

RALPH G. MASTROMONACO, P.E., P.C.
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Civil / Site / Environmental

www.rgmpepc.com



Chris Kehoe, AICP, Deputy Director
Town of Cortlandt Planning Department
Town Hall
1 Heady Street
Cortlandt Manor, New York 10567

July 17, 2019

Hand Delivered

Re: Mahlab Family Realty, LLC, PB 2018-23
Section 79.08, Block 3, Lot 6,
Town of Cortlandt, New York

Dear Chris:

As requested, enclosed please find the following materials:

Twelve (12) copies of our letter to the Planning Board dated July 17, 2019 concerning stormwater flows and wells/water usage.

Two (2) full size and ten (10) half size sets of the Preliminary Plat:

1. Preliminary Plat, Mahlab Teatown prepared for Mahlab Family Realty, LLC dated October 18, 2018 revised July 1, 2019, sheet 1 of 3 sheets,
2. Profiles / Details./ Notes, Mahlab Teatown prepared for Mahlab Family Realty, LLC dated October 18, 2018 revised July 1, 2019, sheet 2 of 3 sheets,
3. Steep Slopes Map, Preliminary Plat, Mahlab Teatown prepared for Mahlab Family Realty, LLC dated October 18, 2018 revised July 1, 2019, sheet 3 of 3 sheets,

Two (2) full size and ten (10) half size sets of the Tree Plans:

1. Existing Tree Survey, Preliminary Plat, Mahlab Teatown prepared for Mahlab Family Realty, LLC dated October 18, 2018 revised July 1, 2019, sheet 1 of 2 sheets,
2. Tree Schedule, Mahlab Teatown prepared for Mahlab Family Realty, LLC dated April 8, 2019 sheet 2 of 2 sheets,

The above plans are provided for your distribution to the Planning Board.

Copies 1 Planning Board

..... Town Board

..... Zoning Board

..... Legal Dept.

..... DOTS Director

..... C.A.C.

..... A.R.C.

..... Applicant

..... _____

..... _____

Sent _____

Please call if you have any questions.

Sincerely,

Ralph G. Mastromonaco, PE (FOR)

Cc Mahlab Family Realty, LLC.

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Loretta Taylor, Chair and Members of the
Town of Cortlandt Planning Board
1 Heady Street
Cortlandt Manor, NY 10567

July 17, 2019

Re: Mahlab 3 lot Proposed Subdivision
Teatown Road, Town of Cortlandt

Dear Members:

As requested our office reviewed the following; (1) stormwater flows along Teatown Road as impacting the neighbor, and (2) well water usage in relation to other wells in the area.

Stormwater Flows:

The Issue:

A complaint of storm runoff that travels along Teatown Road to a small catch basin in front of the Provost residence. We prepared the attached contributing watershed map to show that there is a large area tributary to the low point. By inspection, the existing Town drainage system does not have the capacity for large storm runoffs.

The Solution:

For the current problem, we propose a new, dedicated Town drainage easement from Teatown Road to the Mahlab Pond, a distance of about 250 feet. This will give the Town Highway Department the ability to divert some of the roadway flows through our property. (see attached map)

For the future, if the three (3) driveways are ever constructed, the runoff from portions of the proposed new driveways would be controlled in a proposed stormwater storage basin with a limited outflow.

Wells and Water Usage:

Recharge:

The Mahlab site is 25 acres. Rainfall recharges the groundwater at a rate of about 8.45 inches per year (Ref: USGS, Wolcott & Snow 1995). Accordingly, the 25 acre site contributes 5.7 million gallons of water to the aquifer. However, the fully developed site with three homes would need no more than about 0.5 million gallons of water per year (see computations).

Accordingly, the site is contributing about 5.2 million gallons of water more than it uses from the aquifer and there is no expectation of over use.

Ref: USGS Wolcott&Snow 1995
<https://doi.org/10.3133/wri924157>

Proximity of other wells:

We mapped all the nearby wells and tabulated the distance from each well to the proposed wells. (See attached map "Adjoiner Wells")

A well proximity is attached and indicates that the closest well from the Mahlab subdivision would be to one of the three wells on the Nevins property, and that distance would be 203 feet.

The Nevins have three (3) wells, one for the main house, and one for a small cottage and another for a small house. Two of these wells (#127 and #131) and the associated septic systems do not conform to typical Health Department separation distances. For example, at #127 the septic system is about 40 feet from the well when a safe distance would be 100 feet.

The Nevins wells at #127 and #131 Teatown Road are about 128 feet apart. Similarly, there is 160 feet well separation from Houses 130 and 134 Teatown Road.

The Mahlab Lot #2 well would be 214 feet from the Kaye Residence (130 Teatown Road).

In general, the proposed Mahlab wells would be quite distant to all other wells as can be seen on the attached Table and mapping. In addition, water use from residences are exceptionally low, amounting to only 100 gallons per day to an extreme of 500 gpd.

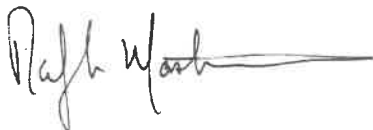
In summary, the proposed new wells would be separated by distances typically found among residential lots throughout the northern Westchester area. Accordingly, there is no expectation of an adverse effect on other wells. (see map and annotations)

Health Department Jurisdiction:

Before a subdivision plat can be filed it must obtain Health Department approval. In areas with septic systems and wells, the procedure to obtain approval is rigorous and the subdivision would not pass if there was a potential of water well interference.

The proposed Mahlab layout conforms to the rules of the Health Department, especially since the proposed wells are spaced far from other wells and that the use would always be residential rather than commercial.

In certain cases the Health Department will require stress testing of adjoining wells prior to their approval, however, we have never seen such tests required for small lot subdivisions that are complying with Health Department rules.

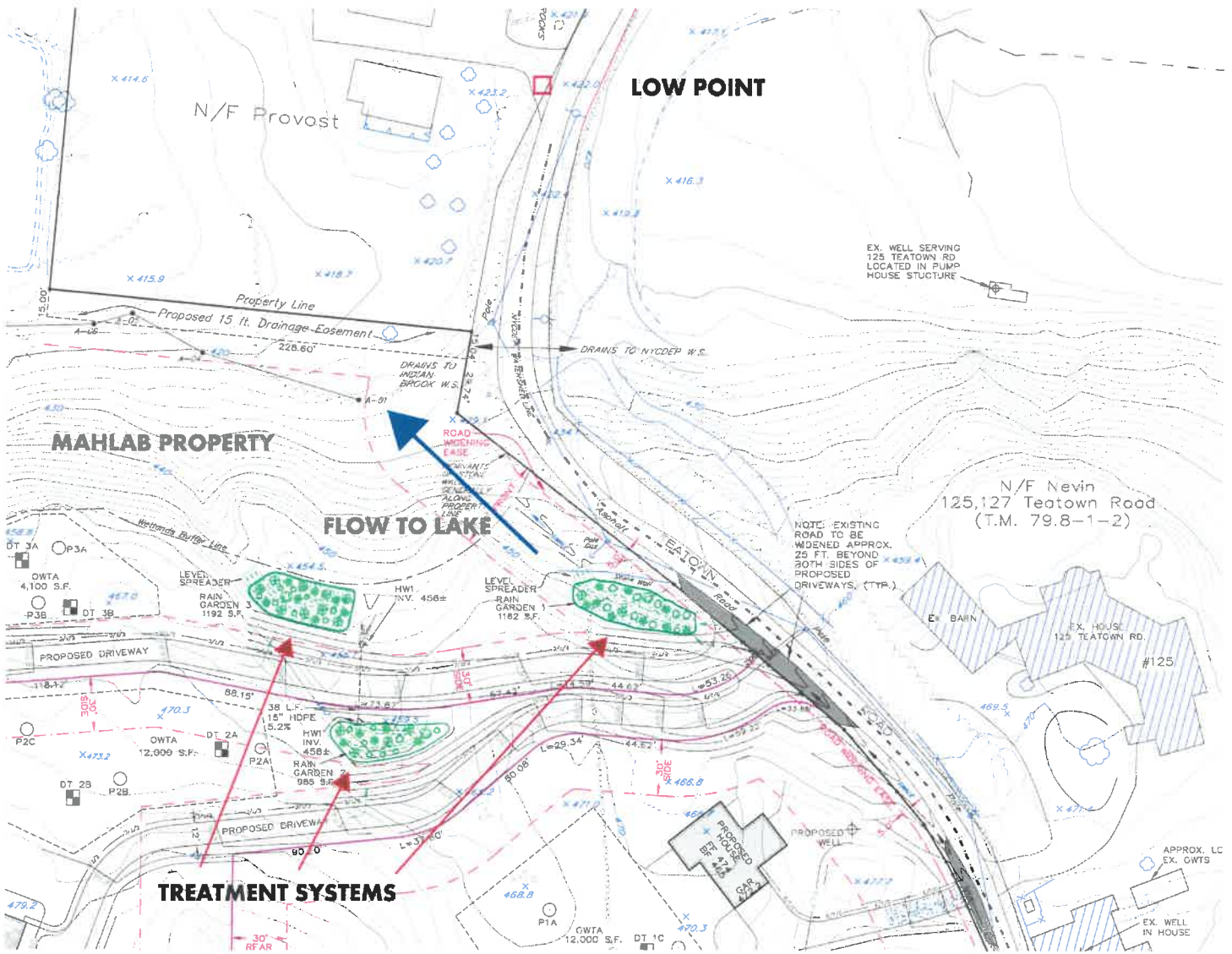


Ralph G. Mastromonaco

Attachs / Figures:

- 1. Map of Stormwater Systems
- 2. Computations of Recharge
- 3. Table - Separation Distances of Wells
- 4. Watershed Map
- 5. Adjoiner Well Map

Figure: Map of Stormwater Systems



Notes:

- (1) Map shows that the flows from the proposed driveways will remain on Mahlab Property and will not impact the adjoining neighbor.
- (2) Map also shows that Mahlab will dedicate a drainage easement to the Town for future use if needed.

Computation of Groundwater Recharge:

Item	Units	Amount
Area of Property	Acres	25.017
Area of Property	Square Feet	1,089,741
Recharge Amount	inch/year	8.45 Ref: USGS Wolcott&Snow 1995 https://doi.org/10.3133/wri924157
Recharge Amount	Cubic Feet /Year	767,358.95
Recharge Amount	Gallons Per Year	5,739,845
Daily Use Of Groundwater (3 Homes)	Gallons Per Day	1,500.00
Annual Use of Goundwater (3 Homes)	Gallons per Year	547,500
Amount of Excess Recharge	Gallons Per Year	5,192,345
Percent Used of the Allocation of Groundwater		9.5%

Note:

Based on the above computation, the Mahlab subdivision would only use about 9.5% of the water that would be allocated to the 25 acre site.

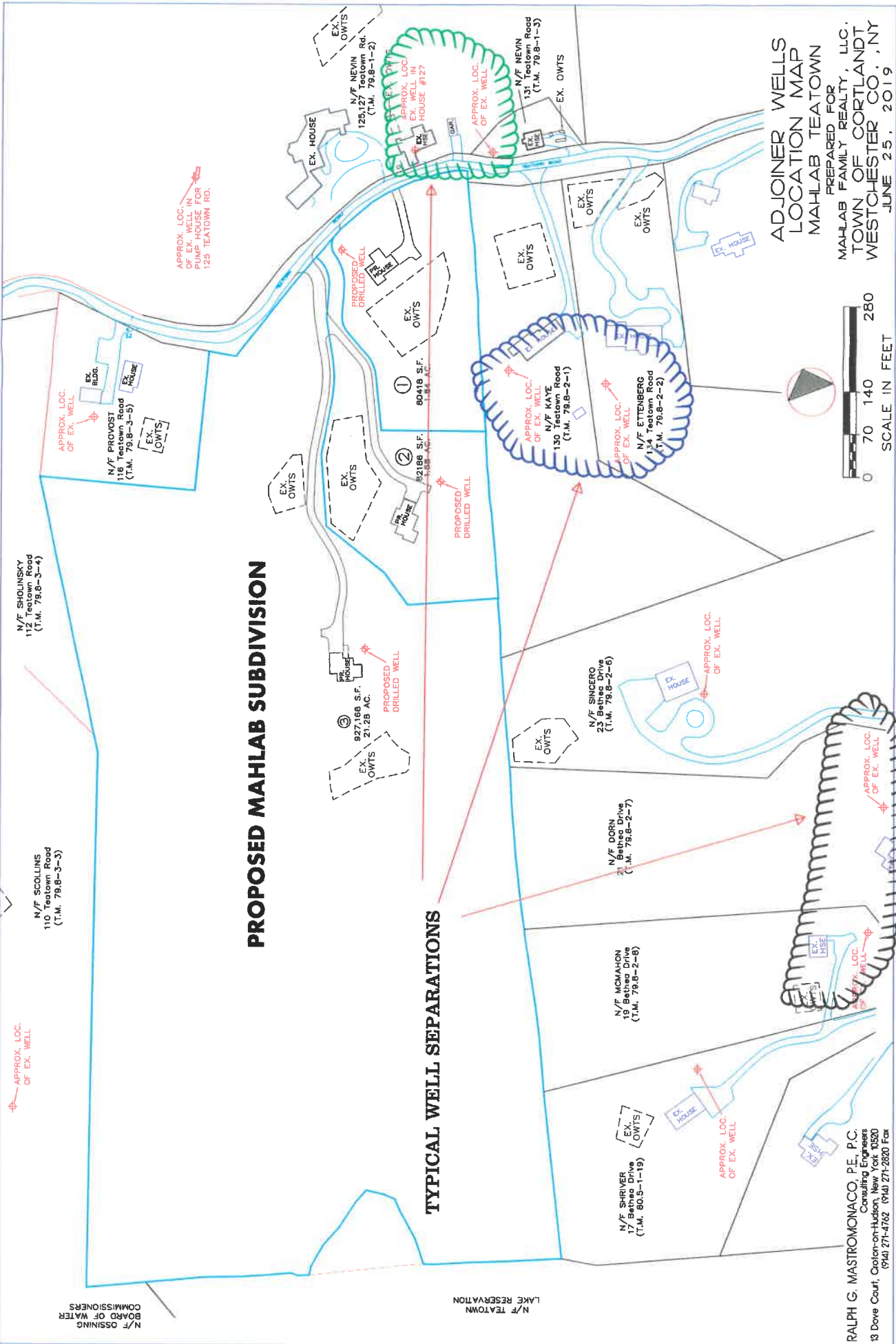
In other words, the site would use much less well water than is recharged annually.

Proposed Mahlab Subdivision
Separation Distances from 3 Proposed Wells
to Adjoining Wells

Adjoining Properties	Mahlab Proposed Wells		
	Lot 1 (ft)	Lot 2 (ft)	Lot 3 (ft)
Nevin 125 Teatown Rd.	267	641	822
Nevin 127 Teatown Rd.	203	547	823
Nevin 131 Teatown Rd.	295	548	841
Kaye-130 Teatown Rd.	339	214	514
Ettenberg 134 Teatown Rd.	487	316	588
Sincero- 23 Bethea Dr.	1060	557	562
Dorn- 21 Bethea Dr.	1280	906	893
McMahon-19 Bethea	1420	1025	952
Shriver- 17 Bethea Dr.	1469	1055	882
Scollins- 110 Teatown Rd.	1507	1243	948
Provost- 116 Teatown Rd.	491	578	586

Separation of Nearby Wells to Other Nearby Wells	Distance (ft)
127 Teatown Rd. to 131 Teatown Rd.	128
130 Teatown Rd. to 134 Teatown Rd.	160
19 Bethea Dr. to 21 Bethea Dr.	208

Note: See Narrative for a discussion of this chart.



PROPOSED MAHLAB SUBDIVISION

TYPICAL WELL SEPARATIONS

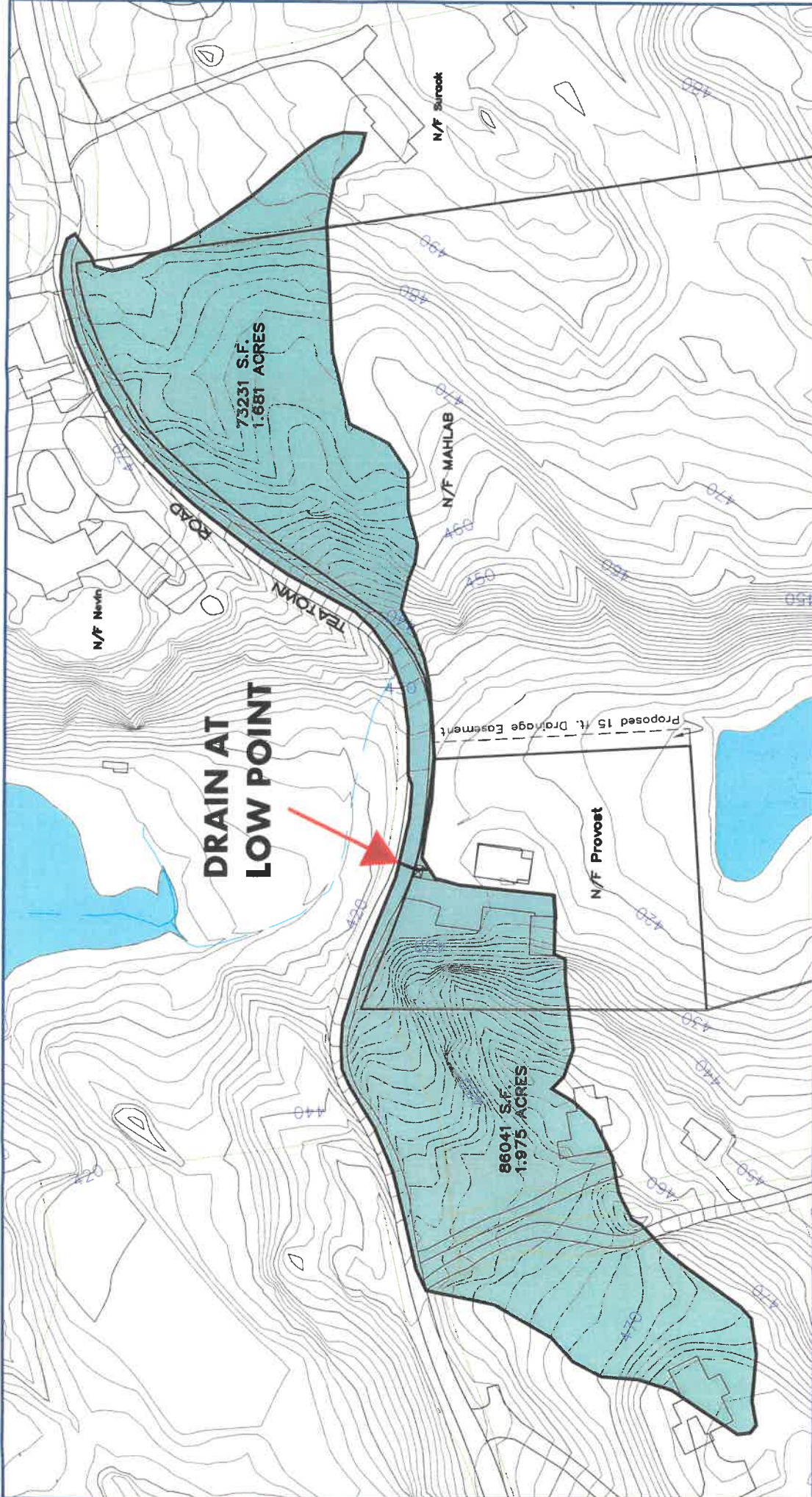
ADJOINER WELLS
 LOCATION MAP
 MAHLAB TEATOWN
 PREPARED FOR
 MAHLAB FAMILY REALTY, LLC,
 TOWN OF CORTLANDT,
 WESTCHESTER CO., NY
 JUNE 25, 2019



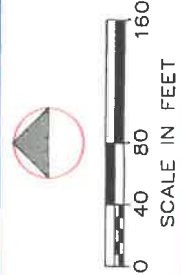
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N/F OSSINING
 BOARD OF WATER
 COMMISSIONERS

N/F TEATOWN
 LAKE RESERVATION



WATERSHED MAP
 MAHLAB TEATOWN
 PREPARED FOR
 MAHLAB FAMILY REALTY, LLC.
 TOWN OF CORTLAND
 WESTCHESTER CO., NY
 JULY 3, 2019



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