

May 27, 1965

Fred Abele
27 Warren St.
McKownville, N.Y.

Dear Mr. Abele,

I have enclosed several copies of observations and comments made by our office in reference to the McKownville Water District's water storage and the contributing watershed. We hope they will be usefull to you in guiding your committee in making future decisions.

Our people are in no position at the present time to provide more detail on any of these points. However, we will be willing to consult with you to discuss information collected for you by a private firm.

If you have any questions about the report, please get in touch with me.

Frank Loavitt
Sincerely yours,

Frank Loavitt

May 27, 1965

REPORT TO THE MCKOWNVILLE WATER DISTRICT
OBSERVATIONS AND COMMENTS FOR CONSIDERATION

A. WATERSHEDS:

1. Watersheds of present storage pond is approximately 300 acres. 85 acres of this are in the City of Albany. Topography is relatively flat but well broken up with ridges and pockets. Many of the pockets do not have free flowing outlets for accumulations of surface water when and if any occur. Because of the type of topography it is very difficult to obtain an accurate watershed boundary.
2. About 75% of the watershed is in the woods or brush with a few acres in grass. The remainder is housing, streets and highways.
3. Soils are deep sands, and medium to coarse in texture. Permeability is rapid except in low lying pockets.
4. Elimination of surface area by building and pavement, and removal of water by storm sewers reduces the amount of water percolating into the soil. This would reduce the amount of water available from existing springs and seeps that are currently recharging the existing storage. Consideration should be given to creation of ground water recharge basins to collect storm water from future developed areas.
5. Pollution of water system may become a serious factor by the continued growth of junk cars, dumps, and uncontrolled disposal of household waste.
6. Control of fire in the watershed would decrease the loss of water by evaporation from the ground surface, by eliminating the destruction of vegetation and humus accumulations.

B. ADDITIONAL STORAGE SITE:

1. The best site for additional storage is the existing pond behind the church. Repairs should be made to protect the dam and reduce leakage. Consideration could be given to increase storage by raising the present surface elevations 4 to 5 feet at the time repairs are made. To reduce seepage and evaporation losses, water should be piped to the present storage area.

2. In the watershed, within 1000' of the church pond, are three flat areas of low swampy ground. One is about 1 acre in size, another $1\frac{1}{2}$ acres and the third about 5 acres. It is possible to construct dug-out type ponds on these sites. Their water producing and holding ability should be tested before development. This could be done by excavating several small test ponds to a depth of 12' or more with side slopes 2:1, and observe water levels for a year or more.
3. Above the powerline right of way which is above the existing storage pond, an earth dike could be constructed with impervious soil material to create a pond, $\frac{3}{4}$ acre in surface size. Capacity should be increased by excavating, to give almost 1 million gallons of storage.

C. FASTER RECHARGE FROM SWAMP ABOVE PRESENT STORAGE AREA:

1. Investigation should be made to consider feasibility of a drainage tile system, laid out along both edges of the swamp with laterals across the swamp, to collect water and bring it to the pond. 6" or more of gravel should be laid around the drain to keep sand out of the system. A method should be devised to prevent the system from draining the swamp area at times when excess water is being lost over the spillway.
2. In the event that grading and filling takes place in this swamp area, drain tile should be placed before filling in order to collect all the water possible.

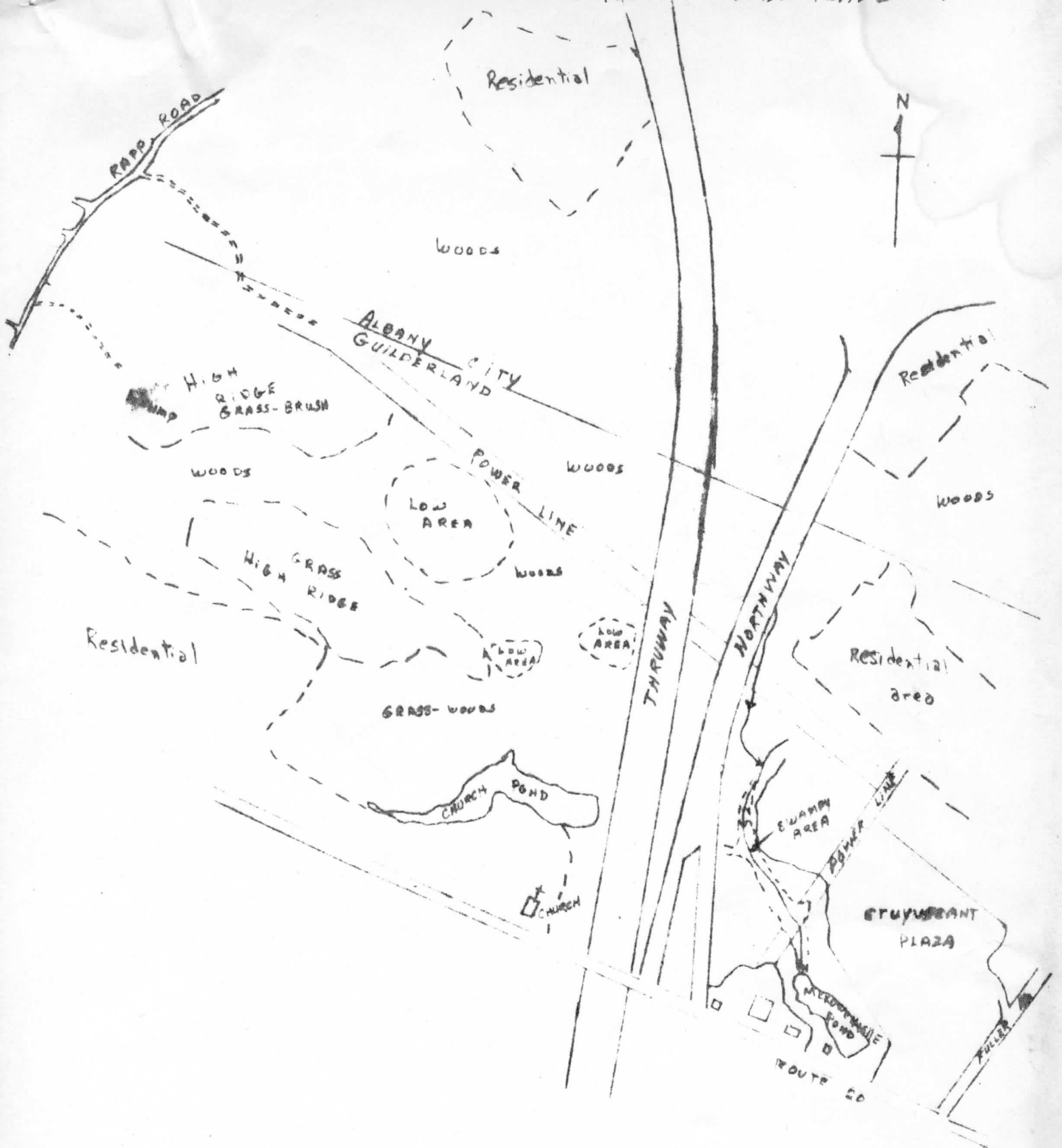
D. PRESENT STORAGE TREATMENT:

1. Recently seeded areas should be mowed 2 times a year or more. This area should be left free of trees and brush to permit access to the pond. Some hand grading is needed to permit mowing.

If current seeding does not develop, test the soil for lime needs and add enough lime to bring the pH to 6.5 [If no test is made, use 4 tons, lime per acre.] Work this lime into the soil with a farm disc or a roto-tiller.

In early May sow $1\frac{1}{2}$ bu. oats/ac, 7 lbs. Empire Trefoil/ac, 5 lbs. red top/ac and 15 lbs. red fescue/ac. At this time apply 400 lbs. per acre, 10-10-20 fertilizer. Mow oats in July and rake off.

2. Steep graded bank could be planted to shrubs such as Coral berry, Autumn olive, Honeysuckle, and Multiflora rose. Plant shrubs 4'x4'. Use $\frac{1}{2}$ cup of 10-10-10 fertilizer worked in soil around each plant.
3. To reduce trespassing, a Multiflora rose hedge could be planted 1 foot apart around the perimeter of the property. Fertilize each plant with $\frac{1}{2}$ cup of 10-10-10 fertilizer.
4. Open areas in woods could be planted to Norway Spruce 8'x8'.
5. Behind the treatment building, to protect the banks from washing in by surface water from the highway, plant purple ^{osier} willow 2' by 2' on the bank and plant 1 row of red-stemmed dogwood at the waterline.
6. Pond could be stocked with fish. Use 150 large mouth bass and 700 Bluegills.
See enclosed bulletin on fish pond management.
7. If pond is to have limited use by individuals, safety stations should be provided.
See enclosed bulletins on water safety.
8. See enclosed bulletin on weed and algae control.



SCALE
1" = 660 ft.

SKETCH FROM
PHOTO DNY 540-30
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