than 5,000 sq ft** **Yes: ☐ No: ☒** **Does the site disturb more than 1 acre** **Yes: ☐ No: ☒**
Does the site contain freshwater wetlands? **Yes: ☒ No: ☐** **Jurisdiction:** **NYSDEC: ☒ Town of Carmel: ☐** *If present, the wetlands must be delineated in the field by a Wetland Professional, and survey located on the Site Plan.* **Are encroachments in regulated wetlands or wetland buffers proposed? Yes: ☐ No: ☒**
Does this application require a referral to the Environmental Conservation Board? **Yes: ☐ No: ☒**
Does the site contain waterbodies, streams or watercourses? Yes: ☐ No: ☒ **Are any encroachments, crossings or alterations proposed? Yes: ☐ No: ☒**
Is the site located adjacent to New York City watershed lands? Yes: ☒ No: ☐
Is the project funded, partially or in total, by grants or loans from a public source? **Yes: ☐ No: ☒**
Will municipal or private solid waste disposal be utilized? **Public: ☐ Private: ☒**
Has this application been referred to the Fire Department? Yes: ☒ No: ☐
What is the estimated time of construction for the project? Spring 2022 - Fall 2023

ZONING COMPLIANCE INFORMATION

Zoning Provision	Required	Existing	Proposed
Lot Area	10 acres min.	323.05	327.23
Lot Coverage	30% max	<30%	NA
Lot Width	200'	>200'	>200'
Lot Depth	200'	>200'	>200'
Front Yard	100'	>100'	>100'
Side Yard	100'	NA	NA
Rear Yard	100'	NA	NA
Minimum Required Floor Area	NA	NA	NA
Floor Area Ratio	NA	NA	NA
Height	35'	NA	NA
Off-Street Parking	120	271 (to be removed)	NA
Off-Street Loading	NA	NA	NA

TOWN OF CARMEL SITE PLAN APPLICATION

Will variances be required? Yes: ☐ No: ■	if yes, identify variances:

PROPOSED BUILDING MATERIALS	
Foundation	Concrete block
Structural System	Wood frame
Roof	Asphalt shingle
Exterior Walls	Wood frame

APPLICANTS ACKNOWLEDGEMENT

I hereby depose and certify that all the above statements and information, and all statements and information contained in the supporting documents and drawings attached hereto are true and correct.

David Leibowits

Applicants Name

Applicants Signature

Sworn before me this 5th **day of** November **20**21

Caroline Balducci

Notary Public

CAROLINE BALDUCCI
Notary Public - State of New York
NO. 01BA6229755
Qualified in Putnam County
My Commission Expires 10/18/22

TOWN OF CARMEL

SITE PLAN COMPLETENSS CERTIFICATION FORM

All Site Plans submitted to the Planning Board for review shall include the following information and details, as set forth in Section 156-61 B of the Town of Carmel Zoning Ordinance.

This form shall be included with the site plan submission

	Requirement Data	To Be Completed by the Applicant	Waived by the Town
1	Name and title of person preparing the site plan	☒	☐
2	Name of the applicant and owner (if different from applicant)	☒	☐
3	Original drawing date, revision dates, scale and north arrow	☒	☐
4	Tax map, block and lot number(s), zoning district	☒	☐
5	All existing property lines, name of owner of each property within a 500' radius of the site	☒	☐
6	Contour lines at two-foot intervals, grades of all roads, driveways, sanitary and storm sewers	☒	☐
7	The location of all water bodies, streams, watercourses, wetland areas, wooded areas, rights-of-way, streets, roads, highways, railroads, buildings, structures	☒	☐
8	The location of all existing and proposed easements	☐	☐
9	The location of all existing and proposed structures, their use, setback dimensions, floor plans, front, side and rear elevations, buildable area.	☐	☐
10	On site circulation systems, access, egress ways and service roads, emergency service access and traffic mitigation measures	☒	☐
11	Sidewalks, paths and other means of pedestrian circulation	☒	☐
12	On-site parking and loading spaces and travel aisles with dimensions	☒	☐
13	The location, height and type of exterior lighting fixtures	☒	☐
14	Proposed signage	☐ NA	☐
15	For non-residential uses, an estimate of the number of employees who will be using the site, description of the operation, types of products sold, types of machinery and equipment used	☐ NA	☐

TOWN OF CARMEL

SITE PLAN COMPLETENSS CERTIFICATION FORM

	Requirement Data	To Be Completed by the Applicant	Waived by the Town
16	The location of clubhouses, swimming pools, open spaces, parks or other recreational areas, and identification of who is responsible for maintenance	☒	☐
17	The location and design of buffer areas, screening or other landscaping, including grading and water management. A comprehensive landscaping plan in accordance with the Tree Conservation Law	☒	☐
18	The location of public and private utilities, maintenance responsibilities, trash and garbage areas	☒	☐
19	A list, certified by the Town Assessor, of all property owners within 500 feet of the site boundary	☒ List provided for certification by Assessor	☐
20	Any other information required by the Planning Board which is reasonably necessary to ascertain compliance with this chapter	☒	☐

proof

Applicants Certification (to be completed by the licensed professional preparing the site plan:

I Christopher LaPorta, P.E. **hereby certify that the site plan to which I have attached my seal and signature, meets all of the requirements of §156-61B of the Town of Carmel Zoning Ordinance:**

STATE OF NEW YORK
CHRISTOPHER J. LAPORTA
102592
LICENSED PROFESSIONAL ENGINEER

Professionals Seal

Signature - Applicant
David Lebowits

11/08/21
Date

Signature - Owner
David Lebowits

11/08/21
Date

TOWN OF CARMEL

SITE PLAN COMPLETENSS CERTIFICATION FORM

Town Certification (to be completed by the Town)

I _____ hereby confirm that the site plan meets all of the requirements of §156-61B of the Town of Carmel Zoning Ordinance:

Rose Grombetta — 1/4/22

Signature - Planning Board Secretary — **Date**

Richard J. Hoffman — 1/4/2022

Signature - Town Engineer — **Date**

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 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Centennial Golf Club Townhomes		
Project Location (describe, and attach a general location map): 185 John Simpson Road ,Tax ID #44.2-2.1 and Tax ID # 44.2-4.2 (Town of Carmel); and 175 John Simpson Road, Tax ID # 44.1-1 (Town of Southeast)		
Brief Description of Proposed Action (include purpose or need): To construct a 63-unit townhome development with a clubhouse and pool for the residents at the southwest corner of John Simpson Road and Fair Street (Co. Rt. 40) on lands known as the Centennial Golf Club (CGC). CGC offers three 9-hole golf courses identified as the "Meadows", "Lakes" and "Fairways". Fairways is in the Town of Carmel, Meadows is in the Town of Southeast, and Lakes is located in both towns. The Project area is located at the northern tip of the Lakes and Meadows courses, north of the existing clubhouse and pavilion. The golf practice area and an underutilized 271-space surface parking lot will be eliminated to facilitate this Project. The townhomes will be constructed where the existing parking lot and a former pasture are located. The Project includes the realignment of driveways and installation of new private drives for the townhomes, new water and sewer lines, decommissioning/replacement of a pump station, on-site stormwater management, a partial demolition of a portion of the existing cart barn, new/realigned cart paths, reconfiguration of the Lakes and Meadows courses, and the installation of a new, modern 181-space surface parking area in the Town of Southeast for CGC guests. A lot line revision is proposed to create a 24 +/- acre parcels. New driveway access is proposed on Fair Street, one for ingress/egress, and two for emergency vehicle access only.		
Name of Applicant/Sponsor: Centennial Golf Properties and Toll Brothers	Telephone: 845-225-5700 E-Mail:	
Address: 185 John Simpson Road		
City/PO: Carmel	State: NY	Zip Code: 10512
Project Contact (if not same as sponsor; give name and title/role): Christopher LaPorta, P.E., Passero Associates	Telephone: 585-455-0157 E-Mail: claporta@passero.com	
Address: 19 Front Street		
City/PO: Newburgh	State: NY	Zip Code: 12550
Property Owner (if not same as sponsor): Centennial Golf Club	Telephone: 845-225-5700 E-Mail:	
Address: 185 John Simpson Road		
City/PO: Carmel	State: NY	Zip Code: 10512

B. Government Approvals

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

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustees ☑Yes ☐No	T/O Carmel TB (subdivision)	October 2021
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	T/O Carmel PB (Site Plan Mod/Lot Line Adj) T/O Southeast PB (Site Plan Mod)	October 2021
c. City, Town or Village Zoning Board of Appeals ☐Yes ☐No		
d. Other local agencies ☑Yes ☐No	T/O Carmel Water & Sewer; Environmental Conservation Board	October 2021
e. County agencies ☑Yes ☐No	Putnam County Highways&Facilities (right-of-way) Putnam County DOH (water and sewer)	October 2021
f. Regional agencies ☑Yes ☐No	NYCDEP	October 2021
g. State agencies ☑Yes ☐No	NYSDEC	October 2021
h. Federal agencies ☐Yes ☐No		

i. Coastal Resources.

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

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

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

C. Planning and Zoning

C.1. Planning and zoning actions.

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

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

C.2. Adopted land use plans.

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

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

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

If Yes, identify the plan(s):

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 adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
Town of Carmel (R Residential)
Town of Southeast (R-60, Residential R-60)

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

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

C.4. Existing community services.

a. In what school district is the project site located? Town of Carmel (Carmel Central School District) - 63 residential units
Town of Southeast (Brewster Central School District) - 181 space parking lot

b. What police or other public protection forces serve the project site?
Putnam County Sheriff's Department, Carmel Police Department

c. Which fire protection and emergency medical services serve the project site?
Carmel Fire Department, Carmel Volunteer Ambulance, Brewster Fire Department, Putnam County EMS

d. What parks serve the project site?
Edward Ryan Memorial 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 mixed, include all components)? Residential; Parking

b. a. Total acreage of the site of the proposed action? +/-24 acres
b. Total acreage to be physically disturbed? +/-19 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? +/-352 acres

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

d. Is the proposed action a subdivision, or does it include a subdivision? Lot line Adjustment ☑ Yes ☐ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
Residential (Townhomes)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☑ No
iii. Number of lots proposed? 63
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: 18 months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

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

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase	63			
At completion of all phases	63			

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

If Yes, 181-space surface parking lot in the Town of Southeast

i. Total number of structures _____

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

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

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

If Yes,

i. Purpose of the impoundment: on-site stormwater management areas

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

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

_____

iv. Approximate size of the proposed impoundment. Volume: 0.514 million gallons; surface area: 1.05 acres

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

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

_____

D.2. Project Operations

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

If Yes: Regrading and excavation will result in a balanced site.

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

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

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

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

_____

_____

iv. Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☐ No
If yes, describe. _____

_____

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

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

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

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

ix. Summarize site reclamation goals and plan: _____

_____

_____

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

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): State Wetland Adjacent Area (buffer) LC-26

_____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:
The golf practice areas and former pasture will be regraded to construct stormwater management areas, which will affects the State 100' wetland buffer. The area of disturbance in the 100-foot buffer is 2.01 acres. No other buffer areas or watercourses will be impacted.

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☑ No
If Yes, describe: _____

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

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____
- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

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

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

i. Total anticipated water usage/demand per day: 20,790 gallons/day

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

- Name of district or service area: Carmel Water District #2
- Does the existing public water supply have capacity to serve the proposal? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No
- Do existing lines serve the project site? ☑ Yes ☐ No

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

- Describe extensions or capacity expansions proposed to serve this project: _____
- Source(s) of supply for the district: _____

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

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

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

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

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

i. Total anticipated liquid waste generation per day: 20,790 gallons/day

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

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

- Name of wastewater treatment plant to be used: Carmel Sewer District #2 WWTP
- Name of district: Carmel Sewer District #2
- Does the existing wastewater treatment plant have capacity to serve the project? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No

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

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

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

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

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

_____

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

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

If Yes:

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

_____ Square feet or 2.0+/- acres (impervious surface) In T/O Carmel; 1.5 +/- acres in T/O Southeast

_____ Square feet or 361 acres (parcel size)

ii. Describe types of new point sources. Runoff conveyances to stormwater management areas

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

on-site stormwater management areas

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐ Yes ☑ No

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

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

If Yes, identify:

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

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

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

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

If Yes:

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

ii. In addition to emissions as calculated in the application, the project will generate:
- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

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

If Yes:

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

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

_____

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

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

_____

_____

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

See Exhibit A

If Yes:

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

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

181 spaces for golf course & 144 for residential

iii. Parking spaces: Existing 271 Proposed 325 Net increase/decrease +54

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

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

_____

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

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

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

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

If Yes:

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

_____

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

_____

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

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

i. During Construction:

- Monday - Friday: 7 am to 5 pm
- Saturday: _____
- Sunday: _____
- Holidays: _____

ii. During Operations:

- Monday - Friday: 24/7
- Saturday: 24/7
- Sunday: 24/7
- Holidays: 24/7

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

If yes:

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

Heavy equipment used for earthmoving, deliveries, backup beepers during construction

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

Describe: _____

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

If yes:

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

The townhouses will have exterior lighting on the dwellings; the new parking lot with have dark sky compliant lighting

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

Describe: _____

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

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

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

If Yes:

i. Product(s) to be stored _____

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

iii. Generally, describe the proposed storage facilities: _____

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

If Yes:

i. Describe proposed treatment(s):

_____

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

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

If Yes:

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

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

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

- Construction: _____
- Operation: _____

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

- Construction: _____
- Operation: _____

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

If Yes:

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

ii. Anticipated rate of disposal/processing:

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

iii. If landfill, anticipated site life: _____ years

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

If Yes:

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

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

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

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

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

If Yes: provide name and location of facility: _____

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

E. Site and Setting of Proposed Action

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

a. Existing land uses.

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

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

ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	2.92	4.77	+1.85
• Forested	10.75	7.39	-3.36
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	10.51	11.16	+0.65
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.19	1.05	+0.86
• Wetlands (freshwater or tidal)	6.79	6.79	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? ☑ Yes ☐ No

i. If Yes: explain: Public golf course

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

If Yes,

i. Identify Facilities:

Shining Star Daycare, 64 Duke Drive, Carmel Hamlet

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

If Yes:

i. Dimensions of the dam and impoundment:

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

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

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

If Yes:

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

- If yes, cite sources/documentation: _____

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

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

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

If Yes:

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

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

If Yes:

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

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

☐ Yes – Environmental Site Remediation database Provide DEC ID number(s): _____

☐ Neither database

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

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

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

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

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

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

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? >3 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:

Woodbridge Loam	32 %
Paxton Fine Sandy Loam	24 %
Ridgebury Complex	21 %

d. What is the average depth to the water table on the project site? Average: 3 feet

e. Drainage status of project site soils:
☑ Well Drained: 24 % of site
☑ Moderately Well Drained: 32 % of site
☑ Poorly Drained 21 % of site

See Exhibit B

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 97.7 % of site
☑ 10-15%: 2.3 % of site
☐ 15% or greater: _____% of site

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

h. Surface water features.

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

See Exhibit C for Wetland Maps

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

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i. See Exhibit D for Wetland Assessment in Town of Southeast

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

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

- Streams: Name 864-194 Classification C
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name Federal Waters, NYS Wetland, Federal Waters, Fe... Approximate Size NYS Wetland (in a...
- Wetland No. (if regulated by DEC) LC-26 32.9 acres

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

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

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

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

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

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

i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site:
Birds, squirrels, woodchucks, raccoons,

n. Does the project site contain a designated significant natural community? ☐ Yes ☑ No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation):
ii. Source(s) of description or evaluation:
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

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

If Yes:
i. Species and listing (endangered or threatened): See Exhibit E

Northern Long-eared Bat Populated by the EAFMapper. IPaC Report reveals NLEB is a threatened species, and the Indiana Bat and the Bog Turtle are endangered species

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

If Yes:
i. Species and listing:

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐ Yes ☑ No
If yes, give a brief description of how the proposed action may affect that use:

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

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

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☑ No
i. If Yes: acreage(s) on project site?
ii. Source(s) of soil rating(s):

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent:

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No
If Yes:
i. CEA name:
ii. Basis for designation:
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 Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☐ Yes ☑ No

If Yes:

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

ii. Name: _____

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

_____

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

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

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

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

If Yes:

i. Identify resource: _____

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

iii. Distance between project and resource: _____ miles.

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

If Yes:

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

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

F. Additional Information

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

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

G. Verification

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

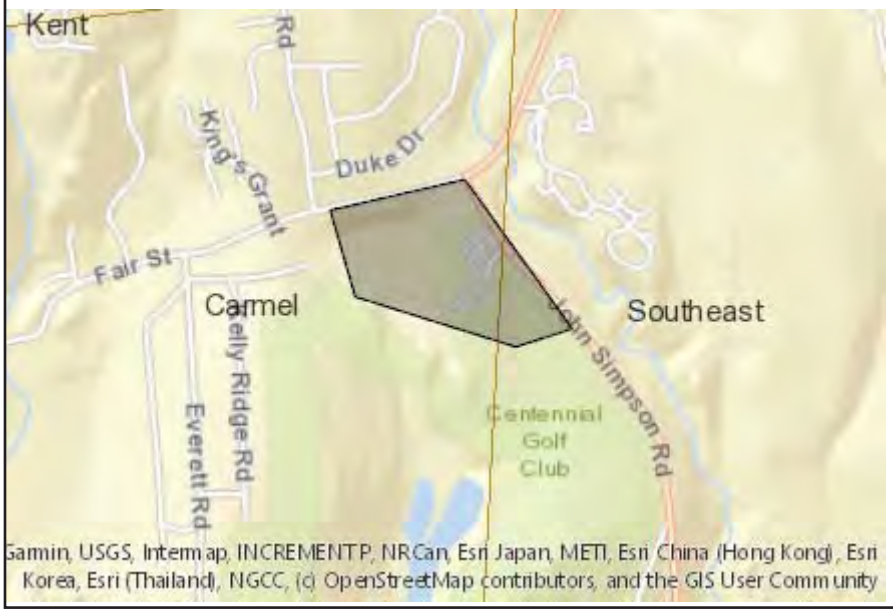
Applicant/Sponsor Name David Leibowits Date 11/8/2021

Signature _____ Title _____

PRINT FORM

EAF Mapper Summary Report

Thursday, June 10, 2021 10:59 AM



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

B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	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]	864-194
E.2.h.iv [Surface Water Features - Stream Classification]	C
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):32.9
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	LC-26

E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	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

EXHIBIT A

PASSERO ASSOCIATES
engineering architecture

November 8, 2021

Mr. Craig Paeprer, Chair
Planning Board
Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541

Re: Centennial Golf Properties and Toll Brothers
Centennial Townhomes
185 John Simpson Road (44.2-2.1) and John Simpson Road (44.2-4.2)
Traffic Generation Letter of Findings

Dear Chairperson Paeprer:

We have conducted an evaluation of the site generated vehicular traffic volumes associated with the proposed project and respectfully submit this Letter of Findings. The intent of this letter of findings is to assess the projected changes in vehicular traffic generated by the site from the existing conditions to the currently proposed development.

Existing Conditions

The existing use of the property is a 27-hole golf course and country club known as Centennial Golf Course. The golf course and country club has been categorized as ITE Land Use 430: Golf Course.

Proposed Conditions

The proposed project will retain the country club and 27 holes of the golf course and includes the construction of an additional 63 townhouse units which have been categorized as ITE Land Use 220: Multifamily Housing (Low-Rise).

Traffic Generation

For analysis purposes, the peak hours site generated traffic was estimated using trip generation rates published by the ITE as contained in their publication entitled “Trip Generation, 10th Edition”. The ITE trip generation manual uses statistical data collected nationwide to determine an appropriate amount of traffic generated during the peak hour for use in traffic analysis.

Shown in the table below, the resulting trip generation volumes were calculated for both the existing and proposed uses of the site.

TRIP GENERATION CALCULATION TABLE

ITE Trip Generation 10th Edition Manual Research Data:

Type of Land Use	ITE Code	Unit	Weekday Morning Peak			Weekday Evening Peak		
			Enter	Exit	Total	Enter	Exit	Total
27-Hole Golf Course and Country Club	430	27 Holes	Generation Rate = 1.76			Generation Rate = 2.91		
			79%	21%	100%	53%	47%	100%
			38	10	48	42	37	79
Total Existing Trips			**38**	**10**	**48**	**42**	**37**	**79**
27-Hole Golf Course and Country Club	430	27 Holes	Generation Rate = 1.76			Generation Rate = 2.91		
			79%	21%	100%	53%	47%	100%
			38	10	48	42	37	79
Multifamily Housing (Low-Rise)	220	63 Units	Generation Rate = 0.46			Generation Rate = 0.56		
			23%	77%	100%	63%	37%	100%
			7	22	29	23	13	36
Total Proposed Trips			**45**	**32**	**77**	**65**	**50**	**115**
Difference in Trips			**7**	**22**	**29**	**23**	**13**	**36**

* Trip generation rates are based on ITE Trip Generation Manual 10th Edition for trips generated during the anticipated morning and evening peak hours.

Based on the results from the trip generation calculations, it is estimated that the proposed development will generate roughly 29 more trips during the morning peak hour and 36 more trips during the evening peak hour.

The general industry practice for many municipalities is that an intersection should be analyzed for impact associated with a proposed development if 100 or more new trips are proposed through that intersection. Although the traffic patterns will likely be altered by the proposed development, we do not project that the proposed development will increase the traffic volumes by 100 or more vehicles during the peak hour at any specific intersection; therefore, it is our opinion that no further traffic impact analysis is required as a result of traffic that would be generated by the proposed development.

Please do not hesitate to call should you require additional information or have any questions.

Sincerely,

Christopher J LaPorta

Chris LaPorta, PE, CDT
Hudson Valley Office Manager

EXHIBIT B

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Putnam County, New York

June 10, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:4,030 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Putnam County, New York
Survey Area Data: Version 17, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Oct 5, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
NcA	Natchaug muck, 0 to 2 percent slopes	2.2	8.5%
PnB	Paxton fine sandy loam, 3 to 8 percent slopes	6.1	23.9%
RdB	Ridgebury complex, 3 to 8 percent slopes	5.2	20.6%
Sh	Sun loam	3.7	14.4%
W	Water	0.1	0.4%
WdB	Woodbridge loam, 3 to 8 percent slopes	7.6	29.9%
WdC	Woodbridge loam, 8 to 15 percent slopes	0.6	2.3%
Totals for Area of Interest		**25.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not

mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Putnam County, New York

NcA—Natchaug muck, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2w68z
Elevation: 0 to 1,550 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Natchaug and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Natchaug

Setting

Landform: Depressions, depressions, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Highly decomposed organic material over loamy glaciofluvial deposits and/or loamy glaciolacustrine deposits and/or loamy till

Typical profile

Oa1 - 0 to 12 inches: muck
Oa2 - 12 to 31 inches: muck
2Cg1 - 31 to 39 inches: silt loam
2Cg2 - 39 to 79 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.01 to 14.17 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 25 percent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Very high (about 17.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: F144AY042NY - Semi-Rich Organic Wetlands
Hydric soil rating: Yes

Minor Components

Catden

Percent of map unit: 8 percent
Landform: Depressions, depressions, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Limerick

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sun

Percent of map unit: 4 percent
Landform: Hills, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Halsey

Percent of map unit: 3 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

PnB—Paxton fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t2qp
Elevation: 0 to 1,570 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Paxton and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Hills, drumlins, ground moraines
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam
Bw1 - 8 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: fine sandy loam
Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 18 to 39 inches to densic material
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: C
Ecological site: F144AY007CT - Well Drained Dense Till Uplands
Hydric soil rating: No

Minor Components

Woodbridge

Percent of map unit: 9 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ridgebury

Percent of map unit: 6 percent
Landform: Hills, ground moraines, depressions, drainageways
Landform position (two-dimensional): Toeslope, backslope, footslope
Landform position (three-dimensional): Base slope, head slope, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Charlton

Percent of map unit: 5 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

RdB—Ridgebury complex, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2xfg2
Elevation: 10 to 1,180 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Ridgebury, loam, and similar soils: 50 percent
Ridgebury, somewhat poorly drained, and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury, Loam

Setting

Landform: Ground moraines, depressions, drumlins, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 6 inches: loam
Bw - 6 to 10 inches: gravelly fine sandy loam
Bg - 10 to 19 inches: gravelly fine sandy loam
Cd - 19 to 66 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 15 to 35 inches to densic material
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None

Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Ecological site: F144AY009CT - Wet Till Depressions
Hydric soil rating: Yes

Description of Ridgebury, Somewhat Poorly Drained

Setting

Landform: Drainageways, hills, ground moraines, depressions, drumlins
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 7 inches: loam
Bw - 7 to 13 inches: loam
Bg - 13 to 21 inches: fine sandy loam
Cd - 21 to 60 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 15 to 35 inches to densic material
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 10 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F144AY009CT - Wet Till Depressions
Hydric soil rating: No

Minor Components

Woodbridge, loam

Percent of map unit: 5 percent
Landform: Ground moraines, drumlins, hills
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex

Across-slope shape: Linear
Hydric soil rating: No

Sun, very poorly drained
Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Leicester, loam
Percent of map unit: 3 percent
Landform: Drainageways, hills, depressions, ground moraines
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave
Hydric soil rating: Yes

Paxton
Percent of map unit: 2 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

Sh—Sun loam

Map Unit Setting
National map unit symbol: 9v04
Elevation: 600 to 1,800 feet
Mean annual precipitation: 46 to 50 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 115 to 215 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Sun and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sun

Setting
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave

Across-slope shape: Concave
Parent material: Loamy till derived primarily from limestone and sandstone, with a component of schist, shale, or granitic rocks in some areas

Typical profile
H1 - 0 to 9 inches: loam
H2 - 9 to 27 inches: loam
H3 - 27 to 60 inches: gravelly fine sandy loam

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Available water capacity: Moderate (about 6.7 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F144AY039NY - Semi-Rich Wet Till Depressions
Hydric soil rating: Yes

Minor Components

Ridgebury
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Leicester
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Palms
Percent of map unit: 3 percent
Landform: Swamps, marshes
Hydric soil rating: Yes

Sun, stony
Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

W—Water

Map Unit Setting

National map unit symbol: 9v0r
Mean annual precipitation: 46 to 50 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 115 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

WdB—Woodbridge loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w688
Elevation: 0 to 1,280 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Woodbridge, loam, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Loam

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 6 inches: loam
Bw1 - 6 to 18 inches: gravelly loam
Bw2 - 18 to 29 inches: gravelly loam
Cd - 29 to 65 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: F144AY037MA - Moist Dense Till Uplands
Hydric soil rating: No

Minor Components

Ridgebury

Percent of map unit: 7 percent
Landform: Drumlins, drainageways, hills, ground moraines, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Paxton

Percent of map unit: 7 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Shoulder, summit, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Sutton

Percent of map unit: 1 percent
Landform: Hills, ground moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

WdC—Woodbridge loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w68p

Elevation: 10 to 1,000 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Woodbridge, loam, and similar soils: 82 percent
Minor components: 18 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Loam

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 6 inches: loam
Bw1 - 6 to 18 inches: gravelly loam
Bw2 - 18 to 29 inches: gravelly loam
Cd - 29 to 65 inches: gravelly loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C/D
Ecological site: F144AY037MA - Moist Dense Till Uplands
Hydric soil rating: No

Minor Components

Paxton

Percent of map unit: 8 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex

Hydric soil rating: No

Ridgebury

Percent of map unit: 7 percent
Landform: Ground moraines, depressions, drumlins, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sutton

Percent of map unit: 2 percent
Landform: Hills, ground moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Urban land

Percent of map unit: 1 percent
Hydric soil rating: Unranked

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EXHIBIT C

U.S. Fish and Wildlife Service

National Wetlands Inventory

Centennial Golf Club

June 11, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

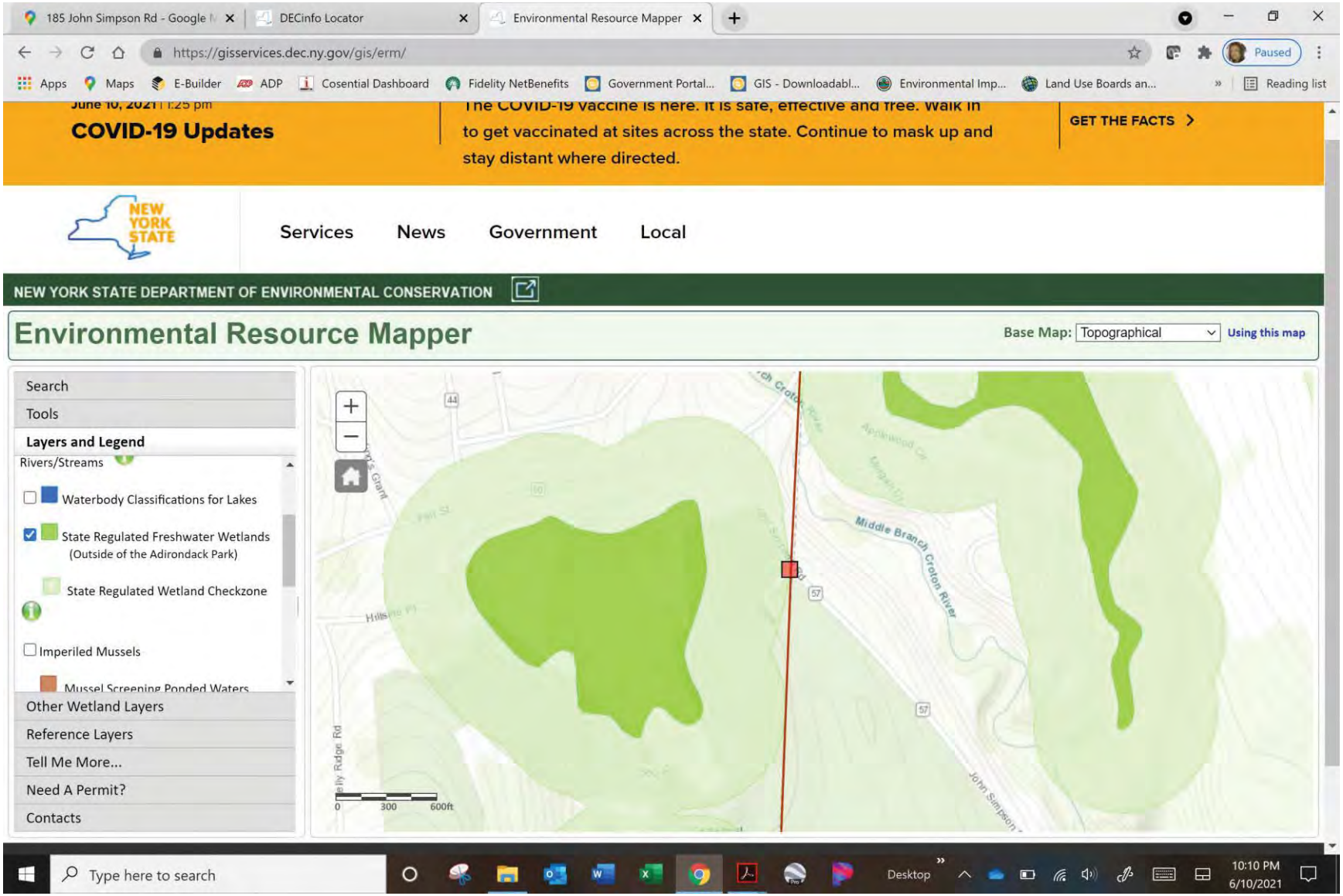

185 John Simpson Rd - Google
DECinfo Locator
Environmental Resource Mapper
https://gisservices.dec.ny.gov/gis/erm/
Paused
Apps
Maps
E-Builder
ADP
Cosential Dashboard
Fidelity NetBenefits
Government Portal...
GIS - Downloadabl...
Environmental Imp...
Land Use Boards an...
Reading list
June 10, 2021 1:25 pm
COVID-19 Updates
The COVID-19 vaccine is here. It is safe, effective and free. Walk in to get vaccinated at sites across the state. Continue to mask up and stay distant where directed.
GET THE FACTS
NEW YORK STATE
Services
News
Government
Local
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Environmental Resource Mapper
Base Map: Topographical
Using this map
Search
Tools
Layers and Legend
Rivers/Streams
Waterbody Classifications for Lakes
State Regulated Freshwater Wetlands (Outside of the Adirondack Park)
State Regulated Wetland Checkzone
Imperiled Mussels
Mussel Screening Ponded Waters
Other Wetland Layers
Reference Layers
Tell Me More...
Need A Permit?
Contacts
Middle Branch Croton River
John Simpson
0
300
600ft
Type here to search
Desktop
10:10 PM
6/10/2021

EXHIBIT D

Ecological Solutions, LLC

121 Leon Stocker Drive
Stratton, VT 05360
Phone (203) 910-4716
ecolsol@aol.com

June 17, 2021

David Leibowits
c/o Centennial Golf
185 John Simpson Road
Carmel, NY 10512

Re: Wetland Assessment
Centennial Golf Course Site
Town of Southeast, Putnam County, New York

Dear David:

Ecological Solutions, LLC completed a wetland assessment on June 16, 2021 at the Centennial Golf Course Site in the Town of Southeast, Putnam County, New York (*Figure 1*). The assessment was completed in accordance with the Army Corps of Engineers (USACE) Wetlands Delineation Manual (January 1987), Routine Determination Method and Northcentral/Northeast supplement and Town of Southeast Code Chapter 78 Freshwater Wetlands. There is no New York State Department of Environmental Conservation (NYSDEC) regulated wetland at this location (*Figure 2*).

The site was assessed for Federal and Town wetlands based upon the identification of the three mandatory criteria for wetland determination as outlined in the 1987 Federal Manual and supplement: dominant hydrophytic vegetation, hydric soils, and evidence of wetland hydrology. The Routine Methodology procedure for wetland determination was used. Transects consisting of at several sample points were walked. Dominant vegetation around each sample point was identified and its percent cover quantified. The areas were checked in detail for the presence of wetland hydrologic indicators and hydric soils.

The detailed field investigation included:

1. Identification of vegetation species to determine whether there was a dominance of hydrophytic plants and areas containing transitional but primarily wetland-oriented species.

2. Determination of soil features for hydric (poorly and very poorly drained) natural soils.

3. Observation of site features displaying evidence of wetland hydrology based on the presence of inundated areas, apparent high seasonal water tables, and evidence of saturation within 12 inches of the surface (considered the root zone) during sufficient periods during the growing season to provide for anaerobic/hydric soil conditions.

Based on observed field conditions there is no federal or Town wetland located on the site. The site contains a farm pond closest to the entrance drive which is artificially filled by a well. There is a standpipe overflow which goes to the next man made pond and that pond also has a standpipe overflow which then goes into an irrigation pond. All are kept artificially full with well water. The ponds do not have surface discharge to wetlands off the site and if the well is turned off the ponds will be dry.

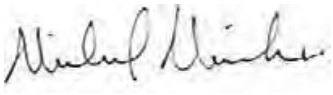
The Town of Southeast Code identifies a Watercourse as follows:

Watercourse shall include the following:
A. Rivers, streams, brooks and waterways which are delineated on the current edition of the U.S. Department of Interior, Geological Survey, 7.5 Minute Series (topographic maps covering the Town of Southeast);
B. Any other streams, brooks and waterways containing running water more than six months a year; and
C. Lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, which are fed by or have surface discharge to another wetland or watercourse.

It is my opinion that the man made ponds with artificial hydrology are not regulated by the USACE or Town.

If you need any additional information, please contact me.

Sincerely,
ECOLOGICAL SOLUTIONS, LLC



Michael Nowicki
Biologist

Figure 1 Location Map

EXHIBIT E

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

IPaC Record Locator: 148-102918843 June 10, 2021

Subject: Consistency letter for the 'Centennial Golf Club' project indicating that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Dear Zina Lagonegro:

The U.S. Fish and Wildlife Service (Service) received on June 10, 2021 your effects determination for the 'Centennial Golf Club' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause "take"[1] of the northern long-eared bat that is prohibited under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Please report to our office any changes to the information about the Action that you entered into IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation.

If your Action proceeds as described and no additional information about the Action's effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

The IPaC-assisted determination for the northern long-eared bat **does not** apply to the following ESA-protected species that also may occur in your Action area:

- Bog Turtle *Clemmys muhlenbergii* Threatened
- Indiana Bat *Myotis sodalis* Endangered

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species listed above.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Centennial Golf Club

2. Description

The following description was provided for the project 'Centennial Golf Club':

> To redevelop a 9-hole golf course and surface parking lot as a 52-unit townhouse development with a clubhouse and pool.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.4317112,-73.65595842348483,14z

Determination Key Result

This non-Federal Action may affect the northern long-eared bat; however, any take of this species that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o).

Determination Key Description: Northern Long-eared Bat 4(d) Rule
This key was last updated in IPaC on **May 15, 2017**. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for non-Federal actions is to assist determinations as to whether proposed actions are excepted from take prohibitions under the northern long-eared bat 4(d) rule.

If a non-Federal action may cause prohibited take of northern long-eared bats or other ESA-listed animal species, we recommend that you coordinate with the Service.

Determination Key Result

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   No

2. Will your activity purposefully **Take** northern long-eared bats?

   No

3. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

4. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

5. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

6. Will the action involve Tree Removal?

   Yes

7. Will the action only remove hazardous trees for the protection of human life or property?

   Yes

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To: June 10, 2021
Consultation Code: 05E1NY00-2021-SLI-2987
Event Code: 05E1NY00-2021-E-09310
Project Name: Centennial Golf Club

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Services wind

energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

Project Summary

Consultation Code: 05E1NY00-2021-SLI-2987
Event Code: 05E1NY00-2021-E-09310
Project Name: Centennial Golf Club
Project Type: Guidance
Project Description: To redevelop a 9-hole golf course and surface parking lot as a 52-unit townhouse development with a clubhouse and pool.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.4317112,-73.65595842348483,14z

Counties: Putnam County, New York

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Reptiles

NAME	STATUS
Bog Turtle *Clemmys muhlenbergii* Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6962	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

October 18, 2021

Centennial Golf Club, Carmel, NY

Fiscal Analysis for Proposed Residential Development

Storrs Associates

Executive Summary

The ownership of the Centennial Golf Club in the Town of Carmel, Putnam County, NY, proposes to create a 63-unit condominium community on a portion of its existing 27-hole golf course. The new community responds to demand for well located, high-quality residences for households who choose to own, but prefer the convenience and amenities of a condominium to maintaining a detached, single-family home. Only 3% of housing in Carmel meets this demand.

Centennial Golf Club offers players a clubhouse and grill room, instruction, and special events on a 340-acre layout of three nine-hole sets. The size and configuration of the course enables a portion of the property to be developed as housing while maintaining the benefits of the course for players.

The property is situated in both the Town of Carmel and the Town of Southeast. The majority of the golf facility will remain in the Town of Southeast, and the residential community will be built on land in the Town of Carmel.

Purpose of this Analysis

Storrs Associates, LLC was engaged by Centennial Golf Club to provide an objective, third-party estimate of certain fiscal impacts of the proposed development on the Town of Carmel and, to a lesser extent, on the Town of Southeast. The Town of Carmel, where the housing will be built, is estimated to attract 167 new residents, who will need general municipal services and enroll children in the Carmel Central School District.

Municipalities frequently ask developers of a new residential community to provide estimates showing the balance of new real property taxes with the incremental cost of services to new residents. Because the proposed homes at Centennial Golf Club will be condominiums, where the household owns the unit but not the land underneath, the assessed value and therefore the real property tax is likely to be lower than for a similarly-sized single family home. Understanding the degree to which the "reduced" taxes cover the costs of incremental services is therefore important for evaluating the proposed project.

Results

The Project produces surplus revenue compared with the cost of new services.

- ✓ $845,998 increase in annual tax revenue, including $621,480 to the Carmel Central School District and $115,796 to the Town of Carmel.
- ✓ Surplus taxes for Carmel schools: new taxes support 29 students, but only 13 are expected to enroll.
- ✓ Surplus of new revenue over incremental costs of Town of Carmel services: $227 per resident for 167 residents.

ANALYSIS

The analysis for the Centennial Golf Club development (Project) includes the following components:

- Residential Unit Mix and New Household Composition
- Estimated New Taxes and Comparison
- Estimated Cost of Services to New Households
- Effects on Town of Southeast

RESIDENTIAL UNIT MIX AND NEW HOUSEHOLD COMPOSITION

This analysis estimates the number and type of households expected to move into the Project, which will then be used to identify the need for additional municipal services.

It is anticipated that most households will come from either other parts of Putnam County or, more frequently, from Westchester County, and a majority are expected to be "empty nesters" or households downsizing from single-family homes. The configuration and cost of the units significantly affects the households they will attract, and therefore the demand for services, especially for public education.

SERVICE DEMAND FACTOR 1: INCOME & ORIGIN

The Project proposes 63 units, each with three bedrooms, including a master suite. Base prices are anticipated to be $699,000 for a first-floor master suite and $599,000 for a second-floor master suite. Optional upgrades are anticipated to be an additional $50,000 per unit.

Table 1, below, shows unit configuration, anticipated sale price, and estimated assessed value, along with estimated yearly costs to own the unit and pay Homeowners' Association, or HOA, fees.

It is estimated that households must earn at least $150,000 annually to be able to afford to purchase a unit and pay ongoing ownership costs. $150,000 is the lower threshold of a US Census income bracket and is used to segment the potential market by income. Median income is $104,486 for Putnam County and $96,610 in Westchester.

Table 1: Unit Configuration and Cost, and Household Income Needed to Purchase and Own

Unit Type	Number of Units	Anticipated Base Price per Home	Anticipated Upgrades per Home	Estimated Assessed Value at 65% (2)	Estimated Annual Mortgage Cost (1)	Estimated Annual Taxes	Annual Mortgage and Taxes	Estimated HOA Fees, Annual	Required Income (3)
First Floor Master BR	12	$699,000	$50,000	$486,850	$34,104	$17,289	$51,393	$4,800	$187,311
Second Floor Master BR	51	$599,000	$50,000	$421,850	$29,551	$14,981	$44,532	$4,800	$164,439
	63								

Results

Units can be anticipated to attract households earning $150,000 to $199,999 and $200,000 or more

(1) Assumes 10% owner equity, 30-year term, 3% interest, no PMI.

(2) Condominiums are assessed at a discount to market value; 65% estimate is from an informal conversation with the Town of Carmel Assessor.

(3) Income required for no more than 30% to be spent on mortgage, HOA fees, and taxes.

Sources: Centennial Golf Club, Toll Brothers, Town Assessor. Mortgage and tax calculations by Storrs Associates.

As shown in Table 2a, 116,822 households earn at least $150,000. Subtracting the number already in Carmel (3,655) provides an estimate of households that would potentially move into the town from outside. Households originating outside of Carmel increase the demand for local services.

Given the high number of households outside of Carmel, 96.7% of units are expected to be demanded by residents new to the town. 60 of the 63 units are likely to be occupied by these new households.

Allocating municipal services on a per-capita basis is a standard method of determining the incremental cost of new residents. Table 2b reviews the housing occupancy patterns of the study area, and calculates an average household size of 2.77 persons[1]. This predicts 167 residents, rounded down to the nearest person.

With 60 of the units purchased by households new to Carmel, the increase in residents as a result of the Project is expected to be 167, or 2.77 x 60, rounded up to the nearest person.

Table 2a: Demand for Units at Required Income Level in Putnam and Westchester Counties

Income Range	Households	Less: Carmel Households	Potential New Households	Potential New Households, %	Potential Relocations within Carmel
$150,000 to $199,999	43,529	1,743	41,786	96.0%	4.0%
$200,000 or more	73,293	1,912	71,381	97.4%	2.6%
	116,822	3,655	113,167		

Results

Average potential new households as a percent of available units	96.7%
Estimated number of new households (not relocating in Carmel)	60

Sources: American Community Survey.

Table 2b: Regional Housing Owenership and Household Size

	Carmel		Putnam County		Westchester County	
Ownership Type	% of Units	Household Size	% of Units	Household Size	% of Units	Household Size
Owner Occupied	80.30%	2.99	79.20%	2.90	61.40%	2.80
Renter Occupied	19.70%	2.06	20.80%	2.35	38.60%	2.54
Weighted Average		2.81		2.79		2.70

Results

Household size anticipated for units is 2.77 Persons

With 63 Units, 174 persons are expected

Based on Table 2a, 60 units, and 167 persons, are expected to be new to the Town of Carmel

Sources: American Community Survey.

[1] A weighted average is calculated because owner occupied units are significantly more common and therefore these occupancy patterns are assumed to have a stronger effect on the Project.

Service Demand Factor 2: School Aged Children

The number of school aged children is determined by the number of new households that meet the income requirements and have children in school. Multiplying the two demographic factors estimates that 4.88% of households meet both requirements[2].

The next step is to calculate a demand ratio for each unit based on the relative number of households with and without school-aged children. For each of the 63 units, approximately 6.4 households without children will seek to purchase for each household with children. This is rounded up to 9 units with school aged children.

The demand ratio of 6.4 to1 predicts that 54 of the units will be purchased by households without school-aged children, and only 9 by those with children. The US average number of children per household is 0.86[3], and rounded up this predicts 13 school-aged children in the Project.

For comparison, a 9-unit single-family detached project with the exact same configuration and cost would be estimated to add 1 child. Four or more bedrooms, which are a more likely configuration, would attract larger families.

Table 2c: Demand for Units by Households with School Aged Children

	Percent	Number
Total Households in Region	100%	384,146
A = All Households Earning at least $150,000 per Year	31.40%	120,622
B = All Households with School Aged Children	15.55%	59,735
C = A x B = Percent with Schoolchildren and Affording Units	4.88%	18,746
Demand Ratio: Units without Children per Unit with Children		6.4
U.S. Average Number of Children per Household	0.86	
Results: Number of Units with and without School Aged Children		
Number of Units Demanded by Households with Children (rounded)		9
Number of Units Demanded by Households w/o Children (rounded)		54
School Aged Children at 1 per Household with Children (rounded)		9

Sources: American Community Survey, US Census Historical Household Tables

[2] Assumes that households at all income levels are equally likely to have school-aged children.

[3] US Census historical tables. The Census does not report children per household for states or local municipalities.

Four supplemental tables were created to provide context about housing type, price to purchase, and age.

- Households seeking communities with 3-4 units per building are underserved. Carmel and Putnam County housing is more than 84% single-family. Units similar to those proposed for the Centennial Golf Club are currently only 3-4% of total housing, and 8% in Westchester. (2d)
- 3-4 bedroom units are in demand, and comprise a majority of Carmel and Putnam County housing stock, indicating strong demand. (2e)
- Units at Centennial Golf Club are estimated to have base prices of $599,000 and $699,000, plus approximately $50,000 in upgrades per home. This is near the upper range for the region and above the medians. (2f)
- Regional housing stock is aging. Only 22% of Carmel housing was built since 1990. 180 units new units in Carmel, and 626 in Putnam County, were reported between 2015 and 2019. This averages 125 per year countywide. 63 new units from the Project is a significant addition. (2g)

Supplemental tables 2f and 2g are on the next page.

Table 2d: Supplemental Data: Single Family and Multifamily Units by Size

	Carmel		Putnam County		Westchester County	
Total housing units	12,930		38,711		374,923	
Single Family	9,700	75%	29,254	76%	164,836	44%
Single Family Attached	959	7%	3,043	8%	21,560	6%
Mobile home	159	1%	573	1%	602	0%
Total Single Family	10,818	84%	32,870	85%	186,998	50%
2 units	439	3%	1,387	4%	31,680	8%
3 or 4 units	395	3%	1,683	4%	30,776	8%
5 to 9 units	356	3%	438	1%	19,663	5%
10 to 19 units	389	3%	860	2%	16,328	4%
20 or more units	533	4%	1,473	4%	89,389	24%
Total Multifamily	2,112	16%	5,841	15%	187,836	50%

Sources: American Community Survey.

Table 2e: Supplemental Data: Housing Units by Bedroom Count

	Carmel		Putnam County		Westchester County	
Total Housing Units	12,930		38,711		374,923	
No Bedroom	180	1%	571	1%	16,025	4%
1 bedroom	1,161	9%	4,245	11%	71,316	19%
2 bedrooms	2,620	20%	9,798	25%	93,481	25%
3 bedrooms	5,434	42%	15,454	40%	103,441	28%
4 bedrooms	2,816	22%	7,202	19%	62,151	17%
5 or more bedrooms	719	6%	1,441	4%	28,509	8%
Total: 3-4 bedrooms	8,250	64%	22,656	59%	165,592	44%

Sources: American Community Survey.

Supplemental tables continued:

Table 2f: Supplemental Data: Owner-Occupied Housing Unit Values

	Carmel		Putnam County		Westchester County	
Owner-Occupied Prices	9,717		27,311		214,474	
Less than $50,000	156	2%	288	1%	2,514	1%
$50,000 to $99,999	62	1%	169	1%	4,588	2%
$100,000 to $149,999	156	2%	928	3%	7,663	4%
$150,000 to $199,999	254	3%	962	4%	8,241	4%
$200,000 to $299,999	1,602	16%	6,580	24%	17,460	8%
$300,000 to $499,999	5,281	54%	12,254	45%	57,380	27%
$500,000 to $999,999	2,119	22%	5,595	20%	85,562	40%
$1,000,000 or more	87	1%	535	2%	31,066	14%
Median (dollars)	$379,300	100%	$362,700	100%	$540,600	100%

Sources: American Community Survey.

Table 2g: Supplemental Data: Year Built for All Housing Units

	Carmel		Putnam County		Westchester County	
Year Built	12,930		38,711		374,923	
2015 and Later	180	1%	626	2%	3,057	1%
1990 - 2014	2,710	21%	6,866	18%	42,412	11%
1960 - 1989	5,902	46%	14,164	37%	115,305	31%
Before 1960	4,138	32%	17,055	44%	214,149	57%

Sources: American Community Survey.

Estimated New Taxes and Comparison

Real Property Tax Effects

Condominium communities in the Town of Carmel, and many other taxing jurisdictions nationwide, are assigned an assessed value that reflects the fact that unit owners do not also own the underlying land, as they do with a single-family home or other fee simple arrangements. Units in the Project would therefore be assessed for tax purposes at a lower value. With 63 selling at the prices estimated in Table 1, anticipated market value is $42,087,000.

Based on historical information and a sampling of condominium sale and assessed values from the town's tax rolls, this analysis conservatively assumes that each unit would be assessed by adjusting the sale value by a "condo valuation factor" of 0.65, with the units assessed at 65% of market value, or $27,356,550.

As shown in Table 3a, even with the condo valuation factor, the Project adds $23,823,050 to the value of the parcels in Carmel, a 674% increase in value over current use.

Table 3b calculates the Project's tax revenue contribution to each jurisdiction, including library, ambulance, and fire. This estimate assumes the Project is taxed at 2021 rates, to simplify the presentation.

The increase in assessement results in an annual increase of $845,998 in tax revenue, compared with maintaining the current use of the parcels. Over a period of ten years, this adds $8,459,976 in new tax revenue.

The chart on the next page illustrates the increase.

Table 3a: Real Estate Value Increase in Carmel

	Current Use	After Project
Market Value	$3,533,500	$42,087,000
Condo "Valuation Factor"	n/a	0.65
Taxable (Assessed) Value	$3,533,500	$27,356,550
Increase in Value		$23,823,050
Percent Increase		674%

Sources: Market Value from Centennial Golf Club, Condo factor from informal conversation with Assessor

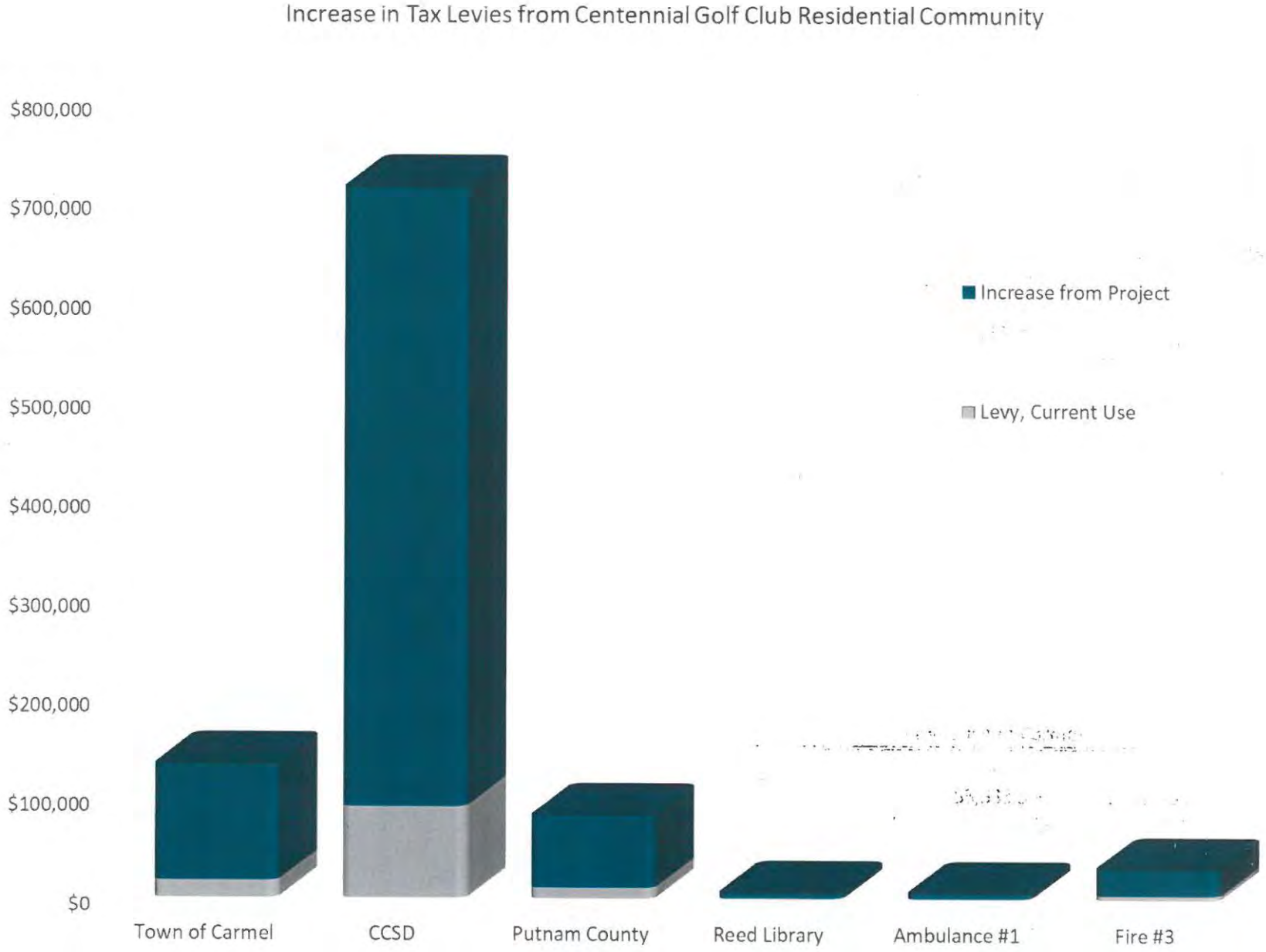
Table 3b: Levy Increase with Project, Using 2021 Tax Rates

	Current Rate per $1,000	Levy, Current Use	Levy, after Project	Increase from Project
Town of Carmel	4.8607	$17,175	$132,971	$115,796
CCSD	26.0873	92,180	713,660	621,480
Putnam County	3.0297	10,706	82,883	72,178
Reed Library	0.2189	773	5,987	5,214
Ambulance #1	0.2002	707	5,477	4,770
Fire #3	1.1149	3,939	30,500	26,560
Total	35.5117	$125,481	$971,478	$845,998

Sources: Table 4a, "Putnam County 2021 Tax Rates" at Putnamcountyny.gov

Sales Tax Effects

Putnam County collects sales and use taxes but has no agreement to share receipts with any municipalities. Sales taxes collected by new resident spending are therefore not included as a fiscal benefit to the Town of Carmel.


Increase in Tax Levies from Centennial Golf Club Residential Community
$800,000
$700,000
$600,000
$500,000
$400,000
$300,000
$200,000
$100,000
$0
Increase from Project
Levy, Current Use
Town of Carmel
CCSD
Putnam County
Reed Library
Ambulance #1
Fire #3

Estimated Cost of Services to New Households

The incremental costs of services are divided into two categories: public school spending per child attending, and general municipal spending, which includes town staff, public safety, resident services, and the highway fund. Special district services are not included.

School District Costs per Student and Tax Surplus

A standard, conservative calculation of the cost of new students is to distribute the annual school budget over the number of students enrolled. School districts in New York receive other funds than local real property tax payments. To estimate the effect of new students on the school district, the Tax Levy, as reported to the state by each district, is divided by enrollment.

Carmel Central School District (CCSD) has experienced declining enrollment at least since the 2017-2018 school year, while the total budget and often the tax levy increased each year. In 2021, town residents twice voted down the proposed 2021-2022 budget, and CCSD announced it will adopt a contingency budget.

Because of the complex interaction of enrollment, budget, and levy changes, the estimated incremental costs of new students assumes they will enroll for the 2021-2022 school year.

The Residential Unit Mix and Household Composition analysis predicts 13 school-aged children in the Centennial Golf Club residences, all new to CCSD.

The result, in Table 4a, is $25,063 to be raised by the tax levy for each student. Table 4b shows the Project would produce surplus taxes for the 2021-2022 school year. New taxes are enough to pay for the anticipated 13 new students, plus an additional 16 students.

Results:

$400,564 annual surplus tax revenue, $4,005,640 over ten years[4].

13 students from the Project plus 16 additional students supported by new school tax revenue.

Table 4a: Estimated Carmel Central School District Costs and Tax Levy per Student

	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Total Budget	$123,115,443	$125,596,489	$127,657,650	$130,541,386	$131,916,386
Tax Levy	91,918,443	93,674,489	96,095,650	98,594,386	97,468,276
Current Students	4,182	4,115	4,052	4,027	3,876
Students from Project	-	-	-	-	13
Total Students	4,182	4,115	4,052	4,027	3,889
Levy per Student	$21,980	$22,764	$23,716	$24,483	$25,063

Sources: Carmel Central School District Property Tax Report Cards, 2018 through 2021, and 2021-2022 contingency budget.

Table 4b: Incremental Effect of Project on School District

Levy per Student, 2021-2022	$25,063
New Students from Project	13
New Student Costs from Project	325,813
New Taxes to CCSD from Project	726,377
2021-2022 Surplus to CCSD	$400,564

[4] Assumes no changes in levy or assessments.

Municipal Costs per Capita and Tax Surplus

Table 5 calculates the total and incremental costs of providing town municipal services to residents. This analysis is solely for the Town of Carmel General Fund and does not include library, ambulance, or fire district incremental costs. As shown in Table 3b, above, each of these special districts does gain new revenue as a result of the Project.

Table 5 calculates municipal costs and cost per capita as follows:

1. Report the 2021 Town of Carmel tax levy
2. Report the number of parcels and calculate the percent of taxable parcels that are residential: 84%
3. Report the total assessed value with the increased value from the Project and calculate the percent of value attributable to residential properties: 76%
4. Average 84% and 76% and assume the share of town share of expenditures attributable to residents is 80%, or $19,493,597 (Measure A)
5. Report the number of residents in 2019, and decrease it by the average annual decline since 2010 to estimate 2021 residents. Add 167 new residents from the Project to determine the number of residents. (Measure B)
6. Calculate the cost of municipal services per resident by dividing residential costs by estimated residents: Measure A ÷ Measure B = $569 municipal cost per resident.
7. Calculate the surplus for the town by subtracting incremental costs (167 residents x $569 costs) from town tax revenue reported in Table 4b.

Result: $37,902 annual surplus, equal to $227 per new resident and $379,020 over ten years.

Table 5: Municipal Costs per Household and New Town Revenue

2021 Town of Carmel Tax Levy	$24,405,122
Taxable Parcels	
Total Parcels, Including 51 for New Units	13,053
Residential Parcels, Including 51 for New Units	10,925
Residential Parcel Percentage	84%
Assessed Value	
Total Assessed Value	$5,037,096,246
Residential Parcel Assessed Value	$3,836,558,332
Residential Value Percentage	76%
Municipal Costs Attributed to Residents, Based on Parcel Count and Value	
Estimated Share of Residential-Associated Expenditures	80%
A = Estimated Municipal Residential-Associated Expenditures	$19,493,597
Distribution of Costs over Current and Estimated Carmel Residents	
2019 Residents	*34,106*
Estimated 2021 Residents, 0.04% Annual Decline	34,076
New Residents from Project	167
B = Estimated 2021 Residents, Total	34,243
A ÷ B = Municipal Cost per Resident	$569
Town Tax Revenue from Project	$132,971
Incremental Town Costs for Residents	$95,069
Surplus/(Gap) of New Revenue from the Project	$37,902
Town Tax Revenue per New Resident	$796
Excess or Gap of New Revenue over Costs per Resident	$227

Sources: American Community Survey, NYS Comptroller, Putnam County

Effects on the Town of Southeast

The Centennial Golf Club has a footprint in the Town of Carmel and the Town of Southeast, both in Putnam County. As noted above, the residential development will be solely in the Town of Carmel.

The Town of Southeast parcels include 16 holes for golf, with an additional two holes still in the Town of Carmel. Together, the 18 holes comprise a full course, plus the clubhouse, golf shop, event space, and Grille Room restaurant. This facility is expected to serve the same or an increased number of golfers, shoppers, and diners after completion of the residential project, and realize continuing revenue from these operations.

The Project will include a 181-space surface parking lot in the Town of Southeast. Surface parking is not expected to have a measurable fiscal impact on the Town of Southeast.

The Centennial Golf Club pays taxes to the Town of Southeast, the Brewster Central School District, and special districts as a commercial enterprise, and its assessment for real property taxes is therefore based on the net income of the facility. The Project is not expected to alter the real property taxes payable to the Town of Southeast.

About Storrs Associates

Storrs Associates, LLC is a partner and advisor to public and private entities seeking to encourage economic growth and to make direct public and private investments. We deliver client-driven, high quality advice, customized analyses and reports, public speaking and learning sessions, and transaction management. Victoria Storrs, the company President, founded the firm in 2021 to provide direct, responsive service to municipal governments and the public and private organizations who work with and for them. She has worked with municipal governments for more than 20 years, beginning as an investment banker at First Albany Corporation and managing debt financings for state public authorities. She taught money and capital markets at the State University of New York at Albany School of Business, and has been a development finance and economic development consultant for more than seven years, including five years at Camoin Associates of Saratoga Springs, NY, where she became the firm's first Development Finance Practice Leader.

Storrs Associates, LLC is located in Albany County, NY, and serves clients throughout New York and the Northeast. Learn more at www.storrsassociates.com and on LinkedIn.

This report was prepared by Victoria Storrs, President and Founder.

Vstorrs@storrsassociates.com

(518) 512-9537

Terms of Use

This report was created for the Centennial Golf Club of Carmel, New York, for its sole and exclusive use, which includes sharing with the Town of Carmel and the Town of Southeast and related approving bodies to assist in review and approval of the proposed Project, and publication by the Town of Carmel and the Town of Southeast in connection with that review.

Prepared by Storrs Associates, LLC for the

Centennial Golf Club, Carmel, NY

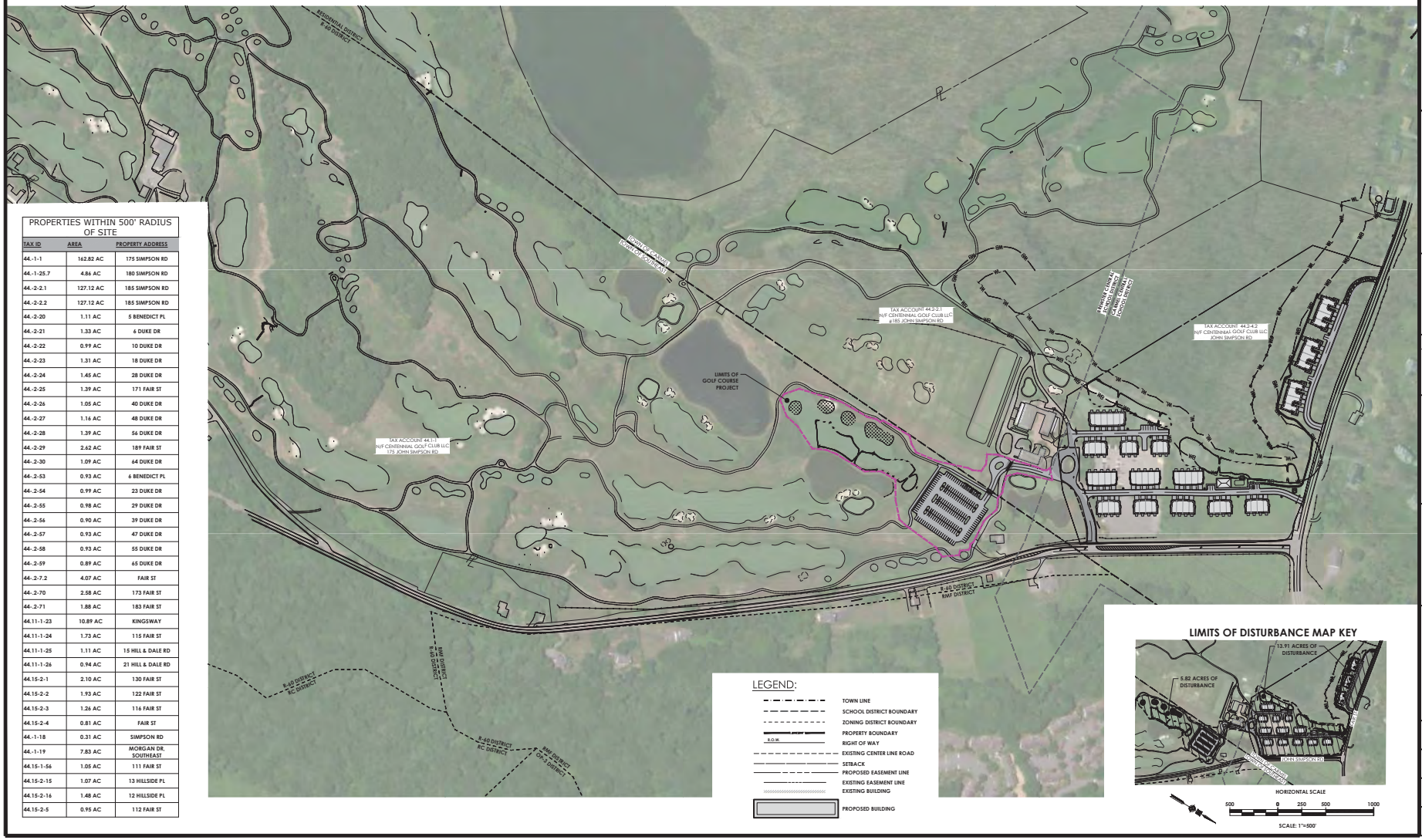
October 15, 2021

Storrs ASSOCIATES

SITE DEVELOPMENT PLANS FOR
CENTENNIAL GOLF COURSE
TOWN OF CARMEL/SOUTHEAST, PUTNAM COUNTY, NEW YORK
P.N. 20213150.0001

DRAWING INDEX

HORIZONTAL SCALE
200 0 100 200 400
SCALE: 1"=200'



PROPERTIES WITHIN 500' RADIUS OF SITE

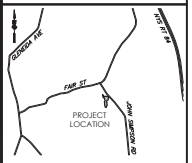
TAX ID	AREA	PROPERTY ADDRESS
44.-1-1	162.82 AC	175 SIMPSON RD
44.-1-25.7	4.86 AC	180 SIMPSON RD
44.-2-2.1	127.12 AC	185 SIMPSON RD
44.-2-2.2	127.12 AC	185 SIMPSON RD
44.-2-20	1.11 AC	5 BENEDICT PL
44.-2-21	1.33 AC	6 DUKE DR
44.-2-22	0.99 AC	10 DUKE DR
44.-2-23	1.31 AC	18 DUKE DR
44.-2-24	1.45 AC	28 DUKE DR
44.-2-25	1.39 AC	171 FAIR ST
44.-2-26	1.05 AC	40 DUKE DR
44.-2-27	1.16 AC	48 DUKE DR
44.-2-28	1.39 AC	56 DUKE DR
44.-2-29	2.62 AC	189 FAIR ST
44.-2-30	1.09 AC	64 DUKE DR
44.-2-53	0.93 AC	6 BENEDICT PL
44.-2-54	0.99 AC	23 DUKE DR
44.-2-55	0.98 AC	29 DUKE DR
44.-2-56	0.90 AC	39 DUKE DR
44.-2-57	0.93 AC	47 DUKE DR
44.-2-58	0.93 AC	55 DUKE DR
44.-2-59	0.89 AC	65 DUKE DR
44.-2-7.2	4.07 AC	FAIR ST
44.-2-70	2.58 AC	173 FAIR ST
44.-2-71	1.88 AC	183 FAIR ST
44.11-1-23	10.89 AC	KINGSWAY
44.11-1-24	1.73 AC	115 FAIR ST
44.11-1-25	1.11 AC	15 HILL & DALE RD
44.11-1-26	0.94 AC	21 HILL & DALE RD
44.15-2-1	2.10 AC	130 FAIR ST
44.15-2-2	1.93 AC	122 FAIR ST
44.15-2-3	1.26 AC	116 FAIR ST
44.15-2-4	0.81 AC	FAIR ST
44.-1-18	0.31 AC	SIMPSON RD
44.-1-19	7.83 AC	MORGAN DR, SOUTHEAST
44.15-1-56	1.05 AC	111 FAIR ST
44.15-2-15	1.07 AC	13 HILLSIDE PL
44.15-2-16	1.48 AC	12 HILLSIDE PL
44.15-2-5	0.95 AC	112 FAIR ST

LEGEND:
- TOWN LINE
- SCHOOL DISTRICT BOUNDARY
- ZONING DISTRICT BOUNDARY
- PROPERTY BOUNDARY
- R.O.W. RIGHT OF WAY
- EXISTING CENTER LINE ROAD
- SETBACK
- PROPOSED EASEMENT LINE
- EXISTING EASEMENT LINE
- EXISTING BUILDING
- PROPOSED BUILDING

LIMITS OF DISTURBANCE MAP KEY

HORIZONTAL SCALE
500 0 250 500 1000
SCALE: 1"=500'

PASSERO ASSOCIATES
engineering architecture



Town of Carmel/Southeast
LOCATION SKETCH

Client:

PASSERO ASSOCIATES
240 West Main Street Suite 100 (585) 325-1000
Rochester, New York 14614 Fax: (585) 325-1691
Principal-in-Charge Jess Sudol, PE
Project Manager Chris Laporta, PE
Designed by Cole Overhoff

Revisions

No.	Date	By	Description
1			

COVER

CENTENNIAL GOLF COURSE

Town/City: CARMEL/SOUTHEAST
County: PUTNAM State: NEW YORK

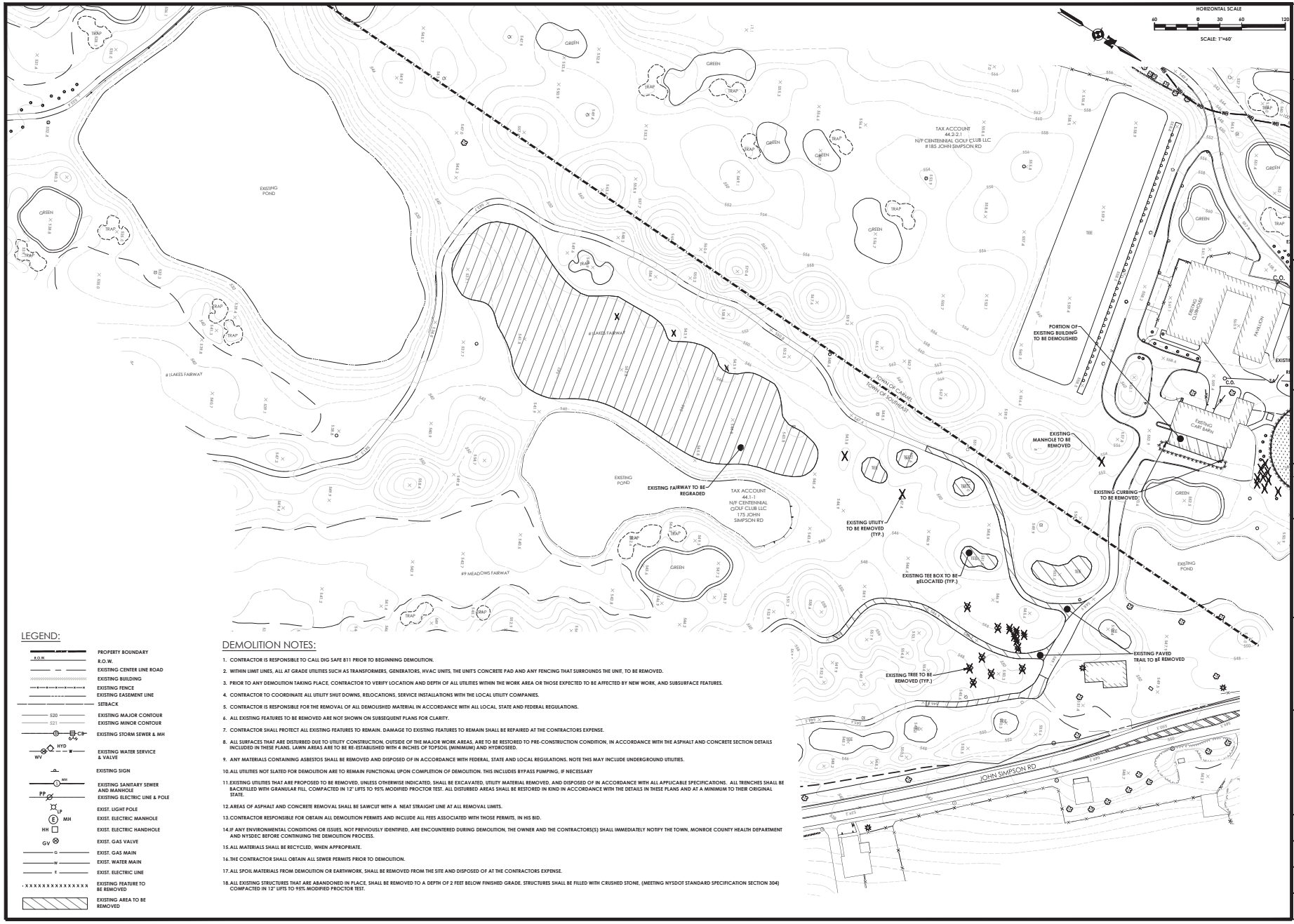
Project No. 20213150.0001

Drawing No. C 110 | Sheet No. 1

Scale: 1" = 200'

Date NOVEMBER 2021

NOT FOR CONSTRUCTION



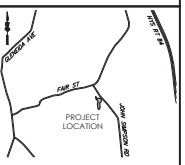
LEGEND:

- PROPERTY BOUNDARY
- R.O.W.
- EXISTING CENTER LINE ROAD
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING EASEMENT LINE
- SETBACK
- 520 EXISTING MAJOR CONTOUR
- 521 EXISTING MINOR CONTOUR
- EXISTING STORM SEWER & MH
- HYD W WV EXISTING WATER SERVICE & VALVE
- EXISTING SIGN
- MH EXISTING SANITARY SEWER AND MANHOLE
- PP EXISTING ELECTRIC LINE & POLE
- LP EXIST. LIGHT POLE
- E MH EXIST. ELECTRIC MANHOLE
- HH EXIST. ELECTRIC HANDHOLE
- GV EXIST. GAS VALVE
- G EXIST. GAS MAIN
- W EXIST. WATER MAIN
- E EXIST. ELECTRIC LINE
- EXISTING FEATURE TO BE REMOVED
- EXISTING AREA TO BE REMOVED

DEMOLITION NOTES:

1. CONTRACTOR IS RESPONSIBLE TO CALL DIG SAFE 811 PRIOR TO BEGINNING DEMOLITION.
2. WITHIN LIMIT LINES, ALL AT GRADE UTILITIES SUCH AS TRANSFORMERS, GENERATORS, HVAC UNITS, THE UNIT'S CONCRETE PAD AND ANY FENCING THAT SURROUNDS THE UNIT, TO BE REMOVED.
3. PRIOR TO ANY DEMOLITION TAKING PLACE, CONTRACTOR TO VERIFY LOCATION AND DEPTH OF ALL UTILITIES WITHIN THE WORK AREA OR THOSE EXPECTED TO BE AFFECTED BY NEW WORK, AND SUBSURFACE FEATURES.
4. CONTRACTOR TO COORDINATE ALL UTILITY SHUT DOWNS, RELOCATIONS, SERVICE INSTALLATIONS WITH THE LOCAL UTILITY COMPANIES.
5. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL DEMOLISHED MATERIAL IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
6. ALL EXISTING FEATURES TO BE REMOVED ARE NOT SHOWN ON SUBSEQUENT PLANS FOR CLARITY.
7. CONTRACTOR SHALL PROTECT ALL EXISTING FEATURES TO REMAIN. DAMAGE TO EXISTING FEATURES TO REMAIN SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
8. ALL SURFACES THAT ARE DISTURBED DUE TO UTILITY CONSTRUCTION, OUTSIDE OF THE MAJOR WORK AREAS, ARE TO BE RESTORED TO PRE-CONSTRUCTION CONDITION, IN ACCORDANCE WITH THE ASPHALT AND CONCRETE SECTION DETAILS INCLUDED IN THESE PLANS. LAWN AREAS ARE TO BE RE-ESTABLISHED WITH 4 INCHES OF TOPSOIL (MINIMUM) AND HYDROSEED.
9. ANY MATERIALS CONTAINING ASBESTOS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. NOTE THIS MAY INCLUDE UNDERGROUND UTILITIES.
10. ALL UTILITIES NOT SLATED FOR DEMOLITION ARE TO REMAIN FUNCTIONAL UPON COMPLETION OF DEMOLITION. THIS INCLUDES BYPASS PUMPING, IF NECESSARY
11. EXISTING UTILITIES THAT ARE PROPOSED TO BE REMOVED, UNLESS OTHERWISE INDICATED, SHALL BE EXCAVATED, UTILITY MATERIAL REMOVED, AND DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE SPECIFICATIONS. ALL TRENCHES SHALL BE BACKFILLED WITH GRANULAR FILL, COMPACTED IN 12" LIFTS TO 95% MODIFIED PROCTOR TEST. ALL DISTURBED AREAS SHALL BE RESTORED IN KIND IN ACCORDANCE WITH THE DETAILS IN THESE PLANS AND AT A MINIMUM TO THEIR ORIGINAL STATE.
12. AREAS OF ASPHALT AND CONCRETE REMOVAL SHALL BE SAWCUT WITH A NEAT STRAIGHT LINE AT ALL REMOVAL LIMITS.
13. CONTRACTOR RESPONSIBLE FOR OBTAIN ALL DEMOLITION PERMITS AND INCLUDE ALL FEES ASSOCIATED WITH THOSE PERMITS, IN HIS BID.
14. IF ANY ENVIRONMENTAL CONDITIONS OR ISSUES, NOT PREVIOUSLY IDENTIFIED, ARE ENCOUNTERED DURING DEMOLITION, THE OWNER AND THE CONTRACTORS(S) SHALL IMMEDIATELY NOTIFY THE TOWN, MONROE COUNTY HEALTH DEPARTMENT AND NYSDEC BEFORE CONTINUING THE DEMOLITION PROCESS.
15. ALL MATERIALS SHALL BE RECYCLED, WHEN APPROPRIATE.
16. THE CONTRACTOR SHALL OBTAIN ALL SEWER PERMITS PRIOR TO DEMOLITION.
17. ALL SPOIL MATERIALS FROM DEMOLITION OR EARTHWORK, SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT THE CONTRACTORS EXPENSE.
18. ALL EXISTING STRUCTURES THAT ARE ABANDONED IN PLACE, SHALL BE REMOVED TO A DEPTH OF 2 FEET BELOW FINISHED GRADE. STRUCTURES SHALL BE FILLED WITH CRUSHED STONE, (MEETING NYSDOT STANDARD SPECIFICATION SECTION 304) COMPACTED IN 12" LIFTS TO 95% MODIFIED PROCTOR TEST.

PASSERO ASSOCIATES
engineering architecture



Town of Carmel/Southeast
LOCATION SKETCH

Client:

PASSERO ASSOCIATES
240 West Main Street Suite 100
Rochester, New York 14614
(585) 325-1000
Fax: (585) 325-1691

Principal-in-Charge: Jess Sudol, PE
Project Manager: Chris Laporta, PE
Designed by: Cole Overhoff

Revisions

No.	Date	By	Description
1			

DEMOLITION PLAN

CENTENNIAL
GOLF COURSE

Town/City: CARMEL/SOUTHEAST
County: PUTNAM
State: NEW YORK

Project No.
20213150.0001

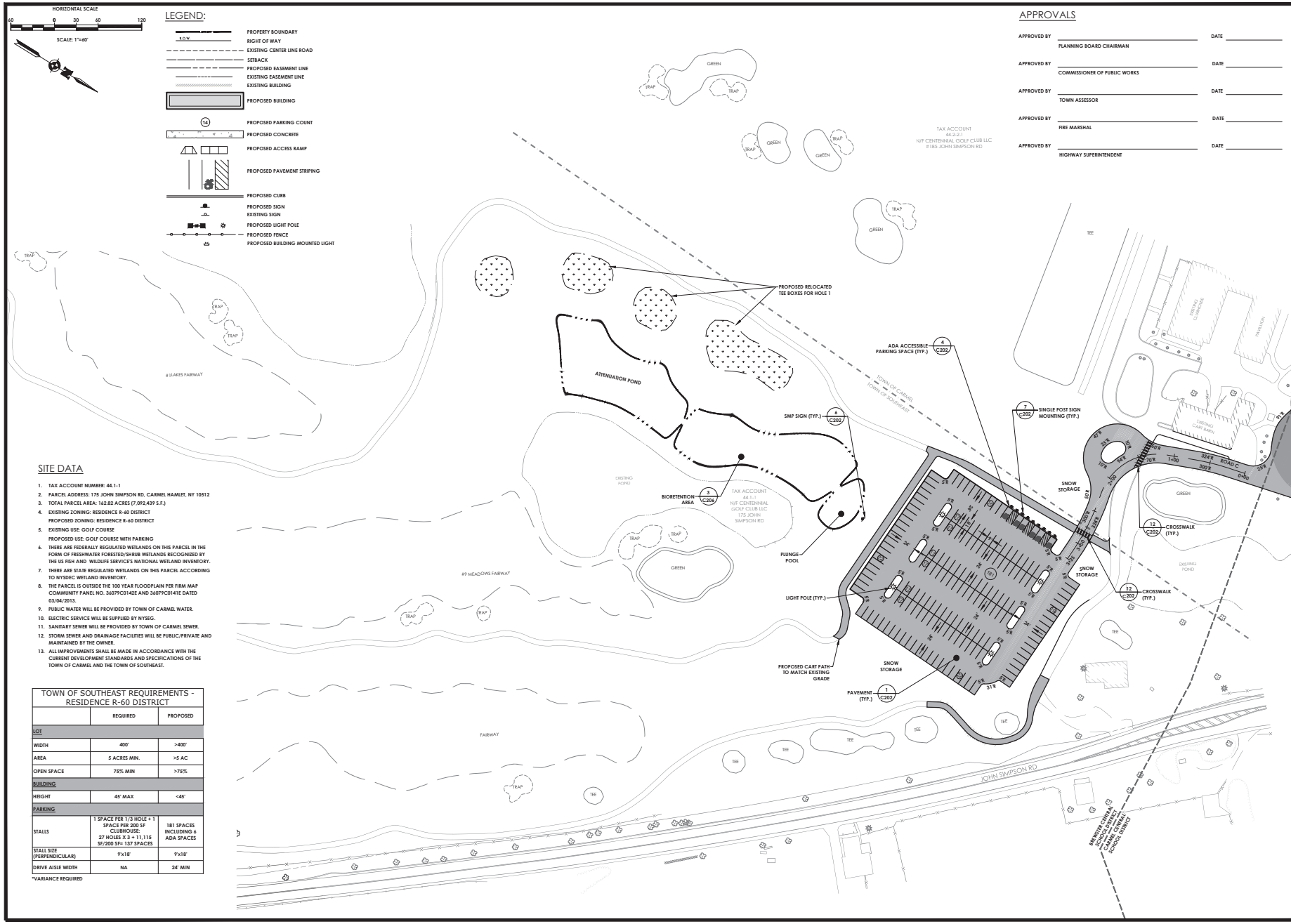
Drawing No.
C 120

Sheet No.
2

Scale:
1" = 60'

Date
NOVEMBER 2021

NOT FOR CONSTRUCTION



SITE DATA

1. TAX ACCOUNT NUMBER: 44.1-1
2. PARCEL ADDRESS: 175 JOHN SIMPSON RD, CARMEL HAMLET, NY 10512
3. TOTAL PARCEL AREA: 162.82 ACRES (7,092,439 S.F.)
4. EXISTING ZONING: RESIDENCE R-60 DISTRICT
   PROPOSED ZONING: RESIDENCE R-60 DISTRICT
5. EXISTING USE: GOLF COURSE
   PROPOSED USE: GOLF COURSE WITH PARKING
6. THERE ARE FEDERALLY REGULATED WETLANDS ON THIS PARCEL IN THE FORM OF FRESHWATER FORESTED/SHRUB WETLANDS RECOGNIZED BY THE US FISH AND WILDLIFE SERVICE'S NATIONAL WETLAND INVENTORY.
7. THERE ARE STATE REGULATED WETLANDS ON THIS PARCEL ACCORDING TO NYSDEC WETLAND INVENTORY.
8. THE PARCEL IS OUTSIDE THE 100 YEAR FLOODPLAIN PER FIRM MAP COMMUNITY PANEL NO. 36079C0142E AND 36079C0141E DATED 03/04/2013.
9. PUBLIC WATER WILL BE PROVIDED BY TOWN OF CARMEL WATER.
10. ELECTRIC SERVICE WILL BE SUPPLIED BY NYSEG.
11. SANITARY SEWER WILL BE PROVIDED BY TOWN OF CARMEL SEWER.
12. STORM SEWER AND DRAINAGE FACILITIES WILL BE PUBLIC/PRIVATE AND MAINTAINED BY THE OWNER.
13. ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE CURRENT DEVELOPMENT STANDARDS AND SPECIFICATIONS OF THE TOWN OF CARMEL AND THE TOWN OF SOUTHEAST.

TOWN OF SOUTHEAST REQUIREMENTS - RESIDENCE R-60 DISTRICT

	REQUIRED	PROPOSED
LOT		
WIDTH	400'	>400'
AREA	5 ACRES MIN.	>5 AC
OPEN SPACE	75% MIN	>75%
BUILDING		
HEIGHT	45' MAX	<45'
PARKING		
STALLS	1 SPACE PER 1/3 HOLE + 1 SPACE PER 200 SF CLUBHOUSE: 27 HOLES X 3 + 11,115 SF/200 SF= 137 SPACES	181 SPACES INCLUDING 6 ADA SPACES
STALL SIZE (PERPENDICULAR)	9'x18'	9'x18'
DRIVE AISLE WIDTH	NA	24' MIN

*VARIANCE REQUIRED

PASSERO ASSOCIATES
engineering architecture

Town of Carmel/Southeast
LOCATION SKETCH

Client:

PASSERO ASSOCIATES
242 West Main Street Suite 100
Rochester, New York 14614
(585) 325-1000
Fax: (585) 325-1691
Principal-in-Charge: Jess Sudol, PE
Project Manager: Chris Laporta, PE
Designed by: Cole Overhoff

Revisions

No.	Date	By	Description
1			

SITE PLAN

CENTENNIAL
GOLF COURSE

Town/City: CARMEL/SOUTHEAST
County: PUTNAM
State: NEW YORK

Project No.
20213150.0001

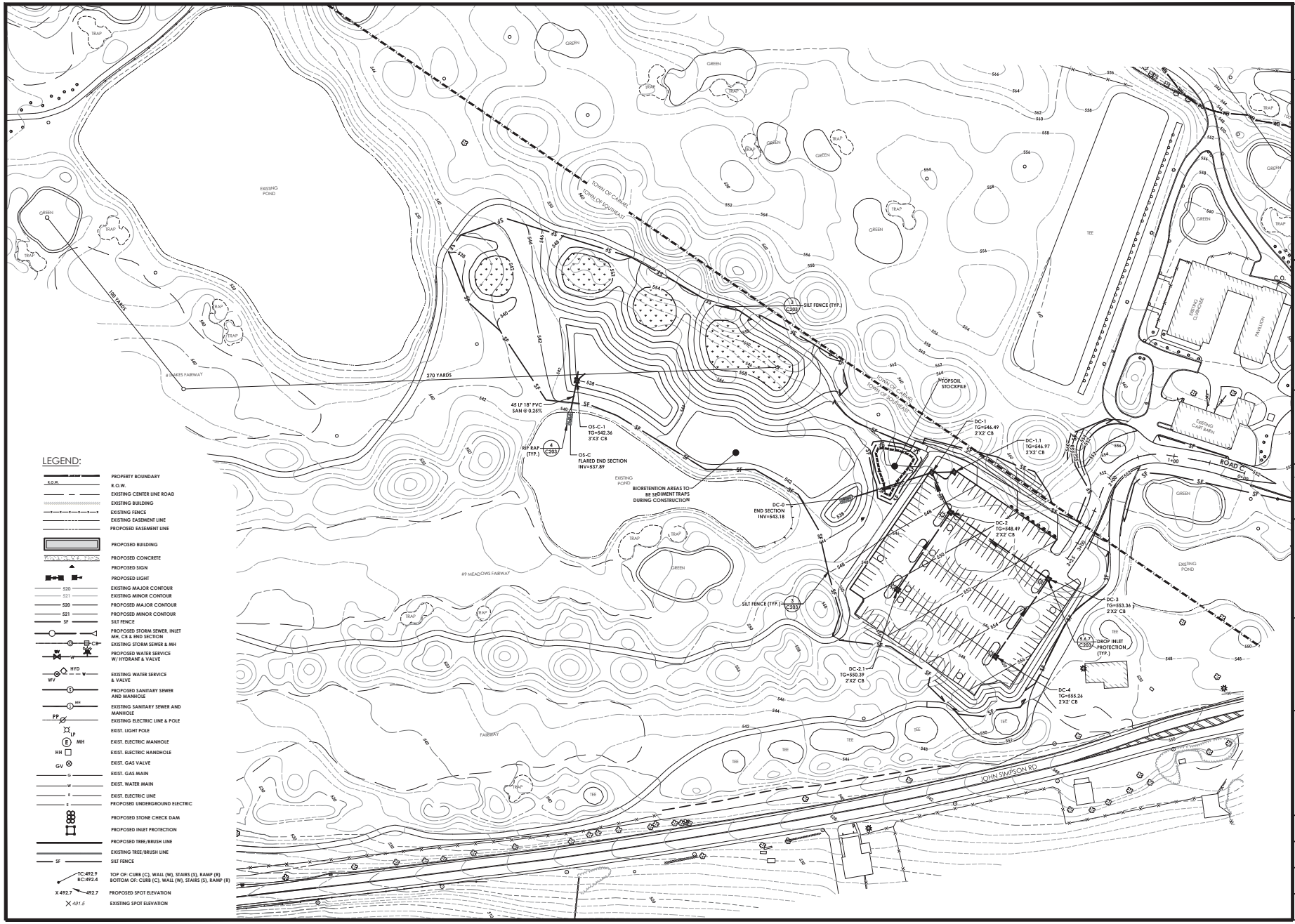
Drawing No.
C 130

Sheet No.
3

Scale:
1" = 60'

Date
NOVEMBER 2021

NOT FOR CONSTRUCTION



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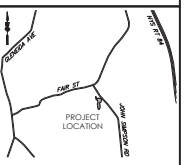
engineering architecture



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Revisions

No.	Date	By	Description
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GRADING, UTILITY & EROSION CONTROL PLAN

CENTENNIAL
GOLF COURSE

Town/City: CARMEL/SOUTHEAST
County: PUTNAM
State: NEW YORK

Project No.
20213150.0001

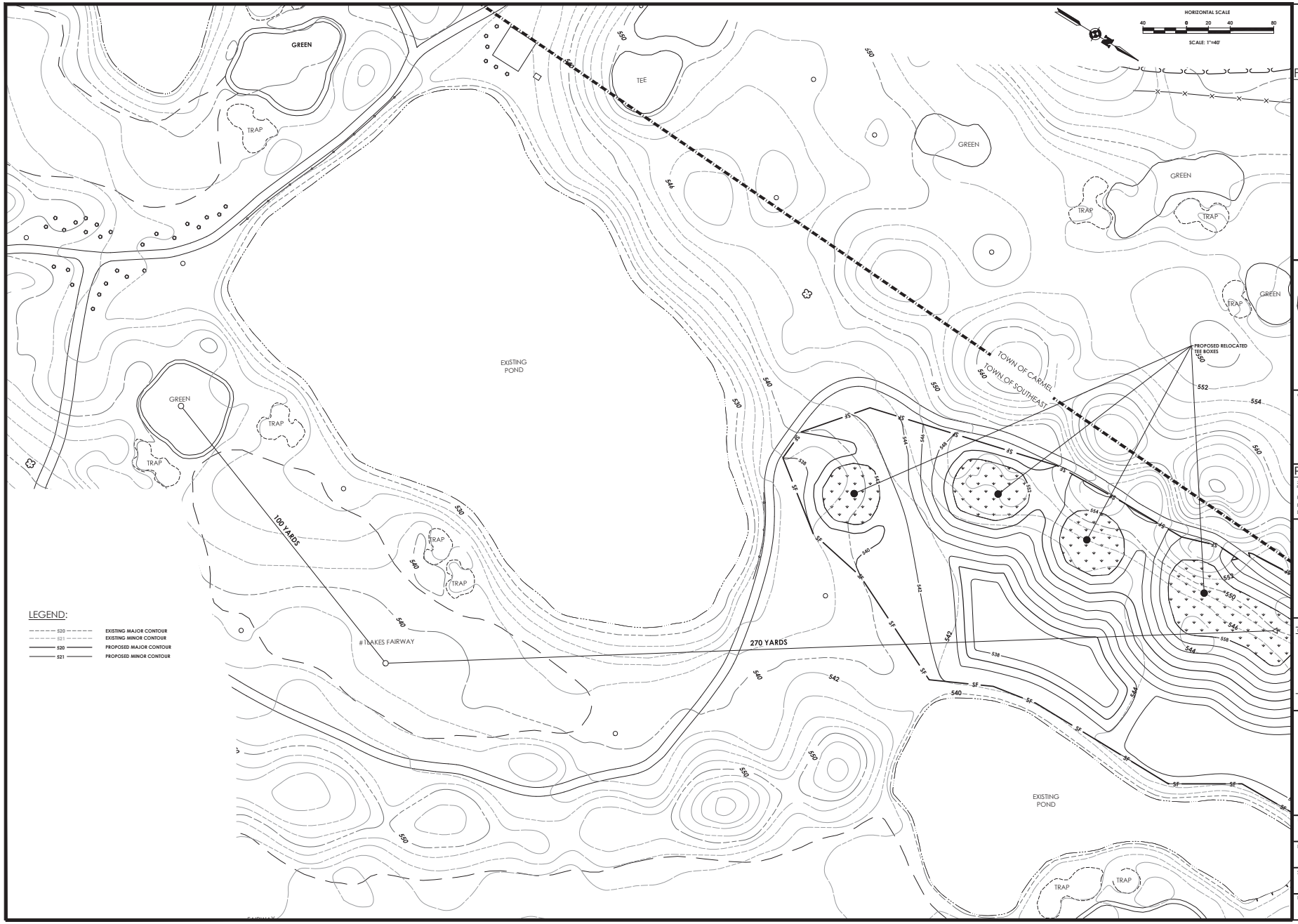
Drawing No.
C 140

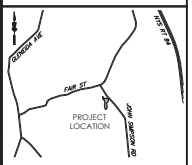
Sheet No.
4

Scale:
1" = 60'

Date
NOVEMBER 2021

NOT FOR CONSTRUCTION





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Principal-in-Charge: Jess Sudol, PE
Project Manager: Chris Laporta, PE
Designed by: Cole Overhoff

Revisions

No.	Date	By	Description
1			

#1 LAKES MAP

CENTENNIAL
GOLF COURSE

Town/City: CARMEL/SOUTHEAST
County: PUTNAM
State: NEW YORK

Project No.
20213150.0001

Drawing No.
C 150

Sheet No.
5

Scale:
1" = 40'

Date
NOVEMBER 2021

NOT FOR CONSTRUCTION

UTILITY NOTES:

1. PRIOR TO THE START OF UTILITY INSTALLATION THE CONTRACTOR AND SUBCONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL UTILITY CONNECTIONS WITH MECHANICAL/ARCHITECTURAL DRAWINGS FOR INCLUDING BUT NOT LIMITED TO VERTICAL AND HORIZONTAL LOCATION, PENETRATIONS, AND SIZES. THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROCEED WITH UTILITY INSTALLATION BY THE OWNERS ONSITE REPRESENTATIVE UPON COMPLETION OF COORDINATION WITH CONTRACTORS, AND PLANS.

2. THE DEVELOPER AND HIS/HER CONTRACTOR IS RESPONSIBLE FOR COORDINATING GAS, ELECTRICAL, CABLE, TELEPHONE AND ANY OTHER UTILITIES NOT SPECIFICALLY SHOWN WITHIN THIS PLAN SET WITH APPROPRIATE AGENCY. PASSERO ASSOCIATES ASSUMES NO RESPONSIBILITY FOR THE DESIGN OR PERFORMANCE OF UTILITIES NOT SPECIFICALLY SHOWN WITHIN THIS PLAN SET.

3. PRIOR TO THE START OF UTILITY INSTALLATION THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY AND COORDINATE WITH EXISTING UTILITIES SHOWN ON THE PLANS AND REPORT ANY DISCREPANCIES TO THE DESIGN ENGINEER. THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROCEED WITH UTILITY INSTALLATION BY THE OWNERS ONSITE REPRESENTATIVE UPON COMPLETION EXISTING UTILITY VERIFICATION.

4. THRUST BLOCKS ON THE WATERMAIN ARE REQUIRED AT BENDS, TEES OR PLUGS. SEE DETAIL SHEETS FOR THRUST BLOCK DETAILS.

STORM NOTES:

1. STORM SEWERS AND APPURTENANCES SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE LATEST REGULATIONS OF THE MUNICIPALITY

2. PROPOSED STORM SEWER LATERAL MATERIAL:
   PVC SDR-35 6" MIN. SIZE & SHALL BE LAID AT A MINIMUM GRADE OF 1/4" PER FT.
   STORM SEWER MATERIAL:
   ADS HDPE 12" MIN.

3. FOUNDATION DRAINS SHALL BE CONNECTED TO STORM WATER SYSTEM VIA SUMP PUMPS. DOWNSPOUTS SHALL BE CONNECTED TO STORM SEWER WHERE APPLICABLE, WHERE NOTED ON THE PLANS DOWNSPOUTS SHALL DISCHARGE TO SPLASH BLOCKS.

4. UPON COMPLETION OF SYSTEM INSTALLATION, THE MAIN SEWER SYSTEM AND LEADS TO STRUCTURES SHALL BE FLUSHED AND LAMPED TO THE SATISFACTION OF THE MUNICIPALITY.

SANITARY NOTES:

1. SANITARY SEWERS AND APPURTENANCES SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE LATEST REGULATIONS OF THE STATE, COUNTY AND LOCAL MUNICIPALITY
2. MATERIALS
   - MAINS - PIPING SHALL BE POLYVINYL CHLORIDE (PVC) WITH ENDS SUITABLE FOR ELASTOMERIC GASKET JOINTS, AND A MINIMUM WALL THICKNESS OF SDR-35. PIPING AND FITTINGS SHALL MEET:
     ASTM D-3034 (4" THRU 15")
     ASTM F-679 (18" THRU 48")
   - LATERALS - 4" MIN. INSTALLED AT $\frac{1}{4}$" PER FOOT MIN. PIPING SHALL BE POLYVINYL CHLORIDE (PVC) WITH ENDS SUITABLE FOR ELASTOMERIC GASKET JOINTS, AND A MINIMUM WALL THICKNESS OF SDR-21. PIPING AND FITTINGS SHALL MEET ASTM D-2241.
   - JOINTING MATERIALS - SHALL BE BELL-AND-SPIGOT WITH INTEGRAL PUSH ON TYPE ELASTOMERIC GASKET JOINTS, GASKET MATERIAL TO BE NEOPRENE MEETING ASTM D-3212.
   - MANHOLES - SHALL BE PRECAST CONCRETE WITH NEOPRENE GASKETS MEETING ASTM C-478 & ASTM C-443.

3. INFILTRATION AND EXFILTRATION FOR SANITARY SEWERS SHALL BE LIMITED TO 100 GALLONS PER MILE PER INCH DIAMETER OF PIPE PER 24 HOURS.

4. IF AN AIR TEST IS USED, THE TEST AS A MINIMUM SHALL CONFORM TO THE PROCEDURE DESCRIBED IN ASTM C-828-80, ENTITLED STANDARD PRACTICE FOR LOW PRESSURE AIR TEST OF VITRIFIED CLAY PIPELINES; SANITARY MANHOLES SHALL BE TESTED FOR EXFILTRATION.

5. VACUUM TESTING OF MANHOLES IS ALLOWED. THE CONTRACTOR IS CAUTIONED TO SPEAK TO THE SUPERINTENDENT OF SEWERS PRIOR TO COMMENCING WITH PLANS TO VACUUM TEST.

6. DEFLECTION TEST - TEN STATE STANDARDS.
   6.A. DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.
   6.B. IF THE DEFLECTION TEST IS TO BE RUN USING A RIGID BALL OR MANDRELL, IT SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.
   6.C. NO PIPE SHALL EXCEED A DEFLECTION OF 5%.

7. ALL SANITARY SEWER INSTALLATION SHALL BE MADE IN CONFORMANCE WITH THE SPECIFICATIONS, REGULATIONS, AND POLICIES OF THE MUNICIPAL DISTRICT.

8. ALL LATERALS SHALL HAVE A CLEANOUT AT THE OUTSIDE OF THE BUILDING.

9. FLOOR DRAINS, IF CONSTRUCTED, SHALL BE CONNECTED TO THE SANITARY SEWER/COMBINATION SEWER. (FLOOR DRAINS DO NOT INCLUDE FOUNDATION/FOOTER DRAINS). ALL DISCHARGES TO THE SANITARY/ COMBINATION SEWER MUST COMPLY WITH THE EFFLUENT LIMITS OF THE LOCAL AND/OR THE ULSTER COUNTY SEWER USE LAW.

10. SEPARATION - MINIMUM VERTICAL SEPARATION BETWEEN WATER MAINS AND SEWER LINES SHALL BE 18 INCHES MEASURED FROM THE OUTSIDE OF THE PIPES AT THE POINT OF CROSSING. ONE FULL STANDARD LAYING LENGTH OF WATER MAIN SHALL BE CENTERED UNDER OR OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. IN ADDITION. WHEN THE WATER MAIN PASSES UNDER A SEWER ADEQUATE STRUCTURAL SUPPORT (COMPACTED SELECTED FILL) SHALL BE PROVIDED FOR THE SEWER TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING OF THE SEWER ON THE WATER MAIN. MINIMUM HORIZONTAL SEPARATION BETWEEN PARALLEL WATER MAINS AND SEWER PIPES (INCLUDING MANHOLES AND VAULTS) SHALL BE 10 FEET MEASURED FROM THE OUTSIDE OF THE PIPES. MANHOLES OR VAULTS.

CONSTRUCTION SEQUENCE FOR GRADING AND EROSION CONTROL:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. CONSTRUCT STORMWATER MANAGEMENT AREA AND EROSION CONTROL MEASURES AS SHOWN ON THE PLANS.
3. CONSTRUCT DRAINAGE SWALES ALONG PROPERTY LINES AS SHOWN.
4. CLEAR AND GRUB THE PROJECT IMPROVEMENTS AREAS.
5. STRIP TOPSOIL AND STOCKPILE FOR LATER USE.
6. GRADE IMPROVEMENTS AREAS WITHIN THE PROJECT SITE. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 7 DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN 7 DAYS OF THE LAST DISTURBANCE.
7. CONSTRUCT SEDIMENTATION BARRIERS AS SHOWN ON THIS PLAN.
8. REPLACE TOPSOIL AND FINE GRADE.
9. HYDRO-SEED ALL DISTURBED AREAS WITHIN 10 DAYS AFTER FINAL GRADING, CONTRACTOR IS RESPONSIBLE TO RESEED IF GRADING IS UNSATISFACTORY.
10. UPON APPROVAL OF THE TOWN, REMOVE ALL TEMPORARY SILTATION CONTROLS.
11. SLOPES SHALL NOT EXCEED 1' VERTICAL TO 3' HORIZONTAL MAX. MAINTAIN 1:4 WHERE POSSIBLE.
12. MINIMUM OF 6" OF TOPSOIL IS TO BE PLACED ON ALL GRASS AREAS.
13. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BASED UPON ACTUAL FIELD CONDITIONS AOBE. CONTRACTOR SHALL PROVIDE FOR THIS COST IN HIS CONTRACT.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SILTATION AND EROSION CONTROL MEASURES FROM INSTALLATION THROUGH MAINTENANCE AND REMOVAL AFTER REVEGETATION HAS BEEN ESTABLISHED.
15. ALL END SECTIONS WILL BE PROVIDED WITH RIP-RAP APRONS.
16. ALL EROSION AND SEDIMENT CONTROL METHODS WILL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL

EROSION AND SEDIMENT CONTROL NOTES:

1. IN ACCORDANCE WITH SECTIONS 107-12 AND 209-3.01 OF THE NYSDOT STANDARD SPECIFICATIONS, THE CONTRACTOR SHALL REVIEW THE EROSION AND SEDIMENT CONTROL PLAN INCLUDED IN THE CONTRACT DOCUMENTS, AND IF NECESSARY, MODIFY THE PLAN WITH THE CONTRACTOR'S INTENDED SEQUENCE AND TYPES OF OPERATIONS. THE CONTRACTOR'S MODIFIED EROSION AND SEDIMENT CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL, ALONG WITH A PROGRESS SCHEDULE THAT ADDRESSES THIS WORK.

2. IN ACCORDANCE WITH SECTIONS 107-12 AND 209-3.01 OF THE NYSDOT STANDARD SPECIFICATIONS, THE CONTRACTOR SHALL DESIGNATE AN "EROSION AND SEDIMENT CONTROL SUPERVISOR" FOR THE PROJECT. THE SUPERVISOR SHALL BE RESPONSIBLE FOR IMPLEMENTING THE EROSION AND SEDIMENT CONTROL PLAN AND FOR INSPECTING AND MAINTAINING THE CONTROL MEASURES. THE NAME AND QUALIFICATIONS (TRAINING AND EXPERIENCE) OF THIS INDIVIDUAL SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO STARTING EARTHWORK.

3. THE DESIGNATED "EROSION AND SEDIMENT CONTROL SUPERVISOR" SHALL NOTIFY THE ENGINEER IN ADVANCE OF ANY FIELD CHANGES TO THE EROSION AND SEDIMENT CONTROL MEASURES INDICATED IN THE CONTRACT DOCUMENTS. THE ENGINEER MAY REQUIRE THE CONTRACTOR TO SUBMIT A MODIFIED EROSION AND SEDIMENT CONTROL PLAN FOR APPROVAL PRIOR TO IMPLEMENTING ANY FIELD CHANGES.

4. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORM WATER RUNOFF FROM DISTURBED AREAS IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL DEVICES BEFORE ENTERING A WATER BODY, WETLAND, OR LEAVING THE SITE.

5. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE FOR WHICH THEY ARE INTENDED AND SHALL REMAIN IN PLACE UNTIL SOILS ARE PERMANENTLY STABILIZED.

6. UNDER NO CONDITION SHALL DISCONTINUED CONSTRUCTION ACTIVITIES IN AREAS WITH SOIL DISTURBANCES BE LEFT FOR A PERIOD OF GREATER THAN 7 DAYS WITHOUT TEMPORARILY STABILIZING THOSE AREAS WITH TEMPORARY SEED AND MULCH. MAINTENANCE OF THOSE AREAS SHALL INCLUDE RESEEDING AND REMULCHING AS NEEDED TO ESTABLISH A SATISFACTORY STAND OF GRASS. THERE SHALL BE NO ADDITIONAL PAYMENT FOR RESEEDING AND REMULCHING.

7. NO WET OR FRESH CONCRETE, LEACHATE, MATERIAL, OR DEBRIS SHALL BE ALLOWED TO ESCAPE INTO A WATER BODY OR WETLAND, NOR SHALL WASHINGS FROM CONCRETE TRUCKS, MIXERS OR OTHER DEVICES BE ALLOWED TO ENTER A WATER BODY OR WETLAND. ANY MATERIAL OR DEBRIS ACCIDENTALLY DROPPED INTO THE CHANNEL SHALL BE IMMEDIATELY AND COMPLETELY REMOVEDAND DEPOSITED IN AN UPLAND AREA.

8. THE CONTRACTOR SHALL COVER TEMPORARY STOCKPILES OF ERODIBLE MATERIAL (SUCH AS TOPSOIL OR EARTH FILL) WITH POLY SHEETING, OR RING THE STOCKPILES WITH SILT FENCE TO CONTROL EROSION. POLY SHEETING SHALL COMPLETELY COVER THE STOCKPILE AND BE SECURELY ANCHORED AT ALL TIMES. ANY POLY SHEETING OR SILT FENCE THAT IS DAMAGED SHALL BE PROMPTLY REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER. RINGED STOCKPILES EXPOSED OR EXPECTED TO BE EXPOSED FOR LONGER THAN 7 CALENDAR DAYS SHALL IMMEDIATELY BE STABILIZED WITH APPROPRIATE MEASURES. THE COST OF COVERING AND RINGING/STABILIZING STOCKPILES SHALL BE INCLUDED IN THE PRICE BID FOR THE CORRESPONDING STOCKPILED MATERIAL.

STABILIZATION STANDARDS AND SPECIFICATIONS :

A TEMPORARY OR PERMANENT PROTECTIVE COVERING PLACED ON A PREPARED, SEEDED PLANTING AREA THAT IS ANCHORED IN PLACE BY STAPLES OR OTHER MEANS TO AID IN CONTROLLING EROSION BY ABSORBING RAIN SPLASH ENERGY AND WITHSTAND OVERLAND FLOW AS WELL AS PROVIDE A MICROCLIMATE TO PROTECT AND PROMOTE SEED ESTABLISHMENT.

CONDITIONS WHERE PRACTICE APPLIES

ANCHORED STABILIZATION MATS ARE REQUIRED FOR SEEDED EARTHEN SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL; IN VEGETATED CHANNELS WHERE THE VELOCITY OF THE DESIGN FLOW EXCEEDS THE ALLOWABLE VELOCITY FOR VEGETATION ALONE (USUALLY GREATER THAN 5 FEET PER SECOND); ON STREAMBANKS AND SHORELINES WHERE MOVING WATER IS LIKELY TO ERODE NEWLY SEEDED OR PLANTED AREAS; AND IN AREAS WHERE WIND PREVENTS STANDARD MULCHING WITH STRAW. THIS STANDARD DOES NOT APPLY TO SLOPES STABILIZED WITH SOD, ROCK RIPRAP OR HARD ARMOR MATERIAL.

DESIGN CRITERIA

SLOPE APPLICATIONS - ANCHORED STABILIZATION MATS FOR USE ON SLOPES ARE PRIMARILY USED AS MULCH BLANKETS WHERE THE MESH MATERIAL IS WITHIN THE BLANKET OR AS A NETTING OVER PREVIOUSLY PLACED MULCH. THESE STABILIZATION MATS ARE NOT EFFECTIVE IN PREVENTING SLOPE FAILURES.

1. REQUIRED ON ALL SLOPES STEEPER THAN 3:1
2. MATTING WILL BE DESIGNED FOR PROPER LONGEVITY NEED AND STRENGTH BASED ON INTENDED USE.
3. ALL INSTALLATION DETAILS AND DIRECTIONS WILL BE INCLUDED ON THE SITE EROSION AND SEDIMENT CONTROL PLAN AND WILL FOLLOW MANUFACTURES SPECIFICATIONS.

CHANNEL APPLICATIONS - ANCHORED STABILIZATION MATS, FOR USE IN SUPPORTING VEGETATION IN FLOW CHANNELS, ARE GENERALLY A NON-DEGRADABLE, THREE DIMENSIONAL PLASTIC STRUCTURE WHICH CAN BE FILLED WITH SOIL PRIOR TO PLANTING. THIS STRUCTURE PROVIDES A MEDIUM FOR ROOT GROWTH WHERE THE MATTING AND ROOTS BECOME INTERTWINED FORMING A CONTINUOUS ANCHOR FOR THE VEGETATED LINING.

1. CHANNEL STABILIZATION SHALL BE BASED ON THE TRACTIVE FORCE METHOD.
2. FOR MAXIMUM DESIGN SHEAR STRESSES LESS THAN 2 POUNDS PER SQUARE FOOT, A TEMPORARY OR BIO-DEGRADABLE MAT MAY BE USED.
3. THE DESIGN OF THE FINAL MATTING SHALL BE BASED ON THE MATS ABILITY TO RESIST THE TRACTIVE SHEAR STRESS AT BANK FULL FLOW.
4. THE INSTALLATION DETAILS AND PROCEDURES SHALL BE INCLUDED ON THE SITE EROSION AND SEDIMENT CONTROL PLAN AND WILL FOLLOW MANUFACTURERS SPECIFICATIONS.

STANDARD AND SPECIFICATIONS FOR ANCHORED STABILIZATION MATTING

CONSTRUCTION SPECIFICATIONS

1. PREPARE SOIL BEFORE INSTALLING MATTING BY SMOOTHING THE SURFACE, REMOVING DEBRIS AND LARGE STONE, AND APPLYING LIME, FERTILIZER AND SEED. REFER TO MANUFACTURERS INSTALLATION DETAILS.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE MAT IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. IN CHANNELS OR SWALES, BEGIN AT THE DOWNSLOPE END, ANCHORING THE MAT AT THE BOTTOM AND TOP ENDS OF THE BLANKET. WHEN ANOTHER ROLL IS NEEDED, THE UPSLOPE ROLL SHOULD OVERLAY THE LOWER LAYER, SHINGLE STYLE, SO THAT CHANNEL FLOWS DO NOT PEEL BACK THE MATERIAL.
4. ROLL THE MATS DOWN A SLOPE WITH A MINIMUM 4" OVERLAP. ROLL CENTER MAT IN A CHANNEL IN DIRECTION OF WATER FLOW ON BOTTOM OF THE CHANNEL. DO NOT STRETCH BLANKETS. BLANKETS SHALL HAVE GOOD CONTINUOUS CONTACT WITH THE UNDERLYING SOIL THROUGHOUT ITS ENTIRE LENGTH.
5. PLACE MATS END OVER END (SHINGLE STYLE) WITH A 6" OVERLAP, USE A DOUBLE ROW OF STAGGERED STAPLES 4" APART TO SECURE MATS.
6. FULL LENGTH EDGE OF MATS AT TOP OF SIDE SLOPES MUST BE ANCHORED IN 6" DEEP X 6" WIDE TRENCH; BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
7. MATS ON SIDE SLOPES OF A CHANNEL MUST BE OVERLAPPED 4" OVER THE CENTER MAT AND STAPLED.
8. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A ROW OF STAPLES 4" APART OVER ENTIRE WIDTH OF THE CHANNEL. PLACE A SECOND ROW 4" BELOW THE FIRST ROW IN A STAGGERED PATTERN.
9. THE TERMINAL END OF THE MATS MUST BE ANCHORED IN A 6"X6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
10. STAPLING AND ANCHORING OF BLANKET SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATIONS.

MAINTENANCE

BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 80% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 2 CALENDAR DAYS

COMPACTION NOTES:

1. THE CONTRACTOR SHALL STRIP THE TOPSOIL AND REMOVE ANY UNSUITABLE SOILS, WITHIN THE PROPOSED GRADING LIMITS PRIOR TO PLACEMENT OF FILL MATERIAL.

2. ALL FILL AREAS SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY OF STANDARD PROCTOR TEST AT OPTIMUM MOISTURE CONTENT.

3. THE COMPACTION TESTS WILL BE CONDUCTED BY A LICENSED TESTING LABORATORY AND RESULTS SUBMITTED TO DESIGN ENGINEER.

SOIL RESTORATION NOTES:

1. TILL COMPOST INTO SUBSOIL TO A DEPTH OF AT LEAST 12" USING CAT-MOUNTED RIPPER, TRACTOR MOUNTED DISC, OR TILLER, MIXING, AND CIRCULATING AIR AND COMPOST INTO SUBSOILS.
2. ROCK-PICK UNTIL UPLIFTED STONE/ROCK MATERIALS OF 4" AND LARGER ARE CLEANED OFF SITE.
3. APPLY TOPSOIL TO A DEPTH OF 6 INCHES ON ALL AREAS BEING RETURNED TO GRASS.
4. VEGETATE AS REQUIRED BY APPROVED PLAN.

TEMPORARY CONSTRUCTION AREA SEEDING NOTES:

1. THE AREA MUST BE ROUGH GRADED AND SLOPES PHYSICALLY STABLE.

2. SEEDING MUST TAKE PLACE WITHIN 24 HOURS OF DISTURBANCE OR SCARIFICATION OF THE SOIL WILL BE NEEDED PRIOR TO SEEDING.
3. TYPICALLY FERTILIZER OR LIME IS NOT USED FOR TEMPORARY SEEDINGS.
4. ANY SEEDING METHOD MAY BE USED THAT PROVIDES UNIFORM APPLICATION OF SEED TO THE AREA.
5. SEEDING

PLANTING SEASON	SPECIES	RATE IN LBS./ACRE
SPRING, SUMMER, OR EARLY FALL	RYEGRASS (ANNUAL OR PERENNIAL)	30
LATE FALL OR EARLY WINTER	WINTER RYE (CEREAL RYE)	100

*MULCH THE AREA WITH HAY OR STRAW AT 2 TONS/ACRE. WOOD FIBER HYDROMULCH OR OTHER SPRAYABLE PRODUCTS APPROVED FOR EROSION CONTROL MAY BE USED IF APPLIED ACCORDING TO SPECIFICATIONS.

LANDSCAPING NOTES:

1. CONTRACTOR SHALL OBTAIN ALL NECESSARY STATE AND LOCAL PERMITS REQUIRED. ALL CONSTRUCTION SHALL CONFORM TO APPLICABLE TOWN OF CARMEL, TOWN OF SOUTHEAST, AND STATE DESIGN STANDARDS AND CODES.

2. IT IS THE LANDSCAPE CONTRACTORS RESPONSIBILITY TO VISIT THE SITE PRIOR TO BID SUBMITTAL, TO BECOME FAMILIAR WITH EXISTING CONDITIONS AT THE SITE.

3. STANDARDS SET FORTH IN THE "AMERICAN STANDARD FOR NURSERY STOCK", ANSI Z60.1 (LATEST EDITION) REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE THE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIALS DELIVERED AND INSTALLED ON THIS PROJECT.

4. ALL PLANTS MUST BE HEALTHY, VIGOROUS AND FREE OF PESTS AND DISEASE.

5. ALL PLANTS MUST BE HARDY UNDER CLIMATE CONDITIONS THAT EXIST AT THE PROJECT SITE AND GROWN AT A NURSERY IN THE SAME HARDINESS ZONE AS THE PROJECT LOCATION.

6. ALL PLANTS MUST BE CONTAINER GROWN OR BALLED AND BURLAPPED AND MEET SIZE REQUIREMENTS AS INDICATED ON THE PLANT LIST.

7. ALL TREES MUST BE STRAIGHT-TRUNKED, INJURY FREE, HAVE A FULL, SYMMETRICAL CROWN (HEAD) AND MEET ALL REQUIREMENTS SPECIFIED (E.G. SINGLE STEM, MULTI-STEM, HEAVY BRANCHED, ETC.).

8. CRABAPPLE AND PEAR VARIETIES ARE CONSIDERED A FALL PLANTING HAZARD. THE CONTRACTOR SHALL TAKE SPECIAL CARE IN PLANTING AND WATERING THESE PLANTS.

9. ANY PROPOSED DEVIATION TO THE LANDSCAPE PLAN MUST FIRST BE REVIEWED AND APPROVED BY THE LANDSCAPE ARCHITECT.

10. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS. THE BID PRICE SUBMITTED WILL ASSUME THAT ALL PLANT MATERIALS DELINEATED WILL BE SUPPLIED AND INSTALLED. ANY DISCREPANCIES IN THE QUANTITIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND/OR DESIGN LANDSCAPE ARCHITECT (OWNER'S REPRESENTATIVE) PRIOR TO COMPLETING A BID PRICE.

11. ALL GRADING AND UTILITY WORK SHALL BE COMPLETED PRIOR TO INSTALLATION OF PLANT MATERIAL AND LANDSCAPE MULCH.

12. THE FINAL LOCATION OF TREES AND OTHER LANDSCAPING SHALL BE DETERMINED IN THE FIELD BASED ON UTILITY STAKEOUT AND SHALL NOT CONFLICT WITH TRAFFIC SIGNS AND/OR UTILITIES. STAKE OUT SHALL BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.

13. ANY CONCERNS RELATED TO SITE CONDITIONS AND/OR PLANT LOCATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

14. PLANTING BACKFILL MIXTURE: 4 PARTS TOPSOIL (ON-SITE OR IMPORTED), 1 PART PEAT MOSS, 1/2 PART WELL ROTTED MANURE AND 10 LBS. 5-0-5 PLANTING FERTILIZER, MIXED THOROUGHLY PER CUBIC YARD.

15. MULCH ALL PLANT BEDS, AND INDIVIDUAL TREES IN LAWN AREAS WITH SHREDDED HARDWOOD BARK MULCH TO A DEPTH OF THREE (3") INCHES UNLESS OTHERWISE SPECIFIED ON PLANTING DETAILS, OR AS DIRECTED BY THE LANDSCAPE ARCHITECT DUE TO SITE CONDITIONS.

16. ANY PLANT WHICH TURNS BROWN, DEFOLIATES OR DIES PRIOR TO FINAL ACCEPTANCE BY THE OWNER, OR DESIGN LANDSCAPE ARCHITECT, SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH THE SAME PLANT (SPECIES, VARIETY AND SIZE) AS SPECIFIED ON THE PLANT SCHEDULE (LIST).

17. THE CONTRACTOR SHALL MAINTAIN ALL PLANT MATERIALS AND LAWN AREAS UNTIL THE PROJECT HAS RECEIVED FINAL ACCEPTANCE BY THE OWNER OR OWNER'S REPRESENTATIVE. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO: WATERING, MULCHING, FERTILIZING, SPRAYING (FUNGICIDE, PESTICIDE, ANTI-DESICANT), AS WELL AS RAISING PLANTS THAT HAVE SETTLED TOO DEEP OR REQUIRE STRAIGHTENING.

18. UPON COMPLETION AND ACCEPTANCE OF THE LANDSCAPING, THE LANDSCAPE MATERIALS SHALL BE GUARANTEED FOR TWO (2) YEARS. THE GUARANTEE SHALL BE INCLUSIVE OF ALL MATERIAL AND LABOR COSTS. AT THE END OF THE GUARANTEE PERIOD THE OWNER'S REPRESENTATIVE WILL INSPECT ALL PLANT MATERIALS. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REQUIRED REPLACEMENTS WITH PLANT MATERIALS MEETING THE SPECIFICATIONS (E.G. SPECIES, SIZE AND CHARACTER).

19. ALL AREAS DISTURBED BY SITE GRADING AND/OR UTILITY INSTALLATION SHALL RECEIVE APPROVED TOPSOIL (BASED ON APPROVED SAMPLES SUBMITTED BY THE CONTRACTOR) AND SPREAD TO A DEPTH NOT LESS THAN SIX (6") INCHES AFTER COMPACTION. TOPSOIL PLACED FOR LAWNS SHALL BE FINE GRADED, SEEDED, MULCHED AND WATERED UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED. THIS IS EXCLUDING FOUNDATION PLANT BEDS, AND ENTRANCE AREAS.

20. LOCATIONS OF EXISTING BURIED UTILITIES SHOWN ON THE SITE PLAN ARE BASED UPON THE BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE TO CALL FOR A UTILITY STAKEOUT PRIOR TO COMMENCING PLANT INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, AND SITE APPURTENANCES WHICH OCCURS AS A RESULT OF LANDSCAPE INSTALLATION OPERATIONS.

21. EXISTING TREES INDICATED TO BE REMOVED SHALL OCCUR UNDER THE SITE CONTRACT FOR THIS PROJECT. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR NEW PLANTINGS OR RESTORATION OF THE DISTURBED AREA (LAWNS, PLANT BEDS, ISLANDS).

22. PRE-EMERGENT HERBICIDE SHALL BE USED UNDER MULCH IN ALL TREE AND PLANT BED AREAS.

23. ALL SHRUB BEDS ADJACENT TO LAWN AREAS SHALL HAVE A SPADED EDGE BORDER, UNLESS METAL EDGE, CONCRETE, OR OTHER BORDER IS SPECIFIED.

TOPSOIL AND SEEDING NOTES:

1. THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR ROUGH GRADING AND RE-SPREADING TOPSOIL IN ALL TURF AND LANDSCAPE AREAS (BEDS AND ISLANDS).

2. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR FINE GRADING AND PREPARATION OF ALL LAWN AND LANDSCAPE AREAS.

3. REMOVE ALL EXISTING VEGETATION DURING GRADING PROCESS.

4. APPLY MINIMUM OF SIX (6) INCHES OF CLEAN TOPSOIL(IMPORTED OR SCREEN ON -SITE) AND FINE GRADE, LEAVING TOPSOIL IN A LOOSE AND FRIABLE CONDITION FOR SEEDING.

5. LIME SOIL OR ADD OTHER ORGANIC AMENDMENTS AS NECESSARY TO ACHIEVE A SOIL pH BETWEEN 5.5 - 7.0.

6. LANDSCAPE CONTRACTOR SHALL WORK OVER LAWN AREAS THAT HAVE REMAINED PARTIALLY INTACT, TOP DRESSING WITH SOIL. SCARIFYING, AND SEEDING TO FORM A SMOOTH, FULL, EVEN LAWN, FREE OF BARE SPOTS, INDENTATIONS, AND WEEDS.

7. SEEDING SHOULD BEGIN IMMEDIATELY UPON COMPLETION OF FINE GRADING. SEED SHOULD BE PRESSED INTO THE SOIL TO CREATE GOOD SEED-TO-SOIL CONTACT, NO DEEPER THAN THE THICKNESS OF THE SEED.

8. FERTILIZING, APPLY 10-0-10 FERTILIZER EVENLY AT THE RATE OF 20 POUNDS PER 1000 SQ FT. NO FERTILIZER CONTAINING PHOSPHORUS IS PERMITTED ON SITE.

9. SEED SHOULD BE APPLIED EITHER BY HAND BROADCASTING OR HYDRO SEEDING. TWO PASSES SHALL BE MADE IN PERPENDICULAR DIRECTIONS TO INSURE PROPER COVERAGE.

10. LAWN SEED MIX

    MIX A: SEEDING RATE: 6 LBS./1,000 SQ.FT
    LOW MAINTENANCE FESCUE LAWN
    PREFERRED SEED : LOW MAINTENANCE GRASS SEED MIX 0R APPROVED EQUAL

    25% FIREFLY HARD FESCUE
    25% BIG HORN GT HARD/SHEEP
    20% INTRIGUE CHEWINGS FESCUE
    20% QUATRO SHEEP FESCUE
    10% MINOTAUR HARD FESCUE

    MIX B: SEEDING RATE: 4LBS./1,000 SQ.FT
    OCCASIONAL WET - WET LOCATIONS:

20% RED TOP	20% VIRGINIA WILD RYEGRASS
20% ALKALI GRASS	20% FOX SEDGE
10% AUTUMN BENTGRASS	10% FOWL BLUEGRASS

11. DRY APPLICATION MULCH
    A. STRAW MULCH SHOULD BE APPLIED TO NEWLY SEEDED AREAS WITHIN 12 HOURS IF HYDRO MULCH IS NOT UTILIZED.
    B. DRY APPLICATION, STRAW: STALKS OF OATS, WHEAT, RYE OR OTHER APPROVED CROPS WHICH ARE FREE OF NOXIOUS WEEDS. WEIGHT SHALL BE BASED ON A 15 PERCENT MOISTURE CONTENT.
    C. DRY APPLICATION: WITHIN ONE DAY AFTER SEEDING, COVER THE SEEDED AREAS WITH A UNIFORM BLANKET OF STRAW MULCH AT THE RATE OF 100 POUNDS PER 1000 SQ FT OF SEEDED AREA.

12. HYDRO APPLICATION: APPLY APPROVED MULCH IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDED RATES OF APPLICATION. APPLY SEEDING MATERIALS WITH AN APPROVED HYDRO SEEDER.

    A.COLORED WOOD CELLULOSE FIBER PRODUCT SPECIFICALLY DESIGNED FOR USE AS A HYDRO-MECHANICAL APPLIED MULCH. ACCEPTABLE PRODUCT: CONWED HYDRO MULCH, CONWED FIBERS, 231 4TH STREET SW, HICKORY, NC

13. FILL TANK WITH WATER AND AGITATE WHILE ADDING SEEDING MATERIALS. USE SUFFICIENT FERTILIZER, MULCH, AND SEED TO OBTAIN THE SPECIFIED APPLICATION RATE. ADD SEED TO THE TANK AFTER THE FERTILIZER AND MULCH HAVE BEEN ADDED. MAINTAIN CONSTANT AGITATION TO KEEP CONTENTS IN HOMOGENEOUS SUSPENSION. PROLONGED DELAYS IN APPLICATION OR AGITATION THAT MAY BE INJURIOUS TO THE SEED WILL BE THE BASIS OF REJECTION OF MATERIAL REMAINING IN TANK.

14. DISTRIBUTE UNIFORMLY A SLURRY MIXTURE OF WATER, SEED, FERTILIZER, AND MULCH AT A MINIMUM RATE OF 57 GALLONS PER 1000 SQ FT (2500 GALLONS PER ACRE). THE OWNER AND PROJECT REPRESENTATIVE MAY ORDER THE AMOUNT OF WATER INCREASED IF DISTRIBUTION OF SEEDING MATERIALS IS NOT UNIFORM.


New York State Stormwater Management Design Manual — Appendix H

H.2 Bioretention

Planting Soil Bed Characteristics

The characteristics of the soil for the bioretention facility are perhaps as important as the facility location, size, and treatment volume. The soil must be permeable enough to allow runoff to filter through the media, while having characteristics suitable to promote and sustain a robust vegetative cover crop. In addition, much of the nutrient pollutant uptake (nitrogen and phosphorus) is accomplished through adsorption and microbial activity within the soil profile. Therefore, the soils must balance soil chemistry and physical properties to support biotic communities above and below ground.

The planting soil should be a sandy loam, loamy sand, loam (USDA), or a loam/sand mix (should contain a minimum 35 to 60% sand, by volume). The clay content for these soils should by less than 25% by volume. Soils should fall within the SM, or ML classifications of the Unified Soil Classification System (USCS). A permeability of at least 1.0 feet per day (0.5"/hr) is required (a conservative value of 0.5 feet per day is used for design). The soil should be free of stones, stumps, roots, or other woody material over 1" in diameter. Brush or seeds from noxious weeds. Placement of the planting soil should be in lifts of 12 to 18", loosely compacted (tamped lightly with a dozer or backhoe bucket). The specific characteristics are presented in Table H.2.

Table H.2 Planting Soil Characteristics

Parameter	Value
PH range	5.2 to 7.00
Organic matter	1.5 to 4.0%
Magnesium	35 lbs. per acre, minimum
Phosphorus (P_2O_5)	75 lbs. per acre, minimum
Potassium (K_2O)	85 lbs. per acre, minimum
Soluble salts	# 500 ppm
Clay	10 to 25%
Silt	30 to 55%
Sand	35 to 60%

H-5

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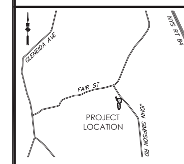

Town of Carmel/Southeast
LOCATION SKETCH
N.T.S.

Client:

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242 West Main Street Suite 100
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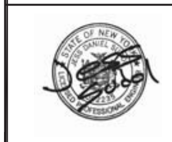
(585) 325-1000
Fax: (585) 325-1691

Principal-in-Charge: Jess Sudol, PE
Project Manager: Chris Laporta, PE
Designed by: Cole Overhoff



Revisions

No.	Date	By	Description
1			

NOTES

CENTENNIAL GOLF COURSE

Town/City: CARMEL/SOUTHEAST
County: PUTNAM
State: NEW YORK

Project No.: 20213150.0001

Drawing No.: C 210
Sheet No.: 7

Scale: N.T.S.

Date: NOVEMBER 2021

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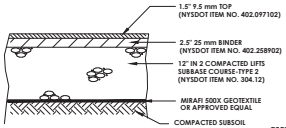
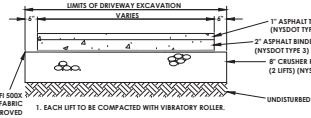
SITE



NOTE: ALL DEPTHS ARE COMPACTED THICKNESSES

1 PAVEMENT SECTION
N.T.S.



2 DRIVEWAY SECTION
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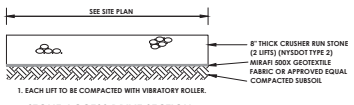

3 STONE ACCESS DRIVE SECTION
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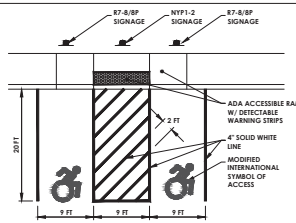

4 ADA ACCESSIBLE PARKING SPACE
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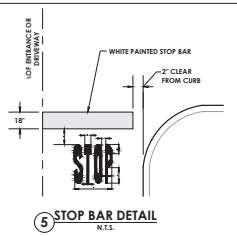

5 STOP BAR DETAIL
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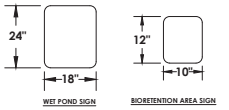
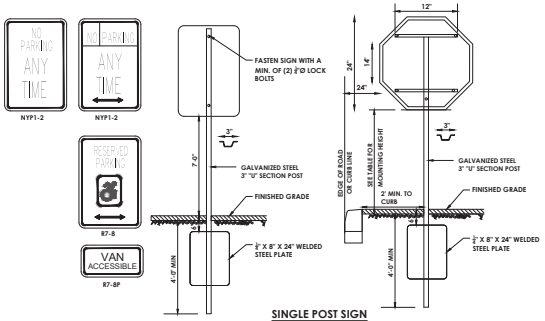


SMP SIGN INFORMATION:

STORMWATER MANAGEMENT PRACTICE - BIORETENTION AREA / WET POND
PROJECT IDENTIFICATION - (SPDES CONSTRUCTION PERMIT #)
MUST BE MAINTAINED IN ACCORDANCE WITH O&M PLAN

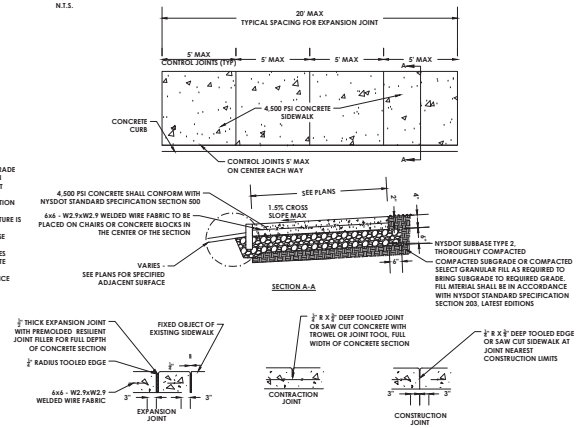
6 SMP SIGN DETAIL
N.T.S.



7 SINGLE POST SIGN MOUNTING DETAIL (SIGN IN LANDSCAPE AREA OR SIDEWALK)
N.T.S.

NOTES:

1. SIDEWALK WIDTH SHALL BE MEASURED FROM THE BACK OF THE CURB UNLESS OTHERWISE SPECIFIED.
2. WHERE IT IS NECESSARY TO PLACE FILL FOR PURPOSE OF BRINGING THE SUBGRADE ELEVATION UP TO A SPECIFIED GRADE, THE FILL MATERIAL PLACED SHALL BE IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATION SECTION 203, LATEST EDITION
3. NYSDOT SUBBASE TYPE 2 SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION SECTION 304, LATEST EDITION.
4. CONCRETE SHALL NOT BE PLACE UNLESS THE AMBIENT AIR SURFACE TEMPERATURE IS ABOVE 40 DEGREES UNLESS DISCUSSED WITH OWNER AND ENGINEER.
5. SIDEWALKS SHALL HAVE A CROSS SLOPE OF 1.5% PER FOOT UNLESS OTHERWISE SPECIFIED ON THE PLANS.
6. ALL EXPOSED CONCRETE SURFACES SHALL BE BROOM FINISHED AND THE EDGES SHALL BE FINISHED WITH A 1.5" RADIUS EDGING TOOL. THE FINISHED CONCRETE
7. SURFACE SHALL BE TREATED WITH CONCRETE SEALER, HARDENER AND DUSTPROOFER. RATE AND METHOD OF APPLICATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.



8 SIDEWALK DETAIL
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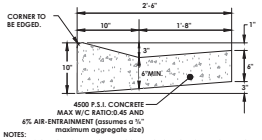
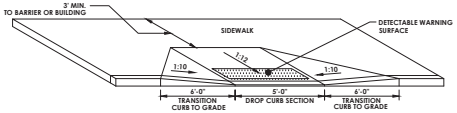


NOTES:

1. EXPANSION JOINTS AND FORMED CONTRACTION JOINTS ARE TO BE EDGED WITH CONCRETE FINISHING TOOLS.
2. CONTRACTION JOINTS TO BE AT 10' INTERVALS AND SHALL BE FORMED OR SAW CUT TO A DEPTH OF 1/2" BELOW THE SURFACE OF THE GUTTER.
3. EXPANSION JOINTS TO BE AT 100' INTERVALS AND SHALL BE FORMED WITH 3/4" WIDE PREMOLDED BITUMINOUS JOINT FILLER. THE FILLER MATERIAL SHALL BE CUT TO CONFORM TO THE CROSS SECTION OF THE GUTTER.

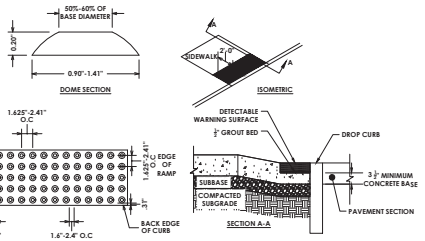
9 CONCRETE GUTTER DETAIL
N.T.S.



NOTES:

1. ALL WORK SHALL CONFORM WITH THE NYSDOT STANDARD SPECIFICATION SECTION 608, LATEST EDITION.
2. SLOPE RAMP AND SIDE FLARES AS INDICATED ON THE PLANS.
3. DETECTABLE WARNING SURFACES SHALL BE PROVIDED ON ALL RAMPS IN ACCORDANCE WITH ADA REQUIREMENTS.

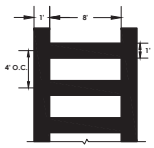
10 PEDESTRIAN RAMP
N.T.S.



NOTES:

1. DETECTABLE WARNING UNIT SHALL BE ADA C OMPLIANT INCLUDING THAT IS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES.
2. QUANTITY OF TRUNCATED DOMES SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY. TO DEPICT REQUIRED SQUARE GRID PATTERN.
3. TRUNCATED DOMES ARE TO BE ALIGNED IN SQUARE GRID PATTERN IN PREDOMINANT DIRECTION OF TRAVEL.
4. DETECTABLE WARNING SYSTEM FIELD IS TO BE 2 FEET DEEP, AND IS TO EXTEND ACROSS FULL WIDTH OF SIDEWALK ACCESS RAMP, BUT NOT UP SIDE FLARES.
5. DETECTABLE WARNING SYSTEM FIELD IS TO BE LOCATED SUCH THAT OUTER EDGE OF WARNING FIELD NEAREST TO STREET IS 2 TO 4 INCHES OFF BACK EDGE OF CURB.
6. COORDINATE COLOR WITH OWNER.

11 DETECTABLE WARNING SURFACE
N.T.S.



NOTE:

1. CROSSWALK COLOR SHALL BE WHITE.

12 CROSSWALK DETAIL
N.T.S.

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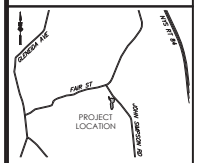

Town of Carmel/Southeast
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Fax: (585) 325-1691
Principal-in-Charge Jess Sudol, PE
Project Manager Chris Laporta, PE
Designed by Cole Overhoff

Revisions

No.	Date	By	Description
1			

DETAILS

CENTENNIAL
GOLF COURSE

Town/City: CARMEL/SOUTHEAST
County: PUTNAM State: NEW YORK

Project No.
20213150.0001

Drawing No. C 211
Sheet No. 8

Scale:
N.T.S.

Date
NOVEMBER 2021

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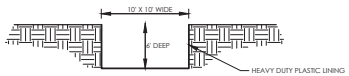
EROSION CONTROL



1 CONCRETE WASH OUT AREA
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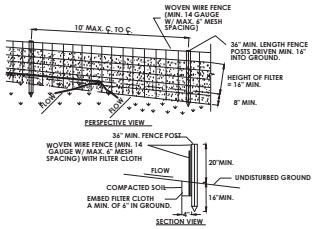
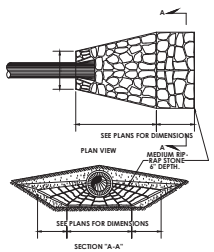


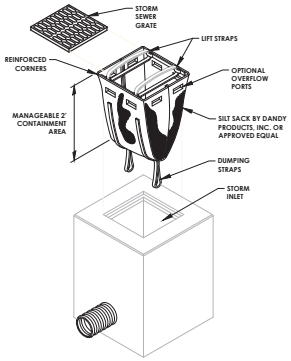
CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 14 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

3 SILT FENCE DETAIL
N.T.S.



4 STONE RIP-RAP DETAIL
N.T.S.



6 SILT SACK DETAIL
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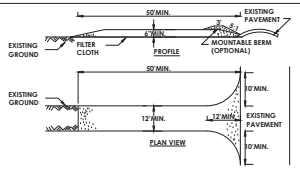
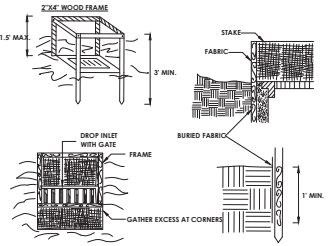


CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN

2 STABILIZED CONSTRUCTION ENTRANCE
N.T.S.

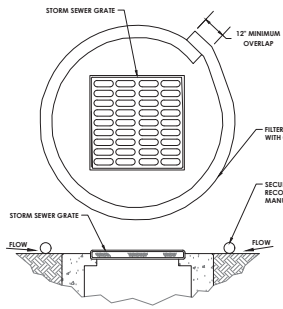


CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FABRIC FOR ADDED STRENGTH.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2"x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.

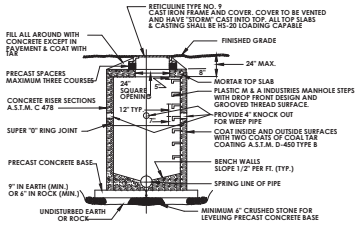
MAXIMUM DRAINAGE AREA 1 ACRE

FILTER FABRIC
5 DROP INLET PROTECTION
N.T.S.

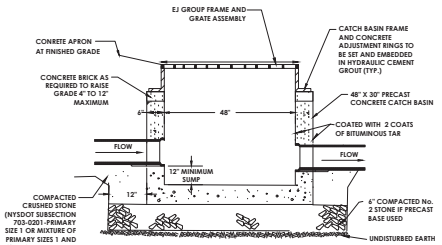


7 INLET PROTECTION IN PAVEMENT
N.T.S.

STORM



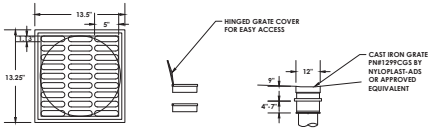
8 STANDARD STORM MANHOLE DETAIL
N.T.S.



NOTES:

1. ALL CONCRETE IN CONTACT WITH ASPHALT PAVEMENT SHALL BE COVERED WITH A TACK COAT IN ACCORDANCE WITH N.Y.S.D.O.T. SECTION 407.
2. CATCH BASINS IN PEDESTRIAN WALKWAYS AND BICYCLE AREAS SHALL HAVE ADA COMPLIANT GRATES.
3. CATCH BASIN SHALL BE PRECAST CONCRETE DESIGNED FOR HS20-44 VEHICULAR LOADING AND 25% IMPACT.
4. FRAME AND COVER SHALL BE DESIGNED FOR HS20-44 VEHICULAR LOADING AND 25% IMPACT.
5. CATCH BASINS HAVING A DEPTH GREATER THAN 48" FROM FINISHED SURFACE TO THE TOP OF THE CONCRETE BASE SHALL BE PROVIDED WITH MANHOLE STEPS.

9 CATCH BASIN DETAIL
N.T.S.

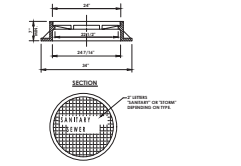


CONNECTION OPTIONS

NOTES:

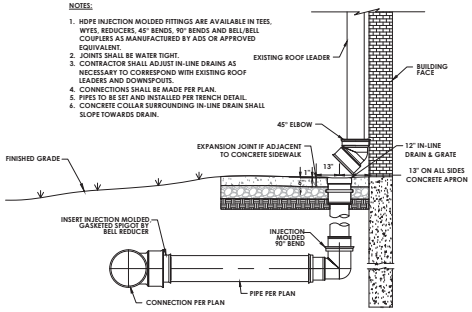
1. INLINE DRAIN SHALL BE BY NYLOPLAST OR APPROVED EQUIVALENT.
2. WHEN IN CONCRETE SIDEWALK AND PAVED AREAS, DRAIN SHALL BE SET IN A 13" WIDE CONCRETE COLLAR FROM THE CENTER OF DRAIN.
3. QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
4. PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT.
5. PIPE AND STRUCTURE SHALL BE SET AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND TRENCH DETAILS.

10 NYLOPLAST DRAIN AND GRATE
N.T.S.

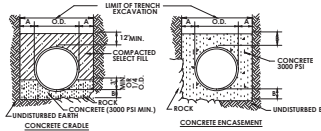


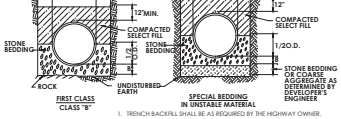
11 PAVEMENT AREA UNDERDRAIN DETAIL
N.T.S.

12 MANHOLE FRAME & COVER
N.T.S.



13 ROOF LEADER AND 12" IN-LINE DRAIN
N.T.S.





PIPE DIA.	DIM. A	DIM. B
UP TO 18"	1.0'	6"
21" TO 36"	1.5'	9"
OVER 36"	1.5'	12"

1. TRENCH BACKFILL SHALL BE AS REQUIRED BY THE HIGHWAY OWNER.
2. SELECT FILL SHALL BE SAND, GRAVEL, AND SIMILAR MATERIAL WHICH SHALL BE FREE FROM CLAY, LOAM, ORGANIC MATERIAL, DEBRIS, FROZEN MATERIAL AND SHALL CONTAIN ONLY SMALL AMOUNTS OF STONE, PEBBLES OR LUMPS OVER ONE INCH IN GREATEST DIMENSION BUT NONE OVER TWO INCHES IN GREATEST DIMENSION.
3. STONE BEDDING SHALL MEAN APPROVED IMPORTED AGGREGATE MEETING THE REQUIREMENTS OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATION, JAN 2, 1990 EDITION, AS REVISED, SUBSECTION 703-02.01 "CRUSHED STONE". PRIMARY SIZE 1 OR A MIXTURE OF PRIMARY SIZES 1 AND 2.
4. COARSE AGGREGATE SHALL MEAN APPROVED IMPORTED AGGREGATE MEETING THE REQUIREMENTS OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATION, JAN 2, 1990 EDITION, AS REVISED, SUBSECTION 703-02.01 "CRUSHED STONE". PRIMARY SIZE 3 AND/OR 4
5. THIS FIGURE APPLIES TO SANITARY MAINLINE AND LATERAL PIPE INSTALLATION AS WELL AS FORCEMAINS.

14 STORM SEWER/SANITARY SEWER BEDDING DETAILS
N.T.S.

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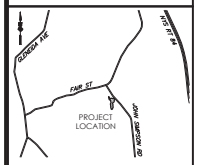
engineering architecture



Town of Carmel/Southeast
LOCATION SKETCH

Client:

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Fax: (585) 325-1691
Principal-in-Charge Jess Sudol, PE
Project Manager Chris Laporta, PE
Designed by Cole Overhoff

Revisions

No.	Date	By	Description
1			

DETAILS

CENTENNIAL
GOLF COURSE

Town/City: CARMEL/SOUTHEAST
County: PUTNAM State: NEW YORK

Project No.
20213150.0001

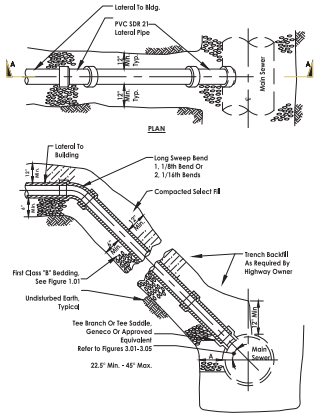
Drawing No. C 212
Sheet No. 9

Scale: N.T.S.

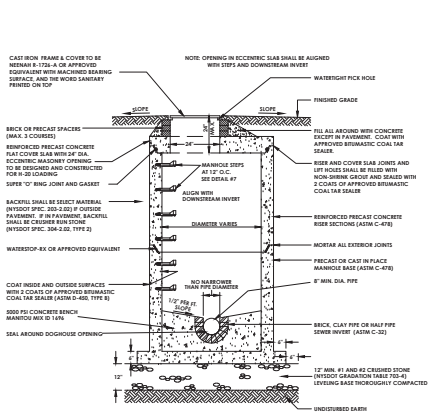
Date NOVEMBER 2021

NOT FOR CONSTRUCTION

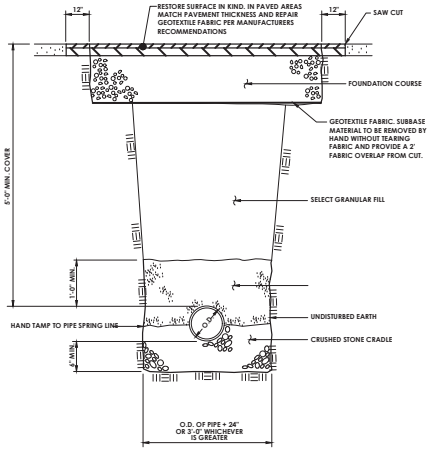
SANITARY



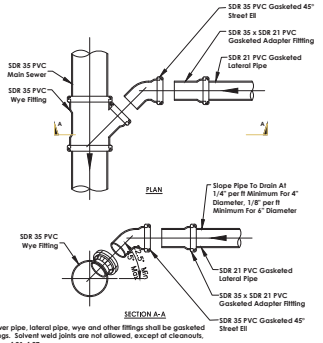
1 LATERAL CONNECTION TO SANITARY SEWER
N.T.S.



2 SANITARY SEWER MANHOLE
N.T.S.

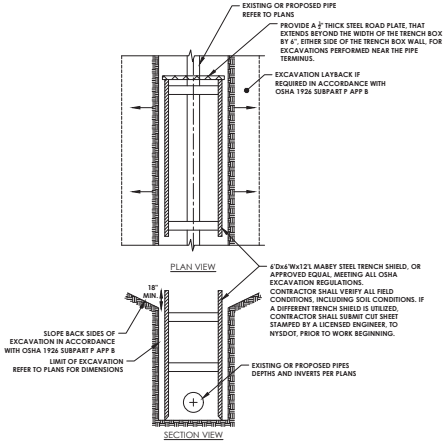


3 TYPICAL SEWER TRENCH SECTION IN PAVEMENT AREAS
N.T.S.

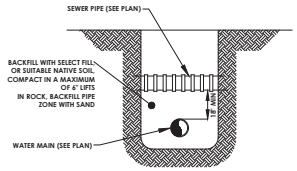


NOTES:
1. Main sewer pipe, lateral pipe, wye and other fittings shall be gasketed type fittings. Solvent weld joints are not allowed, except at cleanouts, see Figures 4.01-4.07.
2. See Figure 1.01 for pipe bedding and backfill.

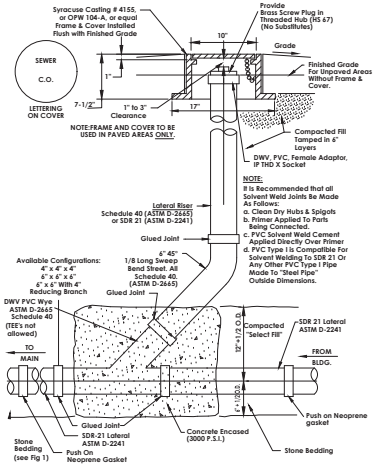
4 NEW LATERAL WYE CONNECTION TO NEW SEWER
N.T.S.



5 TYPICAL TRENCH EXCAVATION DETAIL
N.T.S.



6 WATER/SEWER MAIN CROSSING
N.T.S.



7 SANITARY CLEANOUT DETAIL
N.T.S.

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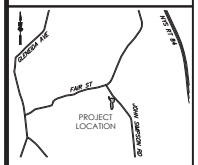
engineering architecture



Town of Carmel/Southeast
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DETAILS

CENTENNIAL GOLF COURSE

Town/City: CARMEL/SOUTHEAST
County: PUTNAM State: NEW YORK

Project No.
20213150.0001

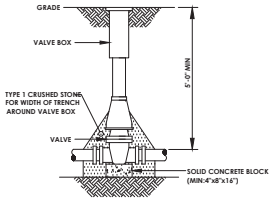
Drawing No. C 213
Sheet No. 10

Scale: N.T.S.

Date NOVEMBER 2021

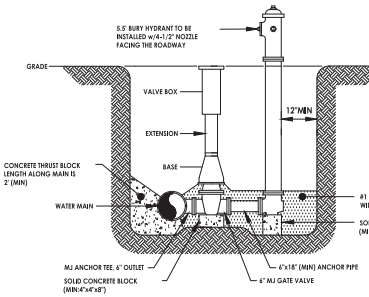
NOT FOR CONSTRUCTION

WATER

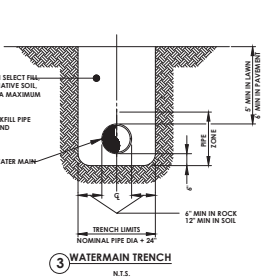


NOTE:
1. VALVE BOX SHALL BE CENTERED ON VALVE AND SET ON COMPACTED BACKFILL.
2. VALVE SHALL NOT SUPPORT VALVE BOX.
3. ALL BODY AND BONNET BOLTS SHALL BE STAINLESS STEEL.
4. ALL VALVES SHALL BE OPEN LEFT EXCEPT VALVES 12" AND SMALLER

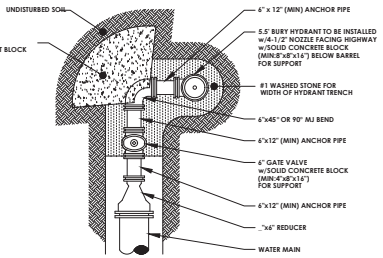
1 WATER VALVE
N.T.S.



2 PERPENDICULAR HYDRANT ASSEMBLY
N.T.S.

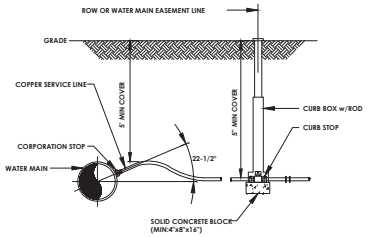


3 WATERMAIN TRENCH
N.T.S.

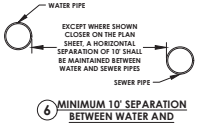


NOTETO BE USED WHEN WATER MAIN WILL NOT BE EXTENDED.

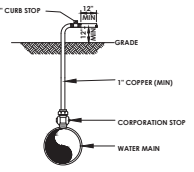
4 DEAD END PERPENDICULAR HYDRANT ASSEMBLY
N.T.S.



5 SERVICE INSTALLATION
N.T.S.

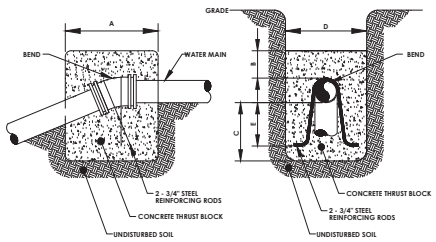


6 MINIMUM 10' SEPARATION BETWEEN WATER AND SEWER PIPES
N.T.S.



NOTE:
IMMEDIATELY PRIOR TO THE AUTHORITY PLACING WATER MAIN IN SERVICE CONTRACTOR SHALL REMOVE ALL CORPORATIONS ASSOCIATED WITH TEMPORARY FACILITIES (I.E. SAMPLING TAPS, ETC.) AND REPLACE WITH THREADED BRASS PLUGS. PLACEMENT OF THREADED BRASS PLUG MUST BE WITNESSED BY A MCWA REPRESENTATIVE.

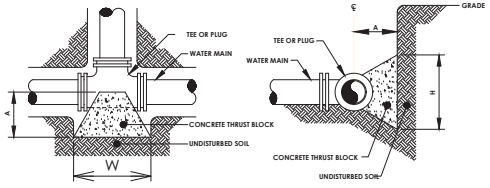
7 DISINFECTION/BLOW-OFF/SAMPLING TAP
N.T.S.



PLAN ELEVATION

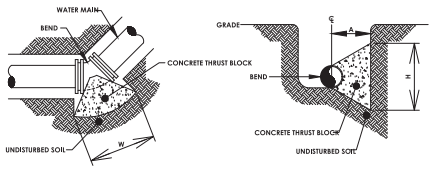
BEND *	MINIMUM VOLUME OF CONCRETE	MINIMUM ALLOWABLE DIMENSIONS FOR VERTICAL THRUST BLOCKS (IN FEET)				
	DIMENSIONS	A	B	C	D	E
8" x 11-1/4"	0.35 C.Y	1.0	2.5	1.0	2.0	0.5
8" x 22-1/2"	0.79 C.Y.	1.5	2.5	1.5	2.0	1.0
8" x 45°	1.40 C.Y.	1.5	2.5	1.5	2.5	1.5

8 VERTICAL THRUST BLOCK
N.T.S.



PLAN ELEVATION

9 HORIZONTAL THRUST BLOCK FOR TEES AND PLUGS
N.T.S.

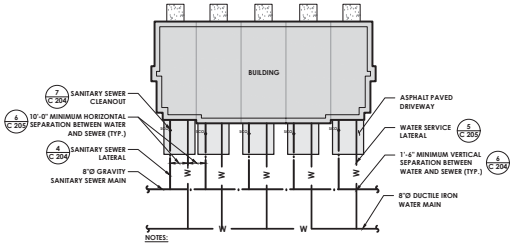


PLAN ELEVATION

MINIMUM HORIZONTAL THRUST BLOCK DIMENSIONS, IN FEET, TO BE POURED AGAINST UNDISTURBED SOIL			
FITTING	H	W	A
8" x 11-1/4" BEND	1.0	2.0	1.5
8" x 22-1/2" BEND	1.5	3.0	1.5
8" x 45° BEND	2.0	4.0	2.0
8" x 90° BEND	3.0	6.0	2.5
8" TEE OR PLUG	2.5	5.0	2.0

NOTE: WIDTH (W) OF BLOCK SHALL NOT EXCEED TWICE THE HEIGHT (H).

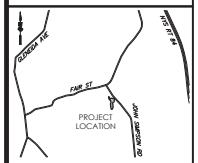
10 HORIZONTAL THRUST BLOCK FOR BENDS
N.T.S.



NOTES:
1. EACH UNIT SHALL RECEIVE AN INDIVIDUAL WATER AND SEWER SERVICE CONNECTION.
2. A MINIMUM HORIZONTAL SEPARATION OF 10'-0" SHALL BE PROVIDED BETWEEN WATER AND SEWER UTILITIES.
3. A MINIMUM VERTICAL SEPARATION OF 1'-6" SHALL BE PROVIDED BETWEEN WATER AND SEWER UTILITIES.
4. UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH TRENCH DETAILS 3/C 204 AND 4/C 204.
5. SANITARY SEWER CLEANOUT SHALL BE INSTALLED IN ACCORDANCE WITH DETAIL DEPENDENT ON PLACEMENT WITHIN GRASS OR PAVEMENT.

11 WATER AND SEWER LATERAL CONNECTION AT BUILDING
N.T.S.

PASSERO ASSOCIATES
engineering architecture



Town of Carmel/Southeast
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Principal-in-Charge Jess Sudol, PE
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Designed by Cole Overhoff

Revisions

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DETAILS

CENTENNIAL
GOLF COURSE

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Project No.
20213150.0001

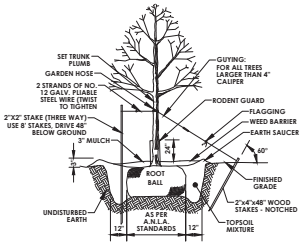
Drawing No. C 214
Sheet No. 11

Scale: N.T.S.

Date NOVEMBER 2021

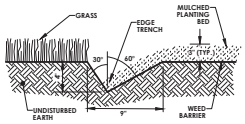
NOT FOR CONSTRUCTION

LANDSCAPING & LIGHTING

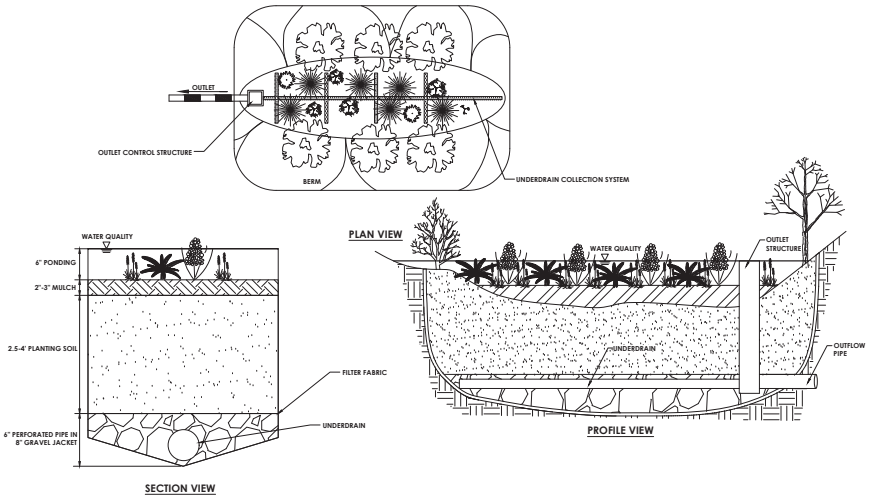


STAKING: FOR ALL TREES 4" CALIPER OR LESS AND EVERGREENS OVER 4' HEIGHT

1 **TREE PLANTING DETAIL**
N.T.S.

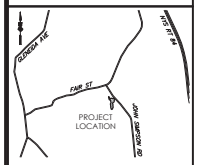


2 **PLANTING BED EDGE TRENCH**
N.T.S.



3 **BIORETENTION AREA DETAIL**
N.T.S.

PASSERO ASSOCIATES
engineering architecture



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Principal-in-Charge Jess Sudol, PE
Project Manager Chris Laporta, PE
Designed by Cole Overhoff

Revisions

No.	Date	By	Description
1			

DETAILS

CENTENNIAL
GOLF COURSE

Town/City: CARMEL/SOUTHEAST
County: PUTNAM State: NEW YORK

Project No.
20213150.0001

Drawing No.
C 215

Sheet No.
12

Scale:
N.T.S.

Date
NOVEMBER 2021

NOT FOR CONSTRUCTION

KEANE & BEANE P.C.
ATTORNEYS AT LAW

■ **Main Office**
445 Hamilton Avenue
White Plains, NY 10601
Phone 914.946.4777
Fax 914.946.6868

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Phone 845.896.0120

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New York, NY 10022
Phone 646.794.5747

RICHARD L. O'ROURKE
Principal Member
ro'rourke@kblaw.com

November 12, 2021

Mr. Craig Paeprer, Chairperson
Planning Board
Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541

Re: Centennial Golf Properties and Toll Brothers
Centennial Townhomes
185 John Simpson Road (44.2-2.1) and John Simpson Road (44.2-4.2)
Letter of Intent – Site Plan Modification and Lot Line Adjustment
Zoning District: Residential

Dear Mr. Paeprer and Members of the Planning Board:

On behalf of our client, Centennial Golf Properties and Toll Brothers, we are respectfully requesting to be added to the December 9, 2021, Planning Board agenda for site plan modification and lot line adjustment regarding the development of 63 townhomes at the southwest corner of John Simpson Road and Fair Street in the Town of Carmel. A separate application is being made to the Town of Southeast requesting approval for a 181-space surface parking lot to serve the Centennial Golf Club.

The Project area is located at the northern tip of the Lakes and Meadows courses, north of the existing clubhouse and pavilion.

Existing Conditions

The properties at 185 John Simpson Road (97 acres) and John Simpson Road (23 acres) are currently developed as the Centennial Golf Club (CGC). A portion of 185 John Simpson Road is located in the Town of Southeast (164 acres). CGC offers three 9-hole courses identified as the "Meadows", "Lakes" and "Fairways." Fairways is in the Town of Carmel while Meadows is in the Town of Southeast. Lakes is in both towns.

The western portion of the site contains a wood lot and State and Federal wetlands. The eastern portion contains an underutilized and outdated 271-space surface parking lot which serves the CGC, a pond, and golf practice areas, tees, greens, traps, fairways, and golf cart paths.

The Project area gradually slopes up from John Simpson Road and Fair Street to about the location of the practice areas and the wetland buffer area, and then begins to slope down toward the southwest corner of the property.

Proposal

The proposal is to construct a 63-unit townhouse community with a clubhouse and pool for the residents in the Town of Carmel, and a 181-space surface parking lot in the Town of Southeast to serve CGC. The golf practice area and the underutilized 271-space parking lot will be eliminated to facilitate this Project.

The townhomes are all three bedroom units (a total of 189 bedrooms). Fifty-one units will be constructed where the existing surface parking lot and a former meadow is located. A resident clubhouse and pool will be located between the townhomes and Fair Street. Access to these units and the resident clubhouse and pool will be from John Simpson Road off the existing driveway for CGC. A new curb cut will be installed on Fair Street for emergency vehicle access only to satisfy the requirements of the Fire Code of New York State.

Twelve units will be constructed along Fair Street on an access drive that will run parallel to Fair Street. One new curb cut is proposed on Fair Street for ingress and egress, and one curb cut is required for emergency vehicles only to satisfy the requirements of the Fire Code of New York State.

The Project includes the realignment of driveways and installation of new private drives for the townhomes, new water and sewer lines, on-site stormwater management, and bioretention areas, the replacement of a pump station a partial demolition of a portion of the existing cart barn, new/realigned cart paths, first tee modifications to both Lakes and Meadows, and installation of a new modern 181-space surface parking lot on the east side of John Simpson Road in the Town of Southeast for Centennial Golf Club patrons. A lot line adjustment is necessary to create a 24-acre parcel for the townhome development. Some tree and landscaping removal will occur in the open golf course areas; the wood lot and wetlands will not be disturbed to facilitate this project.

Water supply and wastewater generation by the Project will be connected to Carmel Water District #2 and Carmel Sewer District #2.

Green infrastructure methods will be used to meet the requirements of the New York State Stormwater Management Design Manual relative to water quality and quantity

on the site. Stormwater management upgrades are also proposed that meet the current New York City Department of Environmental Protection (NYCDEP).

The outdated surface parking lot lacks sufficient lighting and positive drainage. The proposed parking lot in the Town of Southeast will offer dark sky compliant lighting, proper drainage, and ample landscaping.

Comprehensive Plan

The Town of Carmel Comprehensive Master Plan 2000 focuses on population characteristics, the environment, transportation and community facilities. Chapter 8 summarizes the policies and goals of the community to protect the existing development pattern, tax base, and commercial areas, while further protecting the natural environment. The Project is in conformance with the following goals of the Comprehensive Plan:

Land Use: *Carmel should establish a balance among protection of the natural environment and resources, maintaining quality neighborhoods, providing necessary community services and insuring a sound economic base.*

It is the desire of the community to balance the protection of natural resources with the high quality of life for its residents, including the desire for a diverse housing stock. The Project will provide 63, three-bedroom, market-rate townhomes on a 24-acre parcel. The townhouse community will be developed in an area of the property that has been previously developed and contains existing impervious surfaces.

Environmental Protection: *Carmel should preserve its natural resources and protect the quality of drinking water supplies.*

This goal recognizes the need to protect watercourses, wetlands, steeply sloped lands and an integrated open space system. Approximately 97% of the Project site have slopes of 10% or less. Slopes up to 15% can be found in the northwest corner of the property. This area and the adjacent wetlands will not be disturbed by this Project. Stormwater management and bioretention areas will be designed to manage on-site runoff relative to water quality and quantity in compliance with the New York State and New York City Department of Environmental Protection Stormwater Management regulation.

Infrastructure: *Carmel should support its existing settled neighborhoods and commercial and industrial areas by maximizing existing public sewer capabilities, ensuring sound environmental operation of private septic systems, and constructing or expanding sewer districts.*

This goal is an extension of the environmental protection goal in that it is the desire to ensure there is adequate water and sanitary sewer collection, distribution, and treatment facilities to support the needs the Town hamlet centers. It is also stated that Carmel should take appropriate action to continue to protect its water supply from contamination and expand potable water districts as the need arises.

It should be noted that CGC has contributed $3M+ in capital costs over the past 25+ years to the Town of Carmel for improvements to the infrastructure and capacity of CSD#2 for the benefit of the golf course, and anticipated residential developments on the property(ies) that never came to fruition. It is anticipated that there is adequate infrastructure and capacity at the street to support the 63-unit townhouse development.

Economic Development: *Carmel should sensitively develop its economic sector so as to strengthen its tax base consistent with the other goals of this plan.*

CGC is an economic generator in the Hudson Valley, offering 27 holes of golf, golf school and camp, private lessons, hosting special and catered events, fundraisers for charities, and is home to the Annual Centennial Troon Challenge. A greater focus will be on supporting the existing offerings at CGC, such as the Centennial Troon Challenge, and TroonFit, which raises awareness of the health benefits related to playing golf and promotes non-golf fitness activities such as yoga and running. The townhouses will provide a housing choice that is complementary to the community character, and it will add to the Town's tax base with minimal impact on public services, infrastructure, and the environment. The Project is likely to stimulate economic growth in the town by providing new services to support the residential development. Refer to the Fiscal Analysis Report prepared by Storrs Associates, LLC, dated October 18, 2021.

State Environmental Quality Review Act (SEQR)

The Centennial Golf Club was developed in the mid 1990's, and was the subject of environmental impact statements (EIS) pursuant to the State Environmental Quality Review Act (SEQRA) culminating in the adoption of a Findings Statement. The project consisted of the development of 321 acres in the Towns of Carmel and Southeast as a 27-hole golf course, including a clubhouse with a pro shop and other

amenities, a pavilion, a cart storage building and parking areas. The Findings Statement was issued in February 1996.

This project received the following approvals:

1. Site Plan, Subdivision, Tree Conservation Law, and Wetland Approvals, and an Earthwork Operations Permit from the Town of Carmel.

2. Special Permit, Site Plan, Subdivision, and Wetland Approvals from the Town of Southeast.

3. Curb Cut, Highway Work Permit, and Sewer System Design Approvals from Putnam County.

4. A Protection of Waters, Dam, and State Pollutant Elimination Discharge System Permits (SPDES) from New York State Department of Environmental Conservation.

5. A Section 404 Nationwide Permit from the US Army Corp of Engineers.

The EIS evaluated significant environmental impacts associated with the construction of the golf course. Of notable concern was:

- blasting to aid in earth removal;
- excavation and grading of approximately 28.8 acres within the 15 to 20% slope category;
- groundwater aquifer and well protection, including capacity and potential impairment concerns for neighboring wells requiring water quality monitoring for 10 years after completion of the project;
- vegetation removal of 92 acres of Woodlands, 27 acres of Old Field, 78 acres of Field/Residential, and 0.6 acres of Wooded Swamp;
- a traffic impact study;
- a fiscal impact analysis; and
- the extension of the water and sewer districts to adequately serve the project.

The proposal to construct 63 townhouse units to replace an existing surface parking lot does not present any significant environmental impacts on the environment. The FEAF and supporting documentation identify that 97% of the Project area contains 10% or less slope; blasting is not proposed; there are no threatened or endangered plant or animal species in the Project area; and there are no significant impacts on ground water, wetlands, the transportation network, utilities, public services, noise, air or odors.

This Project presents a benefit to the community by eliminating an underutilized and outdated surface parking lot with non-dark sky compliant lighting; providing a new, modern housing choice for the community; and it will realize an increase in tax revenue for the benefit of the school district and the Town of Carmel.

In the Land Use and Zoning section of the Findings Statement, it is noted that during the preparation of the DEIS, the Project Sponsor (CGC) considered hypothetical residential development, even though no proposal for the development had been made. The Findings Statement points out that if and when an actual proposal is made to the Planning Board, the proposal will be reviewed on its own merits, including a site-specific environmental analysis.
CGC has as intimate knowledge of these properties and has been good stewards of the land for the past 30 years. With that in mind, this Project has been designed to ensure mutual benefits for the applicant and the community by protecting the natural environment, providing a housing choice and a continuing quality recreation facility to the community, and providing tax revenue while creating little to no impact on the existing infrastructure and public services.

The following information is being provided to supplement the Part 1 Full Environmental Assessment Form for this Project:

Fiscal Analysis

A Fiscal Analysis was conducted by Storrs Associates, LLC, October 19, 2021, and is included with the Project materials. The report concludes that the increase in assessment results in an increase in annual tax revenue of $845,998, shared by the Carmel Central School District, Reed Library, and ambulance and fire service. Over a period of ten years, this adds $8,459,976 in new tax revenue.

Water and Sewer

The site is served by municipal water (Carmel Water District #2) and municipal sewer (Carmel Sewer District #2). The sewer system will connect to the clubhouse gravity main where it will be conveyed to a new pump house near Fair Street. From there it will be conveyed to the existing forcemain in the Fair Street right-of-way. A new 8" water service will be connected to the existing watermain in the Fair Street right-of-way.

Water usage at the existing golf course and country club based on actual usage records during the spring to summer period is 132 gallons per day (gpd). This was drawn from billing records from the clubhouse, cart barn and kitchen.

According to the New York State Department of Environmental Conservation (NYSDEC) Design Standards for Intermediate Sized Wastewater Treatment Systems, March 2014, a residential use is expected to have a water demand and wastewater generation of 110 gpd per bedroom for post-1994 plumbing fixtures.

The 63-unit townhouse development (a total of 189 bedrooms) has a demand of 20,790 gpd for water and will generate liquid waste to the municipal sewer system at the same rate. There is adequate water and sewer infrastructure and capacity to support the 63-unit residential development.

Wetlands

New York State wetlands are located near the center of the property, which is also the western limits of the area of disturbance. There is a wetland delineation in proximity to the majority of the development area which was completed in 2019 by Ecological Associates and the 100-foot buffer is identified on the site plan. Along Fair Street the 2021 delineation is pending regulatory verification. Currently, the golf practice area consisting of tees, traps, fairways and greens, and a former pasture are located within the 100-foot buffer. Regrading is necessary within the buffer to remove the golf practice area and pasture to construct the stormwater management areas.

Stormwater

The Project site is located within the New York City Department of Environmental Protection (NYCDEP) watershed. The Project includes the disturbance of 15+/-

acres, which is subject to coverage under the State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared in conformance with the most current version of the New York State Stormwater Management Design Manual and New York State Standards and Specifications for Erosion and Sediment Control. Since the project is within a NYSDEP watershed, review of the SWPPP by the NYSDEP is required. An Erosion and Sediment Control Plan will be employed before construction begins, and properly maintained throughout construction to minimize adverse effects associated with sedimentation and erosion on adjacent land and water resources.

Traffic

Putnam County required the installation of a left turn lane at the main entrance of CGC on John Simpson Road when the golf course was constructed. The entrance to the Townhouses will use this main entrance and will benefit from the left turn lane.

According to the SEQR Findings Statement, the 27-hole golf course was projected to generate 87, 91 and 124 vehicle trips during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively.

Passero Associates prepared a Traffic Generation letter, dated November 8, 2021, Exhibit A of the Full Environmental Assessment Form (FEAF), analyzing the existing 27-hole golf course, and the addition of 63 residential units. The Institute of Transportation Engineers (ITE) Trip Generation 10th Edition Manual Research Data (2017) was used for this analysis.

ITE Trip Generation data has improved over the years based on actual traffic data and scenarios for nearly every type of land use. The 1994 trip generation data provided for the 27-hole golf course is significantly higher than the current ITE 10th Edition Manual Research Data for the same land use.

The peak weekday morning trips for a 27-hole golf course decreased from 87 trip to 48 trip between 1994 and 2017, a 44% decrease. The peak weekday evening trips decreased from 91 to 79 trips between 1994 and 2017, a 13% decrease.

The analysis using 2017 ITE data concluded that the proposed 63 residential units will generate roughly 29 more trips during the weekday morning peak hour and 36 more trips during the weekday evening peak hour.

Comparing the 1994 approval to the current proposal there will be 10 less trips during the weekday morning peak hour and 24 more trips during the evening peak hour. These projections are similar to the 1994 projections for the development of a 27-hole golf course with clubhouse, which necessitated the installation of a left turn lane on John Simpson Road northbound at the entrance driveway, an additional approach lane on John Simpson Road at the intersection of Fair Street, and a traffic signal at the intersection of John Simpson Road and Fair Street. These improvements, designed and implemented by Putnam County, required a contribution by CGC for their fair share of the improvements to ensure the traffic generated by the golf course would not exacerbate traffic flows on the existing transportation network.

The general industry practice for many municipalities is that an intersection should be analyzed for impact when a proposed development generates 100 or more new trips through an intersection. Although the traffic patterns will likely be altered by the proposed development, it is not anticipated that the proposed development will increase the traffic volumes by 100 or more vehicles during the peak hour at any specific intersection. Therefore, it is Passero Associates' opinion that no further traffic impact analysis is required as a result of traffic that would be generated by the proposed development.

Parking

Each townhouse will be constructed with an attached 2-car garage with space in the driveway for two guests to park. This townhouse community also includes a 2,400 sq. ft. clubhouse with a pool. The parking requirement for a townhouse is two spaces per dwelling. There is no parking requirement for the tenant clubhouse and pool.

The townhouse units require 126 spaces, and an additional 18 spaces are provided throughout the community for guests and users of the clubhouse and pool; a total of 144 spaces. There is sufficient on-site parking to accommodate the 63-unit townhouse community.

Endangered, Threatened and Rare Species and Significant Habitats

According to the NYSDEC EAF Mapper's automated response, there are known occurrences of the northern long-eared bat in the vicinity of the site. The US Fish & Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system was used to generate an Official Species List and final designated critical habitat analysis. The IPaC, (Exhibit E, FEAF Part 1), identifies the Indiana bat (State and

Federally endangered), the northern long-eared bat (State and Federally threatened), and the bog turtle (State endangered and Federally Threatened) as species in the vicinity of the Project site. However, the USFWS also concluded that there are no critical habitats within the project area under their jurisdiction that would support these species.

There is minimal tree removal required to facilitate this project. Most of the trees are located on the golf course with some clearing anticipated in the 100-foot wetland buffer. CGC proposes to mitigate the potential impacts to the bat species by limiting tree removal to the period between November 1st and March 31st, as during this time, the bats would be hibernating and not present on site. If the bog turtle were to exist on the site, the species would most likely be located within the wetland area, which will not be disturbed.

Code Compliance

No area variances are required to facilitate this project. In accordance with the Town of Carmel Code, Section 156-61 – Zoning, site plan modification approval is required from the Planning Board for the construction of a 63-unit townhouse development at 185 John Simpson Road on a new 24-acre parcel. In addition, the Planning Board is authorized under Section 156-60B(2)(c), subject to Section 156-61M to grant a lot line adjustment.

The proposed residential development is as-of-right in the R Residential district and meets all of the lot, area, yard, bulk, and density requirements. The proposed pattern of development promotes the most appropriate and efficient use of land by:

- Eliminating an underutilized parking area.
- Providing a housing choice in the community.
- Maintaining the natural and scenic qualities of the Town of Carmel.
- Preserving areas of ecological significance on the site.
- Minimizes the amount of land required for roads and utilities by using an existing access point and connecting to existing utilities.

The proposed residential development is in full compliance in accordance with the interpretation of the Zoning Board of Appeals approved on May 27, 2021.

KEANE & BEANE P.C.
ATTORNEYS AT LAW

We look forward to presenting the Site Plan Application to the Planning Board at your meeting on November 18th.

In support of our application attached please find enclosed:

(11) Letters of Intent
(11) Site Plan Applications (Residential), signed and notarized
(11) Site Plan Applications (Golf Course), signed and notarized
(11) Full Environmental Assessment Forms (FEAF)
(5) Full size sets of the Site Plans, including floor plans and elevations
(1) CD (in .pdf format) containing an electronic version of the Site Plan
(2) Disclosure Statements
(11) Site Plan Completeness Certification Forms
All supplemental studies, reports, plans and renderings
(2) Copies of the current deed
(2) Copies of all easements, covenants and restrictions
(1) List of property owners within 500 feet to be certified by Assessor
(1) Application fee $38,000
(11) Subdivision Applications (Lot Line Adjustment), signed and notarized with drawing
(11) Fiscal Analysis for Proposed Residential Development

If you have any questions or require any additional information, please contact Christopher LaPorta at 585-455-0157 or claporta@passero.com.

Very truly yours,

Richard L. O'Rourke

RLO/sb
cc: Christopher J. LaPorta, P.E., CDT
David Liebowitz

xc: Chief of Carmel Fire Department

V2

TOWN OF CARMEL
SITE PLAN APPLICATION INSTRUCTIONS

CENTENNIAL TOWN HOMES

The Town of Carmel Planning Board meetings are held twice a month, on the second and fourth Wednesday's, at 7:00 PM at Carmel Town Hall, 60 McAlpin Avenue, Carmel

The submission deadline is 10 days prior to the Planning Board meeting. New site plan applications that have been deemed complete will be placed on the agenda in the order they are received.

No application will be placed on the agenda that is incomplete

Pre-Submission:
Prior to the formal submission of the site plan, a pre-submission conference may be requested by the applicant to be conducted with representatives from the Town, which may include the Town Planner, Town Engineer, Director of Code Enforcement and/or the Planning Board Attorney. This conference will serve to educate the applicant on the process he/she must follow, clarify the information required to submit a complete site plan application, and to highlight any specific areas of concern. You may arrange a pre-submission conference through the Planning Board Secretary at (845) 628-1500 extension 190.

Submission Requirements:
At least 10 days prior to the Planning Board meeting, the site plan application shall be submitted to the Planning Board Secretary as follows:

All site plans shall be signed, sealed and folded with the title box legible. The application package shall include:

- ☒ 11 copies of the Site Plan Application Form, signed and notarized.
- ☒ 11 copies of the SEQR Environmental Assessment Form (use of short form or long form shall be determined at pre-submission conference).
- ☒ 5 full size sets of the Site Plan (including floor plans and elevations)
- ☒ 1 CD (in pdf. format) containing an electronic version of the Site Plan
- ☒ 2 copies of the Disclosure Statement
- ☒ 11 copies of the Site Plan Completeness Certification Form
- ☒ All supplemental studies, reports, plans and renderings.
- ☒ 2 copies of the current deed.
- ☒ 2 copies of all easements, covenants and restrictions.
- ☒ The appropriate fee, determined from the attached fee schedule. Make checks payable to the *Town of Carmel.*

Rose Trombetta 12/22/21
Planning Board Secretary; Date

Richard Franzetti 12/22/2021
Town Engineer; Date

TOWN OF CARMEL
SITE PLAN APPLICATION

Per Town of Carmel Code – Section 156 - Zoning

SITE IDENTIFICATION INFORMATION		
Application Name: Centennial Golf Townhomes	**Application #** 21-0019	**Date Submitted:** 11/08/21
Site Address: *No.* 185 *Street:* John Simpson Road *Hamlet:* Carmel		
Property Location: *(Identify landmarks, distance from intersections, etc.)* Centennial Golf Club (SW corner John Simpson Rd. and Fair St.)		
Town of Carmel Tax Map Designation: *Section* 44 *Block* 2 *Lot(s)* 4.2 & 21	**Zoning Designation of Site:** Residential (R)	
Property Deed Recorded in County Clerk's Office *Date* 03/07/08 *Liber* 1799 *Page* 217	**Liens, Mortgages or other Encumbrances** *Yes* *No*	
Existing Easements Relating to the Site *No* *Yes* (circled) *Describe and attach copies:* Utility	**Are Easements Proposed?** *No* *Yes* (circled) *Describe and attach copies:* Utility + Access	
Have Property Owners within a 500' Radius of the Site Been Identified? *Yes* (circled) *No* *Attached List to this Application Form*		

APPLICANT/OWNER INFORMATION		
Property Owner: Centennial Golf Properties	**Phone #:** 845-225-5700 **Fax#:**	**Email:** NA
Owners Address: *No.* 185 *Street:* John Simpson Road *Town:* Carmel *State:* NY *Zip:* 10512		
Applicant (If different than owner): Centennial Golf Club and Toll Brothers	**Phone #:** **Fax#:**	**Email:**
Applicant Address (If different than owner): *No.* *Street:* *Town:* *State:* *Zip:*		
Individual/ Firm Responsible for Preparing Site Plan: Passero Associates (Christopher LaPorta, P.E.)	**Phone #:** **Fax#:** 585-455-0157	**Email:** claporta@passero.com
Address: *No.* 17 *Street:* Front Street *Town:* Newburgh *State:* NY *Zip:* 12550		
Other Representatives: Larry Boudreau	**Phone #:** 404-357-9789 **Fax#:**	**Email:** lboudreau129@gmail.com
Owners Address: *No.* 185 *Street:* John Simpson Road *Town:* Carmel *State:* NY *Zip:* 10512		

PROJECT DESCRIPTION
Describe the project, proposed use and operation thereof:
To construct a 63 unit townhome development with a clubhouse and pool at the southwest corner of John Simpson Road and Fair Street, eliminating an underutilized parking lot at the Centennial Golf Club in the Town of Carmel. The project includes installation of on-site stormwater management areas, cart path realignment, new curb cuts on Fair Street for ingress/egress and emergency access to meet fire code requirements, and a lot line adjustment to create a 24+/- acre parcel for the townhome development.

TOWN OF CARMEL SITE PLAN APPLICATION

PROJECT INFORMATION

Lot size:
Acres: 28+/- *Square Feet:*

Square footage of all existing structures (by floor):

# of existing parking spaces: 271 to be eliminated

# of proposed parking spaces: 143

# of existing dwelling units: 0

# of proposed dwelling units 63

Is the site served by the following public utility infrastructure:

- **Is project in sewer district or will private septic system(s) be installed?** Sewer District #2
- **If yes to Sanitary Sewer answer the following:**

  - **Does approval exist to connect to sewer main? Yes:** ☒ **No:** ☐
  - **Is this an in-district connection?** X **Out-of district connection?** _____
  - **What is the total sewer capacity at time of application?** _____
  - **What is your anticipated average and maximum daily flow** 20,790 gpd

For Town of Carmel Town Engineer

- *What is the sewer capacity* to be determined BB 12/22/2021

- **Water Supply** **Yes:** ■ **No:** ☐

  If Yes:
  - **Does approval exist to connect to water main? Yes:** ☒ **No:** ☐
  - **What is the total water capacity at time of application?** _____
  - **What is your anticipated average and maximum daily demand** 20,790 gpd

- **Storm Sewer** **Yes:** ☐ **No:** ☒
- **Electric Service** **Yes:** ☒ **No:** ☐
- **Gas Service** **Yes:** ☐ **No:** ☒
- **Telephone/Cable Lines** **Yes:** ☒ **No:** ☐

For Town of Carmel Town Engineer

Water Flows TBD
Sewer Flows _____

BB 12/22/2021

Town Engineer; Date

What is the predominant soil type(s) on the site? Woodbridge Loam	**What is the approximate depth to water table?** 3 feet

Site slope categories:	**15-25%** 0 %	**25-35%** 0 %	**>35%** 0 %
Estimated quantity of excavation:	**Cut (C.Y.)** Balanced Site	**Fill (C.Y.)** Balanced Site	
Is Blasting Proposed	**Yes:** ☐	**No:** ☒	**Unknown:** ☐
Is the site located in a designated Critical Environmental Area?		**Yes:** ☐	**No:** ☒

Does a curb cut exist on the site? Yes: ☒ **No:** ☐	**Are new curb cuts proposed? Yes:** ☒ **No:** ☐	**What is the sight distance? Left** 800' 650' **Right** 400' 800'

Is the site located within 500' of:

- **The boundary of an adjoining city, town or village** **Yes:** ☒ **No:** ☐
- **The boundary of a state or county park, recreation area or road right-of-way** **Yes:** ☒ **No:** ☐
- **A county drainage channel line.** **Yes:** ☐ **No:** ☒
- **The boundary of state or county owned land on which a building is located** **Yes:** ☐ **No:** ☒

TOWN OF CARMEL SITE PLAN APPLICATION

Is the site listed on the State or Federal Register of Historic Place (or substantially contiguous)
Yes: ☐ No: ☒

Is the site located in a designated floodplain?
Yes: ☐ No: ☒

Will the project require coverage under the Current NYSDEC Stormwater Regulations

Yes: ☒ No: ☐

Will the project require coverage under the Current NYCDEP Stormwater Regulations

Yes: ☒ No: ☐

Does the site disturb more than 5,000 sq ft Yes: ☒ No: ☐

Does the site disturb more than 1 acre Yes: ☒ No: ☐

Does the site contain freshwater wetlands?
Yes: ☒ No: ☐

Jurisdiction:
NYSDEC: ☒ Town of Carmel: ☒

If present, the wetlands must be delineated in the field by a Wetland Professional, and survey located on the Site Plan.

Are encroachments in regulated wetlands or wetland buffers proposed? Yes: ☒ No: ☐

Does this application require a referral to the Environmental Conservation Board? Yes: ☒ No: ☐

Does the site contain waterbodies, streams or watercourses? Yes: ☒ No: ☐

Are any encroachments, crossings or alterations proposed? Yes: ☐ No: ☒

Is the site located adjacent to New York City watershed lands? Yes: ☒ No: ☐

Is the project funded, partially or in total, by grants or loans from a public source?
Yes: ☐ No: ☒

Will municipal or private solid waste disposal be utilized?
Public: ☐ Private: ☒

Has this application been referred to the Fire Department? Yes: ☒ No: ☐

What is the estimated time of construction for the project?
Spring 2022 - Fall 2023

ZONING COMPLIANCE INFORMATION

Zoning Provision	Required	Existing	Proposed
Lot Area	10 acres min.	127	24 (lot line adjustment)
Lot Coverage	30% max	surface parking 0.6 acres	20%
Lot Width Along John Simpson Road	200'	NA	882' +/-
Lot Depth Along Fair Street	200'	NA	1,200' +/-
Front Yard	100'	NA	100' min
Side Yard	100'	NA	100' min
Rear Yard	100'	NA	100' min
Minimum Required Floor Area	NA	NA	NA
Floor Area Ratio	NA	NA	NA
Height	35'	NA	<35'
Off-Street Parking	120	271 (to be removed)	177 (includes garage & driveway)
Off-Street Loading	NA	NA	NA

TOWN OF CARMEL SITE PLAN APPLICATION

Will variances be required? Yes: ☐ No: ■	If yes, identify variances:
PROPOSED BUILDING MATERIALS	
Foundation	Concrete block
Structural System	Wood frame
Roof	Asphalt shingle
Exterior Walls	Wood frame

APPLICANTS ACKNOWLEDGEMENT

I hereby depose and certify that all the above statements and information, and all statements and information contained in the supporting documents and drawings attached hereto are true and correct.

David Leibowits

Applicants Name

Applicants Signature

Sworn before me this 5th **day of** November **20**21

Notary Public

CAROLINE BALDUCCI
Notary Public - State of New York
NO. 01BA6229755
Qualified in Putnam County
My Commission Expires 10/18/22

TOWN OF CARMEL

SITE PLAN COMPLETENSS CERTIFICATION FORM

All Site Plans submitted to the Planning Board for review shall include the following information and details, as set forth in Section 156-61 B of the Town of Carmel Zoning Ordinance.

This form shall be included with the site plan submission

	Requirement Data	To Be Completed by the Applicant	Waived by the Town
1	Name and title of person preparing the site plan	☒ ✓	☐
2	Name of the applicant and owner (if different from applicant)	☒ ✓	☐
3	Original drawing date, revision dates, scale and north arrow	☒ ✓	☐
4	Tax map, block and lot number(s), zoning district	☒ ✓	☐
5	All existing property lines, name of owner of each property within a 500' radius of the site	☒ ✓	☐
6	Contour lines at two-foot intervals, grades of all roads, driveways, sanitary and storm sewers	☒ ✓	☐
7	The location of all water bodies, streams, watercourses, wetland areas, wooded areas, rights-of-way, streets, roads, highways, railroads, buildings, structures	☒ ✓	☐
8	The location of all existing and proposed easements	☒ ✓	☐
9	The location of all existing and proposed structures, their use, setback dimensions, floor plans, front, side and rear elevations, buildable area.	☒ ✓	☐
10	On site circulation systems, access, egress ways and service roads, emergency service access and traffic mitigation measures	☒	☐ provide
11	Sidewalks, paths and other means of pedestrian circulation	☒	☐ provid
12	On-site parking and loading spaces and travel aisles with dimensions	☒	☐ provid.
13	The location, height and type of exterior lighting fixtures	☒ ✓	☐
14	Proposed signage	☐ NA ✓	☐
15	For non-residential uses, an estimate of the number of employees who will be using the site, description of the operation, types of products sold, types of machinery and equipment used	☐ NA ✓	☐

TOWN OF CARMEL

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	Requirement Data	To Be Completed by the Applicant	Waived by the Town
16	The location of clubhouses, swimming pools, open spaces, parks or other recreational areas, and identification of who is responsible for maintenance	☒	☐
17	The location and design of buffer areas, screening or other landscaping, including grading and water management. A comprehensive landscaping plan in accordance with the Tree Conservation Law	☒	☐
18	The location of public and private utilities, maintenance responsibilities, trash and garbage areas	☒	☐
19	A list, certified by the Town Assessor, of all property owners within 500 feet of the site boundary	☒ List provided for certification by Assessor	☐
20	Any other information required by the Planning Board which is reasonably necessary to ascertain compliance with this chapter	☒	☐

Applicants Certification (to be completed by the licensed professional preparing the site plan:

I Christopher LaPorta, P.E. **hereby certify that the site plan to which I have attached my seal and signature, meets all of the requirements of §156-61B of the Town of Carmel Zoning Ordinance:**

STATE OF NEW YORK
CHRISTOPHER J. LAPORTA
102592
LICENSED PROFESSIONAL ENGINEER

Professionals Seal

Signature - Applicant
David Leibowits

11/08/21
Date

Signature - Owner
David Lebowits

11/08/21
Date

TOWN OF CARMEL

SITE PLAN COMPLETENSS CERTIFICATION FORM

Town Certification (to be completed by the Town)

I _____ hereby confirm that the site plan meets all of the requirements of §156-61B of the Town of Carmel Zoning Ordinance:

Rose Gromlette — 1/4/22

Signature - Planning Board Secretary **Date**

Richard Ott — 1/4/2022

Signature - Town Engineer **Date**

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 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Centennial Golf Club Townhomes		
Project Location (describe, and attach a general location map): 185 John Simpson Road ,Tax ID #44.2-2.1 and Tax ID # 44.2-4.2 (Town of Carmel); and 175 John Simpson Road, Tax ID # 44.1-1 (Town of Southeast)		
Brief Description of Proposed Action (include purpose or need): To construct a 63-unit townhome development with a clubhouse and pool for the residents at the southwest corner of John Simpson Road and Fair Street (Co. Rt. 40) on lands known as the Centennial Golf Club (CGC). CGC offers three 9-hole golf courses identified as the "Meadows", "Lakes" and "Fairways". Fairways is in the Town of Carmel, Meadows is in the Town of Southeast, and Lakes is located in both towns. The Project area is located at the northern tip of the Lakes and Meadows courses, north of the existing clubhouse and pavilion. The golf practice area and an underutilized 271-space surface parking lot will be eliminated to facilitate this Project. The townhomes will be constructed where the existing parking lot and a former pasture are located. The Project includes the realignment of driveways and installation of new private drives for the townhomes, new water and sewer lines, decommissioning/replacement of a pump station, on-site stormwater management, a partial demolition of a portion of the existing cart barn, new/realigned cart paths, reconfiguration of the Lakes and Meadows courses, and the installation of a new, modern 181-space surface parking area in the Town of Southeast for CGC guests. A lot line revision is proposed to create a 24 +/- acre parcels. New driveway access is proposed on Fair Street, one for ingress/egress, and two for emergency vehicle access only.		
Name of Applicant/Sponsor: Centennial Golf Properties and Toll Brothers	Telephone: 845-225-5700 E-Mail:	
Address: 185 John Simpson Road		
City/PO: Carmel	State: NY	Zip Code: 10512
Project Contact (if not same as sponsor; give name and title/role): Christopher LaPorta, P.E., Passero Associates	Telephone: 585-455-0157 E-Mail: claporta@passero.com	
Address: 19 Front Street		
City/PO: Newburgh	State: NY	Zip Code: 12550
Property Owner (if not same as sponsor): Centennial Golf Club	Telephone: 845-225-5700 E-Mail:	
Address: 185 John Simpson Road		
City/PO: Carmel	State: NY	Zip Code: 10512

B. Government Approvals

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

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustees ☑Yes ☐No	T/O Carmel TB (subdivision)	October 2021
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	T/O Carmel PB (Site Plan Mod/Lot Line Adj) T/O Southeast PB (Site Plan Mod)	October 2021
c. City, Town or Village Zoning Board of Appeals ☐Yes ☐No		
d. Other local agencies ☑Yes ☐No	T/O Carmel Water & Sewer; Environmental Conservation Board	October 2021
e. County agencies ☑Yes ☐No	Putnam County Highways&Facilities (right-of-way) Putnam County DOH (water and sewer)	October 2021
f. Regional agencies ☑Yes ☐No	NYCDEP	October 2021
g. State agencies ☑Yes ☐No	NYSDEC	October 2021
h. Federal agencies ☐Yes ☐No		

i. Coastal Resources.

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

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

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

C. Planning and Zoning

C.1. Planning and zoning actions.

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

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

C.2. Adopted land use plans.

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

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

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

If Yes, identify the plan(s):

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 adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
Town of Carmel (R Residential)
Town of Southeast (R-60, Residential R-60)

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

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

C.4. Existing community services.

a. In what school district is the project site located? Town of Carmel (Carmel Central School District) - 63 residential units
Town of Southeast (Brewster Central School District) - 181 space parking lot

b. What police or other public protection forces serve the project site?
Putnam County Sheriff's Department, Carmel Police Department

c. Which fire protection and emergency medical services serve the project site?
Carmel Fire Department, Carmel Volunteer Ambulance, Brewster Fire Department, Putnam County EMS

d. What parks serve the project site?
Edward Ryan Memorial 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 mixed, include all components)? Residential; Parking

b. a. Total acreage of the site of the proposed action? +/-24 acres
b. Total acreage to be physically disturbed? +/-19 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? +/-352 acres

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

d. Is the proposed action a subdivision, or does it include a subdivision? Lot line Adjustment ☑ Yes ☐ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
Residential (Townhomes)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☑ No
iii. Number of lots proposed? 63
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: 18 months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

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

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase	63			
At completion of all phases	63			

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

If Yes, 181-space surface parking lot in the Town of Southeast

i. Total number of structures _____

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

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

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

If Yes,

i. Purpose of the impoundment: on-site stormwater management areas

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

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

_____

iv. Approximate size of the proposed impoundment. Volume: 0.514 million gallons; surface area: 1.05 acres

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

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

_____

D.2. Project Operations

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

If Yes: Regrading and excavation will result in a balanced site.

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

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

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

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

_____

_____

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

If yes, describe. _____

_____

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

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

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

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

ix. Summarize site reclamation goals and plan: _____

_____

_____

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

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): State Wetland Adjacent Area (buffer) LC-26

_____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:
The golf practice areas and former pasture will be regraded to construct stormwater management areas, which will affects the State 100' wetland buffer. The area of disturbance in the 100-foot buffer is 2.01 acres. No other buffer areas or watercourses will be impacted.

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☑ No
If Yes, describe: _____

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

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____
- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

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

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

i. Total anticipated water usage/demand per day: 20,790 gallons/day

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

- Name of district or service area: Carmel Water District #2
- Does the existing public water supply have capacity to serve the proposal? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No
- Do existing lines serve the project site? ☑ Yes ☐ No

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

- Describe extensions or capacity expansions proposed to serve this project: _____
- Source(s) of supply for the district: _____

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

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

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

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

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

i. Total anticipated liquid waste generation per day: 20,790 gallons/day

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

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

- Name of wastewater treatment plant to be used: Carmel Sewer District #2 WWTP
- Name of district: Carmel Sewer District #2
- Does the existing wastewater treatment plant have capacity to serve the project? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No

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

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

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

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

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

_____

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

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

If Yes:

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

_____ Square feet or 2.0+/- acres (impervious surface) In T/O Carmel; 1.5 +/- acres in T/O Southeast

_____ Square feet or 361 acres (parcel size)

ii. Describe types of new point sources. Runoff conveyances to stormwater management areas

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

on-site stormwater management areas

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐ Yes ☑ No

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

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

If Yes, identify:

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

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

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

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

If Yes:

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

ii. In addition to emissions as calculated in the application, the project will generate:
- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

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

If Yes:

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

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

_____

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

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

_____

_____

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

See Exhibit A

If Yes:

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

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

181 spaces for golf course & 144 for residential

iii. Parking spaces: Existing 271 Proposed 325 Net increase/decrease +54

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

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

_____

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

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

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

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

If Yes:

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

_____

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

_____

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

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

i. During Construction:

- Monday - Friday: 7 am to 5 pm
- Saturday: _____
- Sunday: _____
- Holidays: _____

ii. During Operations:

- Monday - Friday: 24/7
- Saturday: 24/7
- Sunday: 24/7
- Holidays: 24/7

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

If yes:

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

Heavy equipment used for earthmoving, deliveries, backup beepers during construction

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

Describe: _____

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

If yes:

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

The townhouses will have exterior lighting on the dwellings; the new parking lot with have dark sky compliant lighting

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

Describe: _____

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

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

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

If Yes:

i. Product(s) to be stored _____

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

iii. Generally, describe the proposed storage facilities: _____

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

If Yes:

i. Describe proposed treatment(s):

_____

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

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

If Yes:

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

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

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

- Construction: _____
- Operation: _____

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

- Construction: _____
- Operation: _____

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

If Yes:

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

ii. Anticipated rate of disposal/processing:

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

iii. If landfill, anticipated site life: _____ years

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

If Yes:

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

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

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

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

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

If Yes: provide name and location of facility: _____

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

E. Site and Setting of Proposed Action

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

a. Existing land uses.

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

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

ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	2.92	4.77	+1.85
• Forested	10.75	7.39	-3.36
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	10.51	11.16	+0.65
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.19	1.05	+0.86
• Wetlands (freshwater or tidal)	6.79	6.79	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? ☑ Yes ☐ No

i. If Yes: explain: Public golf course

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

If Yes,

i. Identify Facilities:

Shining Star Daycare, 64 Duke Drive, Carmel Hamlet

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

If Yes:

i. Dimensions of the dam and impoundment:

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

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

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

If Yes:

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

- If yes, cite sources/documentation: _____

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

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

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

If Yes:

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

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

If Yes:

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

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

☐ Yes – Environmental Site Remediation database Provide DEC ID number(s): _____

☐ Neither database

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

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

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

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

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

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

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? >3 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:

Woodbridge Loam	32 %
Paxton Fine Sandy Loam	24 %
Ridgebury Complex	21 %

d. What is the average depth to the water table on the project site? Average: 3 feet

e. Drainage status of project site soils:
☑ Well Drained: 24 % of site
☑ Moderately Well Drained: 32 % of site
☑ Poorly Drained 21 % of site

See Exhibit B

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 97.7 % of site
☑ 10-15%: 2.3 % of site
☐ 15% or greater: _____% of site

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

h. Surface water features.

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

See Exhibit C for Wetland Maps

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

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i. See Exhibit D for Wetland Assessment in Town of Southeast

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

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

- Streams: Name 864-194 Classification C
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name Federal Waters, NYS Wetland, Federal Waters, Fe... Approximate Size NYS Wetland (in a...
- Wetland No. (if regulated by DEC) LC-26 32.9 acres

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

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

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

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

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

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

i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site:
Birds, squirrels, woodchucks, raccoons,

n. Does the project site contain a designated significant natural community? ☐ Yes ☑ No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation):
ii. Source(s) of description or evaluation:
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

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

If Yes:
i. Species and listing (endangered or threatened): See Exhibit E

Northern Long-eared Bat — Populated by the EAFMapper. IPaC Report reveals NLEB is a threatened species, and the Indiana Bat and the Bog Turtle are endangered species

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

If Yes:
i. Species and listing:

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐ Yes ☑ No
If yes, give a brief description of how the proposed action may affect that use:

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

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

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☑ No
i. If Yes: acreage(s) on project site?
ii. Source(s) of soil rating(s):

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent:

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No
If Yes:
i. CEA name:
ii. Basis for designation:
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 Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☐ Yes ☑ No

If Yes:

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

ii. Name: _____

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

_____

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

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

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

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

If Yes:

i. Identify resource: _____

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

iii. Distance between project and resource: _____ miles.

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

If Yes:

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

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

F. Additional Information

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

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

G. Verification

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

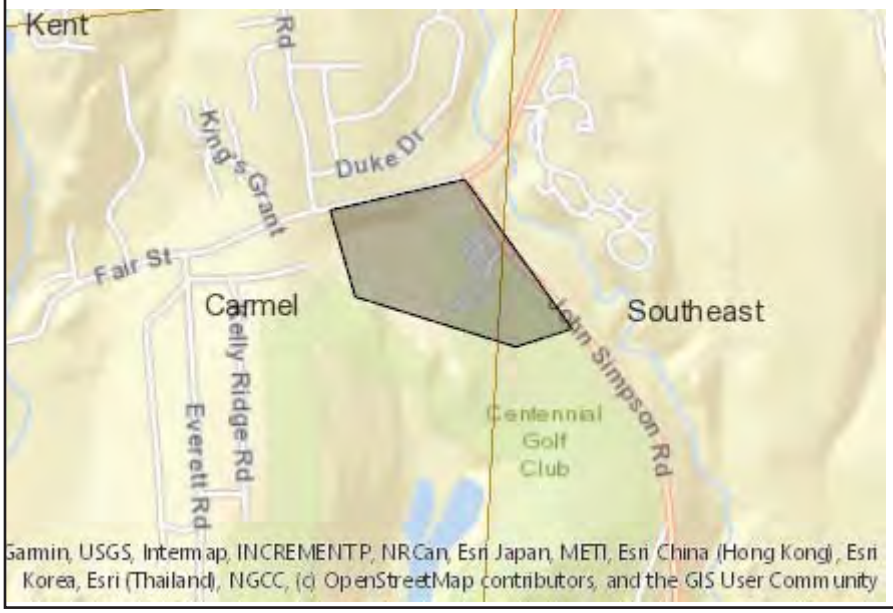
Applicant/Sponsor Name David Leibowits Date 11/8/2021

Signature _____ Title _____

PRINT FORM

EAF Mapper Summary Report

Thursday, June 10, 2021 10:59 AM



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

B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	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]	864-194
E.2.h.iv [Surface Water Features - Stream Classification]	C
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):32.9
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	LC-26

E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	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

EXHIBIT A

PASSERO ASSOCIATES
engineering architecture

November 8, 2021

Mr. Craig Paeprer, Chair
Planning Board
Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541

Re: Centennial Golf Properties and Toll Brothers
Centennial Townhomes
185 John Simpson Road (44.2-2.1) and John Simpson Road (44.2-4.2)
Traffic Generation Letter of Findings

Dear Chairperson Paeprer:

We have conducted an evaluation of the site generated vehicular traffic volumes associated with the proposed project and respectfully submit this Letter of Findings. The intent of this letter of findings is to assess the projected changes in vehicular traffic generated by the site from the existing conditions to the currently proposed development.

Existing Conditions

The existing use of the property is a 27-hole golf course and country club known as Centennial Golf Course. The golf course and country club has been categorized as ITE Land Use 430: Golf Course.

Proposed Conditions

The proposed project will retain the country club and 27 holes of the golf course and includes the construction of an additional 63 townhouse units which have been categorized as ITE Land Use 220: Multifamily Housing (Low-Rise).

Traffic Generation

For analysis purposes, the peak hours site generated traffic was estimated using trip generation rates published by the ITE as contained in their publication entitled “Trip Generation, 10th Edition”. The ITE trip generation manual uses statistical data collected nationwide to determine an appropriate amount of traffic generated during the peak hour for use in traffic analysis.

Shown in the table below, the resulting trip generation volumes were calculated for both the existing and proposed uses of the site.

TRIP GENERATION CALCULATION TABLE

ITE Trip Generation 10th Edition Manual Research Data:

Type of Land Use	ITE Code	Unit	Weekday Morning Peak			Weekday Evening Peak		
			Enter	Exit	Total	Enter	Exit	Total
27-Hole Golf Course and Country Club	430	27 Holes	Generation Rate = 1.76			Generation Rate = 2.91		
			79%	21%	100%	53%	47%	100%
			38	10	48	42	37	79
Total Existing Trips			**38**	**10**	**48**	**42**	**37**	**79**
27-Hole Golf Course and Country Club	430	27 Holes	Generation Rate = 1.76			Generation Rate = 2.91		
			79%	21%	100%	53%	47%	100%
			38	10	48	42	37	79
Multifamily Housing (Low-Rise)	220	63 Units	Generation Rate = 0.46			Generation Rate = 0.56		
			23%	77%	100%	63%	37%	100%
			7	22	29	23	13	36
Total Proposed Trips			**45**	**32**	**77**	**65**	**50**	**115**
Difference in Trips			**7**	**22**	**29**	**23**	**13**	**36**

* Trip generation rates are based on ITE Trip Generation Manual 10th Edition for trips generated during the anticipated morning and evening peak hours.

Based on the results from the trip generation calculations, it is estimated that the proposed development will generate roughly 29 more trips during the morning peak hour and 36 more trips during the evening peak hour.

The general industry practice for many municipalities is that an intersection should be analyzed for impact associated with a proposed development if 100 or more new trips are proposed through that intersection. Although the traffic patterns will likely be altered by the proposed development, we do not project that the proposed development will increase the traffic volumes by 100 or more vehicles during the peak hour at any specific intersection; therefore, it is our opinion that no further traffic impact analysis is required as a result of traffic that would be generated by the proposed development.

Please do not hesitate to call should you require additional information or have any questions.

Sincerely,

Christopher J LaPorta

Chris LaPorta, PE, CDT
Hudson Valley Office Manager

EXHIBIT B

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Putnam County, New York

June 10, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:4,030 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Putnam County, New York
Survey Area Data: Version 17, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Oct 5, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
NcA	Natchaug muck, 0 to 2 percent slopes	2.2	8.5%
PnB	Paxton fine sandy loam, 3 to 8 percent slopes	6.1	23.9%
RdB	Ridgebury complex, 3 to 8 percent slopes	5.2	20.6%
Sh	Sun loam	3.7	14.4%
W	Water	0.1	0.4%
WdB	Woodbridge loam, 3 to 8 percent slopes	7.6	29.9%
WdC	Woodbridge loam, 8 to 15 percent slopes	0.6	2.3%
Totals for Area of Interest		**25.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not

mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Putnam County, New York

NcA—Natchaug muck, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2w68z
Elevation: 0 to 1,550 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Natchaug and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Natchaug

Setting

Landform: Depressions, depressions, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Highly decomposed organic material over loamy glaciofluvial deposits and/or loamy glaciolacustrine deposits and/or loamy till

Typical profile

Oa1 - 0 to 12 inches: muck
Oa2 - 12 to 31 inches: muck
2Cg1 - 31 to 39 inches: silt loam
2Cg2 - 39 to 79 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.01 to 14.17 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 25 percent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Very high (about 17.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: F144AY042NY - Semi-Rich Organic Wetlands
Hydric soil rating: Yes

Minor Components

Catden

Percent of map unit: 8 percent
Landform: Depressions, depressions, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Limerick

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sun

Percent of map unit: 4 percent
Landform: Hills, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Halsey

Percent of map unit: 3 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

PnB—Paxton fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t2qp
Elevation: 0 to 1,570 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Paxton and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Hills, drumlins, ground moraines
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam
Bw1 - 8 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: fine sandy loam
Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 18 to 39 inches to densic material
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: C
Ecological site: F144AY007CT - Well Drained Dense Till Uplands
Hydric soil rating: No

Minor Components

Woodbridge

Percent of map unit: 9 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ridgebury

Percent of map unit: 6 percent
Landform: Hills, ground moraines, depressions, drainageways
Landform position (two-dimensional): Toeslope, backslope, footslope
Landform position (three-dimensional): Base slope, head slope, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Charlton

Percent of map unit: 5 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

RdB—Ridgebury complex, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2xfg2
Elevation: 10 to 1,180 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Ridgebury, loam, and similar soils: 50 percent
Ridgebury, somewhat poorly drained, and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury, Loam

Setting

Landform: Ground moraines, depressions, drumlins, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 6 inches: loam
Bw - 6 to 10 inches: gravelly fine sandy loam
Bg - 10 to 19 inches: gravelly fine sandy loam
Cd - 19 to 66 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 15 to 35 inches to densic material
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None

Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Ecological site: F144AY009CT - Wet Till Depressions
Hydric soil rating: Yes

Description of Ridgebury, Somewhat Poorly Drained

Setting

Landform: Drainageways, hills, ground moraines, depressions, drumlins
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 7 inches: loam
Bw - 7 to 13 inches: loam
Bg - 13 to 21 inches: fine sandy loam
Cd - 21 to 60 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 15 to 35 inches to densic material
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 10 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F144AY009CT - Wet Till Depressions
Hydric soil rating: No

Minor Components

Woodbridge, loam

Percent of map unit: 5 percent
Landform: Ground moraines, drumlins, hills
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex

Across-slope shape: Linear
Hydric soil rating: No

Sun, very poorly drained
Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Leicester, loam
Percent of map unit: 3 percent
Landform: Drainageways, hills, depressions, ground moraines
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave
Hydric soil rating: Yes

Paxton
Percent of map unit: 2 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

Sh—Sun loam

Map Unit Setting
National map unit symbol: 9v04
Elevation: 600 to 1,800 feet
Mean annual precipitation: 46 to 50 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 115 to 215 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Sun and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sun

Setting
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave

Across-slope shape: Concave
Parent material: Loamy till derived primarily from limestone and sandstone, with a component of schist, shale, or granitic rocks in some areas

Typical profile
H1 - 0 to 9 inches: loam
H2 - 9 to 27 inches: loam
H3 - 27 to 60 inches: gravelly fine sandy loam

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Available water capacity: Moderate (about 6.7 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F144AY039NY - Semi-Rich Wet Till Depressions
Hydric soil rating: Yes

Minor Components

Ridgebury
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Leicester
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Palms
Percent of map unit: 3 percent
Landform: Swamps, marshes
Hydric soil rating: Yes

Sun, stony
Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

W—Water

Map Unit Setting

National map unit symbol: 9v0r
Mean annual precipitation: 46 to 50 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 115 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

WdB—Woodbridge loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w688
Elevation: 0 to 1,280 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Woodbridge, loam, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Loam

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 6 inches: loam
Bw1 - 6 to 18 inches: gravelly loam
Bw2 - 18 to 29 inches: gravelly loam
Cd - 29 to 65 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: F144AY037MA - Moist Dense Till Uplands
Hydric soil rating: No

Minor Components

Ridgebury

Percent of map unit: 7 percent
Landform: Drumlins, drainageways, hills, ground moraines, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Paxton

Percent of map unit: 7 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Shoulder, summit, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Sutton

Percent of map unit: 1 percent
Landform: Hills, ground moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

WdC—Woodbridge loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w68p

Elevation: 10 to 1,000 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Woodbridge, loam, and similar soils: 82 percent
Minor components: 18 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Loam

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 6 inches: loam
Bw1 - 6 to 18 inches: gravelly loam
Bw2 - 18 to 29 inches: gravelly loam
Cd - 29 to 65 inches: gravelly loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C/D
Ecological site: F144AY037MA - Moist Dense Till Uplands
Hydric soil rating: No

Minor Components

Paxton

Percent of map unit: 8 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex

Hydric soil rating: No

Ridgebury

Percent of map unit: 7 percent
Landform: Ground moraines, depressions, drumlins, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sutton

Percent of map unit: 2 percent
Landform: Hills, ground moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Urban land

Percent of map unit: 1 percent
Hydric soil rating: Unranked

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EXHIBIT C

U.S. Fish and Wildlife Service

National Wetlands Inventory

Centennial Golf Club

June 11, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

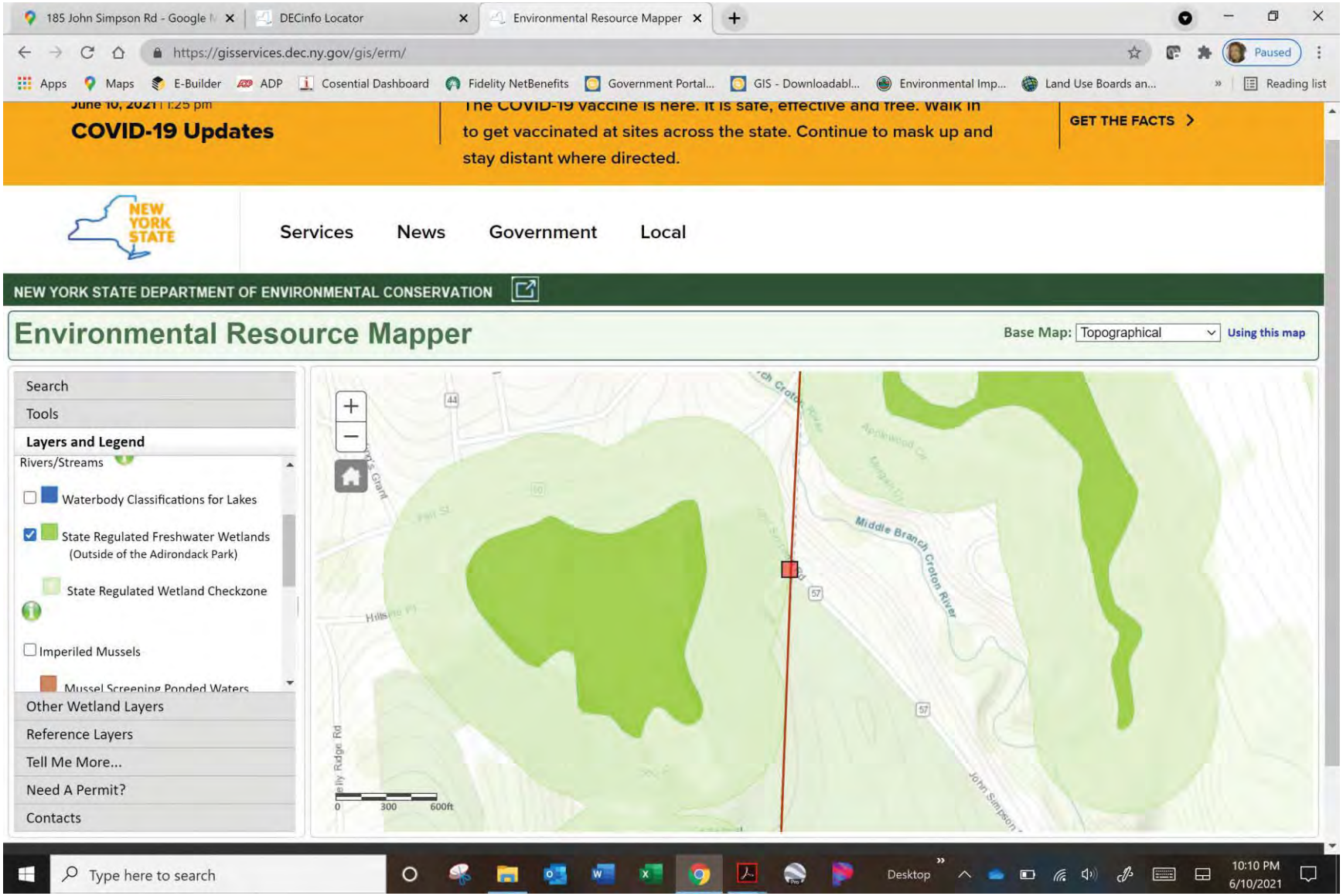

185 John Simpson Rd - Google
DECinfo Locator
Environmental Resource Mapper
https://gisservices.dec.ny.gov/gis/erm/
Paused
Apps
Maps
E-Builder
ADP
Cosential Dashboard
Fidelity NetBenefits
Government Portal...
GIS - Downloadabl...
Environmental Imp...
Land Use Boards an...
Reading list
June 10, 2021 1:25 pm
COVID-19 Updates
The COVID-19 vaccine is here. It is safe, effective and free. Walk in to get vaccinated at sites across the state. Continue to mask up and stay distant where directed.
GET THE FACTS
NEW YORK STATE
Services
News
Government
Local
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Environmental Resource Mapper
Base Map: Topographical
Using this map
Search
Tools
Layers and Legend
Rivers/Streams
Waterbody Classifications for Lakes
State Regulated Freshwater Wetlands (Outside of the Adirondack Park)
State Regulated Wetland Checkzone
Imperiled Mussels
Mussel Screening Ponded Waters
Other Wetland Layers
Reference Layers
Tell Me More...
Need A Permit?
Contacts
Middle Branch Croton River
John Simpson
0
300
600ft
Type here to search
Desktop
10:10 PM
6/10/2021

EXHIBIT D

Ecological Solutions, LLC

121 Leon Stocker Drive
Stratton, VT 05360
Phone (203) 910-4716
ecolsol@aol.com

June 17, 2021

David Leibowits
c/o Centennial Golf
185 John Simpson Road
Carmel, NY 10512

Re: Wetland Assessment
Centennial Golf Course Site
Town of Southeast, Putnam County, New York

Dear David:

Ecological Solutions, LLC completed a wetland assessment on June 16, 2021 at the Centennial Golf Course Site in the Town of Southeast, Putnam County, New York (*Figure 1*). The assessment was completed in accordance with the Army Corps of Engineers (USACE) Wetlands Delineation Manual (January 1987), Routine Determination Method and Northcentral/Northeast supplement and Town of Southeast Code Chapter 78 Freshwater Wetlands. There is no New York State Department of Environmental Conservation (NYSDEC) regulated wetland at this location (*Figure 2*).

The site was assessed for Federal and Town wetlands based upon the identification of the three mandatory criteria for wetland determination as outlined in the 1987 Federal Manual and supplement: dominant hydrophytic vegetation, hydric soils, and evidence of wetland hydrology. The Routine Methodology procedure for wetland determination was used. Transects consisting of at several sample points were walked. Dominant vegetation around each sample point was identified and its percent cover quantified. The areas were checked in detail for the presence of wetland hydrologic indicators and hydric soils.

The detailed field investigation included:

1. Identification of vegetation species to determine whether there was a dominance of hydrophytic plants and areas containing transitional but primarily wetland-oriented species.

2. Determination of soil features for hydric (poorly and very poorly drained) natural soils.

3. Observation of site features displaying evidence of wetland hydrology based on the presence of inundated areas, apparent high seasonal water tables, and evidence of saturation within 12 inches of the surface (considered the root zone) during sufficient periods during the growing season to provide for anaerobic/hydric soil conditions.

Based on observed field conditions there is no federal or Town wetland located on the site. The site contains a farm pond closest to the entrance drive which is artificially filled by a well. There is a standpipe overflow which goes to the next man made pond and that pond also has a standpipe overflow which then goes into an irrigation pond. All are kept artificially full with well water. The ponds do not have surface discharge to wetlands off the site and if the well is turned off the ponds will be dry.

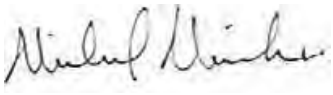
The Town of Southeast Code identifies a Watercourse as follows:

Watercourse shall include the following:
A. Rivers, streams, brooks and waterways which are delineated on the current edition of the U.S. Department of Interior, Geological Survey, 7.5 Minute Series (topographic maps covering the Town of Southeast);
B. Any other streams, brooks and waterways containing running water more than six months a year; and
C. Lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, which are fed by or have surface discharge to another wetland or watercourse.

It is my opinion that the man made ponds with artificial hydrology are not regulated by the USACE or Town.

If you need any additional information, please contact me.

Sincerely,
ECOLOGICAL SOLUTIONS, LLC



Michael Nowicki
Biologist

Figure 1 Location Map

EXHIBIT E

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

IPaC Record Locator: 148-102918843 June 10, 2021

Subject: Consistency letter for the 'Centennial Golf Club' project indicating that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Dear Zina Lagonegro:

The U.S. Fish and Wildlife Service (Service) received on June 10, 2021 your effects determination for the 'Centennial Golf Club' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause "take"[1] of the northern long-eared bat that is prohibited under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Please report to our office any changes to the information about the Action that you entered into IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation.

If your Action proceeds as described and no additional information about the Action's effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

The IPaC-assisted determination for the northern long-eared bat **does not** apply to the following ESA-protected species that also may occur in your Action area:

- Bog Turtle *Clemmys muhlenbergii* Threatened
- Indiana Bat *Myotis sodalis* Endangered

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species listed above.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Centennial Golf Club

2. Description

The following description was provided for the project 'Centennial Golf Club':

> To redevelop a 9-hole golf course and surface parking lot as a 52-unit townhouse development with a clubhouse and pool.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.4317112,-73.65595842348483,14z

Determination Key Result

This non-Federal Action may affect the northern long-eared bat; however, any take of this species that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o).

Determination Key Description: Northern Long-eared Bat 4(d) Rule
This key was last updated in IPaC on **May 15, 2017**. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for non-Federal actions is to assist determinations as to whether proposed actions are excepted from take prohibitions under the northern long-eared bat 4(d) rule.

If a non-Federal action may cause prohibited take of northern long-eared bats or other ESA-listed animal species, we recommend that you coordinate with the Service.

Determination Key Result

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   No

2. Will your activity purposefully **Take** northern long-eared bats?

   No

3. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

4. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

5. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

6. Will the action involve Tree Removal?

   Yes

7. Will the action only remove hazardous trees for the protection of human life or property?

   Yes

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
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Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To: June 10, 2021
Consultation Code: 05E1NY00-2021-SLI-2987
Event Code: 05E1NY00-2021-E-09310
Project Name: Centennial Golf Club

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Services wind

energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

Project Summary

Consultation Code: 05E1NY00-2021-SLI-2987
Event Code: 05E1NY00-2021-E-09310
Project Name: Centennial Golf Club
Project Type: Guidance
Project Description: To redevelop a 9-hole golf course and surface parking lot as a 52-unit townhouse development with a clubhouse and pool.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.4317112,-73.65595842348483,14z

Counties: Putnam County, New York

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Reptiles

NAME	STATUS
Bog Turtle *Clemmys muhlenbergii* Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6962	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

October 18, 2021

Centennial Golf Club, Carmel, NY

Fiscal Analysis for Proposed Residential Development

Storrs Associates

Executive Summary

The ownership of the Centennial Golf Club in the Town of Carmel, Putnam County, NY, proposes to create a 63-unit condominium community on a portion of its existing 27-hole golf course. The new community responds to demand for well located, high-quality residences for households who choose to own, but prefer the convenience and amenities of a condominium to maintaining a detached, single-family home. Only 3% of housing in Carmel meets this demand.

Centennial Golf Club offers players a clubhouse and grill room, instruction, and special events on a 340-acre layout of three nine-hole sets. The size and configuration of the course enables a portion of the property to be developed as housing while maintaining the benefits of the course for players.

The property is situated in both the Town of Carmel and the Town of Southeast. The majority of the golf facility will remain in the Town of Southeast, and the residential community will be built on land in the Town of Carmel.

Purpose of this Analysis

Storrs Associates, LLC was engaged by Centennial Golf Club to provide an objective, third-party estimate of certain fiscal impacts of the proposed development on the Town of Carmel and, to a lesser extent, on the Town of Southeast. The Town of Carmel, where the housing will be built, is estimated to attract 167 new residents, who will need general municipal services and enroll children in the Carmel Central School District.

Municipalities frequently ask developers of a new residential community to provide estimates showing the balance of new real property taxes with the incremental cost of services to new residents. Because the proposed homes at Centennial Golf Club will be condominiums, where the household owns the unit but not the land underneath, the assessed value and therefore the real property tax is likely to be lower than for a similarly-sized single family home. Understanding the degree to which the "reduced" taxes cover the costs of incremental services is therefore important for evaluating the proposed project.

Results

The Project produces surplus revenue compared with the cost of new services.

- ✓ $845,998 increase in annual tax revenue, including $621,480 to the Carmel Central School District and $115,796 to the Town of Carmel.
- ✓ Surplus taxes for Carmel schools: new taxes support 29 students, but only 13 are expected to enroll.
- ✓ Surplus of new revenue over incremental costs of Town of Carmel services: $227 per resident for 167 residents.

ANALYSIS

The analysis for the Centennial Golf Club development (Project) includes the following components:

- Residential Unit Mix and New Household Composition
- Estimated New Taxes and Comparison
- Estimated Cost of Services to New Households
- Effects on Town of Southeast

RESIDENTIAL UNIT MIX AND NEW HOUSEHOLD COMPOSITION

This analysis estimates the number and type of households expected to move into the Project, which will then be used to identify the need for additional municipal services.

It is anticipated that most households will come from either other parts of Putnam County or, more frequently, from Westchester County, and a majority are expected to be "empty nesters" or households downsizing from single-family homes. The configuration and cost of the units significantly affects the households they will attract, and therefore the demand for services, especially for public education.

SERVICE DEMAND FACTOR 1: INCOME & ORIGIN

The Project proposes 63 units, each with three bedrooms, including a master suite. Base prices are anticipated to be $699,000 for a first-floor master suite and $599,000 for a second-floor master suite. Optional upgrades are anticipated to be an additional $50,000 per unit.

Table 1, below, shows unit configuration, anticipated sale price, and estimated assessed value, along with estimated yearly costs to own the unit and pay Homeowners' Association, or HOA, fees.

It is estimated that households must earn at least $150,000 annually to be able to afford to purchase a unit and pay ongoing ownership costs. $150,000 is the lower threshold of a US Census income bracket and is used to segment the potential market by income. Median income is $104,486 for Putnam County and $96,610 in Westchester.

Table 1: Unit Configuration and Cost, and Household Income Needed to Purchase and Own

Unit Type	Number of Units	Anticipated Base Price per Home	Anticipated Upgrades per Home	Estimated Assessed Value at 65% (2)	Estimated Annual Mortgage Cost (1)	Estimated Annual Taxes	Annual Mortgage and Taxes	Estimated HOA Fees, Annual	Required Income (3)
First Floor Master BR	12	$699,000	$50,000	$486,850	$34,104	$17,289	$51,393	$4,800	$187,311
Second Floor Master BR	51	$599,000	$50,000	$421,850	$29,551	$14,981	$44,532	$4,800	$164,439
	63								

Results

Units can be anticipated to attract households earning $150,000 to $199,999 and $200,000 or more

(1) Assumes 10% owner equity, 30-year term, 3% interest, no PMI.

(2) Condominiums are assessed at a discount to market value; 65% estimate is from an informal conversation with the Town of Carmel Assessor.

(3) Income required for no more than 30% to be spent on mortgage, HOA fees, and taxes.

Sources: Centennial Golf Club, Toll Brothers, Town Assessor. Mortgage and tax calculations by Storrs Associates.

As shown in Table 2a, 116,822 households earn at least $150,000. Subtracting the number already in Carmel (3,655) provides an estimate of households that would potentially move into the town from outside. Households originating outside of Carmel increase the demand for local services.

Given the high number of households outside of Carmel, 96.7% of units are expected to be demanded by residents new to the town. 60 of the 63 units are likely to be occupied by these new households.

Allocating municipal services on a per-capita basis is a standard method of determining the incremental cost of new residents. Table 2b reviews the housing occupancy patterns of the study area, and calculates an average household size of 2.77 persons[1]. This predicts 167 residents, rounded down to the nearest person.

With 60 of the units purchased by households new to Carmel, the increase in residents as a result of the Project is expected to be 167, or 2.77 x 60, rounded up to the nearest person.

Table 2a: Demand for Units at Required Income Level in Putnam and Westchester Counties

Income Range	Households	Less: Carmel Households	Potential New Households	Potential New Households, %	Potential Relocations within Carmel
$150,000 to $199,999	43,529	1,743	41,786	96.0%	4.0%
$200,000 or more	73,293	1,912	71,381	97.4%	2.6%
	116,822	3,655	113,167		

Results

Average potential new households as a percent of available units	96.7%
Estimated number of new households (not relocating in Carmel)	60

Sources: American Community Survey.

Table 2b: Regional Housing Owenership and Household Size

	Carmel		Putnam County		Westchester County	
Ownership Type	% of Units	Household Size	% of Units	Household Size	% of Units	Household Size
Owner Occupied	80.30%	2.99	79.20%	2.90	61.40%	2.80
Renter Occupied	19.70%	2.06	20.80%	2.35	38.60%	2.54
Weighted Average		2.81		2.79		2.70

Results

Household size anticipated for units is 2.77 Persons

With 63 Units, 174 persons are expected

Based on Table 2a, 60 units, and 167 persons, are expected to be new to the Town of Carmel

Sources: American Community Survey.

[1] A weighted average is calculated because owner occupied units are significantly more common and therefore these occupancy patterns are assumed to have a stronger effect on the Project.

Service Demand Factor 2: School Aged Children

The number of school aged children is determined by the number of new households that meet the income requirements and have children in school. Multiplying the two demographic factors estimates that 4.88% of households meet both requirements[2].

The next step is to calculate a demand ratio for each unit based on the relative number of households with and without school-aged children. For each of the 63 units, approximately 6.4 households without children will seek to purchase for each household with children. This is rounded up to 9 units with school aged children.

The demand ratio of 6.4 to1 predicts that 54 of the units will be purchased by households without school-aged children, and only 9 by those with children. The US average number of children per household is 0.86[3], and rounded up this predicts 13 school-aged children in the Project.

For comparison, a 9-unit single-family detached project with the exact same configuration and cost would be estimated to add 1 child. Four or more bedrooms, which are a more likely configuration, would attract larger families.

Table 2c: Demand for Units by Households with School Aged Children

	Percent	Number
Total Households in Region	100%	384,146
A = All Households Earning at least $150,000 per Year	31.40%	120,622
B = All Households with School Aged Children	15.55%	59,735
C = A x B = Percent with Schoolchildren and Affording Units	4.88%	18,746
Demand Ratio: Units without Children per Unit with Children		6.4
U.S. Average Number of Children per Household	0.86	
Results: Number of Units with and without School Aged Children		
Number of Units Demanded by Households with Children (rounded)		9
Number of Units Demanded by Households w/o Children (rounded)		54
School Aged Children at 1 per Household with Children (rounded)		9

Sources: American Community Survey, US Census Historical Household Tables

[2] Assumes that households at all income levels are equally likely to have school-aged children.

[3] US Census historical tables. The Census does not report children per household for states or local municipalities.

Four supplemental tables were created to provide context about housing type, price to purchase, and age.

- Households seeking communities with 3-4 units per building are underserved. Carmel and Putnam County housing is more than 84% single-family. Units similar to those proposed for the Centennial Golf Club are currently only 3-4% of total housing, and 8% in Westchester. (2d)
- 3-4 bedroom units are in demand, and comprise a majority of Carmel and Putnam County housing stock, indicating strong demand. (2e)
- Units at Centennial Golf Club are estimated to have base prices of $599,000 and $699,000, plus approximately $50,000 in upgrades per home. This is near the upper range for the region and above the medians. (2f)
- Regional housing stock is aging. Only 22% of Carmel housing was built since 1990. 180 units new units in Carmel, and 626 in Putnam County, were reported between 2015 and 2019. This averages 125 per year countywide. 63 new units from the Project is a significant addition. (2g)

Supplemental tables 2f and 2g are on the next page.

Table 2d: Supplemental Data: Single Family and Multifamily Units by Size

	Carmel		Putnam County		Westchester County	
Total housing units	12,930		38,711		374,923	
Single Family	9,700	75%	29,254	76%	164,836	44%
Single Family Attached	959	7%	3,043	8%	21,560	6%
Mobile home	159	1%	573	1%	602	0%
Total Single Family	10,818	84%	32,870	85%	186,998	50%
2 units	439	3%	1,387	4%	31,680	8%
3 or 4 units	395	3%	1,683	4%	30,776	8%
5 to 9 units	356	3%	438	1%	19,663	5%
10 to 19 units	389	3%	860	2%	16,328	4%
20 or more units	533	4%	1,473	4%	89,389	24%
Total Multifamily	2,112	16%	5,841	15%	187,836	50%

Sources: American Community Survey.

Table 2e: Supplemental Data: Housing Units by Bedroom Count

	Carmel		Putnam County		Westchester County	
Total Housing Units	12,930		38,711		374,923	
No Bedroom	180	1%	571	1%	16,025	4%
1 bedroom	1,161	9%	4,245	11%	71,316	19%
2 bedrooms	2,620	20%	9,798	25%	93,481	25%
3 bedrooms	5,434	42%	15,454	40%	103,441	28%
4 bedrooms	2,816	22%	7,202	19%	62,151	17%
5 or more bedrooms	719	6%	1,441	4%	28,509	8%
Total: 3-4 bedrooms	8,250	64%	22,656	59%	165,592	44%

Sources: American Community Survey.

Supplemental tables continued:

Table 2f: Supplemental Data: Owner-Occupied Housing Unit Values

	Carmel		Putnam County		Westchester County	
Owner-Occupied Prices	9,717		27,311		214,474	
Less than $50,000	156	2%	288	1%	2,514	1%
$50,000 to $99,999	62	1%	169	1%	4,588	2%
$100,000 to $149,999	156	2%	928	3%	7,663	4%
$150,000 to $199,999	254	3%	962	4%	8,241	4%
$200,000 to $299,999	1,602	16%	6,580	24%	17,460	8%
$300,000 to $499,999	5,281	54%	12,254	45%	57,380	27%
$500,000 to $999,999	2,119	22%	5,595	20%	85,562	40%
$1,000,000 or more	87	1%	535	2%	31,066	14%
Median (dollars)	$379,300	100%	$362,700	100%	$540,600	100%

Sources: American Community Survey.

Table 2g: Supplemental Data: Year Built for All Housing Units

	Carmel		Putnam County		Westchester County	
Year Built	12,930		38,711		374,923	
2015 and Later	180	1%	626	2%	3,057	1%
1990 - 2014	2,710	21%	6,866	18%	42,412	11%
1960 - 1989	5,902	46%	14,164	37%	115,305	31%
Before 1960	4,138	32%	17,055	44%	214,149	57%

Sources: American Community Survey.

Estimated New Taxes and Comparison

Real Property Tax Effects

Condominium communities in the Town of Carmel, and many other taxing jurisdictions nationwide, are assigned an assessed value that reflects the fact that unit owners do not also own the underlying land, as they do with a single-family home or other fee simple arrangements. Units in the Project would therefore be assessed for tax purposes at a lower value. With 63 selling at the prices estimated in Table 1, anticipated market value is $42,087,000.

Based on historical information and a sampling of condominium sale and assessed values from the town's tax rolls, this analysis conservatively assumes that each unit would be assessed by adjusting the sale value by a "condo valuation factor" of 0.65, with the units assessed at 65% of market value, or $27,356,550.

As shown in Table 3a, even with the condo valuation factor, the Project adds $23,823,050 to the value of the parcels in Carmel, a 674% increase in value over current use.

Table 3b calculates the Project's tax revenue contribution to each jurisdiction, including library, ambulance, and fire. This estimate assumes the Project is taxed at 2021 rates, to simplify the presentation.

The increase in assessement results in an annual increase of $845,998 in tax revenue, compared with maintaining the current use of the parcels. Over a period of ten years, this adds $8,459,976 in new tax revenue.

The chart on the next page illustrates the increase.

Table 3a: Real Estate Value Increase in Carmel

	Current Use	After Project
Market Value	$3,533,500	$42,087,000
Condo "Valuation Factor"	n/a	0.65
Taxable (Assessed) Value	$3,533,500	$27,356,550
Increase in Value		$23,823,050
Percent Increase		674%

Sources: Market Value from Centennial Golf Club, Condo factor from informal conversation with Assessor

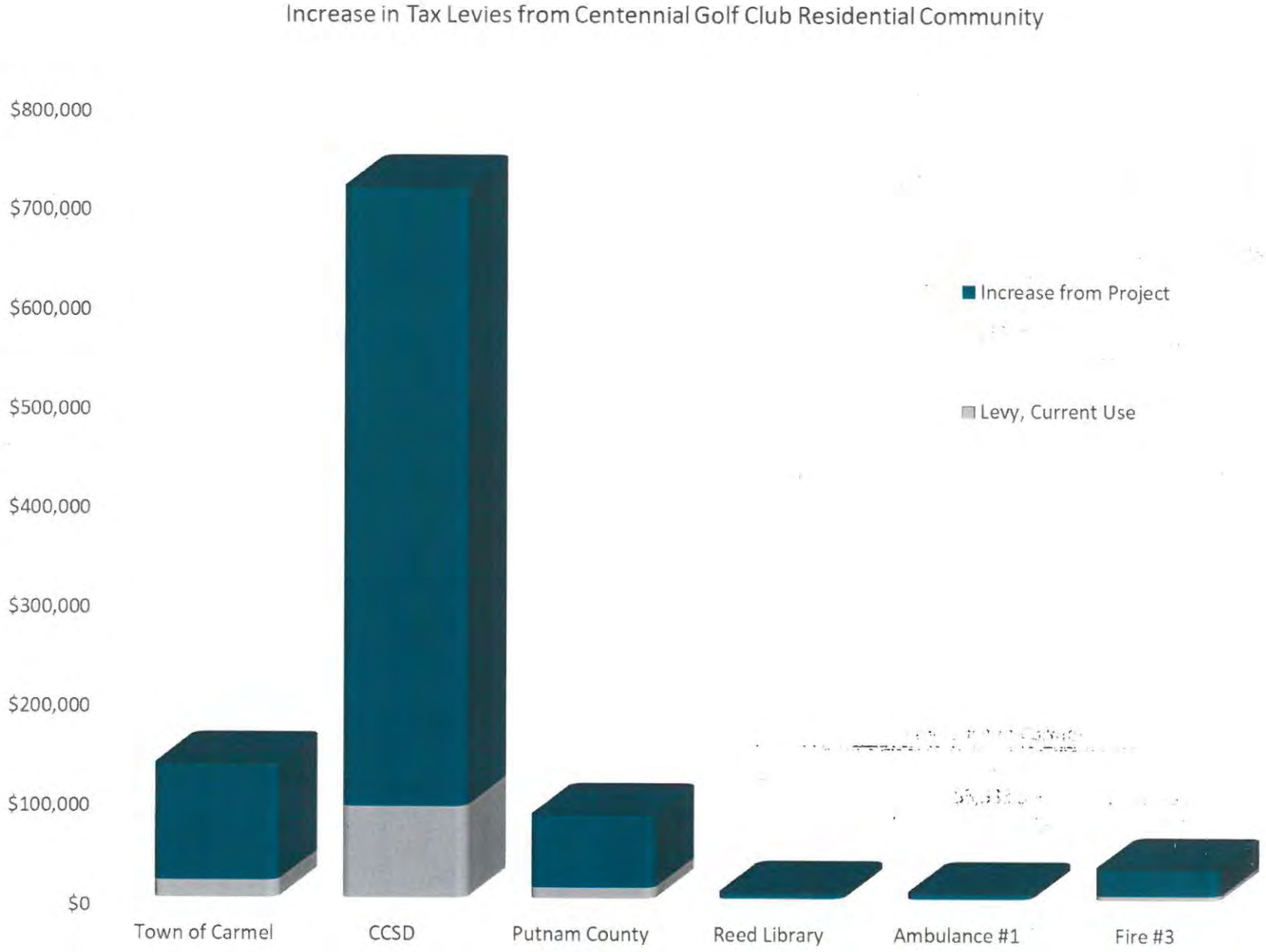
Table 3b: Levy Increase with Project, Using 2021 Tax Rates

	Current Rate per $1,000	Levy, Current Use	Levy, after Project	Increase from Project
Town of Carmel	4.8607	$17,175	$132,971	$115,796
CCSD	26.0873	92,180	713,660	621,480
Putnam County	3.0297	10,706	82,883	72,178
Reed Library	0.2189	773	5,987	5,214
Ambulance #1	0.2002	707	5,477	4,770
Fire #3	1.1149	3,939	30,500	26,560
Total	35.5117	$125,481	$971,478	$845,998

Sources: Table 4a, "Putnam County 2021 Tax Rates" at Putnamcountyny.gov

Sales Tax Effects

Putnam County collects sales and use taxes but has no agreement to share receipts with any municipalities. Sales taxes collected by new resident spending are therefore not included as a fiscal benefit to the Town of Carmel.


Increase in Tax Levies from Centennial Golf Club Residential Community
$800,000
$700,000
$600,000
$500,000
$400,000
$300,000
$200,000
$100,000
$0
Increase from Project
Levy, Current Use
Town of Carmel
CCSD
Putnam County
Reed Library
Ambulance #1
Fire #3

Estimated Cost of Services to New Households

The incremental costs of services are divided into two categories: public school spending per child attending, and general municipal spending, which includes town staff, public safety, resident services, and the highway fund. Special district services are not included.

School District Costs per Student and Tax Surplus

A standard, conservative calculation of the cost of new students is to distribute the annual school budget over the number of students enrolled. School districts in New York receive other funds than local real property tax payments. To estimate the effect of new students on the school district, the Tax Levy, as reported to the state by each district, is divided by enrollment.

Carmel Central School District (CCSD) has experienced declining enrollment at least since the 2017-2018 school year, while the total budget and often the tax levy increased each year. In 2021, town residents twice voted down the proposed 2021-2022 budget, and CCSD announced it will adopt a contingency budget.

Because of the complex interaction of enrollment, budget, and levy changes, the estimated incremental costs of new students assumes they will enroll for the 2021-2022 school year.

The Residential Unit Mix and Household Composition analysis predicts 13 school-aged children in the Centennial Golf Club residences, all new to CCSD.

The result, in Table 4a, is $25,063 to be raised by the tax levy for each student. Table 4b shows the Project would produce surplus taxes for the 2021-2022 school year. New taxes are enough to pay for the anticipated 13 new students, plus an additional 16 students.

Results:

$400,564 annual surplus tax revenue, $4,005,640 over ten years[4].

13 students from the Project plus 16 additional students supported by new school tax revenue.

Table 4a: Estimated Carmel Central School District Costs and Tax Levy per Student

	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Total Budget	$123,115,443	$125,596,489	$127,657,650	$130,541,386	$131,916,386
Tax Levy	91,918,443	93,674,489	96,095,650	98,594,386	97,468,276
Current Students	4,182	4,115	4,052	4,027	3,876
Students from Project	-	-	-	-	13
Total Students	4,182	4,115	4,052	4,027	3,889
Levy per Student	$21,980	$22,764	$23,716	$24,483	$25,063

Sources: Carmel Central School District Property Tax Report Cards, 2018 through 2021, and 2021-2022 contingency budget.

Table 4b: Incremental Effect of Project on School District

Levy per Student, 2021-2022	$25,063
New Students from Project	13
New Student Costs from Project	325,813
New Taxes to CCSD from Project	726,377
2021-2022 Surplus to CCSD	$400,564

[4] Assumes no changes in levy or assessments.

Municipal Costs per Capita and Tax Surplus

Table 5 calculates the total and incremental costs of providing town municipal services to residents. This analysis is solely for the Town of Carmel General Fund and does not include library, ambulance, or fire district incremental costs. As shown in Table 3b, above, each of these special districts does gain new revenue as a result of the Project.

Table 5 calculates municipal costs and cost per capita as follows:

1. Report the 2021 Town of Carmel tax levy
2. Report the number of parcels and calculate the percent of taxable parcels that are residential: 84%
3. Report the total assessed value with the increased value from the Project and calculate the percent of value attributable to residential properties: 76%
4. Average 84% and 76% and assume the share of town share of expenditures attributable to residents is 80%, or $19,493,597 (Measure A)
5. Report the number of residents in 2019, and decrease it by the average annual decline since 2010 to estimate 2021 residents. Add 167 new residents from the Project to determine the number of residents. (Measure B)
6. Calculate the cost of municipal services per resident by dividing residential costs by estimated residents: Measure A ÷ Measure B = $569 municipal cost per resident.
7. Calculate the surplus for the town by subtracting incremental costs (167 residents x $569 costs) from town tax revenue reported in Table 4b.

Result: $37,902 annual surplus, equal to $227 per new resident and $379,020 over ten years.

Table 5: Municipal Costs per Household and New Town Revenue

2021 Town of Carmel Tax Levy	$24,405,122
Taxable Parcels	
Total Parcels, Including 51 for New Units	13,053
Residential Parcels, Including 51 for New Units	10,925
Residential Parcel Percentage	84%
Assessed Value	
Total Assessed Value	$5,037,096,246
Residential Parcel Assessed Value	$3,836,558,332
Residential Value Percentage	76%
Municipal Costs Attributed to Residents, Based on Parcel Count and Value	
Estimated Share of Residential-Associated Expenditures	80%
A = Estimated Municipal Residential-Associated Expenditures	$19,493,597
Distribution of Costs over Current and Estimated Carmel Residents	
2019 Residents	*34,106*
Estimated 2021 Residents, 0.04% Annual Decline	34,076
New Residents from Project	167
B = Estimated 2021 Residents, Total	34,243
A ÷ B = Municipal Cost per Resident	$569
Town Tax Revenue from Project	$132,971
Incremental Town Costs for Residents	$95,069
Surplus/(Gap) of New Revenue from the Project	$37,902
Town Tax Revenue per New Resident	$796
Excess or Gap of New Revenue over Costs per Resident	$227

Sources: American Community Survey, NYS Comptroller, Putnam County

Effects on the Town of Southeast

The Centennial Golf Club has a footprint in the Town of Carmel and the Town of Southeast, both in Putnam County. As noted above, the residential development will be solely in the Town of Carmel.

The Town of Southeast parcels include 16 holes for golf, with an additional two holes still in the Town of Carmel. Together, the 18 holes comprise a full course, plus the clubhouse, golf shop, event space, and Grille Room restaurant. This facility is expected to serve the same or an increased number of golfers, shoppers, and diners after completion of the residential project, and realize continuing revenue from these operations.

The Project will include a 181-space surface parking lot in the Town of Southeast. Surface parking is not expected to have a measurable fiscal impact on the Town of Southeast.

The Centennial Golf Club pays taxes to the Town of Southeast, the Brewster Central School District, and special districts as a commercial enterprise, and its assessment for real property taxes is therefore based on the net income of the facility. The Project is not expected to alter the real property taxes payable to the Town of Southeast.

About Storrs Associates

Storrs Associates, LLC is a partner and advisor to public and private entities seeking to encourage economic growth and to make direct public and private investments. We deliver client-driven, high quality advice, customized analyses and reports, public speaking and learning sessions, and transaction management. Victoria Storrs, the company President, founded the firm in 2021 to provide direct, responsive service to municipal governments and the public and private organizations who work with and for them. She has worked with municipal governments for more than 20 years, beginning as an investment banker at First Albany Corporation and managing debt financings for state public authorities. She taught money and capital markets at the State University of New York at Albany School of Business, and has been a development finance and economic development consultant for more than seven years, including five years at Camoin Associates of Saratoga Springs, NY, where she became the firm's first Development Finance Practice Leader.

Storrs Associates, LLC is located in Albany County, NY, and serves clients throughout New York and the Northeast. Learn more at www.storrsassociates.com and on LinkedIn.

This report was prepared by Victoria Storrs, President and Founder.

Vstorrs@storrsassociates.com

(518) 512-9537

Terms of Use

This report was created for the Centennial Golf Club of Carmel, New York, for its sole and exclusive use, which includes sharing with the Town of Carmel and the Town of Southeast and related approving bodies to assist in review and approval of the proposed Project, and publication by the Town of Carmel and the Town of Southeast in connection with that review.

Prepared by Storrs Associates, LLC for the

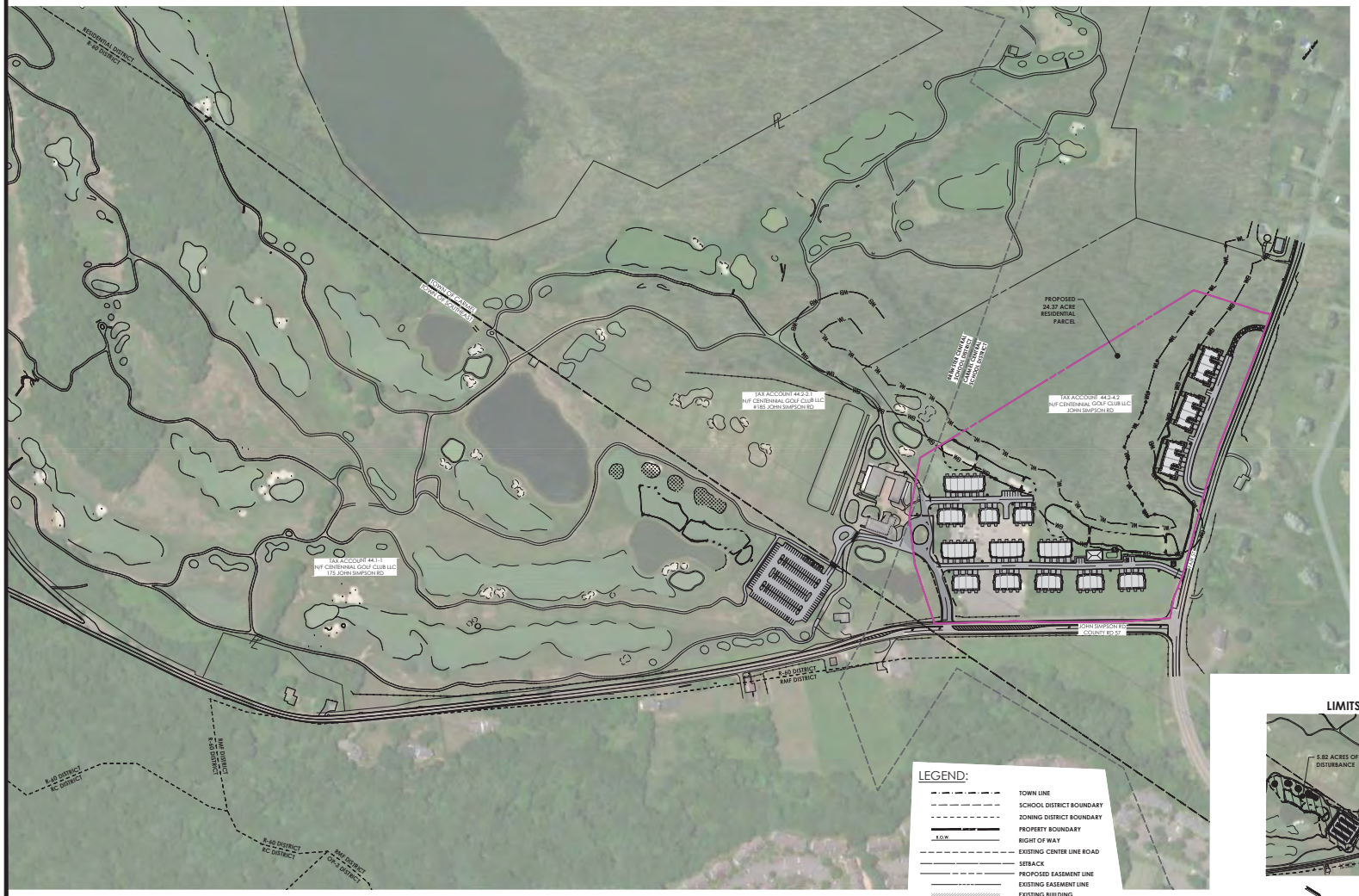
Centennial Golf Club, Carmel, NY

October 15, 2021

Storrs ASSOCIATES

SITE DEVELOPMENT PLANS FOR
CENTENNIAL TOWNHOMES
TOWN OF CARMEL/SOUTHEAST, PUTNAM COUNTY, NEW YORK
P.N. 20213150.0001

DRAWING INDEX

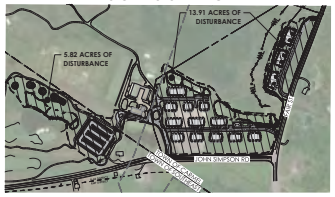


HORIZONTAL SCALE
200 0 100 200 400
SCALE: 1"=200'

PROPERTIES WITHIN 500' RADIUS OF SITE

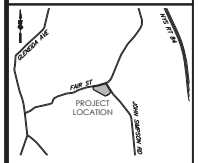
TAX ID	AREA	PROPERTY ADDRESS
44.-1-1	162.82 AC	175 SIMPSON RD
44.-1-25.7	4.86 AC	180 SIMPSON RD
44.-2-2.1	127.12 AC	185 SIMPSON RD
44.-2-2.2	127.12 AC	185 SIMPSON RD
44.-2-20	1.11 AC	5 BENEDICT PL
44.-2-21	1.33 AC	6 DUKE DR
44.-2-22	0.99 AC	10 DUKE DR
44.-2-23	1.31 AC	18 DUKE DR
44.-2-24	1.45 AC	28 DUKE DR
44.-2-25	1.39 AC	171 FAIR ST
44.-2-26	1.05 AC	40 DUKE DR
44.-2-27	1.16 AC	48 DUKE DR
44.-2-28	1.39 AC	56 DUKE DR
44.-2-29	2.62 AC	189 FAIR ST
44.-2-30	1.09 AC	64 DUKE DR
44.-2-53	0.93 AC	6 BENEDICT PL
44.-2-54	0.99 AC	23 DUKE DR
44.-2-55	0.98 AC	29 DUKE DR
44.-2-56	0.90 AC	39 DUKE DR
44.-2-57	0.93 AC	47 DUKE DR
44.-2-58	0.93 AC	55 DUKE DR
44.-2-59	0.89 AC	65 DUKE DR
44.-2-7.2	4.07 AC	FAIR ST
44.-2-70	2.58 AC	173 FAIR ST
44.-2-71	1.88 AC	183 FAIR ST
44.11-1-23	10.89 AC	KINGSWAY
44.11-1-24	1.73 AC	115 FAIR ST
44.11-1-25	1.11 AC	15 HILL & DALE RD
44.11-1-26	0.94 AC	21 HILL & DALE RD
44.15-2-1	2.10 AC	130 FAIR ST
44.15-2-2	1.93 AC	122 FAIR ST
44.15-2-3	1.26 AC	116 FAIR ST
44.15-2-4	0.81 AC	FAIR ST
44.-1-18	0.31 AC	SIMPSON RD
44.-1-19	7.83 AC	MORGAN DR, SOUTHEAST
44.15-1-56	1.05 AC	111 FAIR ST
44.15-2-15	1.07 AC	13 HILLSIDE PL
44.15-2-16	1.48 AC	12 HILLSIDE PL
44.15-2-5	0.95 AC	112 FAIR ST

LIMITS OF DISTURBANCE MAP KEY



HORIZONTAL SCALE
500 0 250 500 1000
SCALE: 1"=500'

PASSERO ASSOCIATES
engineering architecture



Town of Carmel/Southeast
LOCATION SKETCH

Client:

PASSERO ASSOCIATES
240 West Main Street Suite 100, Rochester, New York 14614
(585) 325-1000 Fax: (585) 325-1691
Principal-in-Charge: Jess Sudol, PE
Project Manager: Chris Laporta, PE
Designed by: Cole Overhoff

Revisions

No.	Date	By	Description
1			

COVER

CENTENNIAL TOWNHOMES

Town/City: CARMEL/SOUTHEAST
County: PUTNAM State: NEW YORK

Project No. 20213150.0001

Drawing No. C 110 | Sheet No. 1

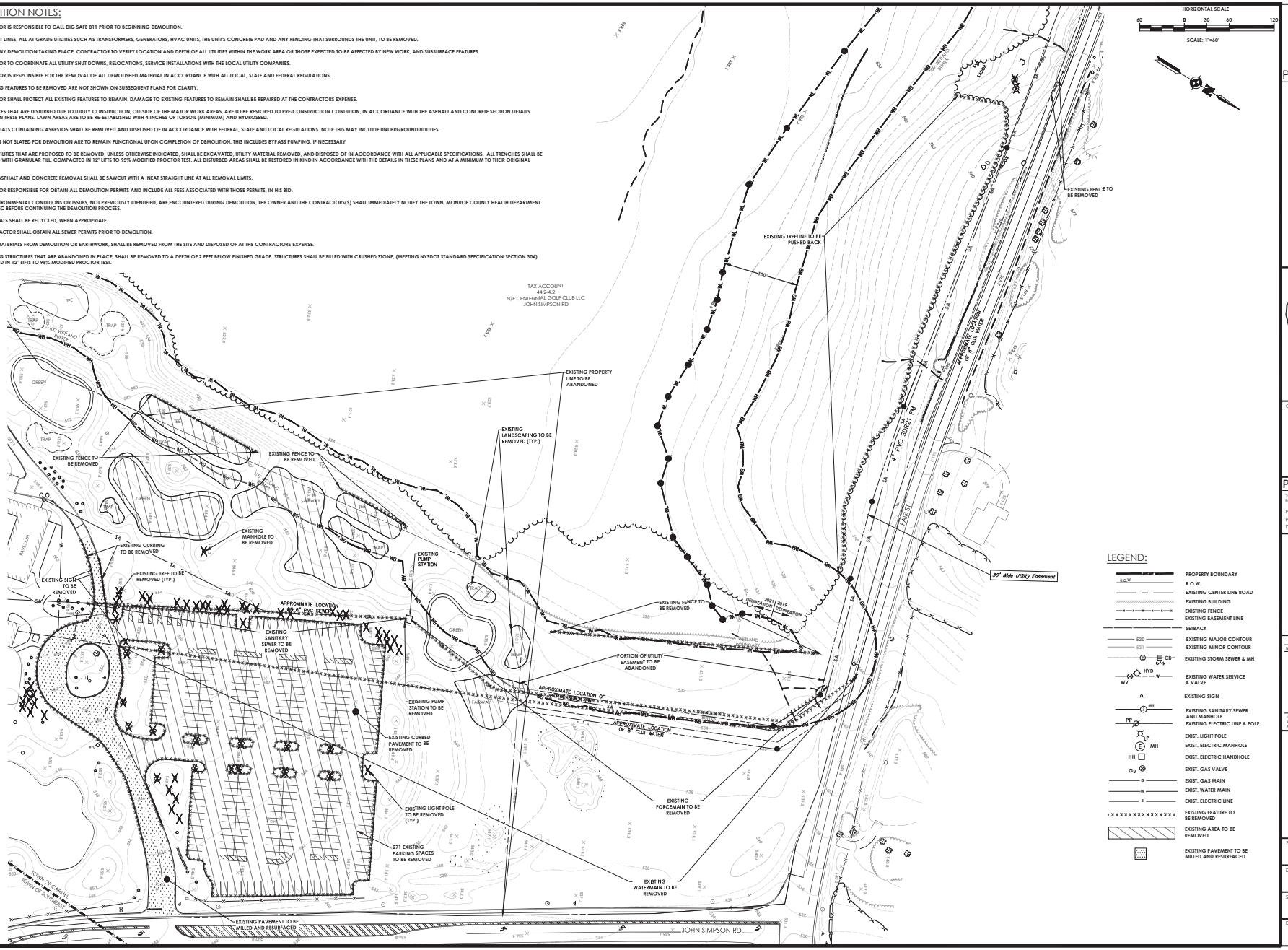
Scale: 1" = 200'

Date: NOVEMBER 2021

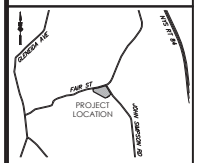
NOT FOR CONSTRUCTION

DEMOLITION NOTES:

1. CONTRACTOR IS RESPONSIBLE TO CALL DIG SAFE 811 PRIOR TO BEGINNING DEMOLITION.
2. WITHIN LIMIT LINES, ALL AT GRADE UTILITIES SUCH AS TRANSFORMERS, GENERATORS, HVAC UNITS, THE UNIT'S CONCRETE PAD AND ANY FENCING THAT SURROUNDS THE UNIT, TO BE REMOVED.
3. PRIOR TO ANY DEMOLITION TAKING PLACE, CONTRACTOR TO VERIFY LOCATION AND DEPTH OF ALL UTILITIES WITHIN THE WORK AREA OR THOSE EXPECTED TO BE AFFECTED BY NEW WORK, AND SUBSURFACE FEATURES.
4. CONTRACTOR TO COORDINATE ALL UTILITY SHUT DOWNS, RELOCATIONS, SERVICE INSTALLATIONS WITH THE LOCAL UTILITY COMPANIES.
5. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL DEMOLISHED MATERIAL IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
6. ALL EXISTING FEATURES TO BE REMOVED ARE NOT SHOWN ON SUBSEQUENT PLANS FOR CLARITY.
7. CONTRACTOR SHALL PROTECT ALL EXISTING FEATURES TO REMAIN. DAMAGE TO EXISTING FEATURES TO REMAIN SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
8. ALL SURFACES THAT ARE DISTURBED DUE TO UTILITY CONSTRUCTION, OUTSIDE OF THE MAJOR WORK AREAS, ARE TO BE RESTORED TO PRE-CONSTRUCTION CONDITION, IN ACCORDANCE WITH THE ASPHALT AND CONCRETE SECTION DETAILS INCLUDED IN THESE PLANS. LAWN AREAS ARE TO BE RE-ESTABLISHED WITH 4 INCHES OF TOPSOIL (MINIMUM) AND HYDROSEED.
9. ANY MATERIALS CONTAINING ASBESTOS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. NOTE THIS MAY INCLUDE UNDERGROUND UTILITIES.
10. ALL UTILITIES NOT SLATED FOR DEMOLITION ARE TO REMAIN FUNCTIONAL UPON COMPLETION OF DEMOLITION. THIS INCLUDES BYPASS PUMPING, IF NECESSARY
11. EXISTING UTILITIES THAT ARE PROPOSED TO BE REMOVED, UNLESS OTHERWISE INDICATED, SHALL BE EXCAVATED, UTILITY MATERIAL REMOVED, AND DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE SPECIFICATIONS. ALL TRENCHES SHALL BE BACKFILLED WITH GRANULAR FILL, COMPACTED IN 12" LIFTS TO 95% MODIFIED PROCTOR TEST. ALL DISTURBED AREAS SHALL BE RESTORED IN KIND IN ACCORDANCE WITH THE DETAILS IN THESE PLANS AND AT A MINIMUM TO THEIR ORIGINAL STATE.
12. AREAS OF ASPHALT AND CONCRETE REMOVAL SHALL BE SAWCUT WITH A NEAT STRAIGHT LINE AT ALL REMOVAL LIMITS.
13. CONTRACTOR RESPONSIBLE FOR OBTAIN ALL DEMOLITION PERMITS AND INCLUDE ALL FEES ASSOCIATED WITH THOSE PERMITS, IN HIS BID.
14. IF ANY ENVIRONMENTAL CONDITIONS OR ISSUES, NOT PREVIOUSLY IDENTIFIED, ARE ENCOUNTERED DURING DEMOLITION, THE OWNER AND THE CONTRACTORS(S) SHALL IMMEDIATELY NOTIFY THE TOWN, MONROE COUNTY HEALTH DEPARTMENT AND NYSDEC BEFORE CONTINUING THE DEMOLITION PROCESS.
15. ALL MATERIALS SHALL BE RECYCLED, WHEN APPROPRIATE.
16. THE CONTRACTOR SHALL OBTAIN ALL SEWER PERMITS PRIOR TO DEMOLITION.
17. ALL SPOIL MATERIALS FROM DEMOLITION OR EARTHWORK, SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT THE CONTRACTORS EXPENSE.
18. ALL EXISTING STRUCTURES THAT ARE ABANDONED IN PLACE, SHALL BE REMOVED TO A DEPTH OF 2 FEET BELOW FINISHED GRADE. STRUCTURES SHALL BE FILLED WITH CRUSHED STONE. (MEETING NYSDOT STANDARD SPECIFICATION SECTION 304) COMPACTED IN 12" LIFTS TO 95% MODIFIED PROCTOR TEST.



PASSERO ASSOCIATES
engineering architecture



Town of Carmel/Southeast
LOCATION SKETCH

Client:

PASSERO ASSOCIATES
240 West Main Street Suite 100
Rochester, New York 14614
(585) 325-1000
Fax: (585) 325-1691

Principal-in-Charge — Jess Sudol, PE
Project Manager — Chris Laporta, PE
Designed by — Cole Overhoff

Revisions

No.	Date	By	Description
1			

DEMOLITION PLAN

CENTENNIAL
TOWNHOMES

Town/City: CARMEL/SOUTHEAST
County: PUTNAM
State: NEW YORK

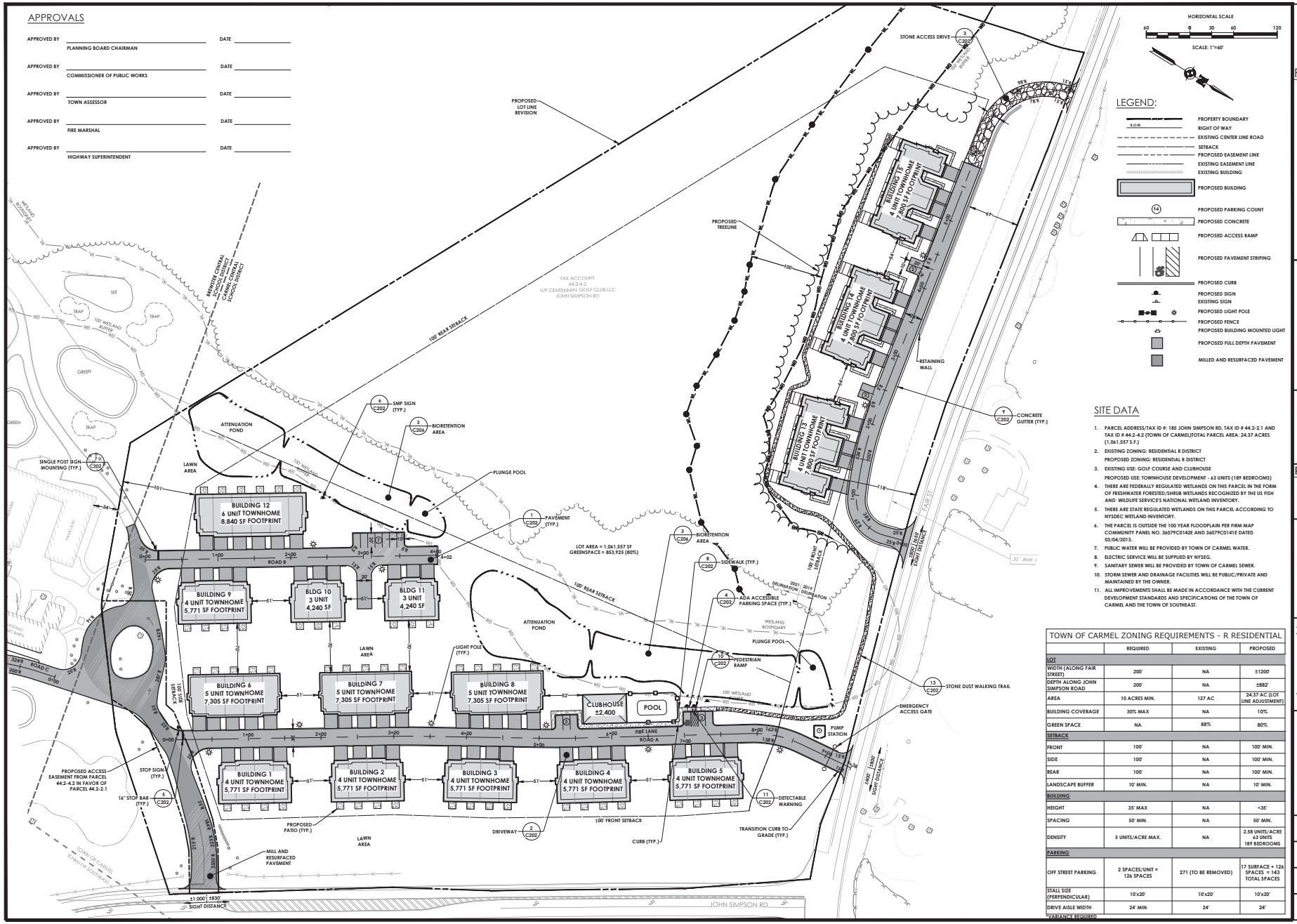
Project No.
20213150.0001

Drawing No.	Sheet No.
C 120	2

Scale:
1" = 60'

Date
NOVEMBER 2021

NOT FOR CONSTRUCTION



SITE DATA

1. PARCEL ADDRESS/TAX ID #: 185 JOHN SIMPSON RD, TAX ID # 44.2-2.1 AND TAX ID # 44.2-4.2 (TOWN OF CARMEL)TOTAL PARCEL AREA: 24.37 ACRES (1,061,557 S.F.)
2. EXISTING ZONING: RESIDENTIAL R DISTRICT
   PROPOSED ZONING: RESIDENTIAL R DISTRICT
3. EXISTING USE: GOLF COURSE AND CLUBHOUSE
   PROPOSED USE: TOWNHOUSE DEVELOPMENT - 63 UNITS (189 BEDROOMS)
4. THERE ARE FEDERALLY REGULATED WETLANDS ON THIS PARCEL IN THE FORM OF FRESHWATER FORESTED/SHRUB WETLANDS RECOGNIZED BY THE US FISH AND WILDLIFE SERVICE'S NATIONAL WETLAND INVENTORY.
5. THERE ARE STATE REGULATED WETLANDS ON THIS PARCEL ACCORDING TO NYSDEC WETLAND INVENTORY.
6. THE PARCEL IS OUTSIDE THE 100 YEAR FLOODPLAIN PER FIRM MAP COMMUNITY PANEL NO. 3607PC0142E AND 3607PC0141E DATED 03/04/2013.
7. PUBLIC WATER WILL BE PROVIDED BY TOWN OF CARMEL WATER.
8. ELECTRIC SERVICE WILL BE SUPPLIED BY NYSEG.
9. SANITARY SEWER WILL BE PROVIDED BY TOWN OF CARMEL SEWER.
10. STORM SEWER AND DRAINAGE FACILITIES WILL BE PUBLIC/PRIVATE AND MAINTAINED BY THE OWNER.
11. ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE CURRENT DEVELOPMENT STANDARDS AND SPECIFICATIONS OF THE TOWN OF CARMEL AND THE TOWN OF SOUTHEAST.

TOWN OF CARMEL ZONING REQUIREMENTS - R RESIDENTIAL

	REQUIRED	EXISTING	PROPOSED
LOT			
WIDTH (ALONG FAIR STREET)	200'	NA	±1200'
DEPTH ALONG JOHN SIMPSON ROAD	200'	NA	±882'
AREA	10 ACRES MIN.	127 AC	24.37 AC (LOT LINE ADJUSTMENT)
BUILDING COVERAGE	30% MAX	NA	10%
GREEN SPACE	NA	88%	80%
SETBACK			
FRONT	100'	NA	100' MIN.
SIDE	100'	NA	100' MIN.
REAR	100'	NA	100' MIN.
LANDSCAPE BUFFER	10' MIN.	NA	10' MIN.
BUILDING			
HEIGHT	35' MAX	NA	<35'
SPACING	50' MIN.	NA	50' MIN.
DENSITY	5 UNITS/ACRE MAX.	NA	2.58 UNITS/ACRE 63 UNITS 189 BEDROOMS
PARKING			
OFF STREET PARKING	2 SPACES/UNIT = 126 SPACES	271 (TO BE REMOVED)	17 SURFACE + 126 SPACES = 143 TOTAL SPACES
STALL SIZE (PERPENDICULAR)	10'x20'	10'x20'	10'x20'
DRIVE AISLE WIDTH	24' MIN	24'	24'

*VARIANCE REQUIRED

PASSERO ASSOCIATES
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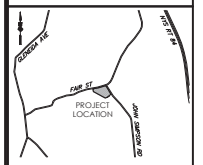


Town of Carmel/Southeast
LOCATION SKETCH

Client:

PASSERO ASSOCIATES
240 West Main Street Suite 100
Rochester, New York 14614
(585) 325-1000
Fax: (585) 325-1691
Principal-in-Charge: Jess Sudol, PE
Project Manager: Chris Laporta, PE
Designed by: Cole Overhoff

Revisions

No.	Date	By	Description
1			

SITE PLAN

CENTENNIAL TOWNHOMES

Town/City: CARMEL/SOUTHEAST
County: PUTNAM
State: NEW YORK

Project No.
20213150.0001

Drawing No.
C 130

Sheet No.
3

Scale:
1" = 60'

Date
NOVEMBER 2021

NOT FOR CONSTRUCTION

GENERAL NOTES:

1. THE SANITARY SEWER SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS OF THE NEW YORK STATE AND PUTNAM COUNTY HEALTH DEPARTMENTS.
2. WATER SERVICE WILL BE INSTALLED IN ACCORDANCE WITH THE RULES, REGULATIONS AND STANDARDS OF THE PUTNAM COUNTY HEALTH DEPARTMENT AND THE TOWN WATER DEPARTMENT.
3. THE BUILDING CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE NEW YORK STATE BUILDING CODE.
4. ANY COST RELATED TO THE RELOCATION OF ANY UTILITIES NECESSITATED BY THIS PROJECT SHALL BE THE RESPONSIBILITY OF THE OWNER OR THOSE REQUESTING THE RELOCATION OF THE UTILITY.
5. ALL PROPERTY CORNERS TO BE MARKED WITH IRON PINS.
6. ALL CONSTRUCTION WILL BE IN ACCORDANCE WITH THE DESIGN CRITERIA AND CONSTRUCTION SPECIFICATIONS FOR LAND DEVELOPMENT FOR THE TOWN OF CARMEL, LATEST EDITION.

ARCHITECTURE NOTE:

IF THERE IS A DISCREPANCY BETWEEN ARCHITECTURAL AND ENGINEERING SPECIFICATIONS OR DRAWINGS, THEN ENGINEERING SHALL BE FOLLOWED UNLESS ARCHITECTURAL DESIGN IS AFFECTED THEN CONTACT ENGINEER IN ANY CASE OF DISCREPANCY. CONTACT ARCHITECT FOR DIRECTION.

Sanitary Sewer Approval

Putnam **County Department of Public Health**

These plans for Public Sanitary Sewer Extension / Improvement are hereby approved pursuant to Article 17 of the NYS Environmental Conservation Law subject to conditions of Approval

Director of Public Health

By Public Health Engineer Date

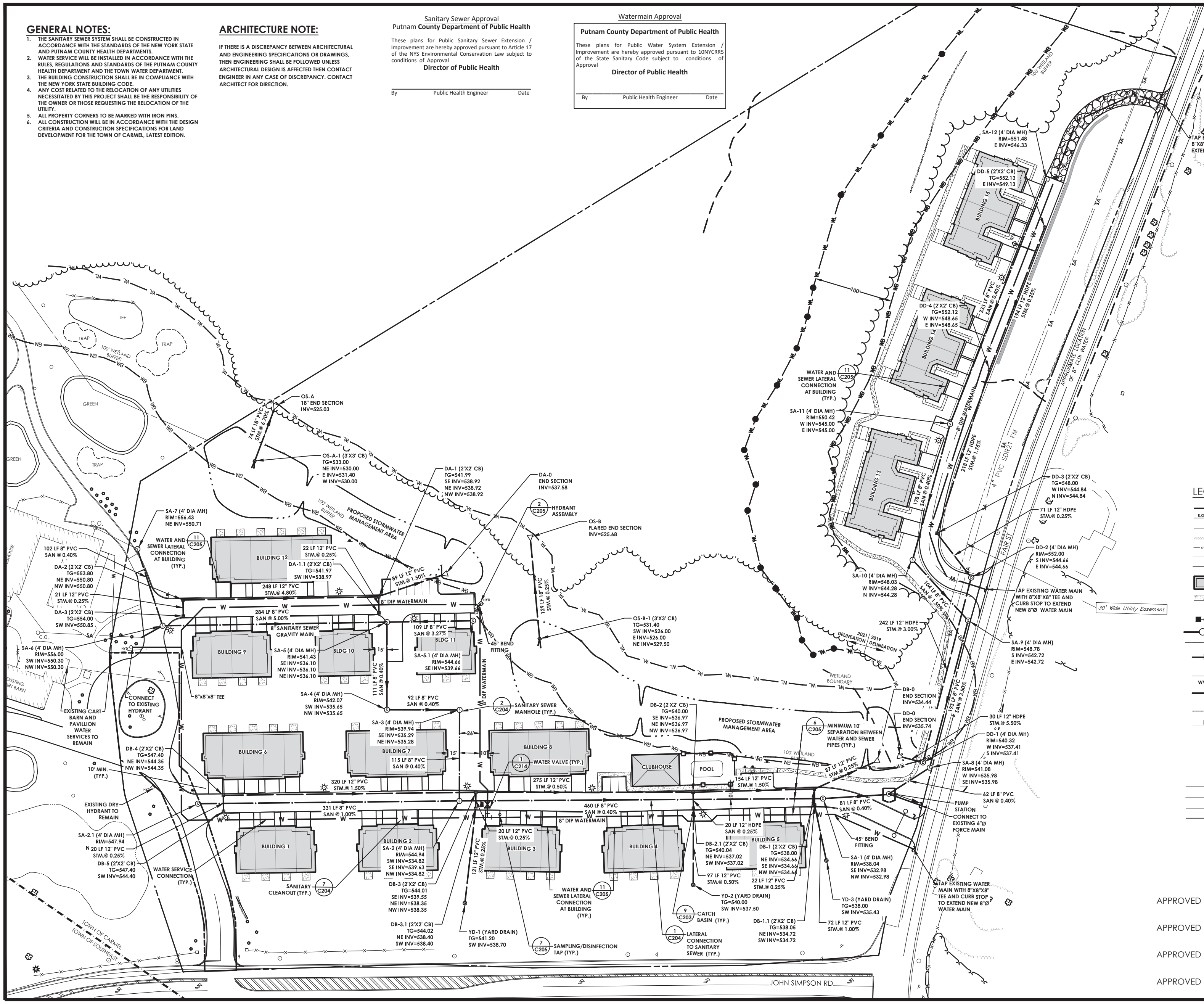
Watermain Approval

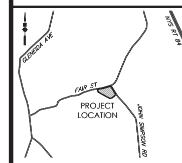
Putnam County Department of Public Health

These plans for Public Water System Extension / Improvement are hereby approved pursuant to 10NYCRR5 of the State Sanitary Code subject to conditions of Approval

Director of Public Health

By Public Health Engineer Date





Town of Carmel/Southeast
LOCATION SKETCH

Client:

LEGEND:

- PROPERTY BOUNDARY
- R.O.W.
- EXISTING CENTER LINE ROAD
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING EASEMENT LINE
- PROPOSED EASEMENT LINE
- PROPOSED BUILDING
- PROPOSED CONCRETE
- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED STORM SEWER, INLET MH, CB & END SECTION
- EXISTING STORM SEWER & MH
- PROPOSED WATER SERVICE W/ HYDRANT & VALVE
- EXISTING WATER SERVICE & VALVE
- PROPOSED SANITARY SEWER AND MANHOLE
- EXISTING SANITARY SEWER AND MANHOLE
- EXISTING ELECTRIC LINE & POLE
- EXIST. LIGHT POLE
- EXIST. ELECTRIC MANHOLE
- EXIST. ELECTRIC HANDHOLE
- EXIST. GAS VALVE
- EXIST. GAS MAIN
- EXIST. WATER MAIN
- EXIST. ELECTRIC LINE
- PROPOSED UNDERGROUND ELECTRIC

APPROVED BY ______ DATE ______
TOWN SUPERVISOR

APPROVED BY ______ DATE ______
TOWN ENGINEER

APPROVED BY ______ DATE ______
COMMISSIONER OF PUBLIC WORKS/ HIGHWAY SUPERINTENDENT

APPROVED BY ______ DATE ______
FIRE MARSHALL

PASSERO ASSOCIATES
engineering architecture

PASSERO ASSOCIATES
242 West Main Street Suite 100
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(585) 325-1000
Fax: (585) 325-1691

Principal-in-Charge: Jess Sudol, PE
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Revisions

No.	Date	By	Description
1			

UTILITY PLAN

CENTENNIAL TOWNHOMES

Town/City: CARMEL/SOUTHEAST
County: PUTNAM State: NEW YORK

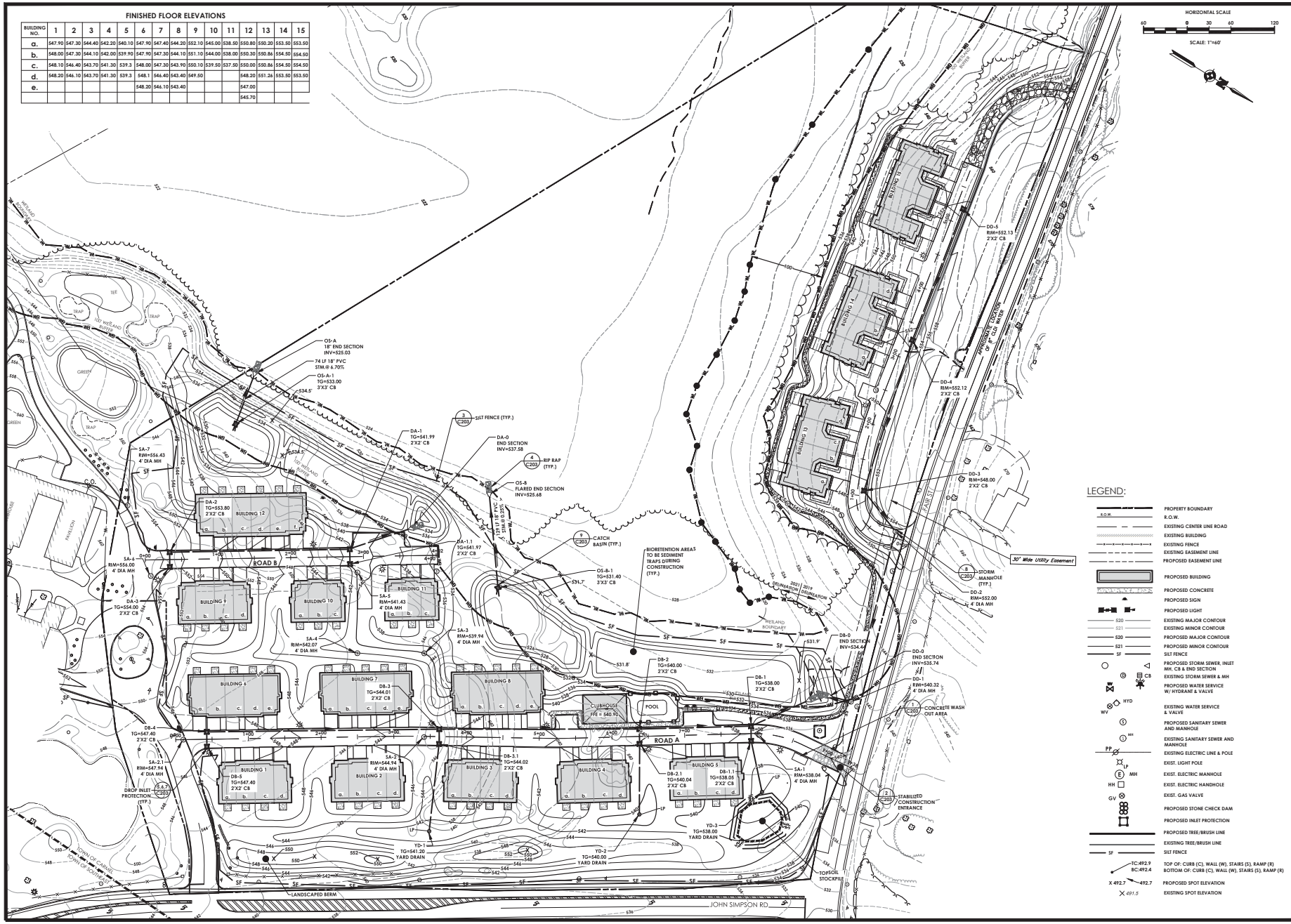
Project No.: 20213150.0001

Drawing No.: C 140 Sheet No.: 4

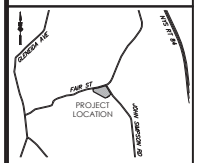
Scale: 1" = 60'

Date: NOVEMBER 2021

NOT FOR CONSTRUCTION



PASSERO ASSOCIATES
engineering architecture



Town of Carmel/Southeast
LOCATION SKETCH

Client:

PASSERO ASSOCIATES
240 West Main Street Suite 100, Rochester, New York 14614
(585) 325-1000
Fax: (585) 325-1691
Principal-in-Charge: Jess Sudol, PE
Project Manager: Chris Laporta, PE
Designed by: Cole Overhoff

Revisions

No.	Date	By	Description
1			

GRADING & EROSION CONTROL PLAN

CENTENNIAL TOWNHOMES

Town/City: CARMEL/SOUTHEAST
County: PUTNAM
State: NEW YORK

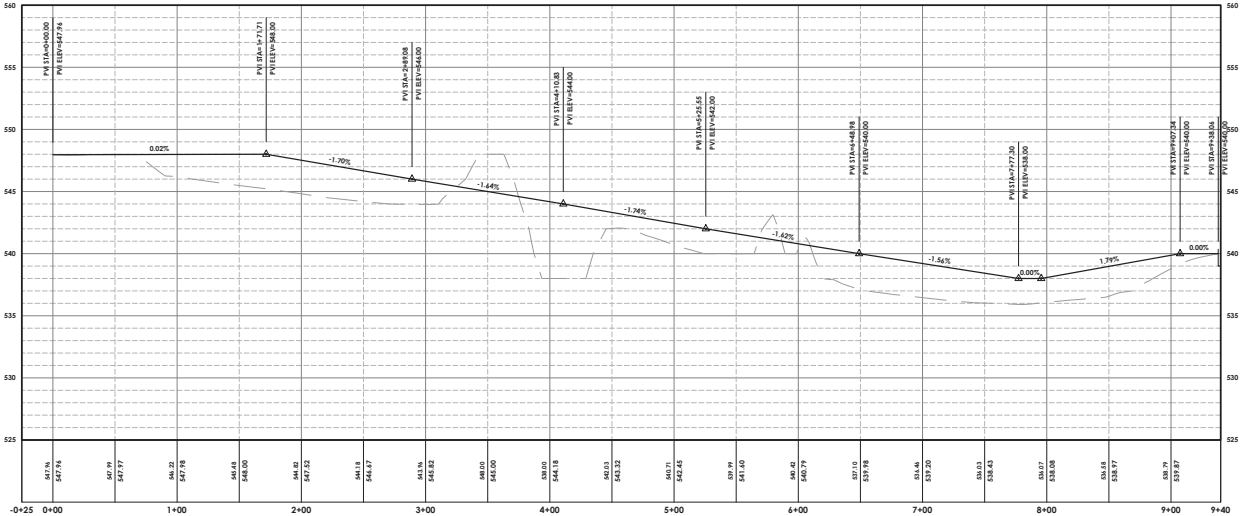
Project No.: 20213150.0001

Drawing No.: C 150
Sheet No.: 5

Scale: 1" = 60'

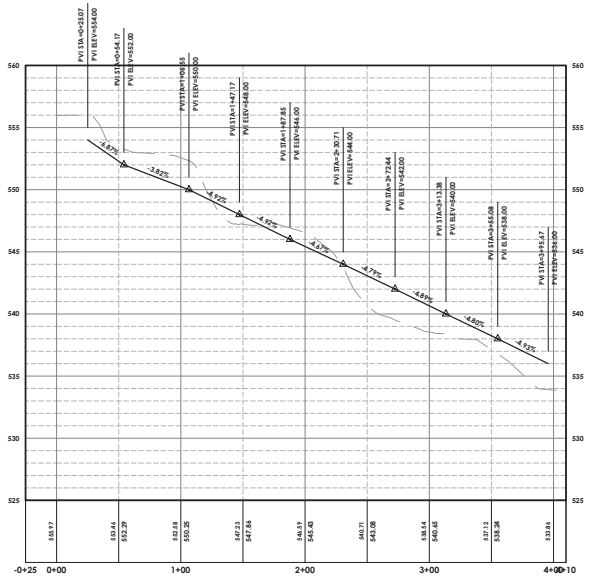
Date: NOVEMBER 2021

NOT FOR CONSTRUCTION



ROAD A PROFILE

SCALE: HORIZONTAL - 1" = 50'
VERTICAL - 1: = 5'



ROAD B PROFILE

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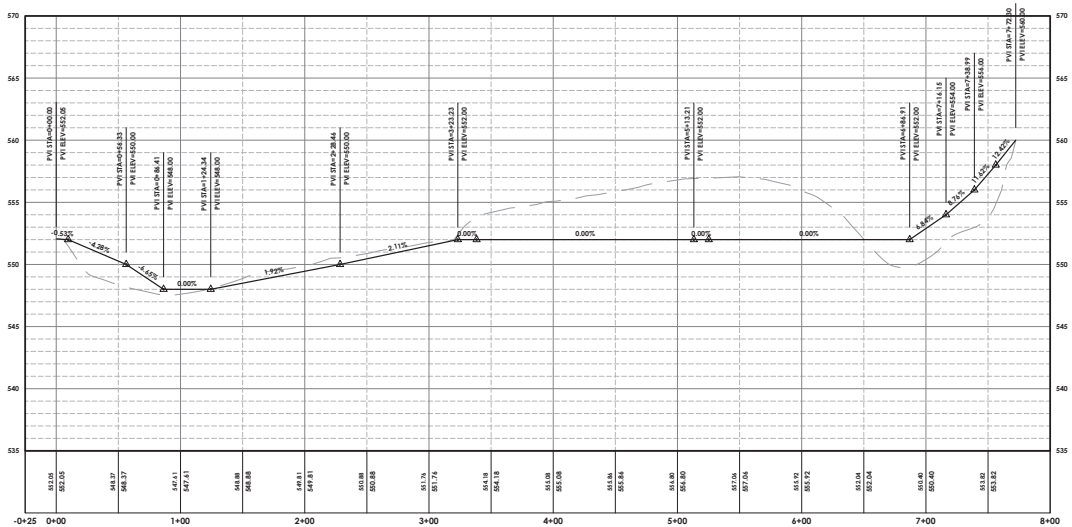
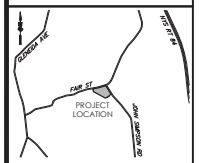
VERTICAL - 1: = 5'



ROAD D PROFILE

SCALE: HORIZONTAL - 1" = 50'
VERTICAL - 1: = 5'

PASSERO ASSOCIATES
engineering architecture



Town of Carmel/Southeast
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242 West Main Street Suite 100
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Principal-in-Charge: Jess Sudol, PE
Project Manager: Chris Laporta, PE
Designed by: Cole Overhoff

Revisions

No.	Date	By	Description
1			

PROFILES

CENTENNIAL
TOWNHOMES

Town/City: CARMEL/SOUTHEAST
County: PUTNAM
State: NEW YORK

Project No.
20213150.0001

Drawing No.: C 160
Sheet No.: 6

Scale:
AS SHOWN

Date
NOVEMBER 2021

NOT FOR CONSTRUCTION

CENTENNIAL TOWNHOMES PLANT SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING / SPREAD	REMARKS	MATURE HEIGHT
DECIDUOUS TREES								
AR	9	Acer rubrum "Red Sunset"	Red Sunset Maple	2-2 1/2"	B&B	As Shown	Fall Hazard	40-45'
NS	13	Nyssa sylvatica "Wildfire"	Black Gum	2-2 1/2"	B&B	As Shown	Fall Hazard	30-50'
PA	20	Platanus x acerifolia	Bloodgood London Plane Tree	2-2 1/2"	B&B	As Shown	Fall Hazard	75' H.
QR	6	Quercus rubra	Northern Red Oak	2-2 1/2"	B&B	As Shown	Fall Hazard	50-75'
ZS	5	Zelkova serrata "Village Green"	Village Green Japanese Zelkova	2-2 1/2"	B&B	As Shown	Fall Hazard	50-65'
EVERGREEN TREES								
AC	12	Abies concolor	White Fir	7-8'	B&B	30' OC	Buffer Planting	40-70'
AF	11	Abies fraseri	Fraser Fir	7-8'	B&B	30' OC	Buffer Planting	30-50'
PP	6	Picea pungens	Colorado Blue Spruce	7-8'	B&B	30' OC	Buffer Planting	30-60'

HORIZONTAL SCALE
60 0 30 60 120
SCALE: 1"=60'

LEGEND:
PROPERTY BOUNDARY
PROPOSED TREE LINE
EXISTING TREE LINE
PROPOSED LIGHT POLE
1.0 LIGHTING 1 FOOTCANDLE CONTOUR
0.5 LIGHTING 0.5 FOOTCANDLE CONTOUR

LANDSCAPE NOTES

1. TREES SHALL BE BALLED AND BURLAPPED AND SHALL NOT BE LESS THAN TWO TO 2 1/2 INCHES CALIPER, MEASURED SIX INCHES ABOVE THE TOP OF THE BALL, NOR LESS THAN 10 FEET HIGH PER TOWN OF CARMEL CODE.

2. TREES SHALL BE PLANTED IN ACCORDANCE WITH THE APPROVED TREE PLAN, BASED ON THE POTENTIAL ROOT GROWTH OF THE TREE TO BE PLANTED, BUT IN NO CASE CLOSER THAN SIX FEET TO ANY ROAD, PARKING AREA, STRUCTURE OR OTHER IMPROVEMENT OR IN ANY MANNER WHICH WILL LIMIT SIGHT DISTANCE ALONG ANY ROAD BELOW THE SPECIFIED MINIMUM IN APPLICABLE TOWN REGULATIONS.

3. CONTRACTOR TO TAKE SPECIAL CARE WHEN PLANTING AND WATERING FALL HAZARD PLANT MATERIAL.

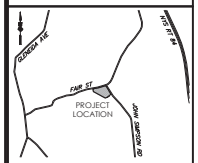
4. BIORETENTION AREAS ARE TO BE PLANTED WITH SEED MIX EQUAL TO OR SIMILAR TO ERNMX-126 LOW MAINTENANCE MIX (20LBS/ACRE)

5. THERE WILL BE NO SUBSTITUTION OR CHANGES TO THE APPROVED LANDSCAPE PLAN WITHOUT THE APPROVAL OF THE TOWN OF CARMEL.

APPROVED BY _____ DATE _____
PLANNING BOARD CHAIR

APPROVED BY _____ DATE _____
TOWN ENGINEER

PASSERO ASSOCIATES
engineering architecture



Town of Carmel/Southeast
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Principal-in-Charge Jess Sudol, PE
Project Manager Chris Laporta, PE
Designed by Cole Overhoff

Revisions

No.	Date	By	Description
1			

LANDSCAPING & LIGHTING PLAN

CENTENNIAL TOWNHOMES

Town/City: CARMEL/SOUTHEAST
County: PUTNAM State: NEW YORK

Project No. 20213150.0001

Drawing No. C 170 | Sheet No. 7

Scale: 1" = 60'

Date NOVEMBER 2021

NOT FOR CONSTRUCTION

UTILITY NOTES:

1. PRIOR TO THE START OF UTILITY INSTALLATION THE CONTRACTOR AND SUBCONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL UTILITY CONNECTIONS WITH MECHANICAL/ARCHITECTURAL DRAWINGS FOR INCLUDING BUT NOT LIMITED TO VERTICAL AND HORIZONTAL LOCATION, PENETRATIONS, AND SIZES. THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROCEED WITH UTILITY INSTALLATION BY THE OWNERS ONSITE REPRESENTATIVE UPON COMPLETION OF COORDINATION WITH CONTRACTORS, AND PLANS.

2. THE DEVELOPER AND HIS/HER CONTRACTOR IS RESPONSIBLE FOR COORDINATING GAS, ELECTRICAL, CABLE, TELEPHONE AND ANY OTHER UTILITIES NOT SPECIFICALLY SHOWN WITHIN THIS PLAN SET WITH APPROPRIATE AGENCY. PASSERO ASSOCIATES ASSUMES NO RESPONSIBILITY FOR THE DESIGN OR PERFORMANCE OF UTILITIES NOT SPECIFICALLY SHOWN WITHIN THIS PLAN SET.

3. PRIOR TO THE START OF UTILITY INSTALLATION THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY AND COORDINATE WITH EXISTING UTILITIES SHOWN ON THE PLANS AND REPORT ANY DISCREPANCIES TO THE DESIGN ENGINEER. THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROCEED WITH UTILITY INSTALLATION BY THE OWNERS ONSITE REPRESENTATIVE UPON COMPLETION EXISTING UTILITY VERIFICATION.

4. THRUST BLOCKS ON THE WATERMAIN ARE REQUIRED AT BENDS, TEES OR PLUGS. SEE DETAIL SHEETS FOR THRUST BLOCK DETAILS.

STORM NOTES:

1. STORM SEWERS AND APPURTENANCES SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE LATEST REGULATIONS OF THE MUNICIPALITY

2. PROPOSED STORM SEWER LATERAL MATERIAL:
   PVC SDR-35 6" MIN. SIZE & SHALL BE LAID AT A MINIMUM GRADE OF 1/4" PER FT.
   STORM SEWER MATERIAL:
   ADS HDPE 12" MIN.

3. FOUNDATION DRAINS SHALL BE CONNECTED TO STORM WATER SYSTEM VIA SUMP PUMPS. DOWNSPOUTS SHALL BE CONNECTED TO STORM SEWER WHERE APPLICABLE, WHERE NOTED ON THE PLANS DOWNSPOUTS SHALL DISCHARGE TO SPLASH BLOCKS.

4. UPON COMPLETION OF SYSTEM INSTALLATION, THE MAIN SEWER SYSTEM AND LEADS TO STRUCTURES SHALL BE FLUSHED AND LAMPED TO THE SATISFACTION OF THE MUNICIPALITY.

SANITARY NOTES:

1. SANITARY SEWERS AND APPURTENANCES SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE LATEST REGULATIONS OF THE STATE, COUNTY AND LOCAL MUNICIPALITY
2. MATERIALS
   - MAINS - PIPING SHALL BE POLYVINYL CHLORIDE (PVC) WITH ENDS SUITABLE FOR ELASTOMERIC GASKET JOINTS, AND A MINIMUM WALL THICKNESS OF SDR-35. PIPING AND FITTINGS SHALL MEET:
     ASTM D-3034 (4" THRU 15")
     ASTM F-679 (18" THRU 48")
   - LATERALS - 4" MIN. INSTALLED AT $\frac{1}{4}$" PER FOOT MIN. PIPING SHALL BE POLYVINYL CHLORIDE (PVC) WITH ENDS SUITABLE FOR ELASTOMERIC GASKET JOINTS, AND A MINIMUM WALL THICKNESS OF SDR-21. PIPING AND FITTINGS SHALL MEET ASTM D-2241.
   - JOINTING MATERIALS - SHALL BE BELL-AND-SPIGOT WITH INTEGRAL PUSH ON TYPE ELASTOMERIC GASKET JOINTS, GASKET MATERIAL TO BE NEOPRENE MEETING ASTM D-3212.
   - MANHOLES - SHALL BE PRECAST CONCRETE WITH NEOPRENE GASKETS MEETING ASTM C-478 & ASTM C-443.

3. INFILTRATION AND EXFILTRATION FOR SANITARY SEWERS SHALL BE LIMITED TO 100 GALLONS PER MILE PER INCH DIAMETER OF PIPE PER 24 HOURS.

4. IF AN AIR TEST IS USED, THE TEST AS A MINIMUM SHALL CONFORM TO THE PROCEDURE DESCRIBED IN ASTM C-828-80, ENTITLED STANDARD PRACTICE FOR LOW PRESSURE AIR TEST OF VITRIFIED CLAY PIPELINES; SANITARY MANHOLES SHALL BE TESTED FOR EXFILTRATION.

5. VACUUM TESTING OF MANHOLES IS ALLOWED. THE CONTRACTOR IS CAUTIONED TO SPEAK TO THE SUPERINTENDENT OF SEWERS PRIOR TO COMMENCING WITH PLANS TO VACUUM TEST.

6. DEFLECTION TEST - TEN STATE STANDARDS.
   6.A. DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.
   6.B. IF THE DEFLECTION TEST IS TO BE RUN USING A RIGID BALL OR MANDRELL, IT SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.
   6.C. NO PIPE SHALL EXCEED A DEFLECTION OF 5%.

7. ALL SANITARY SEWER INSTALLATION SHALL BE MADE IN CONFORMANCE WITH THE SPECIFICATIONS, REGULATIONS, AND POLICIES OF THE MUNICIPAL DISTRICT.

8. ALL LATERALS SHALL HAVE A CLEANOUT AT THE OUTSIDE OF THE BUILDING.

9. FLOOR DRAINS, IF CONSTRUCTED, SHALL BE CONNECTED TO THE SANITARY SEWER/COMBINATION SEWER. (FLOOR DRAINS DO NOT INCLUDE FOUNDATION/FOOTER DRAINS). ALL DISCHARGES TO THE SANITARY/ COMBINATION SEWER MUST COMPLY WITH THE EFFLUENT LIMITS OF THE LOCAL AND/OR THE ULSTER COUNTY SEWER USE LAW.

10. SEPARATION - MINIMUM VERTICAL SEPARATION BETWEEN WATER MAINS AND SEWER LINES SHALL BE 18 INCHES MEASURED FROM THE OUTSIDE OF THE PIPES AT THE POINT OF CROSSING. ONE FULL STANDARD LAYING LENGTH OF WATER MAIN SHALL BE CENTERED UNDER OR OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. IN ADDITION. WHEN THE WATER MAIN PASSES UNDER A SEWER ADEQUATE STRUCTURAL SUPPORT (COMPACTED SELECTED FILL) SHALL BE PROVIDED FOR THE SEWER TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING OF THE SEWER ON THE WATER MAIN. MINIMUM HORIZONTAL SEPARATION BETWEEN PARALLEL WATER MAINS AND SEWER PIPES (INCLUDING MANHOLES AND VAULTS) SHALL BE 10 FEET MEASURED FROM THE OUTSIDE OF THE PIPES. MANHOLES OR VAULTS.

CONSTRUCTION SEQUENCE FOR GRADING AND EROSION CONTROL:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. CONSTRUCT STORMWATER MANAGEMENT AREA AND EROSION CONTROL MEASURES AS SHOWN ON THE PLANS.
3. CONSTRUCT DRAINAGE SWALES ALONG PROPERTY LINES AS SHOWN.
4. CLEAR AND GRUB THE PROJECT IMPROVEMENTS AREAS.
5. STRIP TOPSOIL AND STOCKPILE FOR LATER USE.
6. GRADE IMPROVEMENTS AREAS WITHIN THE PROJECT SITE. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 7 DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN 7 DAYS OF THE LAST DISTURBANCE.
7. CONSTRUCT SEDIMENTATION BARRIERS AS SHOWN ON THIS PLAN.
8. REPLACE TOPSOIL AND FINE GRADE.
9. HYDRO-SEED ALL DISTURBED AREAS WITHIN 10 DAYS AFTER FINAL GRADING, CONTRACTOR IS RESPONSIBLE TO RESEED IF GRADING IS UNSATISFACTORY.
10. UPON APPROVAL OF THE TOWN, REMOVE ALL TEMPORARY SILTATION CONTROLS.
11. SLOPES SHALL NOT EXCEED 1' VERTICAL TO 3' HORIZONTAL MAX. MAINTAIN 1:4 WHERE POSSIBLE.
12. MINIMUM OF 6" OF TOPSOIL IS TO BE PLACED ON ALL GRASS AREAS.
13. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BASED UPON ACTUAL FIELD CONDITIONS AOBE. CONTRACTOR SHALL PROVIDE FOR THIS COST IN HIS CONTRACT.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SILTATION AND EROSION CONTROL MEASURES FROM INSTALLATION THROUGH MAINTENANCE AND REMOVAL AFTER REVEGETATION HAS BEEN ESTABLISHED.
15. ALL END SECTIONS WILL BE PROVIDED WITH RIP-RAP APRONS.
16. ALL EROSION AND SEDIMENT CONTROL METHODS WILL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL

EROSION AND SEDIMENT CONTROL NOTES:

1. IN ACCORDANCE WITH SECTIONS 107-12 AND 209-3.01 OF THE NYSDOT STANDARD SPECIFICATIONS, THE CONTRACTOR SHALL REVIEW THE EROSION AND SEDIMENT CONTROL PLAN INCLUDED IN THE CONTRACT DOCUMENTS, AND IF NECESSARY, MODIFY THE PLAN WITH THE CONTRACTOR'S INTENDED SEQUENCE AND TYPES OF OPERATIONS. THE CONTRACTOR'S MODIFIED EROSION AND SEDIMENT CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL, ALONG WITH A PROGRESS SCHEDULE THAT ADDRESSES THIS WORK.

2. IN ACCORDANCE WITH SECTIONS 107-12 AND 209-3.01 OF THE NYSDOT STANDARD SPECIFICATIONS, THE CONTRACTOR SHALL DESIGNATE AN "EROSION AND SEDIMENT CONTROL SUPERVISOR" FOR THE PROJECT. THE SUPERVISOR SHALL BE RESPONSIBLE FOR IMPLEMENTING THE EROSION AND SEDIMENT CONTROL PLAN AND FOR INSPECTING AND MAINTAINING THE CONTROL MEASURES. THE NAME AND QUALIFICATIONS (TRAINING AND EXPERIENCE) OF THIS INDIVIDUAL SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO STARTING EARTHWORK.

3. THE DESIGNATED "EROSION AND SEDIMENT CONTROL SUPERVISOR" SHALL NOTIFY THE ENGINEER IN ADVANCE OF ANY FIELD CHANGES TO THE EROSION AND SEDIMENT CONTROL MEASURES INDICATED IN THE CONTRACT DOCUMENTS. THE ENGINEER MAY REQUIRE THE CONTRACTOR TO SUBMIT A MODIFIED EROSION AND SEDIMENT CONTROL PLAN FOR APPROVAL PRIOR TO IMPLEMENTING ANY FIELD CHANGES.

4. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORM WATER RUNOFF FROM DISTURBED AREAS IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL DEVICES BEFORE ENTERING A WATER BODY, WETLAND, OR LEAVING THE SITE.

5. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE FOR WHICH THEY ARE INTENDED AND SHALL REMAIN IN PLACE UNTIL SOILS ARE PERMANENTLY STABILIZED.

6. UNDER NO CONDITION SHALL DISCONTINUED CONSTRUCTION ACTIVITIES IN AREAS WITH SOIL DISTURBANCES BE LEFT FOR A PERIOD OF GREATER THAN 7 DAYS WITHOUT TEMPORARILY STABILIZING THOSE AREAS WITH TEMPORARY SEED AND MULCH. MAINTENANCE OF THOSE AREAS SHALL INCLUDE RESEEDING AND REMULCHING AS NEEDED TO ESTABLISH A SATISFACTORY STAND OF GRASS. THERE SHALL BE NO ADDITIONAL PAYMENT FOR RESEEDING AND REMULCHING.

7. NO WET OR FRESH CONCRETE, LEACHATE, MATERIAL, OR DEBRIS SHALL BE ALLOWED TO ESCAPE INTO A WATER BODY OR WETLAND, NOR SHALL WASHINGS FROM CONCRETE TRUCKS, MIXERS OR OTHER DEVICES BE ALLOWED TO ENTER A WATER BODY OR WETLAND. ANY MATERIAL OR DEBRIS ACCIDENTALLY DROPPED INTO THE CHANNEL SHALL BE IMMEDIATELY AND COMPLETELY REMOVEDAND DEPOSITED IN AN UPLAND AREA.

8. THE CONTRACTOR SHALL COVER TEMPORARY STOCKPILES OF ERODIBLE MATERIAL (SUCH AS TOPSOIL OR EARTH FILL) WITH POLY SHEETING, OR RING THE STOCKPILES WITH SILT FENCE TO CONTROL EROSION. POLY SHEETING SHALL COMPLETELY COVER THE STOCKPILE AND BE SECURELY ANCHORED AT ALL TIMES. ANY POLY SHEETING OR SILT FENCE THAT IS DAMAGED SHALL BE PROMPTLY REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER. RINGED STOCKPILES EXPOSED OR EXPECTED TO BE EXPOSED FOR LONGER THAN 7 CALENDAR DAYS SHALL IMMEDIATELY BE STABILIZED WITH APPROPRIATE MEASURES. THE COST OF COVERING AND RINGING/STABILIZING STOCKPILES SHALL BE INCLUDED IN THE PRICE BID FOR THE CORRESPONDING STOCKPILED MATERIAL.

STABILIZATION STANDARDS AND SPECIFICATIONS :

A TEMPORARY OR PERMANENT PROTECTIVE COVERING PLACED ON A PREPARED, SEEDED PLANTING AREA THAT IS ANCHORED IN PLACE BY STAPLES OR OTHER MEANS TO AID IN CONTROLLING EROSION BY ABSORBING RAIN SPLASH ENERGY AND WITHSTAND OVERLAND FLOW AS WELL AS PROVIDE A MICROCLIMATE TO PROTECT AND PROMOTE SEED ESTABLISHMENT.

CONDITIONS WHERE PRACTICE APPLIES

ANCHORED STABILIZATION MATS ARE REQUIRED FOR SEEDED EARTHEN SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL; IN VEGETATED CHANNELS WHERE THE VELOCITY OF THE DESIGN FLOW EXCEEDS THE ALLOWABLE VELOCITY FOR VEGETATION ALONE (USUALLY GREATER THAN 5 FEET PER SECOND); ON STREAMBANKS AND SHORELINES WHERE MOVING WATER IS LIKELY TO ERODE NEWLY SEEDED OR PLANTED AREAS; AND IN AREAS WHERE WIND PREVENTS STANDARD MULCHING WITH STRAW. THIS STANDARD DOES NOT APPLY TO SLOPES STABILIZED WITH SOD, ROCK RIPRAP OR HARD ARMOR MATERIAL.

DESIGN CRITERIA

SLOPE APPLICATIONS - ANCHORED STABILIZATION MATS FOR USE ON SLOPES ARE PRIMARILY USED AS MULCH BLANKETS WHERE THE MESH MATERIAL IS WITHIN THE BLANKET OR AS A NETTING OVER PREVIOUSLY PLACED MULCH. THESE STABILIZATION MATS ARE NOT EFFECTIVE IN PREVENTING SLOPE FAILURES.

1. REQUIRED ON ALL SLOPES STEEPER THAN 3:1
2. MATTING WILL BE DESIGNED FOR PROPER LONGEVITY NEED AND STRENGTH BASED ON INTENDED USE.
3. ALL INSTALLATION DETAILS AND DIRECTIONS WILL BE INCLUDED ON THE SITE EROSION AND SEDIMENT CONTROL PLAN AND WILL FOLLOW MANUFACTURES SPECIFICATIONS.

CHANNEL APPLICATIONS - ANCHORED STABILIZATION MATS, FOR USE IN SUPPORTING VEGETATION IN FLOW CHANNELS, ARE GENERALLY A NON-DEGRADABLE, THREE DIMENSIONAL PLASTIC STRUCTURE WHICH CAN BE FILLED WITH SOIL PRIOR TO PLANTING. THIS STRUCTURE PROVIDES A MEDIUM FOR ROOT GROWTH WHERE THE MATTING AND ROOTS BECOME INTERTWINED FORMING A CONTINUOUS ANCHOR FOR THE VEGETATED LINING.

1. CHANNEL STABILIZATION SHALL BE BASED ON THE TRACTIVE FORCE METHOD.
2. FOR MAXIMUM DESIGN SHEAR STRESSES LESS THAN 2 POUNDS PER SQUARE FOOT, A TEMPORARY OR BIO-DEGRADABLE MAT MAY BE USED.
3. THE DESIGN OF THE FINAL MATTING SHALL BE BASED ON THE MATS ABILITY TO RESIST THE TRACTIVE SHEAR STRESS AT BANK FULL FLOW.
4. THE INSTALLATION DETAILS AND PROCEDURES SHALL BE INCLUDED ON THE SITE EROSION AND SEDIMENT CONTROL PLAN AND WILL FOLLOW MANUFACTURERS SPECIFICATIONS.

STANDARD AND SPECIFICATIONS FOR ANCHORED STABILIZATION MATTING

CONSTRUCTION SPECIFICATIONS

1. PREPARE SOIL BEFORE INSTALLING MATTING BY SMOOTHING THE SURFACE, REMOVING DEBRIS AND LARGE STONE, AND APPLYING LIME, FERTILIZER AND SEED. REFER TO MANUFACTURERS INSTALLATION DETAILS.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE MAT IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. IN CHANNELS OR SWALES, BEGIN AT THE DOWNSLOPE END, ANCHORING THE MAT AT THE BOTTOM AND TOP ENDS OF THE BLANKET. WHEN ANOTHER ROLL IS NEEDED, THE UPSLOPE ROLL SHOULD OVERLAY THE LOWER LAYER, SHINGLE STYLE, SO THAT CHANNEL FLOWS DO NOT PEEL BACK THE MATERIAL.
4. ROLL THE MATS DOWN A SLOPE WITH A MINIMUM 4" OVERLAP. ROLL CENTER MAT IN A CHANNEL IN DIRECTION OF WATER FLOW ON BOTTOM OF THE CHANNEL. DO NOT STRETCH BLANKETS. BLANKETS SHALL HAVE GOOD CONTINUOUS CONTACT WITH THE UNDERLYING SOIL THROUGHOUT ITS ENTIRE LENGTH.
5. PLACE MATS END OVER END (SHINGLE STYLE) WITH A 6" OVERLAP, USE A DOUBLE ROW OF STAGGERED STAPLES 4" APART TO SECURE MATS.
6. FULL LENGTH EDGE OF MATS AT TOP OF SIDE SLOPES MUST BE ANCHORED IN 6" DEEP X 6" WIDE TRENCH; BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
7. MATS ON SIDE SLOPES OF A CHANNEL MUST BE OVERLAPPED 4" OVER THE CENTER MAT AND STAPLED.
8. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A ROW OF STAPLES 4" APART OVER ENTIRE WIDTH OF THE CHANNEL. PLACE A SECOND ROW 4" BELOW THE FIRST ROW IN A STAGGERED PATTERN.
9. THE TERMINAL END OF THE MATS MUST BE ANCHORED IN A 6"X6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
10. STAPLING AND ANCHORING OF BLANKET SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATIONS.

MAINTENANCE

BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 80% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 2 CALENDAR DAYS

COMPACTION NOTES:

1. THE CONTRACTOR SHALL STRIP THE TOPSOIL AND REMOVE ANY UNSUITABLE SOILS, WITHIN THE PROPOSED GRADING LIMITS PRIOR TO PLACEMENT OF FILL MATERIAL.

2. ALL FILL AREAS SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY OF STANDARD PROCTOR TEST AT OPTIMUM MOISTURE CONTENT.

3. THE COMPACTION TESTS WILL BE CONDUCTED BY A LICENSED TESTING LABORATORY AND RESULTS SUBMITTED TO DESIGN ENGINEER.

SOIL RESTORATION NOTES:

1. TILL COMPOST INTO SUBSOIL TO A DEPTH OF AT LEAST 12" USING CAT-MOUNTED RIPPER, TRACTOR MOUNTED DISC, OR TILLER, MIXING, AND CIRCULATING AIR AND COMPOST INTO SUBSOILS.
2. ROCK-PICK UNTIL UPLIFTED STONE/ROCK MATERIALS OF 4" AND LARGER ARE CLEANED OFF SITE.
3. APPLY TOPSOIL TO A DEPTH OF 6 INCHES ON ALL AREAS BEING RETURNED TO GRASS.
4. VEGETATE AS REQUIRED BY APPROVED PLAN.

TEMPORARY CONSTRUCTION AREA SEEDING NOTES:

1. THE AREA MUST BE ROUGH GRADED AND SLOPES PHYSICALLY STABLE.
2. SEEDING MUST TAKE PLACE WITHIN 24 HOURS OF DISTURBANCE OR SCARIFICATION OF THE SOIL WILL BE NEEDED PRIOR TO SEEDING.
3. TYPICALLY FERTILIZER OR LIME IS NOT USED FOR TEMPORARY SEEDINGS.
4. ANY SEEDING METHOD MAY BE USED THAT PROVIDES UNIFORM APPLICATION OF SEED TO THE AREA.
5. SEEDING

PLANTING SEASON	SPECIES	RATE IN LBS./ACRE
SPRING, SUMMER, OR EARLY FALL	RYEGRASS (ANNUAL OR PERENNIAL)	30
LATE FALL OR EARLY WINTER	WINTER RYE (CEREAL RYE)	100

*MULCH THE AREA WITH HAY OR STRAW AT 2 TONS/ACRE. WOOD FIBER HYDROMULCH OR OTHER SPRAYABLE PRODUCTS APPROVED FOR EROSION CONTROL MAY BE USED IF APPLIED ACCORDING TO SPECIFICATIONS.

LANDSCAPING NOTES:

1. CONTRACTOR SHALL OBTAIN ALL NECESSARY STATE AND LOCAL PERMITS REQUIRED. ALL CONSTRUCTION SHALL CONFORM TO APPLICABLE TOWN OF CARMEL, TOWN OF SOUTHEAST, AND STATE DESIGN STANDARDS AND CODES.

2. IT IS THE LANDSCAPE CONTRACTORS RESPONSIBILITY TO VISIT THE SITE PRIOR TO BID SUBMITTAL, TO BECOME FAMILIAR WITH EXISTING CONDITIONS AT THE SITE.

3. STANDARDS SET FORTH IN THE "AMERICAN STANDARD FOR NURSERY STOCK", ANSI Z60.1 (LATEST EDITION) REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE THE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIALS DELIVERED AND INSTALLED ON THIS PROJECT.

4. ALL PLANTS MUST BE HEALTHY, VIGOROUS AND FREE OF PESTS AND DISEASE.

5. ALL PLANTS MUST BE HARDY UNDER CLIMATE CONDITIONS THAT EXIST AT THE PROJECT SITE AND GROWN AT A NURSERY IN THE SAME HARDINESS ZONE AS THE PROJECT LOCATION.

6. ALL PLANTS MUST BE CONTAINER GROWN OR BALLED AND BURLAPPED AND MEET SIZE REQUIREMENTS AS INDICATED ON THE PLANT LIST.

7. ALL TREES MUST BE STRAIGHT-TRUNKED, INJURY FREE, HAVE A FULL, SYMMETRICAL CROWN (HEAD) AND MEET ALL REQUIREMENTS SPECIFIED (E.G. SINGLE STEM, MULTI-STEM, HEAVY BRANCHED, ETC.).

8. CRABAPPLE AND PEAR VARIETIES ARE CONSIDERED A FALL PLANTING HAZARD. THE CONTRACTOR SHALL TAKE SPECIAL CARE IN PLANTING AND WATERING THESE PLANTS.

9. ANY PROPOSED DEVIATION TO THE LANDSCAPE PLAN MUST FIRST BE REVIEWED AND APPROVED BY THE LANDSCAPE ARCHITECT.

10. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS. THE BID PRICE SUBMITTED WILL ASSUME THAT ALL PLANT MATERIALS DELINEATED WILL BE SUPPLIED AND INSTALLED. ANY DISCREPANCIES IN THE QUANTITIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND/OR DESIGN LANDSCAPE ARCHITECT (OWNER'S REPRESENTATIVE) PRIOR TO COMPLETING A BID PRICE.

11. ALL GRADING AND UTILITY WORK SHALL BE COMPLETED PRIOR TO INSTALLATION OF PLANT MATERIAL AND LANDSCAPE MULCH.

12. THE FINAL LOCATION OF TREES AND OTHER LANDSCAPING SHALL BE DETERMINED IN THE FIELD BASED ON UTILITY STAKEOUT AND SHALL NOT CONFLICT WITH TRAFFIC SIGNS AND/OR UTILITIES. STAKE OUT SHALL BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.

13. ANY CONCERNS RELATED TO SITE CONDITIONS AND/OR PLANT LOCATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

14. PLANTING BACKFILL MIXTURE: 4 PARTS TOPSOIL (ON-SITE OR IMPORTED), 1 PART PEAT MOSS, 1/2 PART WELL ROTTED MANURE AND 10 LBS. 5-0-5 PLANTING FERTILIZER, MIXED THOROUGHLY PER CUBIC YARD.

15. MULCH ALL PLANT BEDS, AND INDIVIDUAL TREES IN LAWN AREAS WITH SHREDDED HARDWOOD BARK MULCH TO A DEPTH OF THREE (3") INCHES UNLESS OTHERWISE SPECIFIED ON PLANTING DETAILS, OR AS DIRECTED BY THE LANDSCAPE ARCHITECT DUE TO SITE CONDITIONS.

16. ANY PLANT WHICH TURNS BROWN, DEFOLIATES OR DIES PRIOR TO FINAL ACCEPTANCE BY THE OWNER, OR DESIGN LANDSCAPE ARCHITECT, SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH THE SAME PLANT (SPECIES, VARIETY AND SIZE) AS SPECIFIED ON THE PLANT SCHEDULE (LIST).

17. THE CONTRACTOR SHALL MAINTAIN ALL PLANT MATERIALS AND LAWN AREAS UNTIL THE PROJECT HAS RECEIVED FINAL ACCEPTANCE BY THE OWNER OR OWNER'S REPRESENTATIVE. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO: WATERING, MULCHING, FERTILIZING, SPRAYING (FUNGICIDE, PESTICIDE, ANTI-DESICANT), AS WELL AS RAISING PLANTS THAT HAVE SETTLED TOO DEEP OR REQUIRE STRAIGHTENING.

18. UPON COMPLETION AND ACCEPTANCE OF THE LANDSCAPING, THE LANDSCAPE MATERIALS SHALL BE GUARANTEED FOR TWO (2) YEARS. THE GUARANTEE SHALL BE INCLUSIVE OF ALL MATERIAL AND LABOR COSTS. AT THE END OF THE GUARANTEE PERIOD THE OWNER'S REPRESENTATIVE WILL INSPECT ALL PLANT MATERIALS. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REQUIRED REPLACEMENTS WITH PLANT MATERIALS MEETING THE SPECIFICATIONS (E.G. SPECIES, SIZE AND CHARACTER).

19. ALL AREAS DISTURBED BY SITE GRADING AND/OR UTILITY INSTALLATION SHALL RECEIVE APPROVED TOPSOIL (BASED ON APPROVED SAMPLES SUBMITTED BY THE CONTRACTOR) AND SPREAD TO A DEPTH NOT LESS THAN SIX (6") INCHES AFTER COMPACTION. TOPSOIL PLACED FOR LAWNS SHALL BE FINE GRADED, SEEDED, MULCHED AND WATERED UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED. THIS IS EXCLUDING FOUNDATION PLANT BEDS, AND ENTRANCE AREAS.

20. LOCATIONS OF EXISTING BURIED UTILITIES SHOWN ON THE SITE PLAN ARE BASED UPON THE BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE TO CALL FOR A UTILITY STAKEOUT PRIOR TO COMMENCING PLANT INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, AND SITE APPURTENANCES WHICH OCCURS AS A RESULT OF LANDSCAPE INSTALLATION OPERATIONS.

21. EXISTING TREES INDICATED TO BE REMOVED SHALL OCCUR UNDER THE SITE CONTRACT FOR THIS PROJECT. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR NEW PLANTINGS OR RESTORATION OF THE DISTURBED AREA (LAWNS, PLANT BEDS, ISLANDS).

22. PRE-EMERGENT HERBICIDE SHALL BE USED UNDER MULCH IN ALL TREE AND PLANT BED AREAS.

23. ALL SHRUB BEDS ADJACENT TO LAWN AREAS SHALL HAVE A SPADED EDGE BORDER, UNLESS METAL EDGE, CONCRETE, OR OTHER BORDER IS SPECIFIED.

TOPSOIL AND SEEDING NOTES:

1. THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR ROUGH GRADING AND RE-SPREADING TOPSOIL IN ALL TURF AND LANDSCAPE AREAS (BEDS AND ISLANDS).

2. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR FINE GRADING AND PREPARATION OF ALL LAWN AND LANDSCAPE AREAS.

3. REMOVE ALL EXISTING VEGETATION DURING GRADING PROCESS.

4. APPLY MINIMUM OF SIX (6) INCHES OF CLEAN TOPSOIL(IMPORTED OR SCREEN ON -SITE) AND FINE GRADE, LEAVING TOPSOIL IN A LOOSE AND FRIABLE CONDITION FOR SEEDING.

5. LIME SOIL OR ADD OTHER ORGANIC AMENDMENTS AS NECESSARY TO ACHIEVE A SOIL pH BETWEEN 5.5 - 7.0.

6. LANDSCAPE CONTRACTOR SHALL WORK OVER LAWN AREAS THAT HAVE REMAINED PARTIALLY INTACT, TOP DRESSING WITH SOIL. SCARIFYING, AND SEEDING TO FORM A SMOOTH, FULL, EVEN LAWN, FREE OF BARE SPOTS, INDENTATIONS, AND WEEDS.

7. SEEDING SHOULD BEGIN IMMEDIATELY UPON COMPLETION OF FINE GRADING. SEED SHOULD BE PRESSED INTO THE SOIL TO CREATE GOOD SEED-TO-SOIL CONTACT, NO DEEPER THAN THE THICKNESS OF THE SEED.

8. FERTILIZING, APPLY 10-0-10 FERTILIZER EVENLY AT THE RATE OF 20 POUNDS PER 1000 SQ FT. NO FERTILIZER CONTAINING PHOSPHORUS IS PERMITTED ON SITE.

9. SEED SHOULD BE APPLIED EITHER BY HAND BROADCASTING OR HYDRO SEEDING. TWO PASSES SHALL BE MADE IN PERPENDICULAR DIRECTIONS TO INSURE PROPER COVERAGE.

10. LAWN SEED MIX

    MIX A: SEEDING RATE: 6 LBS./1,000 SQ.FT
    LOW MAINTENANCE FESCUE LAWN
    PREFERRED SEED : LOW MAINTENANCE GRASS SEED MIX 0R APPROVED EQUAL

    25% FIREFLY HARD FESCUE
    25% BIG HORN GT HARD/SHEEP
    20% INTRIGUE CHEWINGS FESCUE
    20% QUATRO SHEEP FESCUE
    10% MINOTAUR HARD FESCUE

    MIX B: SEEDING RATE: 4LBS./1,000 SQ.FT
    OCCASIONAL WET - WET LOCATIONS:

20% RED TOP	20% VIRGINIA WILD RYEGRASS
20% ALKALI GRASS	20% FOX SEDGE
10% AUTUMN BENTGRASS	10% FOWL BLUEGRASS

11. DRY APPLICATION MULCH
    A. STRAW MULCH SHOULD BE APPLIED TO NEWLY SEEDED AREAS WITHIN 12 HOURS IF HYDRO MULCH IS NOT UTILIZED.
    B. DRY APPLICATION, STRAW: STALKS OF OATS, WHEAT, RYE OR OTHER APPROVED CROPS WHICH ARE FREE OF NOXIOUS WEEDS. WEIGHT SHALL BE BASED ON A 15 PERCENT MOISTURE CONTENT.
    C. DRY APPLICATION: WITHIN ONE DAY AFTER SEEDING, COVER THE SEEDED AREAS WITH A UNIFORM BLANKET OF STRAW MULCH AT THE RATE OF 100 POUNDS PER 1000 SQ FT OF SEEDED AREA.

12. HYDRO APPLICATION: APPLY APPROVED MULCH IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDED RATES OF APPLICATION. APPLY SEEDING MATERIALS WITH AN APPROVED HYDRO SEEDER.

    A.COLORED WOOD CELLULOSE FIBER PRODUCT SPECIFICALLY DESIGNED FOR USE AS A HYDRO-MECHANICAL APPLIED MULCH. ACCEPTABLE PRODUCT: CONWED HYDRO MULCH, CONWED FIBERS, 231 4TH STREET SW, HICKORY, NC

13. FILL TANK WITH WATER AND AGITATE WHILE ADDING SEEDING MATERIALS. USE SUFFICIENT FERTILIZER, MULCH, AND SEED TO OBTAIN THE SPECIFIED APPLICATION RATE. ADD SEED TO THE TANK AFTER THE FERTILIZER AND MULCH HAVE BEEN ADDED. MAINTAIN CONSTANT AGITATION TO KEEP CONTENTS IN HOMOGENEOUS SUSPENSION. PROLONGED DELAYS IN APPLICATION OR AGITATION THAT MAY BE INJURIOUS TO THE SEED WILL BE THE BASIS OF REJECTION OF MATERIAL REMAINING IN TANK.

14. DISTRIBUTE UNIFORMLY A SLURRY MIXTURE OF WATER, SEED, FERTILIZER, AND MULCH AT A MINIMUM RATE OF 57 GALLONS PER 1000 SQ FT (2500 GALLONS PER ACRE). THE OWNER AND PROJECT REPRESENTATIVE MAY ORDER THE AMOUNT OF WATER INCREASED IF DISTRIBUTION OF SEEDING MATERIALS IS NOT UNIFORM.

New York State Stormwater Management Design Manual — Appendix H

H.2 Bioretention

Planting Soil Bed Characteristics

The characteristics of the soil for the bioretention facility are perhaps as important as the facility location, size, and treatment volume. The soil must be permeable enough to allow runoff to filter through the media, while having characteristics suitable to promote and sustain a robust vegetative cover crop. In addition, much of the nutrient pollutant uptake (nitrogen and phosphorus) is accomplished through adsorption and microbial activity within the soil profile. Therefore, the soils must balance soil chemistry and physical properties to support biotic communities above and below ground.

The planting soil should be a sandy loam, loamy sand, loam (USDA), or a loam/sand mix (should contain a minimum 35 to 60% sand, by volume). The clay content for these soils should by less than 25% by volume. Soils should fall within the SM, or ML classifications of the Unified Soil Classification System (USCS). A permeability of at least 1.0 feet per day (0.5"/hr) is required (a conservative value of 0.5 feet per day is used for design). The soil should be free of stones, stumps, roots, or other woody material over 1" in diameter. Brush or seeds from noxious weeds. Placement of the planting soil should be in lifts of 12 to 18", loosely compacted (tamped lightly with a dozer or backhoe bucket). The specific characteristics are presented in Table H.2.

Table H.2 Planting Soil Characteristics

Parameter	Value
PH range	5.2 to 7.00
Organic matter	1.5 to 4.0%
Magnesium	35 lbs. per acre, minimum
Phosphorus (P_2O_5)	75 lbs. per acre, minimum
Potassium (K_2O)	85 lbs. per acre, minimum
Soluble salts	# 500 ppm
Clay	10 to 25%
Silt	30 to 55%
Sand	35 to 60%

H-[illegible]

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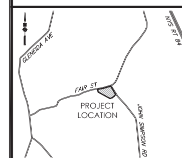


Town of Carmel/Southeast
LOCATION SKETCH

Client:

PASSERO ASSOCIATES
242 West Main Street Suite 100 Rochester, New York 14614
(585) 325-1000 Fax: (585) 325-1691

Principal-in-Charge: Jess Sudol, PE
Project Manager: Chris Laporta, PE
Designed by: Cole Overhoff

Revisions

No.	Date	By	Description
1			

NOTES

CENTENNIAL TOWNHOMES

Town/City: CARMEL/SOUTHEAST
County: PUTNAM State: NEW YORK

Project No.: 20213150.0001

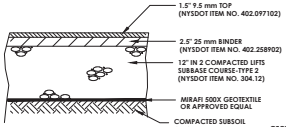
Drawing No.: C 210 Sheet No.: 8

Scale: N.T.S.

Date: NOVEMBER 2021

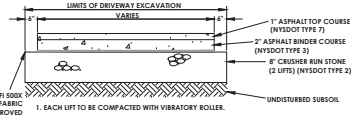
NOT FOR CONSTRUCTION

SITE



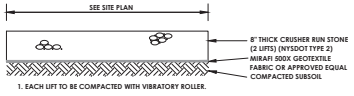
NOTE: ALL DEPTHS ARE COMPACTED THICKNESSES

1 PAVEMENT SECTION
N.T.S.



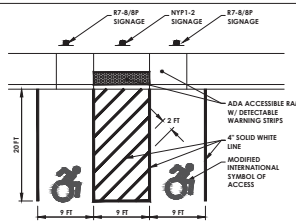
1. EACH LIFT TO BE COMPACTED WITH VIBRATORY ROLLER.

2 DRIVEWAY SECTION
N.T.S.



1. EACH LIFT TO BE COMPACTED WITH VIBRATORY ROLLER.

3 STONE ACCESS DRIVE SECTION
N.T.S.



4 ADA ACCESSIBLE PARKING SPACE
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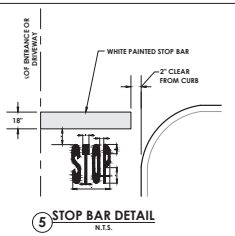

5 STOP BAR DETAIL
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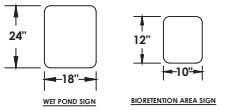
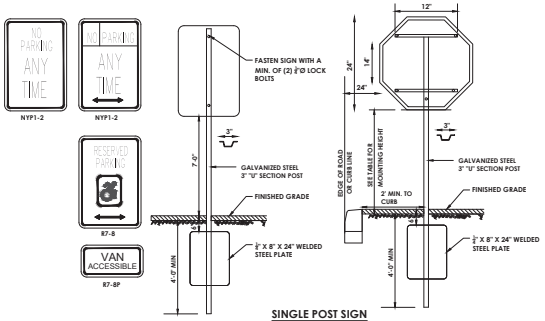


WET POND SIGN — BIORETENTION AREA SIGN

SMP SIGN INFORMATION:

STORMWATER MANAGEMENT PRACTICE - BIORETENTION AREA / WET POND
PROJECT IDENTIFICATION - (SPDES CONSTRUCTION PERMIT #)
MUST BE MAINTAINED IN ACCORDANCE WITH O&M PLAN

6 SMP SIGN DETAIL
N.T.S.

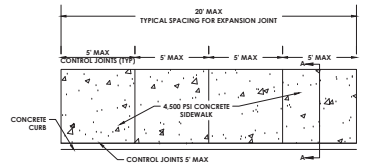


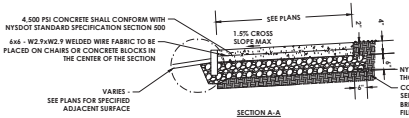
SINGLE POST SIGN
MOUNTING DETAIL

7 SIGN IN LANDSCAPE AREA OR SIDEWALK)
N.T.S.

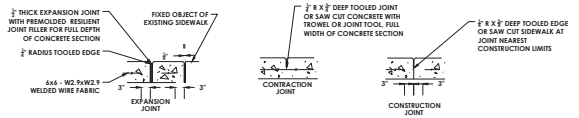
NOTES:

1. SIDEWALK WIDTH SHALL BE MEASURED FROM THE BACK OF THE CURB UNLESS OTHERWISE SPECIFIED.
2. WHERE IT IS NECESSARY TO PLACE FILL FOR PURPOSE OF BRINGING THE SUBGRADE ELEVATION UP TO A SPECIFIED GRADE, THE FILL MATERIAL PLACED SHALL BE IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATION SECTION 203, LATEST EDITION
3. NYSDOT SUBBASE TYPE 2 SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION SECTION 304, LATEST EDITION.
4. CONCRETE SHALL NOT BE PLACE UNLESS THE AMBIENT AIR SURFACE TEMPERATURE IS ABOVE 40 DEGREES UNLESS DISCUSSED WITH OWNER AND ENGINEER.
5. SIDEWALKS SHALL HAVE A CROSS SLOPE OF 1.5% PER FOOT UNLESS OTHERWISE SPECIFIED ON THE PLANS.
6. ALL EXPOSED CONCRETE SURFACES SHALL BE BROOM FINISHED AND THE EDGES SHALL BE FINISHED WITH A 1.5" RADIUS EDGING TOOL. THE FINISHED CONCRETE
7. SURFACE SHALL BE TREATED WITH CONCRETE SEALER, HARDENER AND DUSTPROOFER. RATE AND METHOD OF APPLICATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

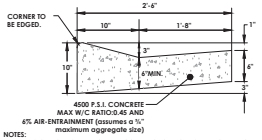




SECTION A-A



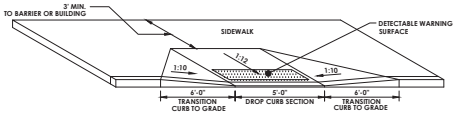
8 SIDEWALK DETAIL
N.T.S.



NOTES:

1. EXPANSION JOINTS AND FORMED CONTRACTION JOINTS ARE TO BE EDGED WITH CONCRETE FINISHING TOOLS.
2. CONTRACTION JOINTS TO BE AT 10' INTERVALS AND SHALL BE FORMED OR SAW CUT TO A DEPTH OF 1/2" BELOW THE SURFACE OF THE GUTTER.
3. EXPANSION JOINTS TO BE AT 100' INTERVALS AND SHALL BE FORMED WITH 3/4" WIDE PREMOLDED BITUMINOUS JOINT FILLER. THE FILLER MATERIAL SHALL BE CUT TO CONFORM TO THE CROSS SECTION OF THE GUTTER.

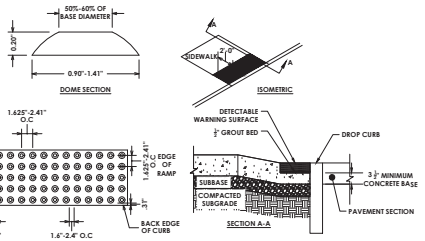
9 CONCRETE GUTTER DETAIL
N.T.S.



NOTES:

1. ALL WORK SHALL CONFORM WITH THE NYSDOT STANDARD SPECIFICATION SECTION 608, LATEST EDITION.
2. SLOPE RAMP AND SIDE FLARES AS INDICATED ON THE PLANS.
3. DETECTABLE WARNING SURFACES SHALL BE PROVIDED ON ALL RAMPS IN ACCORDANCE WITH ADA REQUIREMENTS.

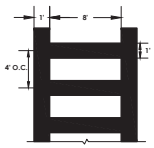
10 PEDESTRIAN RAMP
N.T.S.



NOTES:

1. DETECTABLE WARNING UNIT SHALL BE ADA C OMPLIANT INCLUDING THAT IS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES.
2. QUANTITY OF TRUNCATED DOMES SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY. TO DEPICT REQUIRED SQUARE GRID PATTERN.
3. TRUNCATED DOMES ARE TO BE ALIGNED IN SQUARE GRID PATTERN IN PREDOMINANT DIRECTION OF TRAVEL.
4. DETECTABLE WARNING SYSTEM FIELD IS TO BE 2 FEET DEEP, AND IS TO EXTEND ACROSS FULL WIDTH OF SIDEWALK ACCESS RAMP, BUT NOT UP SIDE FLARES.
5. DETECTABLE WARNING SYSTEM FIELD IS TO BE LOCATED SUCH THAT OUTER EDGE OF WARNING FIELD NEAREST TO STREET IS 2 TO 4 INCHES OFF BACK EDGE OF CURB.
6. COORDINATE COLOR WITH OWNER.

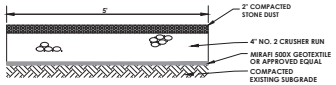
11 DETECTABLE WARNING SURFACE
N.T.S.



NOTE:

1. CROSSWALK COLOR SHALL BE WHITE.

12 CROSSWALK DETAIL
N.T.S.



13 STONE DUST WALKING TRAIL
N.T.S.

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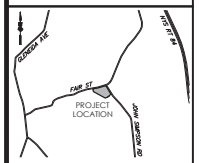

Town of Carmel/Southeast
LOCATION SKETCH

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Fax: (585) 325-1691
Principal-in-Charge — Jess Sudol, PE
Project Manager — Chris Laporta, PE
Designed by — Cole Overhoff

Revisions

No.	Date	By	Description
1			

DETAILS

CENTENNIAL
TOWNHOMES

Town/City: CARMEL/SOUTHEAST
County: PUTNAM — State: NEW YORK

Project No.
20213150.0001

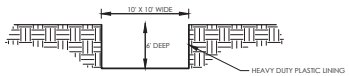
Drawing No. C 211 | Sheet No. 9

Scale: N.T.S.

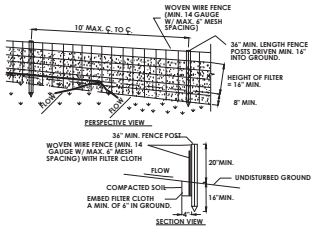
Date: NOVEMBER 2021

NOT FOR CONSTRUCTION

EROSION CONTROL



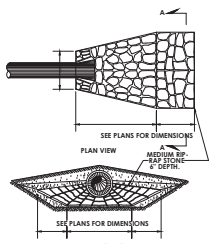
1 CONCRETE WASH OUT AREA
N.T.S.



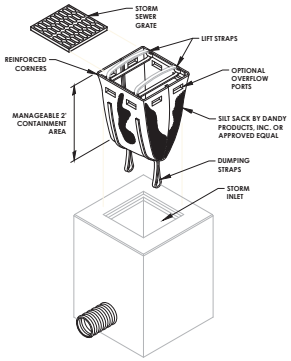
CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 14 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

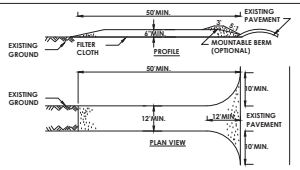
3 SILT FENCE DETAIL
N.T.S.



4 STONE RIP-RAP DETAIL
N.T.S.



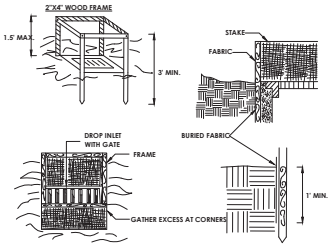
6 SILT SACK DETAIL
N.T.S.



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN

2 STABILIZED CONSTRUCTION ENTRANCE
N.T.S.

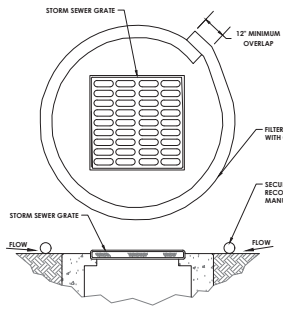


CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FABRIC FOR ADDED STRENGTH.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2"x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.

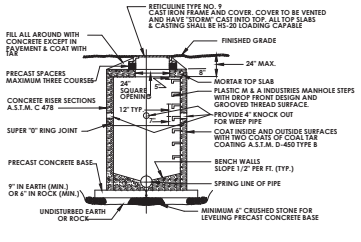
MAXIMUM DRAINAGE AREA 1 ACRE

FILTER FABRIC
5 DROP INLET PROTECTION
N.T.S.

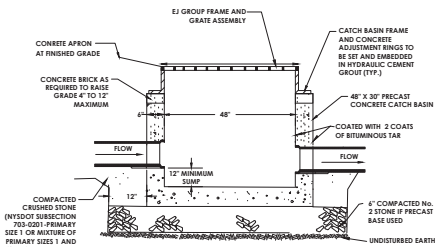


7 INLET PROTECTION IN PAVEMENT
N.T.S.

STORM



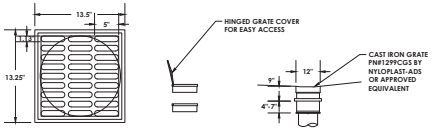
8 STANDARD STORM MANHOLE DETAIL
N.T.S.

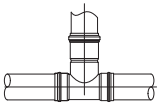


NOTES:

1. ALL CONCRETE IN CONTACT WITH ASPHALT PAVEMENT SHALL BE COVERED WITH A TACK COAT IN ACCORDANCE WITH N.Y.S.D.O.T. SECTION 407.
2. CATCH BASINS IN PEDESTRIAN WALKWAYS AND BICYCLE AREAS SHALL HAVE ADA COMPLIANT GRATES.
3. CATCH BASIN SHALL BE PRECAST CONCRETE DESIGNED FOR HS20-44 VEHICULAR LOADING AND 25% IMPACT.
4. FRAME AND COVER SHALL BE DESIGNED FOR HS20-44 VEHICULAR LOADING AND 25% IMPACT.
5. CATCH BASINS HAVING A DEPTH GREATER THAN 48" FROM FINISHED SURFACE TO THE TOP OF THE CONCRETE BASE SHALL BE PROVIDED WITH MANHOLE STEPS.

9 CATCH BASIN DETAIL
N.T.S.





IN-LINE TEE CONNECTION

END OF IN-LINE DRAIN OR DIRECT CONNECTION TO DRAINAGE STRUCTURE

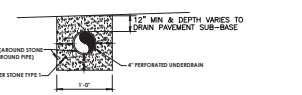
OFF-SET HEADER PIPE CONNECTION

CONNECTION OPTIONS

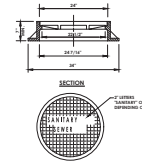
NOTES:

1. INLINE DRAIN SHALL BE BY NYLOPLAST OR APPROVED EQUIVALENT.
2. WHEN IN CONCRETE SIDEWALK AND PAVED AREAS, DRAIN SHALL BE SET IN A 13" WIDE CONCRETE COLLAR FROM THE CENTER OF DRAIN.
3. QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
4. PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT.
5. PIPE AND STRUCTURE SHALL BE SET AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND TRENCH DETAILS.

10 NYLOPLAST DRAIN AND GRATE
N.T.S.



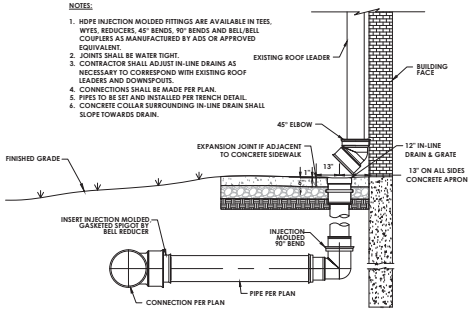
11 PAVEMENT AREA UNDERDRAIN DETAIL
N.T.S.



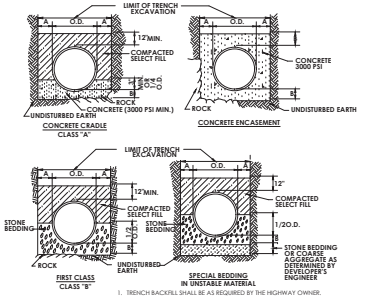
12 MANHOLE FRAME & COVER
N.T.S.

NOTES:

1. HDPE INJECTION MOLDED FITTINGS ARE AVAILABLE IN TEES, WYES, REDUCERS, 45° BENDS, 90° BENDS AND BELL/BELL COUPLERS AS MANUFACTURED BY ADS OR APPROVED EQUIVALENT.
2. JOINTS SHALL BE WATER TIGHT.
3. CONTRACTOR SHALL ADJUST IN-LINE DRAINS AS NECESSARY TO CORRESPOND WITH EXISTING ROOF LEADERS AND DOWNSPOUTS.
4. CONNECTIONS SHALL BE MADE PER PLAN.
5. PIPES TO BE SET AND INSTALLED PER TRENCH DETAIL.
6. CONCRETE COLLAR SURROUNDING IN-LINE DRAIN SHALL SLOPE TOWARDS DRAIN.



13 ROOF LEADER AND 12" IN-LINE DRAIN
N.T.S.



PIPE DIA.	DIM. A	DIM. B
UP TO 18"	1.0'	6"
21" TO 36"	1.5'	9"
OVER 36"	1.5'	12"

1. TRENCH BACKFILL SHALL BE AS REQUIRED BY THE HIGHWAY OWNER.
2. SELECT FILL SHALL BE SAND, GRAVEL, AND SIMILAR MATERIAL WHICH SHALL BE FREE FROM CLAY, LOAM, ORGANIC MATERIAL, DEBRIS, FROZEN MATERIAL AND SHALL CONTAIN ONLY SMALL AMOUNTS OF STONE, PEBBLES OR LUMPS OVER ONE INCH IN GREATEST DIMENSION BUT NONE OVER TWO INCHES IN GREATEST DIMENSION.
3. STONE BEDDING SHALL MEAN APPROVED IMPORTED AGGREGATE MEETING THE REQUIREMENTS OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATION, JAN 2, 1990 EDITION, AS REVISED, SUBSECTION 703-0201 "CRUSHED STONE". PRIMARY SIZE 1 OR A MIXTURE OF PRIMARY SIZES 1 AND 2.
4. COARSE AGGREGATE SHALL MEAN APPROVED IMPORTED AGGREGATE MEETING THE REQUIREMENTS OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATION, JAN 2, 1990 EDITION, AS REVISED, SUBSECTION 703-0201 "CRUSHED STONE". PRIMARY SIZE 3 AND/OR 4
5. THIS FIGURE APPLIES TO SANITARY MAINLINE AND LATERAL PIPE INSTALLATION AS WELL AS FORCEMAINS.

14 STORM SEWER/SANITARY SEWER BEDDING DETAILS
N.T.S.

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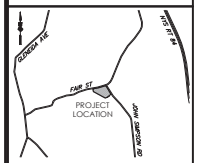


Town of Carmel/Southeast
LOCATION SKETCH

Client:

PASSERO ASSOCIATES
240 West Main Street Suite 100, Rochester, New York 14614
(585) 325-1000
Fax: (585) 325-1691

Principal-in-Charge	Jess Sudol, PE
Project Manager	Chris Laporta, PE
Designed by	Cole Overhoff

Revisions

No.	Date	By	Description
1			

DETAILS

CENTENNIAL TOWNHOMES

Town/City: CARMEL/SOUTHEAST
County: PUTNAM
State: NEW YORK

Project No.
20213150.0001

Drawing No.
C 212

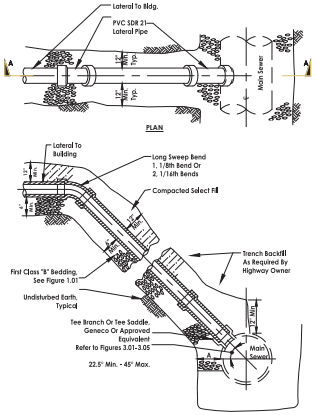
Sheet No.
10

Scale:
N.T.S.

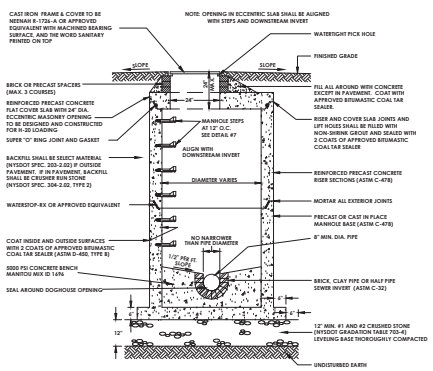
Date
NOVEMBER 2021

NOT FOR CONSTRUCTION

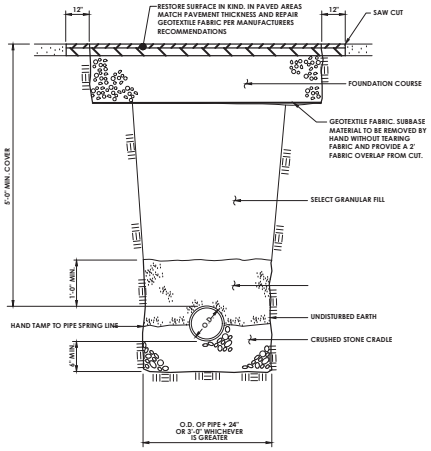
SANITARY



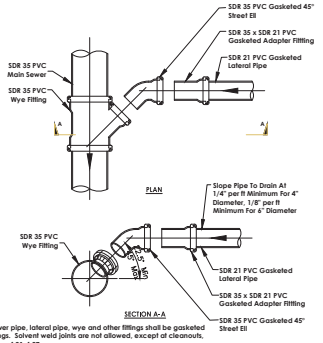
1 LATERAL CONNECTION TO SANITARY SEWER
N.T.S.



2 SANITARY SEWER MANHOLE
N.T.S.

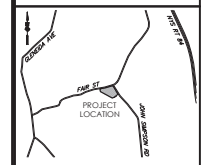


3 TYPICAL SEWER TRENCH SECTION IN PAVEMENT AREAS
N.T.S.

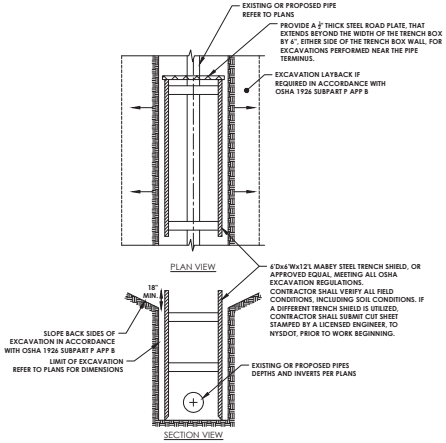


NOTES:
1. Main sewer pipe, lateral pipe, wye and other fittings shall be gasketed type fittings. Solvent weld joints are not allowed, except at cleanouts, see Figures 4.01-4.07.
2. See Figure 1.01 for pipe bedding and backfill.

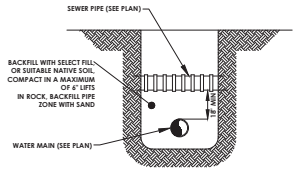
4 NEW LATERAL WYE CONNECTION TO NEW SEWER
N.T.S.



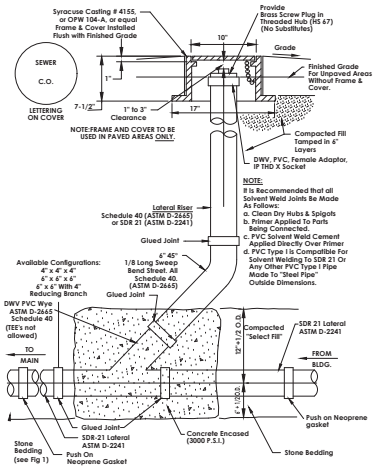
Town of Carmel/Southeast
LOCATION SKETCH



5 TYPICAL TRENCH EXCAVATION DETAIL
N.T.S.



6 WATER/SEWER MAIN CROSSING
N.T.S.



7 SANITARY CLEANOUT DETAIL
N.T.S.

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engineering architecture

PASSERO ASSOCIATES
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Rochester, New York 14614
(585) 325-1000
Fax: (585) 325-1691
Principal-in-Charge: Jess Sudol, PE
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Designed by: Cole Overhoff

Client:

Revisions

No.	Date	By	Description
1			

DETAILS

CENTENNIAL TOWNHOMES

Town/City: CARMEL/SOUTHEAST
County: PUTNAM
State: NEW YORK

Project No.
20213150.0001

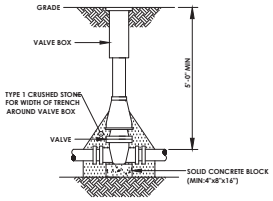
Drawing No.
C 213

Sheet No.
11

Scale:
N.T.S.

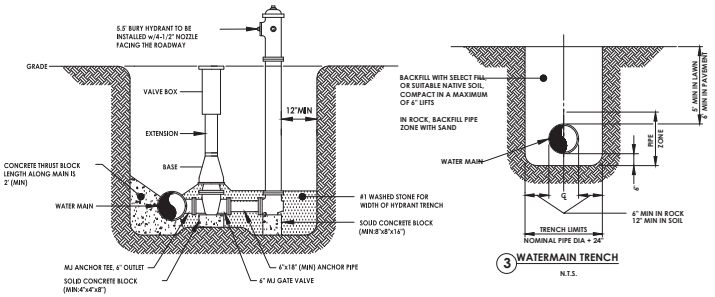
Date
NOVEMBER 2021

WATER



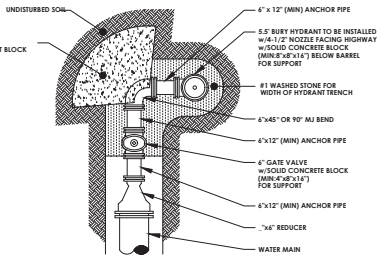
NOTE:
1. VALVE BOX SHALL BE CENTERED ON VALVE AND SET ON COMPACTED BACKFILL.
2. VALVE SHALL NOT SUPPORT VALVE BOX.
3. ALL BODY AND BONNET BOLTS SHALL BE STAINLESS STEEL.
4. ALL VALVES SHALL BE OPEN LEFT EXCEPT VALVES 12" AND SMALLER

1 WATER VALVE
N.T.S.



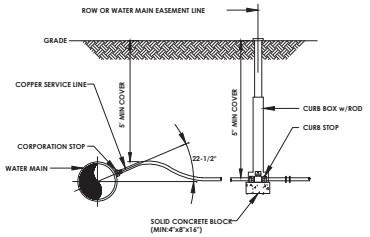
2 PERPENDICULAR HYDRANT ASSEMBLY
N.T.S.

3 WATERMAIN TRENCH
N.T.S.

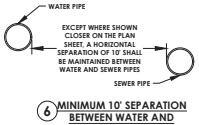


NOTETO BE USED WHEN WATER MAIN WILL NOT BE EXTENDED.

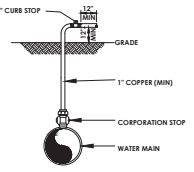
4 DEAD END PERPENDICULAR HYDRANT ASSEMBLY
N.T.S.



5 SERVICE INSTALLATION
N.T.S.

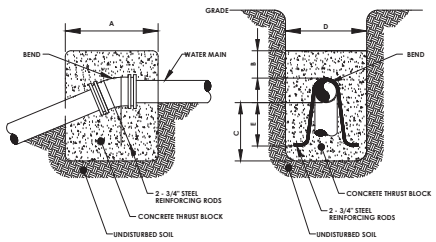


6 MINIMUM 10' SEPARATION BETWEEN WATER AND SEWER PIPES
N.T.S.



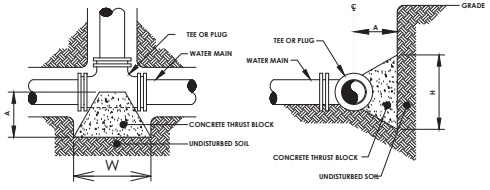
NOTE:
IMMEDIATELY PRIOR TO THE AUTHORITY PLACING WATER MAIN IN SERVICE CONTRACTOR SHALL REMOVE ALL CORPORATIONS ASSOCIATED WITH TEMPORARY FACILITIES (I.E. SAMPLING TAPS, ETC.) AND REPLACE WITH THREADED BRASS PLUGS. PLACEMENT OF THREADED BRASS PLUG MUST BE WITNESSED BY A MCWA REPRESENTATIVE.

7 DISINFECTION/BLOW-OFF/SAMPLING TAP
N.T.S.

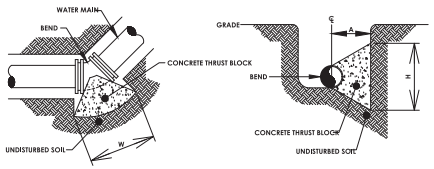


BEND *	MINIMUM VOLUME OF CONCRETE	MINIMUM ALLOWABLE DIMENSIONS FOR VERTICAL THRUST BLOCKS (IN FEET)				
	DIMENSIONS	A	B	C	D	E
8" x 11-1/4"	0.35 C.Y	1.0	2.5	1.0	2.0	0.5
8" x 22-1/2"	0.79 C.Y.	1.5	2.5	1.5	2.0	1.0
8" x 45°	1.40 C.Y.	1.5	2.5	1.5	2.5	1.5

8 VERTICAL THRUST BLOCK
N.T.S.



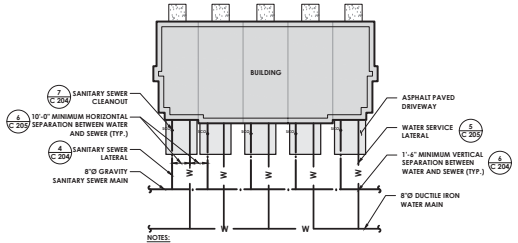
9 HORIZONTAL THRUST BLOCK FOR TEES AND PLUGS
N.T.S.



MINIMUM HORIZONTAL THRUST BLOCK DIMENSIONS, IN FEET, TO BE POURED AGAINST UNDISTURBED SOIL			
FITTING	H	W	A
8" x 11-1/4" BEND	1.0	2.0	1.5
8" x 22-1/2" BEND	1.5	3.0	1.5
8" x 45° BEND	2.0	4.0	2.0
8" x 90° BEND	3.0	6.0	2.5
8" TEE OR PLUG	2.5	5.0	2.0

NOTE: WIDTH (W) OF BLOCK SHALL NOT EXCEED TWICE THE HEIGHT (H).

10 HORIZONTAL THRUST BLOCK FOR BENDS
N.T.S.



NOTES:
1. EACH UNIT SHALL RECEIVE AN INDIVIDUAL WATER AND SEWER SERVICE CONNECTION.
2. A MINIMUM HORIZONTAL SEPARATION OF 10'-0" SHALL BE PROVIDED BETWEEN WATER AND SEWER UTILITIES.
3. A MINIMUM VERTICAL SEPARATION OF 1'-6" SHALL BE PROVIDED BETWEEN WATER AND SEWER UTILITIES.
4. UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH TRENCH DETAILS 3/C 204 AND 4/C 204.
5. SANITARY SEWER CLEANOUT SHALL BE INSTALLED IN ACCORDANCE WITH DETAIL DEPENDENT ON PLACEMENT WITHIN GRASS OR PAVEMENT.

11 WATER AND SEWER LATERAL CONNECTION AT BUILDING
N.T.S.

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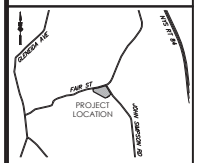

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Rochester, New York 14614
(585) 325-1000
Fax: (585) 325-1691
Principal-in-Charge Jess Sudol, PE
Project Manager Chris Laporta, PE
Designed by Cole Overhoff

Revisions

No.	Date	By	Description
1			

DETAILS

CENTENNIAL TOWNHOMES

Town/City: CARMEL/SOUTHEAST
County: PUTNAM State: NEW YORK

Project No.
20213150.0001

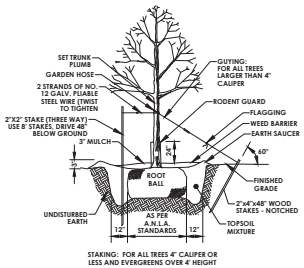
Drawing No. C 214
Sheet No. 12

Scale: N.T.S.

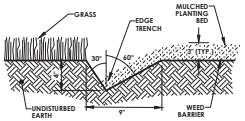
Date NOVEMBER 2021

NOT FOR CONSTRUCTION

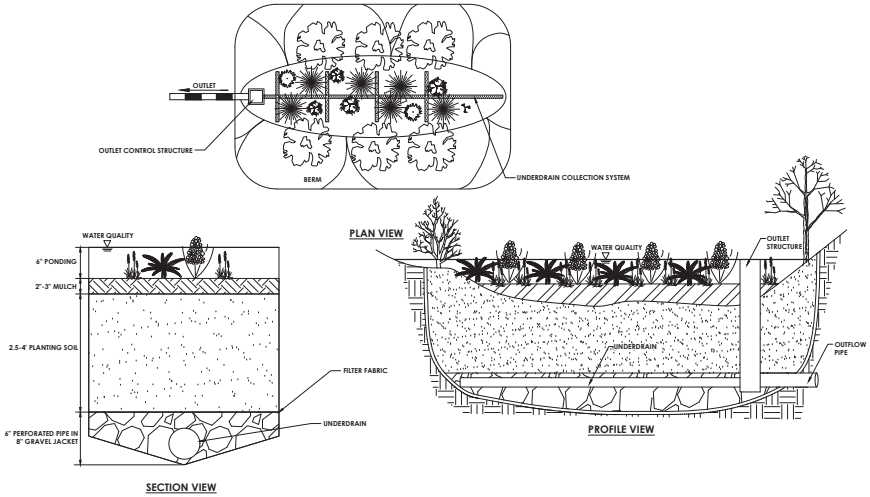
LANDSCAPING & LIGHTING



1 TREE PLANTING DETAIL
N.T.S.

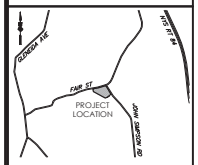


2 PLANTING BED EDGE TRENCH
N.T.S.



3 BIORETENTION AREA DETAIL
N.T.S.

PASSERO ASSOCIATES
engineering architecture



Town of Carmel/Southeast
LOCATION SKETCH

Client:

PASSERO ASSOCIATES
240 West Main Street Suite 100
Rochester, New York 14614
(585) 325-1000
Fax: (585) 325-1691

Principal-in-Charge Jess Sudol, PE
Project Manager Chris Laporta, PE
Designed by Cole Overhoff

Revisions

No.	Date	By	Description
1			

DETAILS

CENTENNIAL
TOWNHOMES

Town/City: CARMEL/SOUTHEAST
County: PUTNAM State: NEW YORK

Project No.
20213150.0001

Drawing No. C 215
Sheet No. 13

Scale:
N.T.S.

Date
NOVEMBER 2021

NOT FOR CONSTRUCTION

KEANE & BEANE P.C.
ATTORNEYS AT LAW

■ **Main Office**
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■ **Mid-Hudson Office**
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Phone 845.896.0120

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505 Park Avenue
New York, NY 10022
Phone 646.794.5747

RICHARD L. O'ROURKE
Principal Member
ro'rourke@kblaw.com

November 12, 2021

Mr. Craig Paeprer, Chairperson
Planning Board
Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541

Re: Centennial Golf Properties and Toll Brothers
Centennial Townhomes
185 John Simpson Road (44.2-2.1) and John Simpson Road (44.2-4.2)
Letter of Intent – Site Plan Modification and Lot Line Adjustment
Zoning District: Residential

Dear Mr. Paeprer and Members of the Planning Board:

On behalf of our client, Centennial Golf Properties and Toll Brothers, we are respectfully requesting to be added to the December 9, 2021, Planning Board agenda for site plan modification and lot line adjustment regarding the development of 63 townhomes at the southwest corner of John Simpson Road and Fair Street in the Town of Carmel. A separate application is being made to the Town of Southeast requesting approval for a 181-space surface parking lot to serve the Centennial Golf Club.

The Project area is located at the northern tip of the Lakes and Meadows courses, north of the existing clubhouse and pavilion.

Existing Conditions

The properties at 185 John Simpson Road (97 acres) and John Simpson Road (23 acres) are currently developed as the Centennial Golf Club (CGC). A portion of 185 John Simpson Road is located in the Town of Southeast (164 acres). CGC offers three 9-hole courses identified as the "Meadows", "Lakes" and "Fairways." Fairways is in the Town of Carmel while Meadows is in the Town of Southeast. Lakes is in both towns.

The western portion of the site contains a wood lot and State and Federal wetlands. The eastern portion contains an underutilized and outdated 271-space surface parking lot which serves the CGC, a pond, and golf practice areas, tees, greens, traps, fairways, and golf cart paths.

The Project area gradually slopes up from John Simpson Road and Fair Street to about the location of the practice areas and the wetland buffer area, and then begins to slope down toward the southwest corner of the property.

Proposal

The proposal is to construct a 63-unit townhouse community with a clubhouse and pool for the residents in the Town of Carmel, and a 181-space surface parking lot in the Town of Southeast to serve CGC. The golf practice area and the underutilized 271-space parking lot will be eliminated to facilitate this Project.

The townhomes are all three bedroom units (a total of 189 bedrooms). Fifty-one units will be constructed where the existing surface parking lot and a former meadow is located. A resident clubhouse and pool will be located between the townhomes and Fair Street. Access to these units and the resident clubhouse and pool will be from John Simpson Road off the existing driveway for CGC. A new curb cut will be installed on Fair Street for emergency vehicle access only to satisfy the requirements of the Fire Code of New York State.

Twelve units will be constructed along Fair Street on an access drive that will run parallel to Fair Street. One new curb cut is proposed on Fair Street for ingress and egress, and one curb cut is required for emergency vehicles only to satisfy the requirements of the Fire Code of New York State.

The Project includes the realignment of driveways and installation of new private drives for the townhomes, new water and sewer lines, on-site stormwater management, and bioretention areas, the replacement of a pump station a partial demolition of a portion of the existing cart barn, new/realigned cart paths, first tee modifications to both Lakes and Meadows, and installation of a new modern 181-space surface parking lot on the east side of John Simpson Road in the Town of Southeast for Centennial Golf Club patrons. A lot line adjustment is necessary to create a 24-acre parcel for the townhome development. Some tree and landscaping removal will occur in the open golf course areas; the wood lot and wetlands will not be disturbed to facilitate this project.

Water supply and wastewater generation by the Project will be connected to Carmel Water District #2 and Carmel Sewer District #2.

Green infrastructure methods will be used to meet the requirements of the New York State Stormwater Management Design Manual relative to water quality and quantity

on the site. Stormwater management upgrades are also proposed that meet the current New York City Department of Environmental Protection (NYCDEP).

The outdated surface parking lot lacks sufficient lighting and positive drainage. The proposed parking lot in the Town of Southeast will offer dark sky compliant lighting, proper drainage, and ample landscaping.

Comprehensive Plan

The Town of Carmel Comprehensive Master Plan 2000 focuses on population characteristics, the environment, transportation and community facilities. Chapter 8 summarizes the policies and goals of the community to protect the existing development pattern, tax base, and commercial areas, while further protecting the natural environment. The Project is in conformance with the following goals of the Comprehensive Plan:

Land Use: *Carmel should establish a balance among protection of the natural environment and resources, maintaining quality neighborhoods, providing necessary community services and insuring a sound economic base.*

It is the desire of the community to balance the protection of natural resources with the high quality of life for its residents, including the desire for a diverse housing stock. The Project will provide 63, three-bedroom, market-rate townhomes on a 24-acre parcel. The townhouse community will be developed in an area of the property that has been previously developed and contains existing impervious surfaces.

Environmental Protection: *Carmel should preserve its natural resources and protect the quality of drinking water supplies.*

This goal recognizes the need to protect watercourses, wetlands, steeply sloped lands and an integrated open space system. Approximately 97% of the Project site have slopes of 10% or less. Slopes up to 15% can be found in the northwest corner of the property. This area and the adjacent wetlands will not be disturbed by this Project. Stormwater management and bioretention areas will be designed to manage on-site runoff relative to water quality and quantity in compliance with the New York State and New York City Department of Environmental Protection Stormwater Management regulation.

Infrastructure: *Carmel should support its existing settled neighborhoods and commercial and industrial areas by maximizing existing public sewer capabilities, ensuring sound environmental operation of private septic systems, and constructing or expanding sewer districts.*

This goal is an extension of the environmental protection goal in that it is the desire to ensure there is adequate water and sanitary sewer collection, distribution, and treatment facilities to support the needs the Town hamlet centers. It is also stated that Carmel should take appropriate action to continue to protect its water supply from contamination and expand potable water districts as the need arises.

It should be noted that CGC has contributed $3M+ in capital costs over the past 25+ years to the Town of Carmel for improvements to the infrastructure and capacity of CSD#2 for the benefit of the golf course, and anticipated residential developments on the property(ies) that never came to fruition. It is anticipated that there is adequate infrastructure and capacity at the street to support the 63-unit townhouse development.

Economic Development: *Carmel should sensitively develop its economic sector so as to strengthen its tax base consistent with the other goals of this plan.*

CGC is an economic generator in the Hudson Valley, offering 27 holes of golf, golf school and camp, private lessons, hosting special and catered events, fundraisers for charities, and is home to the Annual Centennial Troon Challenge. A greater focus will be on supporting the existing offerings at CGC, such as the Centennial Troon Challenge, and TroonFit, which raises awareness of the health benefits related to playing golf and promotes non-golf fitness activities such as yoga and running. The townhouses will provide a housing choice that is complementary to the community character, and it will add to the Town's tax base with minimal impact on public services, infrastructure, and the environment. The Project is likely to stimulate economic growth in the town by providing new services to support the residential development. Refer to the Fiscal Analysis Report prepared by Storrs Associates, LLC, dated October 18, 2021.

State Environmental Quality Review Act (SEQR)

The Centennial Golf Club was developed in the mid 1990's, and was the subject of environmental impact statements (EIS) pursuant to the State Environmental Quality Review Act (SEQRA) culminating in the adoption of a Findings Statement. The project consisted of the development of 321 acres in the Towns of Carmel and Southeast as a 27-hole golf course, including a clubhouse with a pro shop and other

amenities, a pavilion, a cart storage building and parking areas. The Findings Statement was issued in February 1996.

This project received the following approvals:

1. Site Plan, Subdivision, Tree Conservation Law, and Wetland Approvals, and an Earthwork Operations Permit from the Town of Carmel.

2. Special Permit, Site Plan, Subdivision, and Wetland Approvals from the Town of Southeast.

3. Curb Cut, Highway Work Permit, and Sewer System Design Approvals from Putnam County.

4. A Protection of Waters, Dam, and State Pollutant Elimination Discharge System Permits (SPDES) from New York State Department of Environmental Conservation.

5. A Section 404 Nationwide Permit from the US Army Corp of Engineers.

The EIS evaluated significant environmental impacts associated with the construction of the golf course. Of notable concern was:

- blasting to aid in earth removal;
- excavation and grading of approximately 28.8 acres within the 15 to 20% slope category;
- groundwater aquifer and well protection, including capacity and potential impairment concerns for neighboring wells requiring water quality monitoring for 10 years after completion of the project;
- vegetation removal of 92 acres of Woodlands, 27 acres of Old Field, 78 acres of Field/Residential, and 0.6 acres of Wooded Swamp;
- a traffic impact study;
- a fiscal impact analysis; and
- the extension of the water and sewer districts to adequately serve the project.

The proposal to construct 63 townhouse units to replace an existing surface parking lot does not present any significant environmental impacts on the environment. The FEAF and supporting documentation identify that 97% of the Project area contains 10% or less slope; blasting is not proposed; there are no threatened or endangered plant or animal species in the Project area; and there are no significant impacts on ground water, wetlands, the transportation network, utilities, public services, noise, air or odors.

This Project presents a benefit to the community by eliminating an underutilized and outdated surface parking lot with non-dark sky compliant lighting; providing a new, modern housing choice for the community; and it will realize an increase in tax revenue for the benefit of the school district and the Town of Carmel.

In the Land Use and Zoning section of the Findings Statement, it is noted that during the preparation of the DEIS, the Project Sponsor (CGC) considered hypothetical residential development, even though no proposal for the development had been made. The Findings Statement points out that if and when an actual proposal is made to the Planning Board, the proposal will be reviewed on its own merits, including a site-specific environmental analysis.
CGC has as intimate knowledge of these properties and has been good stewards of the land for the past 30 years. With that in mind, this Project has been designed to ensure mutual benefits for the applicant and the community by protecting the natural environment, providing a housing choice and a continuing quality recreation facility to the community, and providing tax revenue while creating little to no impact on the existing infrastructure and public services.

The following information is being provided to supplement the Part 1 Full Environmental Assessment Form for this Project:

Fiscal Analysis

A Fiscal Analysis was conducted by Storrs Associates, LLC, October 19, 2021, and is included with the Project materials. The report concludes that the increase in assessment results in an increase in annual tax revenue of $845,998, shared by the Carmel Central School District, Reed Library, and ambulance and fire service. Over a period of ten years, this adds $8,459,976 in new tax revenue.

Water and Sewer

The site is served by municipal water (Carmel Water District #2) and municipal sewer (Carmel Sewer District #2). The sewer system will connect to the clubhouse gravity main where it will be conveyed to a new pump house near Fair Street. From there it will be conveyed to the existing forcemain in the Fair Street right-of-way. A new 8" water service will be connected to the existing watermain in the Fair Street right-of-way.

Water usage at the existing golf course and country club based on actual usage records during the spring to summer period is 132 gallons per day (gpd). This was drawn from billing records from the clubhouse, cart barn and kitchen.

According to the New York State Department of Environmental Conservation (NYSDEC) Design Standards for Intermediate Sized Wastewater Treatment Systems, March 2014, a residential use is expected to have a water demand and wastewater generation of 110 gpd per bedroom for post-1994 plumbing fixtures.

The 63-unit townhouse development (a total of 189 bedrooms) has a demand of 20,790 gpd for water and will generate liquid waste to the municipal sewer system at the same rate. There is adequate water and sewer infrastructure and capacity to support the 63-unit residential development.

Wetlands

New York State wetlands are located near the center of the property, which is also the western limits of the area of disturbance. There is a wetland delineation in proximity to the majority of the development area which was completed in 2019 by Ecological Associates and the 100-foot buffer is identified on the site plan. Along Fair Street the 2021 delineation is pending regulatory verification. Currently, the golf practice area consisting of tees, traps, fairways and greens, and a former pasture are located within the 100-foot buffer. Regrading is necessary within the buffer to remove the golf practice area and pasture to construct the stormwater management areas.

Stormwater

The Project site is located within the New York City Department of Environmental Protection (NYCDEP) watershed. The Project includes the disturbance of 15+/-

acres, which is subject to coverage under the State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared in conformance with the most current version of the New York State Stormwater Management Design Manual and New York State Standards and Specifications for Erosion and Sediment Control. Since the project is within a NYSDEP watershed, review of the SWPPP by the NYSDEP is required. An Erosion and Sediment Control Plan will be employed before construction begins, and properly maintained throughout construction to minimize adverse effects associated with sedimentation and erosion on adjacent land and water resources.

Traffic

Putnam County required the installation of a left turn lane at the main entrance of CGC on John Simpson Road when the golf course was constructed. The entrance to the Townhouses will use this main entrance and will benefit from the left turn lane.

According to the SEQR Findings Statement, the 27-hole golf course was projected to generate 87, 91 and 124 vehicle trips during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively.

Passero Associates prepared a Traffic Generation letter, dated November 8, 2021, Exhibit A of the Full Environmental Assessment Form (FEAF), analyzing the existing 27-hole golf course, and the addition of 63 residential units. The Institute of Transportation Engineers (ITE) Trip Generation 10th Edition Manual Research Data (2017) was used for this analysis.

ITE Trip Generation data has improved over the years based on actual traffic data and scenarios for nearly every type of land use. The 1994 trip generation data provided for the 27-hole golf course is significantly higher than the current ITE 10th Edition Manual Research Data for the same land use.

The peak weekday morning trips for a 27-hole golf course decreased from 87 trip to 48 trip between 1994 and 2017, a 44% decrease. The peak weekday evening trips decreased from 91 to 79 trips between 1994 and 2017, a 13% decrease.

The analysis using 2017 ITE data concluded that the proposed 63 residential units will generate roughly 29 more trips during the weekday morning peak hour and 36 more trips during the weekday evening peak hour.

Comparing the 1994 approval to the current proposal there will be 10 less trips during the weekday morning peak hour and 24 more trips during the evening peak hour. These projections are similar to the 1994 projections for the development of a 27-hole golf course with clubhouse, which necessitated the installation of a left turn lane on John Simpson Road northbound at the entrance driveway, an additional approach lane on John Simpson Road at the intersection of Fair Street, and a traffic signal at the intersection of John Simpson Road and Fair Street. These improvements, designed and implemented by Putnam County, required a contribution by CGC for their fair share of the improvements to ensure the traffic generated by the golf course would not exacerbate traffic flows on the existing transportation network.

The general industry practice for many municipalities is that an intersection should be analyzed for impact when a proposed development generates 100 or more new trips through an intersection. Although the traffic patterns will likely be altered by the proposed development, it is not anticipated that the proposed development will increase the traffic volumes by 100 or more vehicles during the peak hour at any specific intersection. Therefore, it is Passero Associates' opinion that no further traffic impact analysis is required as a result of traffic that would be generated by the proposed development.

Parking

Each townhouse will be constructed with an attached 2-car garage with space in the driveway for two guests to park. This townhouse community also includes a 2,400 sq. ft. clubhouse with a pool. The parking requirement for a townhouse is two spaces per dwelling. There is no parking requirement for the tenant clubhouse and pool.

The townhouse units require 126 spaces, and an additional 18 spaces are provided throughout the community for guests and users of the clubhouse and pool; a total of 144 spaces. There is sufficient on-site parking to accommodate the 63-unit townhouse community.

Endangered, Threatened and Rare Species and Significant Habitats

According to the NYSDEC EAF Mapper's automated response, there are known occurrences of the northern long-eared bat in the vicinity of the site. The US Fish & Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system was used to generate an Official Species List and final designated critical habitat analysis. The IPaC, (Exhibit E, FEAF Part 1), identifies the Indiana bat (State and

Federally endangered), the northern long-eared bat (State and Federally threatened), and the bog turtle (State endangered and Federally Threatened) as species in the vicinity of the Project site. However, the USFWS also concluded that there are no critical habitats within the project area under their jurisdiction that would support these species.

There is minimal tree removal required to facilitate this project. Most of the trees are located on the golf course with some clearing anticipated in the 100-foot wetland buffer. CGC proposes to mitigate the potential impacts to the bat species by limiting tree removal to the period between November 1st and March 31st, as during this time, the bats would be hibernating and not present on site. If the bog turtle were to exist on the site, the species would most likely be located within the wetland area, which will not be disturbed.

Code Compliance

No area variances are required to facilitate this project. In accordance with the Town of Carmel Code, Section 156-61 – Zoning, site plan modification approval is required from the Planning Board for the construction of a 63-unit townhouse development at 185 John Simpson Road on a new 24-acre parcel. In addition, the Planning Board is authorized under Section 156-60B(2)(c), subject to Section 156-61M to grant a lot line adjustment.

The proposed residential development is as-of-right in the R Residential district and meets all of the lot, area, yard, bulk, and density requirements. The proposed pattern of development promotes the most appropriate and efficient use of land by:

- Eliminating an underutilized parking area.
- Providing a housing choice in the community.
- Maintaining the natural and scenic qualities of the Town of Carmel.
- Preserving areas of ecological significance on the site.
- Minimizes the amount of land required for roads and utilities by using an existing access point and connecting to existing utilities.

The proposed residential development is in full compliance in accordance with the interpretation of the Zoning Board of Appeals approved on May 27, 2021.

KEANE & BEANE P.C.
ATTORNEYS AT LAW

We look forward to presenting the Site Plan Application to the Planning Board at your meeting on November 18th.

In support of our application attached please find enclosed:

(11) Letters of Intent
(11) Site Plan Applications (Residential), signed and notarized
(11) Site Plan Applications (Golf Course), signed and notarized
(11) Full Environmental Assessment Forms (FEAF)
(5) Full size sets of the Site Plans, including floor plans and elevations
(1) CD (in .pdf format) containing an electronic version of the Site Plan
(2) Disclosure Statements
(11) Site Plan Completeness Certification Forms
All supplemental studies, reports, plans and renderings
(2) Copies of the current deed
(2) Copies of all easements, covenants and restrictions
(1) List of property owners within 500 feet to be certified by Assessor
(1) Application fee $38,000
(11) Subdivision Applications (Lot Line Adjustment), signed and notarized with drawing
(11) Fiscal Analysis for Proposed Residential Development

If you have any questions or require any additional information, please contact Christopher LaPorta at 585-455-0157 or claporta@passero.com.

Very truly yours,

Richard L. O'Rourke

RLO/sb
cc: Christopher J. LaPorta, P.E., CDT
David Liebowitz

xc: Chief of Carmel Fire Department

V2-

TOWN OF CARMEL
SUBDIVISION APPLICATION INSTRUCTIONS

Centennial Golf Course

The Town of Carmel Planning Board meetings are held twice a month, on the second and fourth Wednesday's, at 7:00 PM at Carmel Town Hall, 60 McAlpin Avenue, Carmel

The submission deadline is 10 days prior to the Planning Board meeting. New subdivision applications that have been deemed complete will be placed on the agenda in the order they are received.

Pre-Submission:

Prior to the formal submission of the subdivision, a pre-submission conference may be requested by the applicant to be conducted with representatives from the Town, which may include the Town Planner, Town Engineer, Director of Code Enforcement, Planning Board Attorney. This conference will serve to educate the applicant on the process he/she must follow, clarify the information required to submit a complete subdivision application, and to highlight any specific areas of concern. You may arrange a pre-submission conference through the Planning Board Secretary at (845) 628-1500.

Submission Requirements:

At least 10 days prior to the Planning Board meeting, the subdivision application shall be submitted to the Planning Board Secretary as follows:

All subdivisions shall be signed, sealed and folded with the title box legible. The application package shall include:

- ☑ 11 copies of the Subdivision Application Form signed and notarized.
- ☑ 11 copies of the SEQR Environmental Assessment Form (use of short form or long form shall be determined at pre-submission conference).
- ☑ 5 full size sets of the Subdivision Plan
- ☑ 1 CD (in pdf. format) containing an electronic version of the Subdivision Plan
- ☑ 2 copies of the Disclosure Statement
- ☑ 11 copies of the Subdivision Completeness Certification Form
- ☑ All supplemental studies, reports, plans and renderings.
- ☑ 2 copies of the current deed.
- ☑ 2 copies of all easements, covenants and restrictions.
- ☑ The appropriate fee, determined from the attached fee schedule. Make checks payable to the *Town of Carmel*.

Rose Merritt 11-16-21 — **Planning Board Secretary; Date**

Richard J. Dee 11/16/2021 — **Town Engineer; Date**

TOWN OF CARMEL
SUBDIVISION APPLICATION

Per Town of Carmel Code – Section 131 – Subdivision of Land

SITE IDENTIFICATION INFORMATION

Application Name: Centennial Golf Townhomes	**Application #** 21-0017	**Date Submitted:** 11/15/21

Site Address:
No. 185 *Street:* John Simpson Rd *Hamlet:* Carmel

Property Location: *(Identify landmarks, distance from intersections, etc.)*
Centennial Golf lub (SW corner John Simpson Rd. and Fair St.

Town of Carmel Tax Map Designation: *Section* 44 *Block* 2 *Lot(s)* 4.2 & 2.1	**Zoning Designation of Site:** Residential
Property Deed Recorded in County Clerk's Office *Date* 03/07/08 *Liber* 1799 *Page* 217	**Liens, Mortgages or other Encumbrances** *Yes* *No*
Existing Easements Relating to the Site *No* (Yes) *Describe and attach copies:* Utility	**Are Easements Proposed?** *No* (Yes) *Describe and attach copies:* Utility & Access

Have Property Owners within a 500' Radius of the Site Been Identified?
(Yes) *No* *Attached List to this Application Form*

APPLICANT/OWNER INFORMATION

Property Owner: Centennial Golf Properties	**Phone #:** 845-225-5700 **Fax#:**	**Email:** NA

Owners Address:
No. *Street:* ohn Simpson oad *Town:* armel *State:* *Zip:*

Applicant (If different than owner): Centennial Golf Club and Toll Brothers	**Phone #:** **Fax#:**	**Email:**

Applicant Address (If different than owner):
No. *Street:* *Town:* *State:* *Zip:*

Individual/ Firm Responsible for Preparing Site Plan:	**Phone #:** **Fax#:**	**Email:**

Address:
No. *Street:* *Town:* *State:* *Zip:*

Other Representatives: Passero Associates (Christopher LaPorta, P.E.)	**Phone #:** 585-455-0157 **Fax#:**	**Email:** claporta@passero.com

Owners Address:
No. *Street:* ront Street *Town:* e ur h *State:* *Zip:*

PROJECT DESCRIPTION

Describe the project, proposed use and operation thereof:
Requesting a lot line adjustment to create a +/- acre parcel to facilitate development of a townhouse community. This request accompanies a Site Plan Modification application.

TOWN OF CARMEL SUBDIVISION APPLICATION

PROJECT INFORMATION

Size of existing parcel to be subdivided:
Acres: *Square Feet:*

Major Subdivision ☐	**Minor Subdivision** ☒ Lot Line Adjustment
Number of proposed lots: Lot line adjustment	**Size of proposed lots:** . acres
Conventional Subdivision ☐	**Cluster Subdivision** ☐
Will a 10% open space set aside be provided? Yes: ☐ No: ☒	**If no, will a payment in-lieu be provided?** Yes: ☐ No: ☐
Will all new lots have frontage on a mapped street? Yes: ☒ No: ☐	**If not, how will this deficiency be addressed?**

Is the site served by the following public utility infrastructure:

- **Sanitary Sewer** Yes: ■ No: ☐

  If Yes:
  - Does approval exist to connect to sewer main? Yes: ■ No: ☒
  - Is this an in-district connection? xX Out-of district connection? _____
  - What is the total sewer capacity at time of application? _____
  - What is your anticipated average and maximum daily flow 20,790 gpd pd

For Town of Carmel Town Engineer
- *What is the sewer capacity* To be determined - RJP 12/22/2021

- **Water Supply** Yes: ■ No: ☐

  If Yes:
  - Does approval exist to connect to water main? Yes: ■ No: ☒
  - What is the total water capacity at time of application? _____
  - What is your anticipated average and maximum daily demand 20,790 gpd pd

- **Storm Sewer** Yes: ☐ No: ☒
- **Electric Service** Yes: ■ No: ☐
- **Gas Service** Yes: ☐ No: ■
- **Telephone/Cable Lines** Yes: ■ No: ☐

Will any common areas be created outside of individual lots (road rights-of-way, recreation areas, stormwater management areas, etc.)? Yes: ☒ No: ■ — ? o

Is a homeowners association proposed? Yes: ☒ No: ☐

What is the predominant soil type(s) on the site? Woodbridge and rid e Loam	**What is the approximate depth to water table?** 3 feet feet

Site slope categories:	**15-25%** 0 %	**25-35%** 0 %	**>35%** 0 %
Estimated quantity of excavation:	**Cut (C.Y.)** Balanced Site	**Fill (C.Y.)** Balanced Site	
Is Blasting Proposed Yes: ☐	No: ☒	Unknown: ☐	
Is the site located ion a designated Critical Environmental Area?	Yes: ☐	No: ☒	

Does a curb cut exist on the site? Yes: ■ No: ☐	**Are new curb cuts proposed?** Yes: ■ No: ☐	**What is the sight distance?** Left 800' Right 400'

Is the site located within 500' of:

- **The boundary of an adjoining city, town or village** Yes: ■ No: ☐
- **The boundary of a state or county park, recreation area or road right-of-way** Yes: ■ No: ☐
- **A county drainage channel line.** Yes: ☐ No: ■

TOWN OF CARMEL SUBDIVISION APPLICATION

- The boundary of state or county owned land on which a building is located Yes: ☐ No: ☒

Is the site listed on the State or Federal Register of Historic Place (or substantially (contiguous)
Yes: ☐ No: ☒

Is the site located in a designated floodplain?
Yes: ☐ No: ☒

Does the site contain freshwater wetlands?
Yes: ☒ No: ☐

Jurisdiction:
NYSDEC: ☒ Town of Carmel: ☒

If present, the wetlands must be delineated in the field by a Wetland Professional, and survey located on the Site Plan.

Are encroachments in regulated wetlands or wetland buffers proposed? Yes: ☒ No: ☐

Does this application require a referral to the Environmental Conservation Board? Yes: ☒ No: ☐

Does the site contain waterbodies, streams or watercourses? Yes: ☒ No: ☐

Are any encroachments, crossings or alterations proposed? Yes: ☐ No: ☒

Is the site located adjacent to New York City watershed lands? Yes: ☒ No: ☐

Will municipal or private solid waste disposal be utilized?

Public: ☐ Private: ☒

Has this application been referred to the Fire Department? Yes: ☒ No: ☐

What is the estimated time of construction for the project?

Spring 2022 - Fall 2023

ZONING COMPLIANCE INFORMATION

Zoning Provision	Required	Existing	Lot 1	Lot 2	Lot 3	Lot 4	Lot 5
Lot Area	10 acres min.	127	24				
Lot Coverage	30% max	surface parking .6 acres	20%				
Lot Width	200'	NA	882' +/-				
Front Yard	100'	NA	100' min				
Side Yard (minimum of 1)	100'	NA	100' min				
Side Yard (total of both)	100'	NA	100' min				
Rear Yard	100'	NA	100' min				
Habitable Floor Area			1500/unit				
Height	35'	NA	<35'				

(if more than 5 lots are proposed, include additional zoning compliance information on a separate sheet)

Will variances be required? Yes: ☐ No: ■ If yes, identify variances required for each lot:

APPLICANTS ACKNOWLEDGEMENT

I hereby depose and certify that all the above statements and information, and all statements and information contained in the supporting documents and drawings attached hereto are true and correct.

David Leibowits
Applicants Name

Applicants Signature

Sworn before me this 5th day of November 20 21

Caroline Balducci
Notary Public

CAROLINE BALDUCCI
Notary Public - State of New York
NO. 01BA6229755
Qualified in Putnam County
My Commission Expires 10/19/22

V2

TOWN OF CARMEL
SUBDIVISION COMPLETENESS CERTIFICATION FORM

All Subdivisions submitted to the Planning Board for review shall include the following information and details, as set forth in Section 131-11-14 of the Town of Carmel Subdivision Regulations.

Please See Site Plan

This form shall be included with the subdivision submission

	Requirement Data	To Be Completed by the Applicant	Waived by the Town
General Requirements			
1	Key map at a scale of one inch equals 800 feet	☒ ✓	☐
2	Title block, including title of map; name of subdivision; name, address, seal and signature of professional engineer or land surveyor preparing the plat; written scale; date of original and all revisions.	☒ ✓	☐ needs to sign
3	A legend, including, names of all adjacent landowners and those within 500 feet of any property line; zoning district with the requirements of said zone; tax map, block and lot number; names and addresses of owner and subdivider; north point and graphic scale.	☒ ✓	☐
4	Location and identification of all zoning district boundaries.	☒	☐ ✓
5	Identification of all maps filed in the County Clerk's office affecting properties within 500 feet of the lot to be subdivided.	☒	☐
Sketch Plan Requirements			
1	All General Requirements	☒	☐
2	Proposed subdivision layout at a scale of not less than one inch equals 100 feet.	☐	☐
3	All proposed lot lines, dimensions in feet and the areas of all lots in square feet and identifying numbers for each lot.	☒	☐
4	The location of existing and proposed setback lines, streets within 200 feet of the subdivision, buildings, watercourses, railroads and bridges, culverts, drainpipes and any natural features, such as wooded areas and rock formations.	☐	☐
5	Location and size of areas proposed to be reserved for recreation/open space.	☐	☐

TOWN OF CARMEL

SUBDIVISION COMPLETENESS CERTIFICATION FORM

	Requirement Data	To Be Completed by the Applicant	Waived by the Town
Preliminary Plat Requirements			
1	All General and Sketch Plan Requirements	☐	☐
2	The area included in the subdivision, by area of lots, roads, reservations if any, and total acreage.	☐	☐
3	The existing and proposed contours (at an interval of not more than two feet), suitably designated to differentiate, with proposed first-floor elevations of the buildings.	☐	☐
4	Names of existing streets and proposed names of new streets.	☐	☐
5	Preliminary profiles of all proposed roads.	☐	☐
6	Location, type and size of curbs, sidewalks and bikeways.	☐	☐
7	For subdivisions of five or more lots, front building elevation sketches and distribution of dissimilar building types on the site to avoid excessive similarity of exterior design.	☐	☐
8	Plans of proposed utility layouts and all facilities, unsized.	☐	☐
9	The natural flow of surface drainage (indicated with arrows and the final disposal of surface waters); location of existing and proposed watercourses, culverts, bridges, drainpipes, lakes and ponds, detention or retention ponds; tentative location of storm drain inlets with the drainage areas tributary to each outlined and the area shown.	☐	☐
10	Existing or proposed covenants or deed restrictions applying to the site and a preliminary draft of homeowners' association documents, if applicable.	☐	☐
11	A stormwater pollution prevention plan (SWPPP) consistent with the requirements of Article X of Chapter 156 of the Code of the Town of Carmel.	☐	☐
Final Plat Requirements			
1	All General, Sketch and Preliminary Plat Requirements.	☐	☐

TOWN OF CARMEL

SUBDIVISION COMPLETENESS CERTIFICATION FORM

	Requirement Data	To Be Completed by the Applicant	Waived by the Town
2	Dimensions exactly with reference to monuments, bearings, distances in feet, radii, points of curvature and tangency of property lines, lot widths and depths and square feet of each lot.	☐	☐
3	Location of all proposed setback lines on each lot, with corner and irregular-shaped lots identified as to front, side and rear yards.	☐	☐
4	Location of all existing and proposed monuments.	☐	☐
5	All existing streets and streams within the subdivision and within 200 feet of the boundaries thereof, the width of the right-of-way of each street and existing public easements and municipal boundaries within 200 feet of the subdivision.	☐	☐
6	All proposed public easements or rights-of-way and the purposes thereof and proposed streets, identifying right-of-way width and names.	☐	☐
7	All parcels proposed for open space/recreation use, with a statement of the purpose of each.	☐	☐
8	Construction plat, which shall include, in addition to the above: final first-floor elevations of dwellings and outside grades at their corner; proposed curb elevations at all lot corners; all existing structures, including a note indicating those to be removed and yard dimensions of those to remain; plans and profiles and proposed improvements and utility layouts; paving widths and locations, section and profiles; sidewalk widths and locations and sections; road alignment, complete with stations, center line curve data and existing and finished contours of the road and all regraded areas; details of manholes, catch basins, headwalls and any other required structure; locations of all street trees, lights and signs; maximum anticipated extent of the areas of cuts and fills where grade	☐	☐

TOWN OF CARMEL

SUBDIVISION COMPLETENESS CERTIFICATION FORM

	Requirement Data	To Be Completed by the Applicant	Waived by the Town
	changes are proposed; the natural flow of surface drainage and the final disposal of surface waters; slopes of banks of all watercourses, if defined, and boundaries of floodplains; specifications, locations, profiles and detailed cross sections of the proposed storm drains, including all inlets and size of the drainage area of the streets, including grades and all other improvements.		
9	Final copy of the homeowners' association documents, if applicable.	☐	☐
10	Deeds for land to be dedicated for road widening, recreation or other purposes.	☐	☐
11	Erosion control standards.	☐	☐
12	A stormwater pollution prevention plan (SWPPP) consistent with the requirements of Article X of Chapter 156 of the Code of the Town of Carmel and with the terms of preliminary plan approval.	☐	☐

Applicants Certification (to be completed by the licensed professional preparing the subdivision plan:

I Christopher LaPorta, PE **hereby certify that the site plan to which I have attached my seal and signature, meets all of the requirements of §156-61B of the Town of Carmel Zoning Ordinance:**

STATE OF NEW YORK
CHRISTOPHER J. LAPORTA
102592
LICENSED PROFESSIONAL ENGINEER

Professionals Seal

Signature - Applicant 11/08/21 **Date**

Signature - Owner 11/08/21 **Date**

TOWN OF CARMEL

SUBDIVISION COMPLETENESS CERTIFICATION FORM

Town Certification (to be completed by the Town)

I _____ hereby confirm that the site plan meets all of the requirements of §156-61B of the Town of Carmel Zoning Ordinance:

Rose Gromelitta
Signature - Planning Board Secretary

12/22/21
Date

Richard J. Hoff
Signature - Town Engineer

12/22/2021
Date

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 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Centennial Golf Club Townhomes		
Project Location (describe, and attach a general location map): 185 John Simpson Road ,Tax ID #44.2-2.1 and Tax ID # 44.2-4.2 (Town of Carmel); and 175 John Simpson Road, Tax ID # 44.1-1 (Town of Southeast)		
Brief Description of Proposed Action (include purpose or need): To construct a 63-unit townhome development with a clubhouse and pool for the residents at the southwest corner of John Simpson Road and Fair Street (Co. Rt. 40) on lands known as the Centennial Golf Club (CGC). CGC offers three 9-hole golf courses identified as the "Meadows", "Lakes" and "Fairways". Fairways is in the Town of Carmel, Meadows is in the Town of Southeast, and Lakes is located in both towns. The Project area is located at the northern tip of the Lakes and Meadows courses, north of the existing clubhouse and pavilion. The golf practice area and an underutilized 271-space surface parking lot will be eliminated to facilitate this Project. The townhomes will be constructed where the existing parking lot and a former pasture are located. The Project includes the realignment of driveways and installation of new private drives for the townhomes, new water and sewer lines, decommissioning/replacement of a pump station, on-site stormwater management, a partial demolition of a portion of the existing cart barn, new/realigned cart paths, reconfiguration of the Lakes and Meadows courses, and the installation of a new, modern 181-space surface parking area in the Town of Southeast for CGC guests. A lot line revision is proposed to create a 24 +/- acre parcels. New driveway access is proposed on Fair Street, one for ingress/egress, and two for emergency vehicle access only.		
Name of Applicant/Sponsor: Centennial Golf Properties and Toll Brothers	Telephone: 845-225-5700 E-Mail:	
Address: 185 John Simpson Road		
City/PO: Carmel	State: NY	Zip Code: 10512
Project Contact (if not same as sponsor; give name and title/role): Christopher LaPorta, P.E., Passero Associates	Telephone: 585-455-0157 E-Mail: claporta@passero.com	
Address: 19 Front Street		
City/PO: Newburgh	State: NY	Zip Code: 12550
Property Owner (if not same as sponsor): Centennial Golf Club	Telephone: 845-225-5700 E-Mail:	
Address: 185 John Simpson Road		
City/PO: Carmel	State: NY	Zip Code: 10512

B. Government Approvals

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

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustees ☑Yes ☐No	T/O Carmel TB (subdivision)	October 2021
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	T/O Carmel PB (Site Plan Mod/Lot Line Adj) T/O Southeast PB (Site Plan Mod)	October 2021
c. City, Town or Village Zoning Board of Appeals ☐Yes ☐No		
d. Other local agencies ☑Yes ☐No	T/O Carmel Water & Sewer; Environmental Conservation Board	October 2021
e. County agencies ☑Yes ☐No	Putnam County Highways&Facilities (right-of-way) Putnam County DOH (water and sewer)	October 2021
f. Regional agencies ☑Yes ☐No	NYCDEP	October 2021
g. State agencies ☑Yes ☐No	NYSDEC	October 2021
h. Federal agencies ☐Yes ☐No		

i. Coastal Resources.

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

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

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

C. Planning and Zoning

C.1. Planning and zoning actions.

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

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

C.2. Adopted land use plans.

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

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

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

If Yes, identify the plan(s):

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 adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
Town of Carmel (R Residential)
Town of Southeast (R-60, Residential R-60)

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

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

C.4. Existing community services.

a. In what school district is the project site located? Town of Carmel (Carmel Central School District) - 63 residential units
Town of Southeast (Brewster Central School District) - 181 space parking lot

b. What police or other public protection forces serve the project site?
Putnam County Sheriff's Department, Carmel Police Department

c. Which fire protection and emergency medical services serve the project site?
Carmel Fire Department, Carmel Volunteer Ambulance, Brewster Fire Department, Putnam County EMS

d. What parks serve the project site?
Edward Ryan Memorial 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 mixed, include all components)? Residential; Parking

b. a. Total acreage of the site of the proposed action? +/-24 acres
b. Total acreage to be physically disturbed? +/-19 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? +/-352 acres

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

d. Is the proposed action a subdivision, or does it include a subdivision? Lot line Adjustment ☑ Yes ☐ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
Residential (Townhomes)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☑ No
iii. Number of lots proposed? 63
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: 18 months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

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

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase	63			
At completion of all phases	63			

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

If Yes, 181-space surface parking lot in the Town of Southeast

i. Total number of structures _____

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

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

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

If Yes,

i. Purpose of the impoundment: on-site stormwater management areas

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

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

_____

iv. Approximate size of the proposed impoundment. Volume: 0.514 million gallons; surface area: 1.05 acres

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

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

_____

D.2. Project Operations

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

If Yes: Regrading and excavation will result in a balanced site.

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

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

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

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

_____

_____

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

If yes, describe. _____

_____

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

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

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

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

ix. Summarize site reclamation goals and plan: _____

_____

_____

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

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): State Wetland Adjacent Area (buffer) LC-26

_____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:
The golf practice areas and former pasture will be regraded to construct stormwater management areas, which will affects the State 100' wetland buffer. The area of disturbance in the 100-foot buffer is 2.01 acres. No other buffer areas or watercourses will be impacted.

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☑ No
If Yes, describe: _____

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

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____
- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

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

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

i. Total anticipated water usage/demand per day: 20,790 gallons/day

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

- Name of district or service area: Carmel Water District #2
- Does the existing public water supply have capacity to serve the proposal? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No
- Do existing lines serve the project site? ☑ Yes ☐ No

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

- Describe extensions or capacity expansions proposed to serve this project: _____
- Source(s) of supply for the district: _____

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

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

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

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

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

i. Total anticipated liquid waste generation per day: 20,790 gallons/day

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

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

- Name of wastewater treatment plant to be used: Carmel Sewer District #2 WWTP
- Name of district: Carmel Sewer District #2
- Does the existing wastewater treatment plant have capacity to serve the project? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No

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

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

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

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

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

_____

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

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

If Yes:

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

_____ Square feet or 2.0+/- acres (impervious surface) In T/O Carmel; 1.5 +/- acres in T/O Southeast

_____ Square feet or 361 acres (parcel size)

ii. Describe types of new point sources. Runoff conveyances to stormwater management areas

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

on-site stormwater management areas

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐ Yes ☑ No

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

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

If Yes, identify:

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

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

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

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

If Yes:

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

ii. In addition to emissions as calculated in the application, the project will generate:
- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

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

If Yes:

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

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

_____

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

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

_____

_____

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

See Exhibit A

If Yes:

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

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

181 spaces for golf course & 144 for residential

iii. Parking spaces: Existing 271 Proposed 325 Net increase/decrease +54

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

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

_____

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

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

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

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

If Yes:

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

_____

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

_____

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

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

i. During Construction:

- Monday - Friday: 7 am to 5 pm
- Saturday: _____
- Sunday: _____
- Holidays: _____

ii. During Operations:

- Monday - Friday: 24/7
- Saturday: 24/7
- Sunday: 24/7
- Holidays: 24/7

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

If yes:

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

Heavy equipment used for earthmoving, deliveries, backup beepers during construction

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

Describe: _____

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

If yes:

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

The townhouses will have exterior lighting on the dwellings; the new parking lot with have dark sky compliant lighting

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

Describe: _____

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

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

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

If Yes:

i. Product(s) to be stored _____

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

iii. Generally, describe the proposed storage facilities: _____

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

If Yes:

i. Describe proposed treatment(s):

_____

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

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

If Yes:

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

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

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

- Construction: _____
- Operation: _____

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

- Construction: _____
- Operation: _____

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

If Yes:

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

ii. Anticipated rate of disposal/processing:

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

iii. If landfill, anticipated site life: _____ years

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

If Yes:

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

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

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

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

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

If Yes: provide name and location of facility: _____

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

E. Site and Setting of Proposed Action

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

a. Existing land uses.

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

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

ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	2.92	4.77	+1.85
• Forested	10.75	7.39	-3.36
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	10.51	11.16	+0.65
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.19	1.05	+0.86
• Wetlands (freshwater or tidal)	6.79	6.79	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? ☑ Yes ☐ No

i. If Yes: explain: Public golf course

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

If Yes,

i. Identify Facilities:

Shining Star Daycare, 64 Duke Drive, Carmel Hamlet

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

If Yes:

i. Dimensions of the dam and impoundment:

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

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

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

If Yes:

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

- If yes, cite sources/documentation: _____

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

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

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

If Yes:

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

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

If Yes:

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

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

☐ Yes – Environmental Site Remediation database Provide DEC ID number(s): _____

☐ Neither database

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

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

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

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

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

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

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? >3 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:

Woodbridge Loam	32 %
Paxton Fine Sandy Loam	24 %
Ridgebury Complex	21 %

d. What is the average depth to the water table on the project site? Average: 3 feet

e. Drainage status of project site soils:
☑ Well Drained: 24 % of site
☑ Moderately Well Drained: 32 % of site
☑ Poorly Drained 21 % of site

See Exhibit B

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 97.7 % of site
☑ 10-15%: 2.3 % of site
☐ 15% or greater: _____% of site

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

h. Surface water features.

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

See Exhibit C for Wetland Maps

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

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i. See Exhibit D for Wetland Assessment in Town of Southeast

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

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

- Streams: Name 864-194 Classification C
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name Federal Waters, NYS Wetland, Federal Waters, Fe... Approximate Size NYS Wetland (in a...
- Wetland No. (if regulated by DEC) LC-26 32.9 acres

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

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

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

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

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

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

i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site:
Birds, squirrels, woodchucks, raccoons,

n. Does the project site contain a designated significant natural community? ☐ Yes ☑ No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation):
ii. Source(s) of description or evaluation:
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

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

If Yes:
i. Species and listing (endangered or threatened): See Exhibit E

Northern Long-eared Bat — Populated by the EAFMapper. IPaC Report reveals NLEB is a threatened species, and the Indiana Bat and the Bog Turtle are endangered species

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

If Yes:
i. Species and listing:

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐ Yes ☑ No
If yes, give a brief description of how the proposed action may affect that use:

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

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

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☑ No
i. If Yes: acreage(s) on project site?
ii. Source(s) of soil rating(s):

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent:

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No
If Yes:
i. CEA name:
ii. Basis for designation:
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 Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☐ Yes ☑ No

If Yes:

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

ii. Name: _____

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

_____

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

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

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

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

If Yes:

i. Identify resource: _____

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

iii. Distance between project and resource: _____ miles.

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

If Yes:

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

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

F. Additional Information

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

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

G. Verification

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

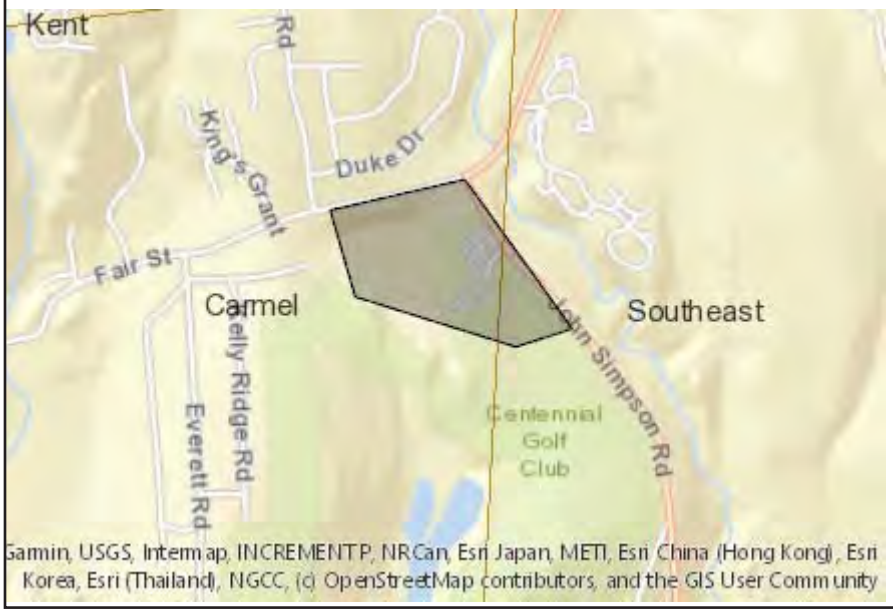
Applicant/Sponsor Name David Leibowits Date 11/8/2021

Signature _____ Title _____

PRINT FORM

EAF Mapper Summary Report

Thursday, June 10, 2021 10:59 AM



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

B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	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]	864-194
E.2.h.iv [Surface Water Features - Stream Classification]	C
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):32.9
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	LC-26

E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	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

EXHIBIT A

PASSERO ASSOCIATES
engineering architecture

November 8, 2021

Mr. Craig Paeprer, Chair
Planning Board
Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541

Re: Centennial Golf Properties and Toll Brothers
Centennial Townhomes
185 John Simpson Road (44.2-2.1) and John Simpson Road (44.2-4.2)
Traffic Generation Letter of Findings

Dear Chairperson Paeprer:

We have conducted an evaluation of the site generated vehicular traffic volumes associated with the proposed project and respectfully submit this Letter of Findings. The intent of this letter of findings is to assess the projected changes in vehicular traffic generated by the site from the existing conditions to the currently proposed development.

Existing Conditions

The existing use of the property is a 27-hole golf course and country club known as Centennial Golf Course. The golf course and country club has been categorized as ITE Land Use 430: Golf Course.

Proposed Conditions

The proposed project will retain the country club and 27 holes of the golf course and includes the construction of an additional 63 townhouse units which have been categorized as ITE Land Use 220: Multifamily Housing (Low-Rise).

Traffic Generation

For analysis purposes, the peak hours site generated traffic was estimated using trip generation rates published by the ITE as contained in their publication entitled “Trip Generation, 10th Edition”. The ITE trip generation manual uses statistical data collected nationwide to determine an appropriate amount of traffic generated during the peak hour for use in traffic analysis.

Shown in the table below, the resulting trip generation volumes were calculated for both the existing and proposed uses of the site.

TRIP GENERATION CALCULATION TABLE

ITE Trip Generation 10th Edition Manual Research Data:

Type of Land Use	ITE Code	Unit	Weekday Morning Peak			Weekday Evening Peak		
			Enter	Exit	Total	Enter	Exit	Total
27-Hole Golf Course and Country Club	430	27 Holes	Generation Rate = 1.76			Generation Rate = 2.91		
			79%	21%	100%	53%	47%	100%
			38	10	48	42	37	79
Total Existing Trips			**38**	**10**	**48**	**42**	**37**	**79**
27-Hole Golf Course and Country Club	430	27 Holes	Generation Rate = 1.76			Generation Rate = 2.91		
			79%	21%	100%	53%	47%	100%
			38	10	48	42	37	79
Multifamily Housing (Low-Rise)	220	63 Units	Generation Rate = 0.46			Generation Rate = 0.56		
			23%	77%	100%	63%	37%	100%
			7	22	29	23	13	36
Total Proposed Trips			**45**	**32**	**77**	**65**	**50**	**115**
Difference in Trips			**7**	**22**	**29**	**23**	**13**	**36**

* Trip generation rates are based on ITE Trip Generation Manual 10th Edition for trips generated during the anticipated morning and evening peak hours.

Based on the results from the trip generation calculations, it is estimated that the proposed development will generate roughly 29 more trips during the morning peak hour and 36 more trips during the evening peak hour.

The general industry practice for many municipalities is that an intersection should be analyzed for impact associated with a proposed development if 100 or more new trips are proposed through that intersection. Although the traffic patterns will likely be altered by the proposed development, we do not project that the proposed development will increase the traffic volumes by 100 or more vehicles during the peak hour at any specific intersection; therefore, it is our opinion that no further traffic impact analysis is required as a result of traffic that would be generated by the proposed development.

Please do not hesitate to call should you require additional information or have any questions.

Sincerely,

Christopher J LaPorta

Chris LaPorta, PE, CDT
Hudson Valley Office Manager

EXHIBIT B

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Putnam County, New York

June 10, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:4,030 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Putnam County, New York
Survey Area Data: Version 17, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Oct 5, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
NcA	Natchaug muck, 0 to 2 percent slopes	2.2	8.5%
PnB	Paxton fine sandy loam, 3 to 8 percent slopes	6.1	23.9%
RdB	Ridgebury complex, 3 to 8 percent slopes	5.2	20.6%
Sh	Sun loam	3.7	14.4%
W	Water	0.1	0.4%
WdB	Woodbridge loam, 3 to 8 percent slopes	7.6	29.9%
WdC	Woodbridge loam, 8 to 15 percent slopes	0.6	2.3%
Totals for Area of Interest		**25.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not

mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Putnam County, New York

NcA—Natchaug muck, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2w68z
Elevation: 0 to 1,550 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Natchaug and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Natchaug

Setting

Landform: Depressions, depressions, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Highly decomposed organic material over loamy glaciofluvial deposits and/or loamy glaciolacustrine deposits and/or loamy till

Typical profile

Oa1 - 0 to 12 inches: muck
Oa2 - 12 to 31 inches: muck
2Cg1 - 31 to 39 inches: silt loam
2Cg2 - 39 to 79 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.01 to 14.17 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 25 percent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Very high (about 17.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: F144AY042NY - Semi-Rich Organic Wetlands
Hydric soil rating: Yes

Minor Components

Catden

Percent of map unit: 8 percent
Landform: Depressions, depressions, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Limerick

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sun

Percent of map unit: 4 percent
Landform: Hills, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Halsey

Percent of map unit: 3 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

PnB—Paxton fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t2qp
Elevation: 0 to 1,570 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Paxton and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Hills, drumlins, ground moraines
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam
Bw1 - 8 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: fine sandy loam
Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 18 to 39 inches to densic material
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: C
Ecological site: F144AY007CT - Well Drained Dense Till Uplands
Hydric soil rating: No

Minor Components

Woodbridge

Percent of map unit: 9 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ridgebury

Percent of map unit: 6 percent
Landform: Hills, ground moraines, depressions, drainageways
Landform position (two-dimensional): Toeslope, backslope, footslope
Landform position (three-dimensional): Base slope, head slope, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Charlton

Percent of map unit: 5 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

RdB—Ridgebury complex, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2xfg2
Elevation: 10 to 1,180 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Ridgebury, loam, and similar soils: 50 percent
Ridgebury, somewhat poorly drained, and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury, Loam

Setting

Landform: Ground moraines, depressions, drumlins, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 6 inches: loam
Bw - 6 to 10 inches: gravelly fine sandy loam
Bg - 10 to 19 inches: gravelly fine sandy loam
Cd - 19 to 66 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 15 to 35 inches to densic material
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None

Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Ecological site: F144AY009CT - Wet Till Depressions
Hydric soil rating: Yes

Description of Ridgebury, Somewhat Poorly Drained

Setting

Landform: Drainageways, hills, ground moraines, depressions, drumlins
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 7 inches: loam
Bw - 7 to 13 inches: loam
Bg - 13 to 21 inches: fine sandy loam
Cd - 21 to 60 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 15 to 35 inches to densic material
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 10 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F144AY009CT - Wet Till Depressions
Hydric soil rating: No

Minor Components

Woodbridge, loam

Percent of map unit: 5 percent
Landform: Ground moraines, drumlins, hills
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex

Across-slope shape: Linear
Hydric soil rating: No

Sun, very poorly drained
Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Leicester, loam
Percent of map unit: 3 percent
Landform: Drainageways, hills, depressions, ground moraines
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave
Hydric soil rating: Yes

Paxton
Percent of map unit: 2 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

Sh—Sun loam

Map Unit Setting
National map unit symbol: 9v04
Elevation: 600 to 1,800 feet
Mean annual precipitation: 46 to 50 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 115 to 215 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Sun and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sun

Setting
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave

Across-slope shape: Concave
Parent material: Loamy till derived primarily from limestone and sandstone, with a component of schist, shale, or granitic rocks in some areas

Typical profile
H1 - 0 to 9 inches: loam
H2 - 9 to 27 inches: loam
H3 - 27 to 60 inches: gravelly fine sandy loam

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Available water capacity: Moderate (about 6.7 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F144AY039NY - Semi-Rich Wet Till Depressions
Hydric soil rating: Yes

Minor Components

Ridgebury
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Leicester
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Palms
Percent of map unit: 3 percent
Landform: Swamps, marshes
Hydric soil rating: Yes

Sun, stony
Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

W—Water

Map Unit Setting

National map unit symbol: 9v0r
Mean annual precipitation: 46 to 50 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 115 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

WdB—Woodbridge loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w688
Elevation: 0 to 1,280 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Woodbridge, loam, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Loam

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 6 inches: loam
Bw1 - 6 to 18 inches: gravelly loam
Bw2 - 18 to 29 inches: gravelly loam
Cd - 29 to 65 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: F144AY037MA - Moist Dense Till Uplands
Hydric soil rating: No

Minor Components

Ridgebury

Percent of map unit: 7 percent
Landform: Drumlins, drainageways, hills, ground moraines, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Paxton

Percent of map unit: 7 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Shoulder, summit, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Sutton

Percent of map unit: 1 percent
Landform: Hills, ground moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

WdC—Woodbridge loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w68p

Elevation: 10 to 1,000 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Woodbridge, loam, and similar soils: 82 percent
Minor components: 18 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Loam

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 6 inches: loam
Bw1 - 6 to 18 inches: gravelly loam
Bw2 - 18 to 29 inches: gravelly loam
Cd - 29 to 65 inches: gravelly loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C/D
Ecological site: F144AY037MA - Moist Dense Till Uplands
Hydric soil rating: No

Minor Components

Paxton

Percent of map unit: 8 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex

Hydric soil rating: No

Ridgebury

Percent of map unit: 7 percent
Landform: Ground moraines, depressions, drumlins, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sutton

Percent of map unit: 2 percent
Landform: Hills, ground moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Urban land

Percent of map unit: 1 percent
Hydric soil rating: Unranked

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EXHIBIT C

U.S. Fish and Wildlife Service

National Wetlands Inventory

Centennial Golf Club

June 11, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

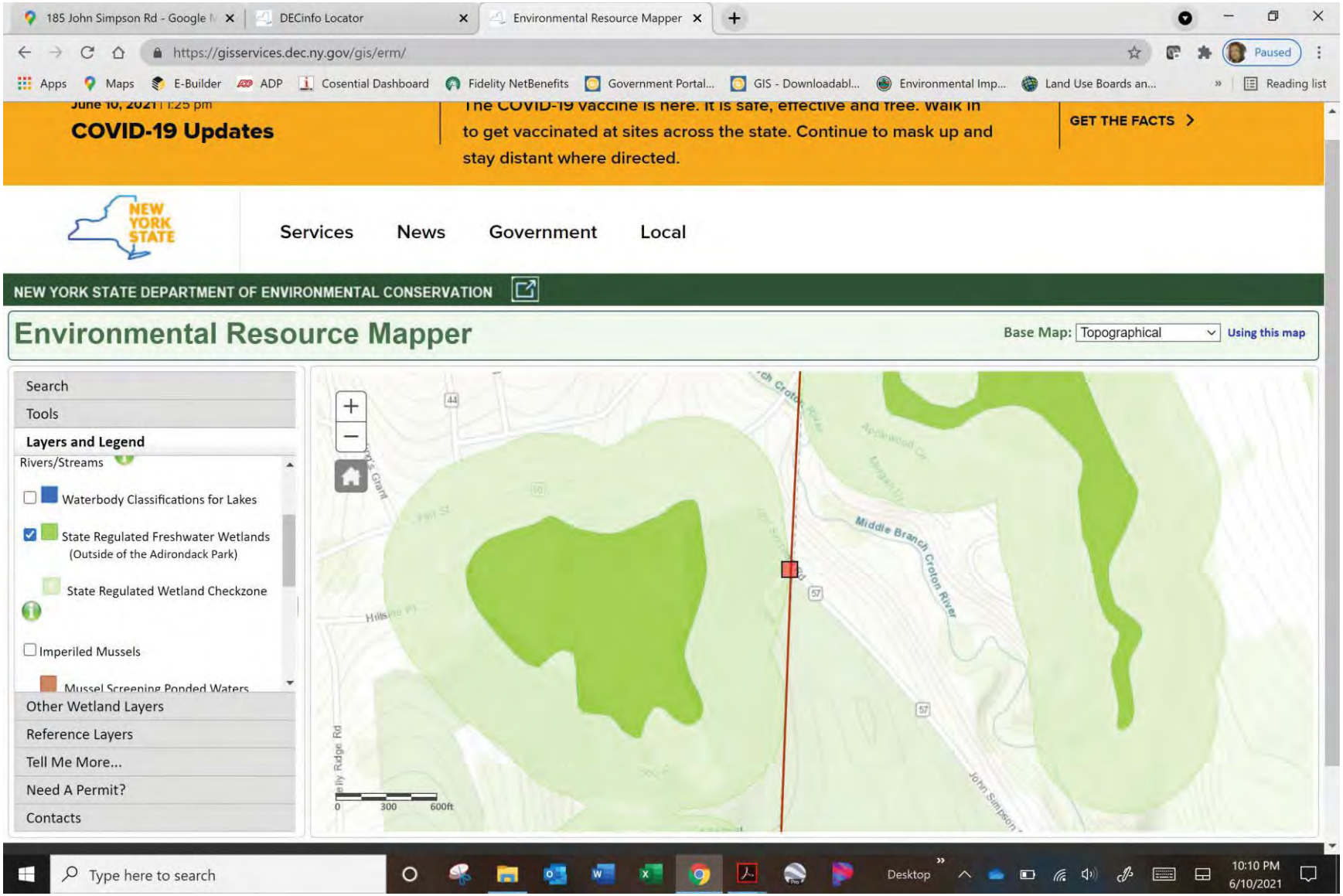

185 John Simpson Rd - Google
DECinfo Locator
Environmental Resource Mapper
https://gisservices.dec.ny.gov/gis/erm/
Paused
Apps
Maps
E-Builder
ADP
Cosential Dashboard
Fidelity NetBenefits
Government Portal...
GIS - Downloadabl...
Environmental Imp...
Land Use Boards an...
Reading list
June 10, 2021 1:25 pm
COVID-19 Updates
The COVID-19 vaccine is here. It is safe, effective and free. Walk in to get vaccinated at sites across the state. Continue to mask up and stay distant where directed.
GET THE FACTS
NEW YORK STATE
Services
News
Government
Local
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Environmental Resource Mapper
Base Map: Topographical
Using this map
Search
Tools
Layers and Legend
Rivers/Streams
Waterbody Classifications for Lakes
State Regulated Freshwater Wetlands (Outside of the Adirondack Park)
State Regulated Wetland Checkzone
Imperiled Mussels
Mussel Screening Ponded Waters
Other Wetland Layers
Reference Layers
Tell Me More...
Need A Permit?
Contacts
Middle Branch Croton River
John Simpson
0
300
600ft
Type here to search
Desktop
10:10 PM
6/10/2021

EXHIBIT D

Ecological Solutions, LLC

121 Leon Stocker Drive
Stratton, VT 05360
Phone (203) 910-4716
ecolsol@aol.com

June 17, 2021

David Leibowits
c/o Centennial Golf
185 John Simpson Road
Carmel, NY 10512

Re: Wetland Assessment
Centennial Golf Course Site
Town of Southeast, Putnam County, New York

Dear David:

Ecological Solutions, LLC completed a wetland assessment on June 16, 2021 at the Centennial Golf Course Site in the Town of Southeast, Putnam County, New York (*Figure 1*). The assessment was completed in accordance with the Army Corps of Engineers (USACE) Wetlands Delineation Manual (January 1987), Routine Determination Method and Northcentral/Northeast supplement and Town of Southeast Code Chapter 78 Freshwater Wetlands. There is no New York State Department of Environmental Conservation (NYSDEC) regulated wetland at this location (*Figure 2*).

The site was assessed for Federal and Town wetlands based upon the identification of the three mandatory criteria for wetland determination as outlined in the 1987 Federal Manual and supplement: dominant hydrophytic vegetation, hydric soils, and evidence of wetland hydrology. The Routine Methodology procedure for wetland determination was used. Transects consisting of at several sample points were walked. Dominant vegetation around each sample point was identified and its percent cover quantified. The areas were checked in detail for the presence of wetland hydrologic indicators and hydric soils.

The detailed field investigation included:

1. Identification of vegetation species to determine whether there was a dominance of hydrophytic plants and areas containing transitional but primarily wetland-oriented species.

2. Determination of soil features for hydric (poorly and very poorly drained) natural soils.

3. Observation of site features displaying evidence of wetland hydrology based on the presence of inundated areas, apparent high seasonal water tables, and evidence of saturation within 12 inches of the surface (considered the root zone) during sufficient periods during the growing season to provide for anaerobic/hydric soil conditions.

Based on observed field conditions there is no federal or Town wetland located on the site. The site contains a farm pond closest to the entrance drive which is artificially filled by a well. There is a standpipe overflow which goes to the next man made pond and that pond also has a standpipe overflow which then goes into an irrigation pond. All are kept artificially full with well water. The ponds do not have surface discharge to wetlands off the site and if the well is turned off the ponds will be dry.

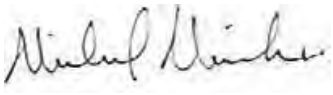
The Town of Southeast Code identifies a Watercourse as follows:

Watercourse shall include the following:
A. Rivers, streams, brooks and waterways which are delineated on the current edition of the U.S. Department of Interior, Geological Survey, 7.5 Minute Series (topographic maps covering the Town of Southeast);
B. Any other streams, brooks and waterways containing running water more than six months a year; and
C. Lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, which are fed by or have surface discharge to another wetland or watercourse.

It is my opinion that the man made ponds with artificial hydrology are not regulated by the USACE or Town.

If you need any additional information, please contact me.

Sincerely,
ECOLOGICAL SOLUTIONS, LLC



Michael Nowicki
Biologist

Figure 1 Location Map

EXHIBIT E

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

IPaC Record Locator: 148-102918843 June 10, 2021

Subject: Consistency letter for the 'Centennial Golf Club' project indicating that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Dear Zina Lagonegro:

The U.S. Fish and Wildlife Service (Service) received on June 10, 2021 your effects determination for the 'Centennial Golf Club' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause "take"[1] of the northern long-eared bat that is prohibited under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Please report to our office any changes to the information about the Action that you entered into IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation.

If your Action proceeds as described and no additional information about the Action's effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

The IPaC-assisted determination for the northern long-eared bat **does not** apply to the following ESA-protected species that also may occur in your Action area:

- Bog Turtle *Clemmys muhlenbergii* Threatened
- Indiana Bat *Myotis sodalis* Endangered

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species listed above.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Centennial Golf Club

2. Description

The following description was provided for the project 'Centennial Golf Club':

> To redevelop a 9-hole golf course and surface parking lot as a 52-unit townhouse development with a clubhouse and pool.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.4317112,-73.65595842348483,14z

Determination Key Result

This non-Federal Action may affect the northern long-eared bat; however, any take of this species that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o).

Determination Key Description: Northern Long-eared Bat 4(d) Rule
This key was last updated in IPaC on **May 15, 2017**. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for non-Federal actions is to assist determinations as to whether proposed actions are excepted from take prohibitions under the northern long-eared bat 4(d) rule.

If a non-Federal action may cause prohibited take of northern long-eared bats or other ESA-listed animal species, we recommend that you coordinate with the Service.

Determination Key Result

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   No

2. Will your activity purposefully **Take** northern long-eared bats?

   No

3. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

4. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

5. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

6. Will the action involve Tree Removal?

   Yes

7. Will the action only remove hazardous trees for the protection of human life or property?

   Yes

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To: June 10, 2021
Consultation Code: 05E1NY00-2021-SLI-2987
Event Code: 05E1NY00-2021-E-09310
Project Name: Centennial Golf Club

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Services wind

energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

Project Summary

Consultation Code: 05E1NY00-2021-SLI-2987
Event Code: 05E1NY00-2021-E-09310
Project Name: Centennial Golf Club
Project Type: Guidance
Project Description: To redevelop a 9-hole golf course and surface parking lot as a 52-unit townhouse development with a clubhouse and pool.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.4317112,-73.65595842348483,14z

Counties: Putnam County, New York

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

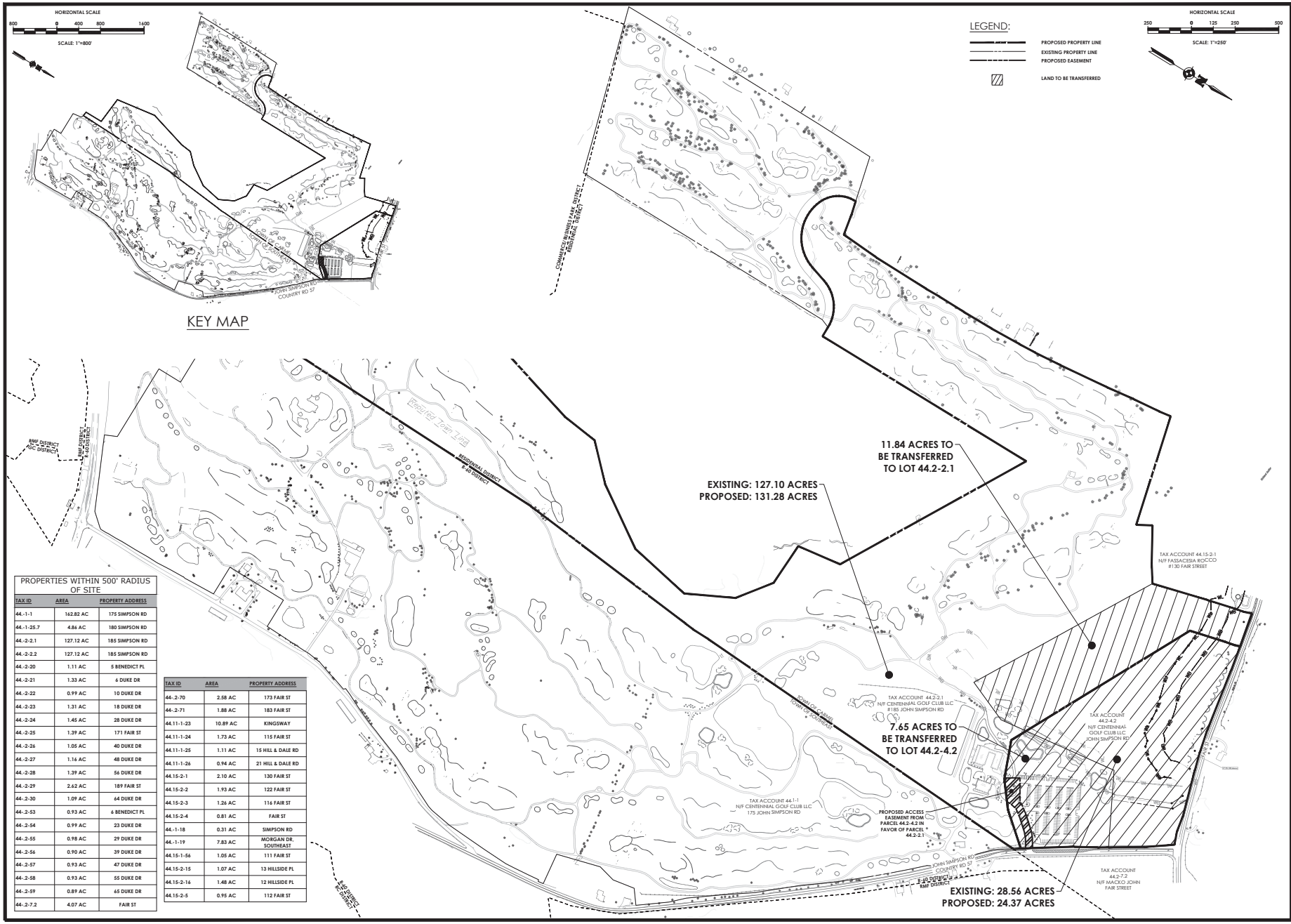
NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Reptiles

NAME	STATUS
Bog Turtle *Clemmys muhlenbergii* Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6962	Threatened

Critical habitats

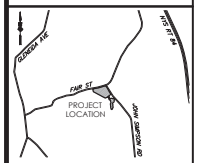
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



PROPERTIES WITHIN 500' RADIUS OF SITE		
TAX ID	AREA	PROPERTY ADDRESS
44.-1-1	162.82 AC	175 SIMPSON RD
44.-1-25.7	4.86 AC	180 SIMPSON RD
44.-2-2.1	127.12 AC	185 SIMPSON RD
44.-2-2.2	127.12 AC	185 SIMPSON RD
44.-2-20	1.11 AC	5 BENEDICT PL
44.-2-21	1.33 AC	6 DUKE DR
44.-2-22	0.99 AC	10 DUKE DR
44.-2-23	1.31 AC	18 DUKE DR
44.-2-24	1.45 AC	28 DUKE DR
44.-2-25	1.39 AC	171 FAIR ST
44.-2-26	1.05 AC	40 DUKE DR
44.-2-27	1.16 AC	48 DUKE DR
44.-2-28	1.39 AC	56 DUKE DR
44.-2-29	2.62 AC	189 FAIR ST
44.-2-30	1.09 AC	64 DUKE DR
44.-2-53	0.93 AC	6 BENEDICT PL
44.-2-54	0.99 AC	23 DUKE DR
44.-2-55	0.98 AC	29 DUKE DR
44.-2-56	0.90 AC	39 DUKE DR
44.-2-57	0.93 AC	47 DUKE DR
44.-2-58	0.93 AC	55 DUKE DR
44.-2-59	0.89 AC	65 DUKE DR
44.-2-7.2	4.07 AC	FAIR ST

TAX ID	AREA	PROPERTY ADDRESS
44.-2-70	2.58 AC	173 FAIR ST
44.-2-71	1.88 AC	183 FAIR ST
44.11-1-23	10.89 AC	KINGSWAY
44.11-1-24	1.73 AC	115 FAIR ST
44.11-1-25	1.11 AC	15 HILL & DALE RD
44.11-1-26	0.94 AC	21 HILL & DALE RD
44.15-2-1	2.10 AC	130 FAIR ST
44.15-2-2	1.93 AC	122 FAIR ST
44.15-2-3	1.26 AC	116 FAIR ST
44.15-2-4	0.81 AC	FAIR ST
44.-1-18	0.31 AC	SIMPSON RD
44.-1-19	7.83 AC	MORGAN DR, SOUTHEAST
44.15-1-56	1.05 AC	111 FAIR ST
44.15-2-15	1.07 AC	13 HILLSIDE PL
44.15-2-16	1.48 AC	12 HILLSIDE PL
44.15-2-5	0.95 AC	112 FAIR ST

PASSERO ASSOCIATES
engineering architecture



Town of Carmel/Southeast
LOCATION SKETCH

Client:

PASSERO ASSOCIATES
242 West Main Street Suite 100
Rochester, New York 14614
(585) 325-1000
Fax: (585) 325-1691
Principal-in-Charge Jess Sudol, PE
Project Manager Chris Laporta, PE
Designed by Cole Overhoff

Revisions

No.	Date	By	Description
1			

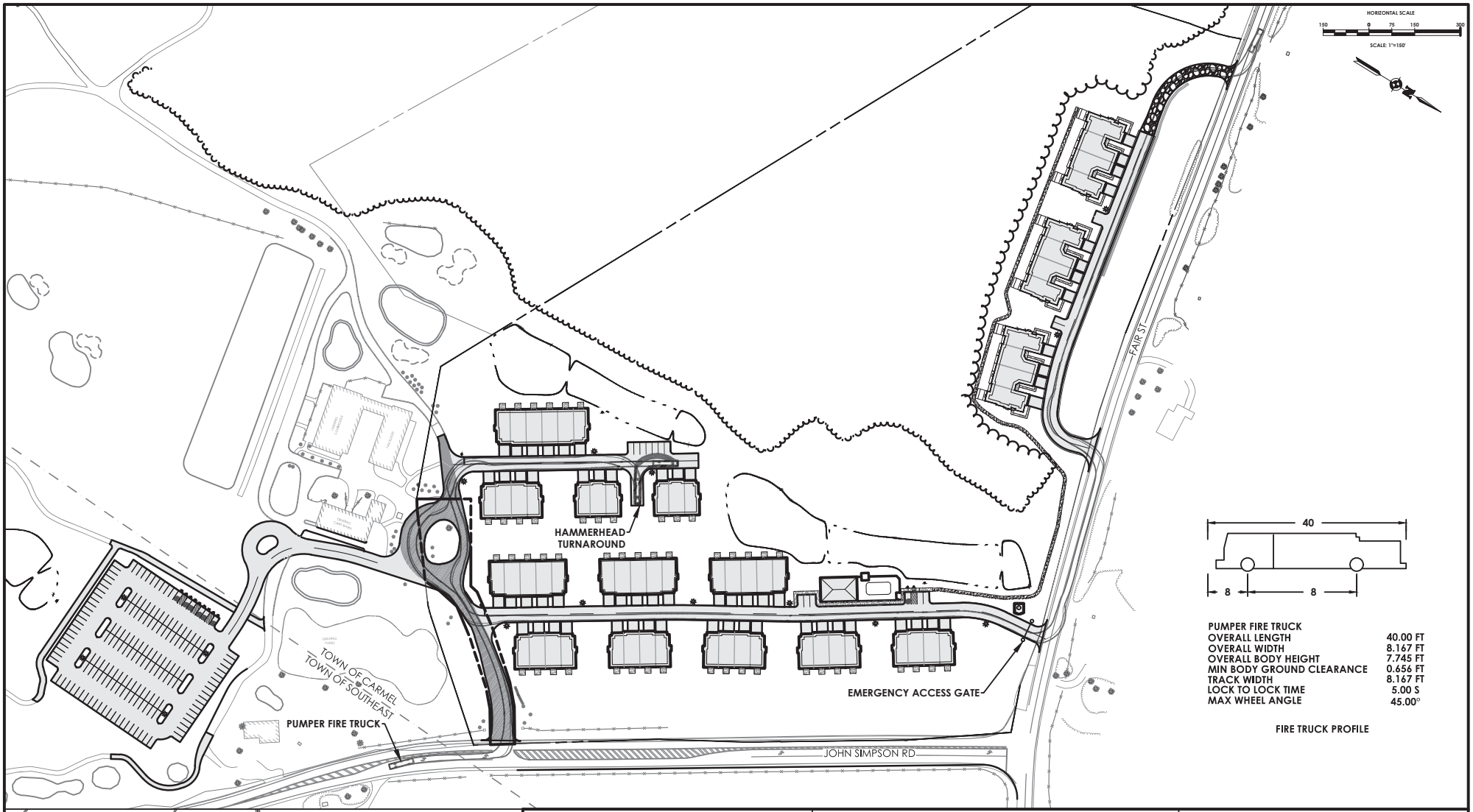
LOT LINE ADJUSTMENT PLAN

CENTENNIAL GOLF PROPERTIES TOWNHOUSE DEVELOPMENT

Town/City: CARMEL/SOUTHEAST
County: PUTNAM State: NEW YORK

Project No. 20213150.0001
Drawing No. S-1
Sheet No. 1
Scale: 1" = 250'
Date NOVEMBER 2021

NOT FOR CONSTRUCTION



TOWN of CARMEL AND SOUTHEAST

LOCATION SKETCH

N.T.S.

EMERGENCY VEHICLE MANEUVERING PLAN

CENTENNIAL TOWNHOMES

Drawn By: CO | Date: 1/3/22

PASSERO ASSOCIATES
engineering architecture
242 West Main Street, Suite 100
Rochester, NY 14614

Client: CENTENNIAL GOLF CLUB
185 JOHN SIMPSON ROAD
CARMEL, NY 10512

Project Number: 20213150.0001

Scale: 1"=150' | Sheet No: SK-1