

September 23, 2021

Mr. Lee Bergus, Planning Board Chairperson
Town of Goshen Planning Board
41 Webster Avenue
Goshen, NY 10924

VIA Email: buildingandzoning@townofgoshen.org

*Re: Tivoli Plaza well tests
2531 Highway 17M, Goshen, NY,
Chazen Project Number 42152.00*

Dear Mr. Bergus,

The Chazen Companies, a LaBella Company, have been retained by Inter Development Corp. to manage hydrogeology review and well testing at the proposed Tivoli Plaza site referenced above. We are working in conjunction with Fellenzer Engineering LLP which is addressing all engineering design and associated project communications.

In this communication, Chazen is addressing select SEQRA matters and recommending a hydrogeologic well testing protocol we believe is substantively responsive to Goshen's Zoning Section 97 Attachment 3 Appendix C Water Testing Protocol.

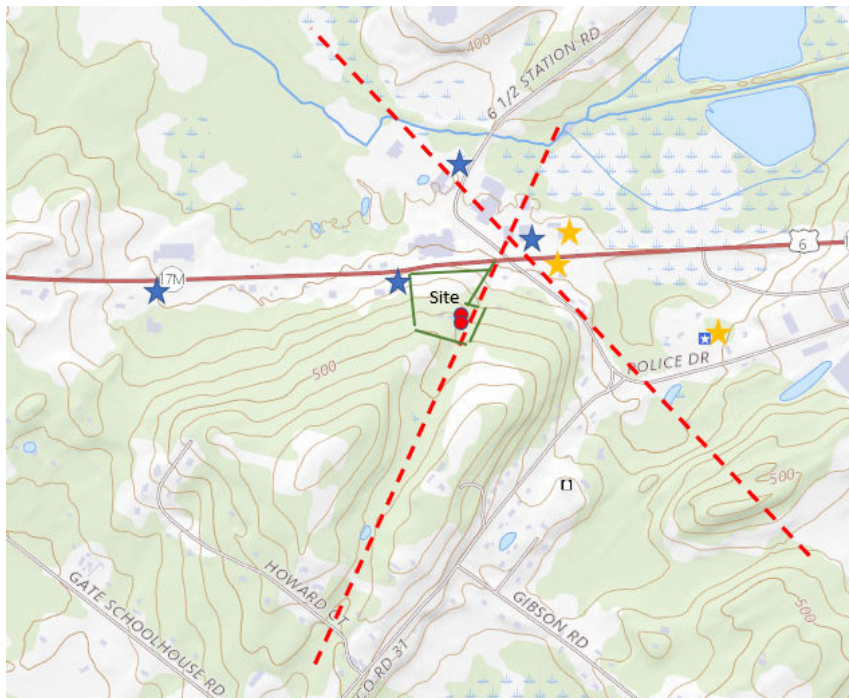
We understand site wells are to be used to support site development which will be regulated as Community Water Systems wells. For such sites, source redundancy is required under NYSDOH law so two wells have been installed by Roarke Well Drilling. We understand the calculated project demand is calculated at 19,526 gpd (average day) and that Fellenzer Engineering ready to manage peak demand using storage proportional to confirmed well yields. Since the anticipated well yields and the project demand are both less than 100,000 gpd no NYSDEC Water Withdrawal Permit appears to be required.

The Town of Goshen's public review process identified in its June 3, 2021 final project DEIS Scoping Document (pages 8 and 9) various hydrogeologic review elements included below in our recommended well testing protocol. These are addressed below:

Site Maps: Chazen has assembled site maps to show showing surficial geology and bedrock geology mapping information, and have confirmed linear feature (fracture trace) analysis using aerial map resources and examining 1994 OCWA linear feature maps to suggest likely bedrock water-bearing fractures on or near the site. Finally, we have reviewed and added potential contaminant sources within 0.5 mile from the NYSDEC's [DECinfo Locator - NYS Dept. of Environmental Conservation](#). These mapping efforts are hoped to satisfy the location and resource-based elements stipulated in the Final Scoping Document.

the location of existing site wells and off-site wells proposed for monitoring to the north, south, east and west of the property are shown on an aerial map, including domestic wells.

Map 1 – This topographic map extract shows linear features and potential contaminant sources within 0.25 miles of the site. This project site is outlined and labelled. Site wells proposed for pumping tests are suggested by 2 red dots. The map is oriented north to top, and the scale is approximately 1-inch to 2,000 feet.



This project site is outlined and labelled. Site wells proposed for pumping tests are suggested by 2 red dots. The map is oriented north to top, and the scale is approximately 1-inch to 2,000 feet.

A linear feature extends along the east margin of the site. A small stream follows this linear feature. This is the only dominant linear feature (fracture trace) on or near the site. The feature is crossed by a sub-perpendicular off-site linear feature north of Route 17M.

Blue and orange stars represent potential contaminant sites near the site. Above ground tanks registered with NYSDEC PBS program are indicated by blue stars. These are typically considered low risk because the tanks can be observed and any spills readily addressed. Site with orange stars include also registered underground storage tanks. These might typically be considered higher risk, but the three nearest sites are all at lower elevations than the site and site wells so any groundwater threat would not migrate toward the Site. AST and UST locations were both transcribed from NYSDEC’s InfoLocator website and none are judged likely to impact site groundwater quality now or in the future, again based on elevation, as well as likely travel direction of a plume. These are also presumptively not “existing sources of contamination” since none were identified on the InfoLocator website as Environmental Cleanup parcels.

Blue and orange stars represent potential contaminant sites near the site. Above ground tanks registered with NYSDEC PBS program are indicated by blue stars. These are typically considered low risk because the tanks can be observed and any spills readily addressed. Site with orange stars include also registered underground storage tanks. These might typically be considered higher risk, but the three nearest sites are all at lower elevations than the site and site wells so any groundwater threat would not migrate toward the Site. AST and UST locations were both transcribed from NYSDEC’s InfoLocator website and none are judged likely to impact site groundwater quality now or in the future, again based on elevation, as well as likely travel direction of a plume. These are also presumptively not “existing sources of contamination” since none were identified on the InfoLocator website as Environmental Cleanup parcels.



Map 2 – This unscaled map is extracted from a 1994 groundwater resource map prepared by Legette Brashears & Graham. North is to the top. On NYS Museum Surficial Geology maps, these same areas are collectively mapped as lacustrine silt and clay. Silt and clay are not typically optimal for sand and gravel well drilling although the LBG analysis suggests some potential for sand and gravel (orange and pink areas) . We believe this map may satisfy the Town’s request for a depiction of Surficial Geology.

The site location is suggested on Map 2 by the open red oval, indicating that the site is outside the valley fill deposit areas in a location where surficial geologic material is derived from glacial till. Local bedrock is mapped by the NYS Museum as shale (Ordovician era Normanskill shale). Shale underlies the entire mapped area (on site and off site) so no separate map is provided.



Map 3 – This unscaled map shows the approximate site boundaries, the two wells proposed for capacity testing (red dots), and the approximate locations of off-site domestic wells proposed for monitoring (yellow dots). All locations are approximate. North is to page top. The parcel ID numbers for the off-site wells are listed on the attached site map. The northern most well proposed for monitoring lies approximately along the trace of the dominant linear feature (fracture trace) passing the site.

Site Water Budget: A site water budget usually compares site recharge capacity with proposed water consumption to determine if a project sustainably sustains itself.

On the recharge side, the property is 10.5 acres. Of this, approximately 0.5 acres will be covered with buildings while all other areas will admit aquifer recharge native soil or via porous pavement proposed for the parking areas. Site soils are assigned by NRCS to Hydrologic Soil Group D and USGS (Randall, 1996) estimates average area annual precipitation as 40 inches, estimated to admit 3.8 inches of annual aquifer recharge (Chazen 2006). These factors suggest an estimated annual site aquifer recharge budget of 1,0302 gallons, averaging

approximately 2,827 gpd. Site stormwater detention basins collecting site stormwater including roof runoff are designed with porous bottoms, likely boosting annual site recharge by up to 10%, rounding the site recharge to 3,100 gpd.

On the demand side, Fellenzer Engineering has determined the demand for groundwater, calculating that proposed programming needs an average of 19,526 gpd. To this the existing residence likely requires approximately 400 gpd, for a total average daily site groundwater demand of 19,926 gpd. On-site wastewater treatment means that all water aside from irrigation and domestic evaporative loss (e.g. clothes drier, cooking steam, etc.) will be returned on site, generally considered to sum to approximately 90% of raw water demand. Accordingly, consumptive water demand is estimated at 10% of 19,926 gpd, or 1,993 gpd.

The site water budget therefore consists of an estimated average daily recharge of 3,100 gpd against a raw water withdrawal use of 19,926 gpd reduced to a site consumptive water demand of 1,993 gpd due to on-site return of treated wastewater. The values described here are all approximate but suggests site recharge exceeds consumptive demand although not the raw water withdrawal volume. According, groundwater withdrawal influences may be expected on off-site locations during pumping tests but may be less once the proposed wastewater discharge program is operational.

Water Testing Protocol:

The Town's Water Testing Protocols include Section B requirements for proposed Community Water System wellfields where applicants are seeking density higher than those specified by the AQ Overlay Zone. The tests proposed below are intended to ensure that the new wells can provide enough water for the proposed development and that the withdrawals will not adversely affect existing wells in the nearby vicinity. A New York State Professional Geologist will certify the work product delivered should this protocol be approved by the Town.

Chazen would be pleased to discuss this proposed protocol with the Town's Building Inspector, review engineer, and/or the Town's reviewing hydrogeologist.

The information below is responsive to content requested on Attachment 1 of the Water Testing Protocol:

- Well Location and Property/Owner Information: Two water supply well locations are shown on site maps previously submitted by Fellenzer Engineering, LLP. The project name is Tivoli Plaza and Section/Block/Lot are noted on those engineering submissions. Property Owner and Applicant information is all indicated in materials previously submitted by Fellenzer Engineering, LLP.
- Diversion Request: The requested Allocation is for approximately 19,526 gpd of groundwater (average day), equivalent to 0.6 MG in a 31-day month, and equivalent to 13.5 gpm at an average routine pumping rate. There is no Allocation request for Surface water although we understand a SPDES permit is being sought to discharge treated wastewater to the site; the discharge volume will be equivalent to an estimated 90% of the withdrawn groundwater volume. The Diversion is to be used solely for potable water supply.
- Ground water sources: Two test wells have been advanced and are proposed to satisfy the requested Diversion. The second well is a duplicate well, intended as a mechanical reserve well in the event of a

mechanical pump failure. Well logs are attached. Reported yields are subject to clarification during the proposed pumping tests since each well was hydraulically fractured following drilling.

The information below is responsive to content requested under *Attachment 2* of the Water Testing Protocol:

1.0 Site Data

Site data have been discussed above. Two site wells will be tested separately, in each case allowing the untested well to serve as a monitoring well. There are a minimum of 4 confirmed off-site domestic wells in suitable locations available at distances up to and more than 500 feet from the property. Site wells withdraw water from the bedrock aquifer consisting dominantly of shale. Off-site wells are presumptively the same construction.

2.0 Hydrogeologic Data

Hydrogeologic data collected during the test will consist of individual step tests conducted separately in the two site test wells, followed by individual 72-hour pumping tests. The objective of the step tests is to secure preliminary estimates of yield and well efficiencies, and to estimate likely sustainable pumping rates for the subsequent extended tests. The objective of the extended, 72-hour, tests is to assess these wells' individual capacities to serve as sustainable community water system wells, achieving stabilization or near stabilization with acceptable 3 and 6 month drawdown projects, with acceptable influence on off-site existing groundwater resources and existing off-site wells.

Step test data will be presented as data plots, with soft copy available to the Town if desired. 72-hour test data will be presented as cartesian and semi-log data plots, also with soft copy available to the Town if desired. The individual 72-hour tests of each site well may be extended as long as 96 hours to improve understandings of sustainability, if warranted.

Distance drawdown-plots will be prepared using the on-site and off-site well data to estimate projections of off-site radial influence, from which we will discuss whether said influences appear reasonable and sustainable. Fractured bedrock aquifers fail "homogenous" criteria for analytical review and the full depth of the fractured bedrock aquifer is not confidently known, so no Transmissivity or Storativity values will be calculated, nor do we believe they would contribute much more site understanding than the observed empirical wellfield radial influence data collected from the off-site residential wells.

Data loggers will record water levels in decimal feet with an accuracy of 0.05 feet. All water level data analyses will be relative to their pre-test static water levels. Relative change is readily analyzed without reference to a common vertical datum so the off-site monitoring well collar elevations will not be surveyed. Backup manual monitoring data will be collected periodically during daylight hours. Test well discharge in gpm will be recorded periodically.

3.0 Well Data

Site well logs are attached. Both wells were hydraulically fractured following drilling so the yields reported during drilling are expected to be greater than shown. The wells are each completed with 100 feet of casing grouted into site bedrock, and then extended open hole to depths specified in the logs.

4.0 Test Description

The two wells will be tested separately and independently since each must be able to supply the project as a primary well. The duplicate well plan is a requirement of NYSDOH for Community Water Systems. The wells are not intended ever to be pumped simultaneously.

Separate one-day step tests are planned for each well, evaluating well water level drawdown at 2 -hour intervals for proposed pumping rates of 10 gpm (~14,000 gpd), 15 gpm (21,000 gpd), 20 gpm (29,000 gpd), and 25 gpm (36,000 gpd).

72-hour pumping tests will follow individually for each well, with provisions to extend one or both tests to 96 hours to clarify stabilization as warranted. Rates selected for each test will be responsive to the step test, seeking a discharge target judged likely to be sustainable. Efforts will be made to maintain a steady test discharge rate that varies not more than 10%, however, it is common for bedrock wells to transition from reliance on primary to secondary fractures as tests progress, sometimes necessitating rate changes late in a test period which cannot be predicted from a step test. If this occurs, the test may be extended to validate the stability of the identified stabilized yield being supported by the secondary fractures that typically support primary fractures.

Test water will be discharged not less than 200 feet downhill from the two test wells, likely conveyed to the small stream along the east site margin. No multi-well tests are proposed since the two wells are not proposed for simultaneous use.

Water levels will be allowed to recover to not less than 90% of pre-test levels as we progress through the proposed two step tests and two 72-hour tests. Water quality testing as required by NYSDOH will be conducted concurrent with each 72-hour pumping test.

5.0 Identification of External Influences

Precipitation will be recorded on the site with a rain bucket and tracked at the NY climate Station in Middletown. Neither 72-hour test will be conducted when the prior 30 days' precipitation is greater than 3.7 inches. The step tests may be conducted at any time.

Barometric pressure will be recorded via Barologger® to allow correction of any data from unvented data loggers. No tidal influences are expected in this location distant from the Hudson River. A small stream flows along the east site margin, the water level (stage) in this drainageway will be recorded throughout the test period via a temporary stage gage established upstream of the proposed test outfall location. No nearby sites are registered as NYSDEC Water withdrawal sites (e.g. 100,000 gpd or greater) so no significant external pumpages are known to exist.

6.0 Background Monitoring schedule

For regional aquifer and existing private well influence understanding, data loggers will be placed in the proposed off-site wells, on-site stream, and two on-site test wells at least 3 days prior to commencement of site well testing. Similarly, data loggers will be left in wells for at least 3 full days following well pumping tests (Section 10.0 below)

Recording frequency for background data will be not less than hourly; observation and pumping well recording intervals will be increased in frequency during active testing periods (see Section 7.0 and 8.0 below). Since project testing is expected to extend over 3 weeks or longer (for two steps tests and two separate 72-hour tests), there will be sufficient unpumped aquifer status data between the test elements to create a regional understanding of background aquifer conditions during the study period.

7.0 Observation Well Monitoring schedule

Throughout the period of active site well pumping, off-site data loggers will be programmed to collect data at a uniform 1 minute interval. Manual water level verification visits will occur throughout the test period.

8.0 Pumping wells monitoring schedule

Throughout the period of active site well pumping, off-site data loggers will be programmed to collect data at a uniform 1 minute interval. During the first 5 minutes of each 72-hour test, efforts will be made to collect supplemental water level data at 30-second intervals.

9.0 External Factors Monitoring schedule

Precipitation, barometric pressure, and stream stage will be recorded as noted in Section 5.0.

10.0 Recovery period Monitoring schedule

Aquifer recovery following completion of all planned testing will continue for not less than 3 days following the last active groundwater withdrawal from the site. Recovery period water levels will be monitored electronically at 1-minute intervals. Recovery monitoring will be extended as needed until observing stabilization of influenced water levels.

11.0 Other applicable regulations and permits

Fellenzer Engineering LLP is responsible for all site permits and regulatory compliance not described herein

12.0 Hydrogeologic Analysis

Step test data will be analyzed to assess specific capacity (gpm/foot drawdown) at each step, identifying efficiency changes. The step test results will also be examined to suggest a preliminary pumping rate objective for each 72-hour pumping tests.

Analyses of the 72-hour pumping tests will focus on stability of the discharge and drawdown and assessment of observed off-site drawdown. Accordingly, drawdown plots for each pumping well will be prepared using both cartesian and semi-log formats to examine test-period stabilization as well as allowing 3 and 6 month projections of likely drawdown during extended dry periods without recharge.

For off-site private wells, water level plots with cartesian coordinates will be prepared to examine their relative response to the site pumping periods. Maximum observed drawdown values will also be used to consider potential impacts on continued and eventual private well performance, and to analyze the site radius of influence by plotting the relative change values onto a map surrounding the site area and using distance-drawdown analyses to suggest a radial zero-drawdown boundary.

It is anticipated the tests will be extending until reaching near steady-state conditions, and that local hydrogeologic bedrock condition are semi-confined due to overlying Hydrologic Soil Group D soils and relatively tight shale bedrock. Consistent with most bedrock in eastern New York, the formation is not fully confined. As noted elsewhere, we do not propose to estimate Storativity or Transmissivity values due to non-homogenous site aquifer conditions highlighted by the presence of the linear feature adjoining the site, as well as the unknown depth of the overall fractured aquifer. The empirical test conclusions showing observed drawdown are hoped to satisfy the core test requirement to assess reliability of the source and the potential for off-site private well influence of significance.

Our report will be prepared and signed by me, a licensed New York State Professional Geologist. I would be pleased to discuss this test scope with any appropriate representative of the Town of Goshen and will attempt to follow up with you in the next week. Please email or call me anytime at rum@chazencompanies.com or 914 456-1095 (cell).

Sincerely,
Russell Urban-Mead, NYS PG #000412



Senior Hydrogeologist / VP Environmental Services

Enclosure: Well logs, site location map

cc: Mr. Lucas Spensieri
Mr. Amodor Laput, PE
file

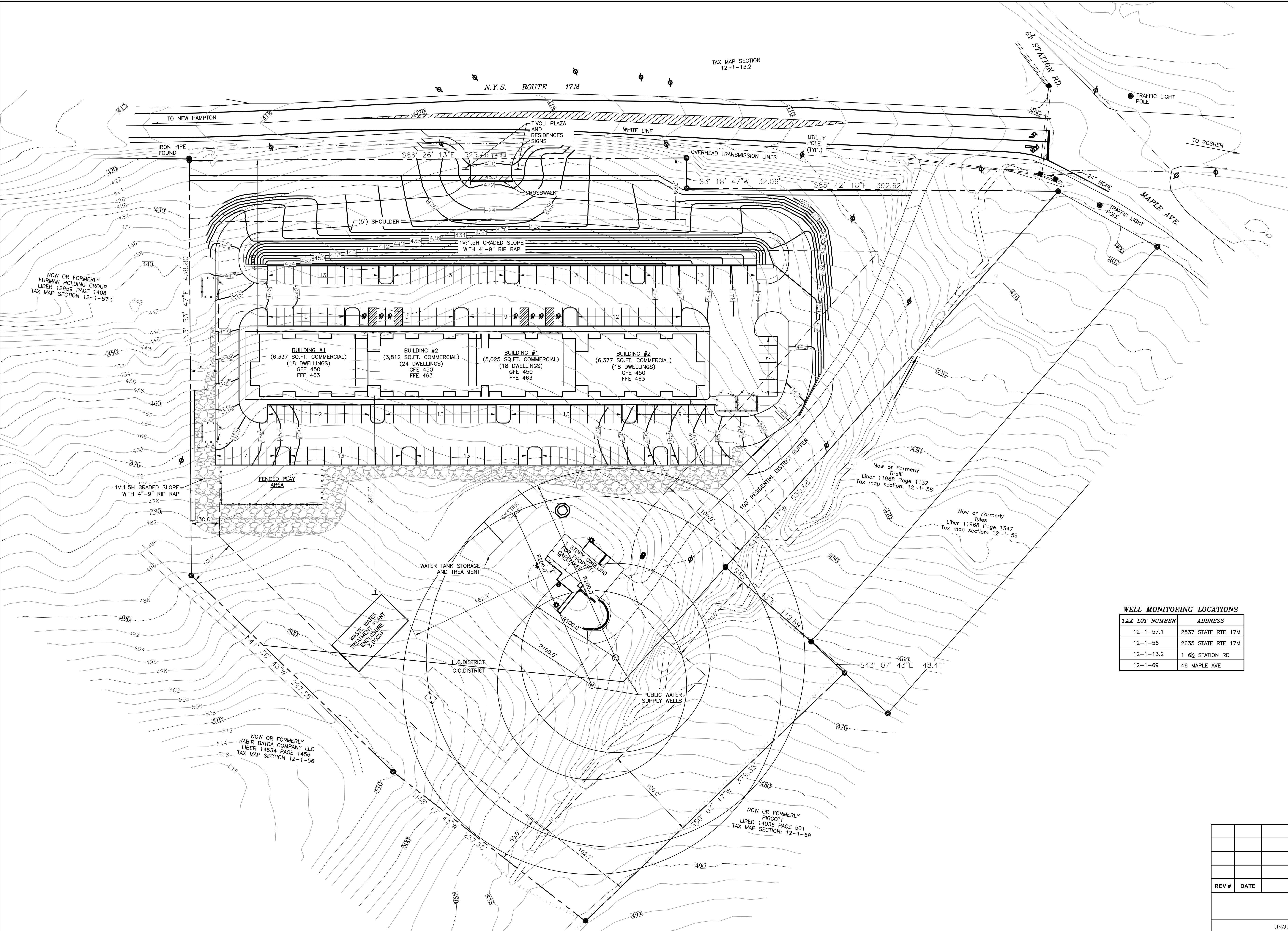
Citations:

Chazen Companies, 2006. Groundwater Resource Report, Dutchess County Aquifer Recharge Rates & Sustainable Septic Density Recommendations, Dutchess County Water & Wastewater Authority.

Randall, A. 1996. Mean Annual Runoff, Precipitation, and Evapotranspiration in the Glaciated Northeastern United States, 1951-80, USGS Open-file report 96-395.

TAX MAP SECTION 12-1-13.2

N.Y.S. ROUTE 17M



BULK REQUIREMENTS
 HC ZONE (TOWN OF GOSHEN)
 HIGHWAY COMMERCIAL DISTRICT
 CO ZONE (TOWN OF GOSHEN)
 COMMERCIAL / OFFICE MIXED-USE DISTRICT

BULK TABLE REQUIREMENTS

BULK ITEM	MINIMUM REQUIRED		PROVIDED
	REQUIRED	DISTRICT (CO)	
LOT AREA (AC)	1	1	10.5
ROAD FRONTAGE:			
TOWN ROAD (FT)	200	200	--
COUNTY/STATE ROAD (FT)	300	200	918
FRONT YARD SETBACK:			
TOWN ROAD (FT)	25	50	--
COUNTY/STATE ROAD (FT)	35	150	151
SIDE YARD SETBACK (FT)	30'	30'	58
REAR YARD SETBACK (FT)	50'	50'	>50

NOTE:
 1. ONE-HUNDRED (100') FOOT SETBACK WITH WOODED BUFFER REQUIRED IF LOT ABUTS A RESIDENTIAL DISTRICT

BULK ITEM	MAXIMUM PERMITTED		PROVIDED
	PERMITTED	DISTRICT (CO)	
IMPERVIOUS COVERAGE (%)	70%	70%	43%
BUILDING HEIGHT (FT)	45	45	48
BUILDING FOOTPRINT (SQ.FT.)	40,000	200,000	29,634

NOTE:
 1. ABOVE AVERAGE GRADE

PROPERTY ADDRESS
 2531 HIGHWAY 17M
 GOSHEN, NY 10924

TAX MAP
 SECTION 12, BLOCK 1, LOT 57.2
 TOWN OF GOSHEN, NY

OWNER & DEVELOPER
 ATTN: LUCA SPENSIERI

EXISTING USE
 RESIDENTIAL

PROPOSED USE

USE CATEGORY	DISTRICT (HC) (CO)
RESIDENTIAL USE	
UPPER-FLOOR APARTMENTS IN MIXED-USE BUILDING	P P*
BUSINESS USE**	
RETAIL AND SERVICE	P* P*
OFFICE	P* P*
RESTAURANT	P* P*
SERVICE BUSINESS (NOT LISTED ELSEWHERE)	
TENANT GYM, DAYCARE, AND STORAGE	P* P*

NOTES:
 P DESIGNATES A USE PERMITTED BY RIGHT
 P* DESIGNATES A USE PERMITTED BY RIGHT, SUBJECT TO A SITE PLAN REVIEW BY THE PLANNING BOARD (§ 97-75 et seq.)
 ** SUBJECT TO LIMITATIONS ON BUILDING FOOTPRINT IN HC AND CO DISTRICTS (§ 97-14A & 97-150)

REFERENCE
 FIELD SURVEY COMPLETED BY DANIEL P. YANDOSH P.L.S. DATED 1-5-1990
 TOPOGRAPHY FROM ORANGE COUNTY GIS BASE MAP
 CONTOUR INTERVAL: 2 FEET

WELL MONITORING LOCATIONS

TAX LOT NUMBER	ADDRESS
12-1-57.1	2537 STATE RTE 17M
12-1-56	2635 STATE RTE 17M
12-1-13.2	1 6 1/2 STATION RD
12-1-69	46 MAPLE AVE

1 SITE PLAN
 1"=40'

REV #	DATE	REMARKS	ISSUE #	DATE	ISSUED FOR:

UNAUTHORIZED ALTERATION OR ADDITION TO A PLAN BEARING A LICENSED PROFESSIONAL ENGINEER'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2 OF THE N.Y. STATE EDUCATION LAW.

FELLENZER III
 ENGINEERING LLP
 www.fellp.com

22 Mulberry St., Suite 2A, Middletown, NY 10940
 1 845-343-1481 fx 845-343-4986

181 Church St., Suite 100, Poughkeepsie, NY 12601
 1 845-454-9704 fx 855-320-8735

PROJECT TITLE: **TIVOLI PLAZA AND RESIDENCES**
 NYS ROUTE 17M, GOSHEN, NY 10924

DRAWING TITLE: **WELL TESTING PLAN**

DESIGNED BY: RDF	DRAWN BY: VMB	APPROVED BY P.E.: ACL	APPROVED BY P.E.: MDF
DATE: 07/16/2020	SCALE: AS SHOWN	PROJECT #:	18-181

C-101
 PAGE 1 OF 1

File Name: E:\2016\16-01-17\1 SITE PLAN - LUCIA\Proposed Grading\01.dwg (Layout: 9-16-21)
 Date: Thu, Sep 16, 2021, 3:38 PM (Name: vmb)

(1) COUNTY Orange
 (2) TOWN Goshen town



DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(3) DEC Well Number
 0-

WATER WELL COMPLETION REPORT

(4) OWNER Luca Spensieri <input type="checkbox"/> Same as owner address			
(5) ADDRESS 2531 Route 17M Goshen, NY 10924			
(6) LOCATION OF WELL (See Instructions on Reverse) 2531 Route 17M Test well #3 Goshen, NY			
(7) LATITUDE, LONGITUDE AND METHOD USED <input type="checkbox"/> GPS <input type="checkbox"/> Map Lat: Long:		(8) TAX MAP NO.	
(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 500	(10) DEPTH TO GROUNDWATER LAND SURFACE (feet) 175	DATE MEASURED 1/18/2021	(12) FLOWING? NO
CASINGS			
(13) DIAMETER 6 in. in.			
(14) LENGTH 100 ft. ft.			
(15) GROUT TYPE / SEALING Bentonite		(16) GROUT / SEALING INTERVAL (feet) 100 5	
SCREENS			
(17) MAKE & MATERIAL		(18) SLOT SIZE	
(19) DIAMETER in. in.			
(20) LENGTH ft. ft.			
(21) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet)			
YIELD TEST			
(22) DATE 1/18/2021		(23) DURATION OF TEST 4Hr 0 Min	
(24) LIFT METHOD <input checked="" type="checkbox"/> Pump <input checked="" type="checkbox"/> Air Lift <input type="checkbox"/> Bail		(25) STABILIZED DISCHARGE (GPM) 22	
(26) STATIC LEVEL PRIOR TO TEST 86		(27) MAXIMUM DRAWDOWN (Stabilized)	
(28) RECOVERY (Time in Hours/minutes) 24Hr 0 Min		(29) Was the water produced during the test discharged away from the immediate area? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
DRILLER INFORMATION			
(30) METHOD OF DRILLING <input checked="" type="checkbox"/> Rotary <input type="checkbox"/> Cable Tool <input type="checkbox"/> Other		(31) USE OF WATER Commercial	
(32) DATE DRILLING WORK STARTED 1/18/2021		(33) DATE DRILLING WORK COMPLETED 1/18/2021	
(34) DATE REPORT FILED 1/18/2021	(35) REGISTERED COMPANY Roarke Well Drilling, Inc.	(35) DEC REGISTRATION NO. NYRD 10012	
(37) REGISTERED COMPANY ADDRESS 431 Scotchtown Ave. Goshen NY 10924			
(38) CERTIFIED DRILLER (Print name) Charles W. Crover		(44) CERTIFIED DRILLER SIGNATURE* 	
PUMP INSTALLATION			
(40) PUMP INSTALLED Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		(41) DATE	
(42) TYPE	(43) MAKE	(44) MODEL	
(45) MAXIMUM CAPACITY (GPM)		(46) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)	
(47) DATE REPORT FILED	(48) REGISTERED COMPANY	(49) DEC REGISTRATION NO. NYRD	
(37) REGISTERED COMPANY ADDRESS			
(51) CERTIFIED PUMP INSTALLER (Print name)		(52) CERTIFIED PUMP INSTALLER SIGNATURE	

WELL LOG
 DEPTH TO BEDROCK **75**
 ft. below land surface
 GROUND ELEVATION
 ft. above sea level
 TOP OF CASING **1.5**
 ft. above (+) or below (-) ground surface

TOP OF WELL

0	22	Medium Clay & Gravel
22	75	Medium Clay & Gravel
75	115	Medium Shale
115	175	Medium Shale
175	178	Fractured Shale 2 GPM
178	331	Medium Shale
331	340	Fractured Shale 20 GPM
340	500	Medium Shale

BOTTOM OF HOLE

*By signing this document I hereby affirm that: (1) I am certified to supervise water well drilling activities as defined by the Environmental Conservation Law 15-1502; (2) this water well was constructed in accordance with water well standards promulgated by the New York State Department of Health; (3) under the penalty of perjury the information provided in this Well Completion Report is true, accurate and complete, and I understand that any false statement made herein is punishable as a Class A Misdemeanor under Penal Law §210.45.

NYSDEC COPY

LOCATION SKETCH- Indicate north

(1) COUNTY Orange
(2) TOWN Goshen town



DEPARTMENT OF ENVIRONMENTAL CONSERVATION

(3) DEC Well Number
O-12198

WATER WELL COMPLETION REPORT

(4) OWNER Luca Spensieri <input type="checkbox"/> Same as owner address			
(5) ADDRESS 2531 Route 17M Goshen, NY 10924			
(6) LOCATION OF WELL (See Instructions on Reverse) 2531 Route 17M Test well #2 Goshen, NY			
(7) LATITUDE, LONGITUDE AND METHOD USED <input type="checkbox"/> GPS <input type="checkbox"/> Map Lat: Long:		(8) TAX MAP NO.	
(9) DEPTH OF WELL BELOW LAND SURFACE (feet) 600	(10) DEPTH TO GROUNDWATER LAND SURFACE (feet) 110	DATE MEASURED 12/15/2020	(12) FLOWING? NO
CASINGS			
(13) DIAMETER 6 in.	in.	in.	in.
(14) LENGTH 100 ft.	ft.	ft.	ft.
(15) GROUT TYPE / SEALING Bentonite	(16) GROUT / SEALING INTERVAL (feet) 100 5		
SCREENS			
(17) MAKE & MATERIAL	(18) SLOT SIZE		
(19) DIAMETER in.	in.	in.	in.
(20) LENGTH ft.	ft.	ft.	ft.
(21) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet)			
YIELD TEST			
(22) DATE 12/15/2020	(23) DURATION OF TEST 48Hr 0 Min		
(24) LIFT METHOD <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Air Lift <input type="checkbox"/> Bail	(25) STABILIZED DISCHARGE (GPM) 12		
(26) STATIC LEVEL PRIOR TO TEST 87	(27) MAXIMUM DRAWDOWN (Stabilized) 253		
(28) RECOVERY (Time in Hours/minutes) 24Hr 0 Min	(29) Was the water produced during the test discharged away from the immediate area? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		
DRILLER INFORMATION			
(30) METHOD OF DRILLING <input checked="" type="checkbox"/> Rotary <input type="checkbox"/> Cable Tool <input type="checkbox"/> Other	(31) USE OF WATER Commercial		
(32) DATE DRILLING WORK STARTED 12/15/2020	(33) DATE DRILLING WORK COMPLETED 12/15/2020		
(34) DATE REPORT FILED 9/12/2021	(35) REGISTERED COMPANY Roarke Well Drilling, Inc.	(35) DEC REGISTRATION NO. NYRD 10012	
(37) REGISTERED COMPANY ADDRESS 431 Scotchtown Ave. Goshen NY 10924			
(38) CERTIFIED DRILLER (Print name) Charles W. Crover	(44) CERTIFIED DRILLER SIGNATURE* 		
PUMP INSTALLATION			
(40) PUMP INSTALLED Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	(41) DATE		
(42) TYPE	(43) MAKE	(44) MODEL	
(45) MAXIMUM CAPACITY (GPM)	(46) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet)		
(47) DATE REPORT FILED	(48) REGISTERED COMPANY	(49) DEC REGISTRATION NO. NYRD	
(37) REGISTERED COMPANY ADDRESS			
(51) CERTIFIED PUMP INSTALLER (Print name)	(52) CERTIFIED PUMP INSTALLER SIGNATURE		

WELL LOG
DEPTH TO BEDROCK **75**
ft. below land surface
GROUND ELEVATION
ft. above sea level
TOP OF CASING **1**
ft. above (+) or below (-) ground surface

TOP OF WELL

0	18	Medium Clay & Gravel
18	75	Medium Clay & Gravel
75	110	Medium Shale
110	130	Fractured Shale 6 GPM
130	375	Medium Shale
375	380	Fractured Shale 6 GPM
380	600	Medium Shale

BOTTOM OF HOLE

*By signing this document I hereby affirm that: (1) I am certified to supervise water well drilling activities as defined by the Environmental Conservation Law 15-1502; (2) this water well was constructed in accordance with water well standards promulgated by the New York State Department of Health; (3) under the penalty of perjury the information provided in this Well Completion Report is true, accurate and complete, and I understand that any false statement made herein is punishable as a Class A Misdemeanor under Penal Law §210.45.

NYSDEC COPY

LOCATION SKETCH- Indicate north