10-9-2024

Wildwood Canal

“Soft Accumulated Organic Sediment Removal”

Team Members

- Gary Koch
- Jackie Brown
- Steve Biebel
- Adam Piper
- Gary Bancer

Project Status

Permit Status

EGLE Permit For Sediment Removal

- **Verbal Yes for Permit Approval**
- **Official Approval Pending Site Approval**

EGLE Site Approval

- **EGLE visited site and generated a list of questions**
- **All questions have been answered/addressed**
- **Meeting with EGLE being scheduled to finalize Permit**

Next Steps

- Meet with Mr. Perilli - Request to join LSA Membership or Alternate Agreement
- Identify Perilli trees to be removed prior to Tube Storage
- Obtain LSA Budget Approval

- Evaluate muck eaters - need quantitative data
- Order additional muck eaters if data supports to keep area clean into the future
- Investigate a sediment pond to further help prevent sediment accumulation

Budget Info.

Budget Info.

Project: Wildwood Canal

Budget Year:	**2023/2024**
Original Budget:	**$ 77,000**
split	
LSA Operating Budget	$ 47,000
Wildwood Settlement funds	$ 30,000

Spent thus Far

		Spending			
		Quotes	Actual	LSA	Wildwood
1	Sediment Sampling - Apex	12,300	12,300	6,150	6,150
1a	Additional Samples for SPLP Testing	2,220	2,220	1,110	1,110
2	Dredging Application - EGLE	500	500	250	250
3	Option #1				
	Rigero Muck Eater	7,753	7,341	3,671	3,671
	1 Unit + 10 Nano Pods			-	-
	Option #2			-	-
4a	**Molear** Nano Bubbler	7,100	7,100	3,550	3,550
	1 Bubbler				
5c	**Schlicht** Dredging Quote (only)	200	200	100	100
	Schlicht Dredging Quote	98,000			

	Quotes	Actual	LSA	Wildwood
Total Spend through 9/30/24	**128,073**	**29,661**	**14,831**	**14,831**
2023/24 Budget Balance		**$ 47,339**	**$ 32,169**	**$ 15,169**

2025 Proposed Budget

	Budget
2024 Budget carryover	**47,339**
2025 Additional spending estimate	**76,300**
2025 Total Proposed Budget	**123,639**

Estimated project breakdown

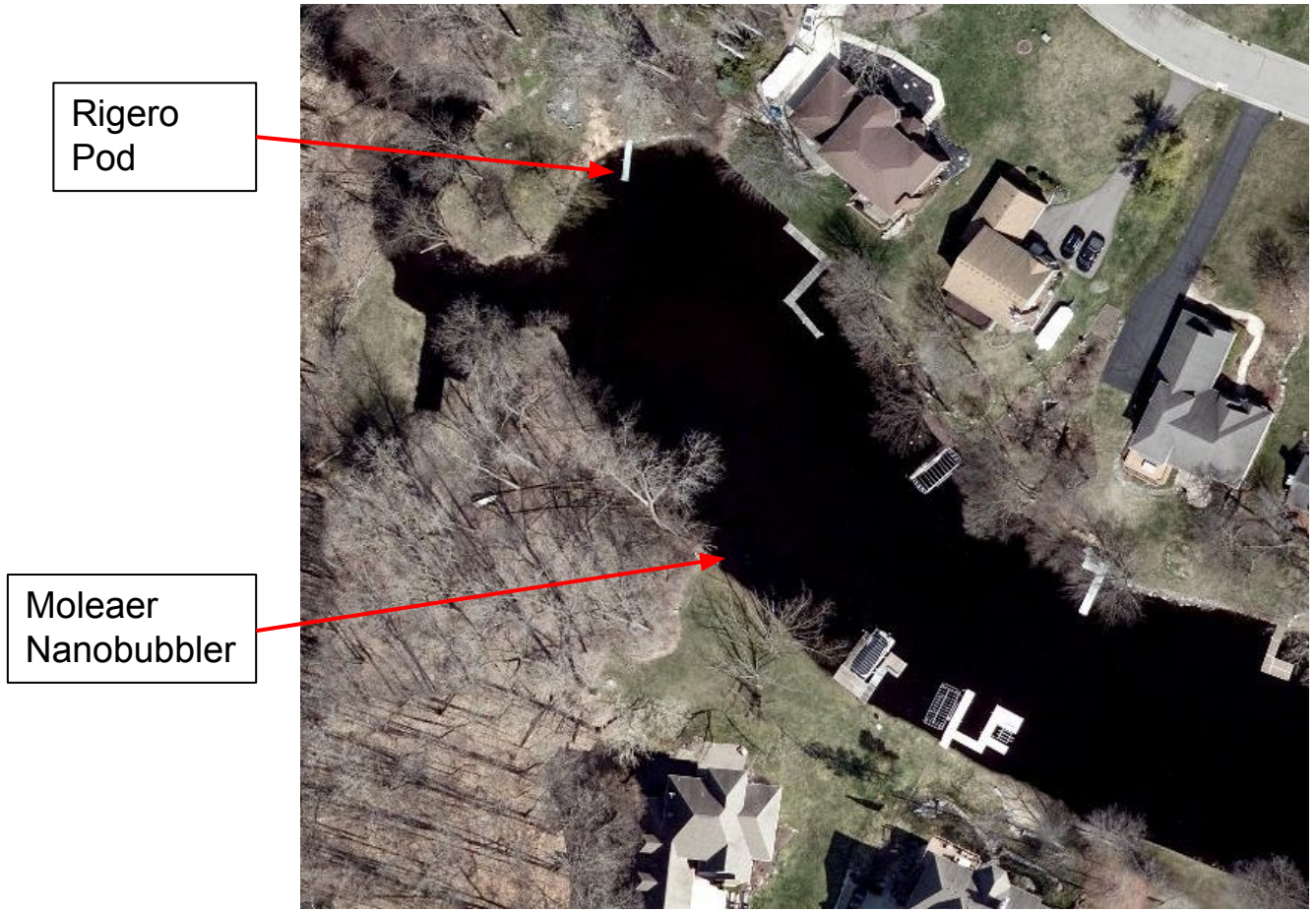
Sediment Removal - Muck Men	74,950
On-Site Quote Visit(s) 2@$600	1,200
Muck Men Buffer @ 10%	7,495
Site Preparation - Ricks Outdoor	28,030
Rick's Outdoor Buffer @ 10%	2,803
Tree Removal	7,000
Contingency	2,161
Total	**123,639**

Note: Total Project Cost Estimate

Spent thus Far $29,661
2025 Budget $123,639
Project Total $153,300

Long Term Solutions to Avoid Need for Future Sediment Removal

Muck Eater Evaluation (Pepsi Challenge) Locations



Results thus far have not been conclusive

Rigero Pod

BIO-HEALTH POD SYSTEMS By RIGERO

Our Mission is to Provide a Natural, Chemical Free Solution to Muck Management

Traditional aquatic management solutions often lead to undesirable results. Chemical treatments are toxic and over the years become ineffective. Dredging is messy, costly, difficult to permit, and very often not feasible. Fountains and aeration help but don't solve the problem.

Your Solution Starts Here!

Installed at Jackie Brown's house on Wildwood
June 2023

Molear Nanobubble

MOLEAER
ADVANCING NANOBUBBLE TECHNOLOGY

INDUSTRIES · NANOBUBBLE TECHNOLOGY · PRODUCTS · RESOURCES · COMPANY · CONTACT US

WHAT ARE NANOBUBBLES?
RESEARCH & DEVELOPMENT

REQUEST CONSULTATION

Moleaer's patented Kingfisher™ nanobubble generator oxidizes algae and helps eliminate odor compounds while simultaneously oxygenating the sediment layer to digest muck and reduce the presence of nutrients that cause algae blooms.

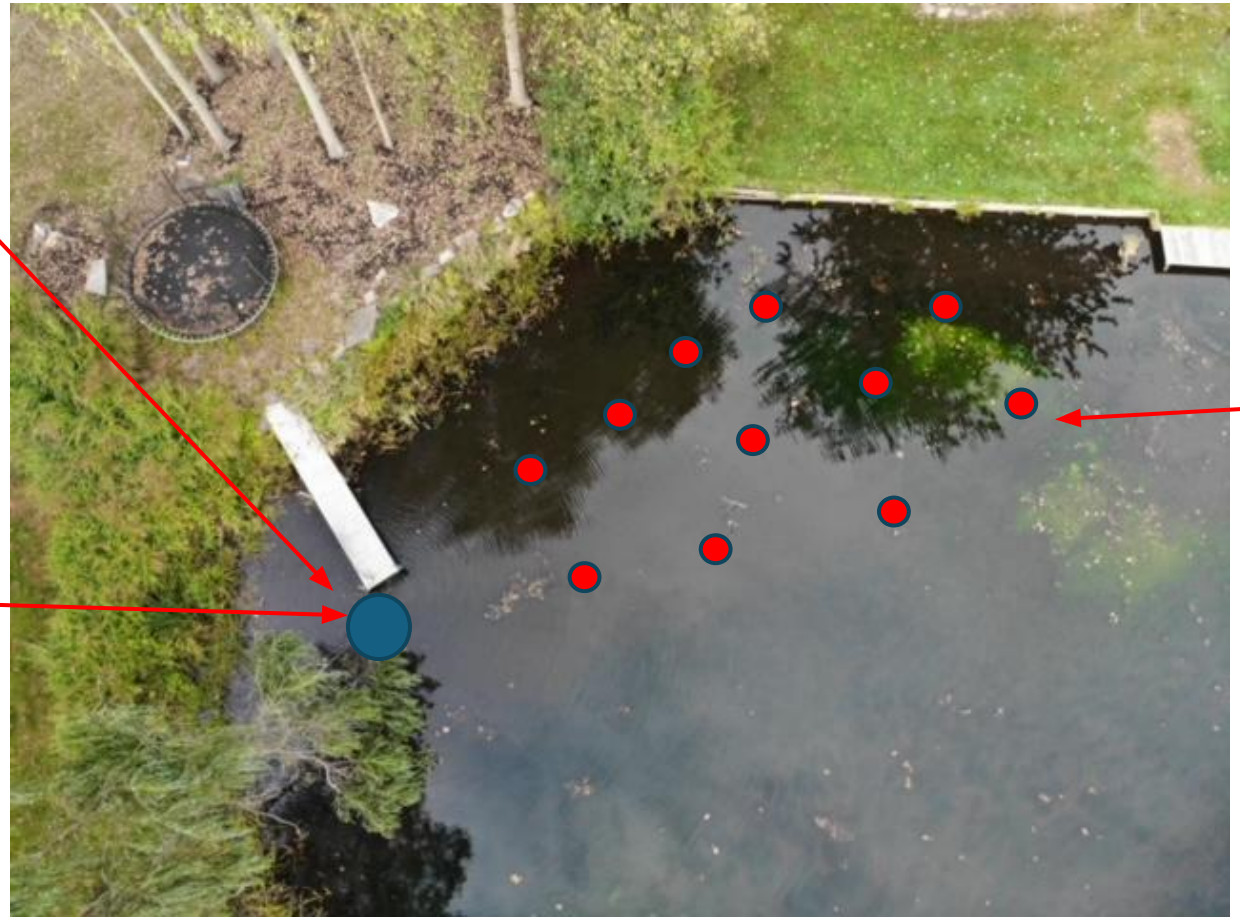
Due to their small size, nanobubbles possess unique physical and chemical properties that create a mild oxidant that improve the removal of contaminants, digesting muck and reducing algae. Also, by delivering the most efficient gas transfer available, Moleaer's technology raises the dissolved oxygen (DO) levels in the sediment improving water quality, promoting beneficial bacteria, and reducing the presence of anaerobic bacteria that causes foul odors.

- Easy installation & maintenance
- Simple controls
- Quiet, 57 dB at 3 feet away
- Standard 120 volt electrical outlet
- Small footprint and lightweight design
- Shore mounted
- Optional micro-dose ozone*

Installed at Adam Piper's House on Inverrary
August 2023

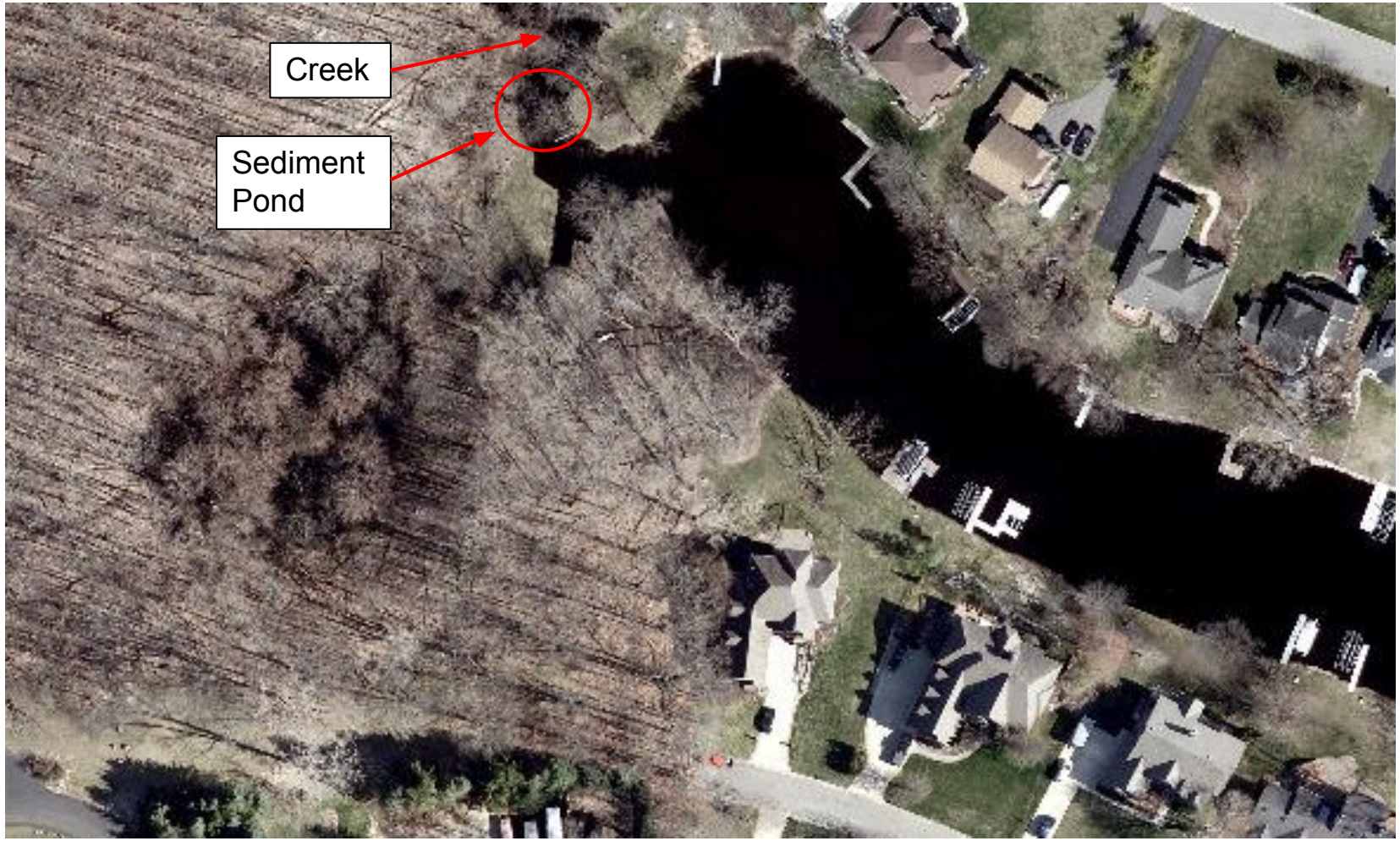
Muck Eater Evaluation – Rigero Location

Rigero
Pod



Muck Eater Evaluation – Rigero Location

Future Sediment Pond (if needed)



- Muck Men is recommending a Sediment Pond as a Long Term solution
- Pond would require periodic cleaning (vacuuming) as sediment accumulates – frequency is T.B.D.
- A Sediment Pond has not been quoted and is not in the current Wildwood Budget
- Permit for a sediment pond avoids the red tape unlike the permit for sediment removal

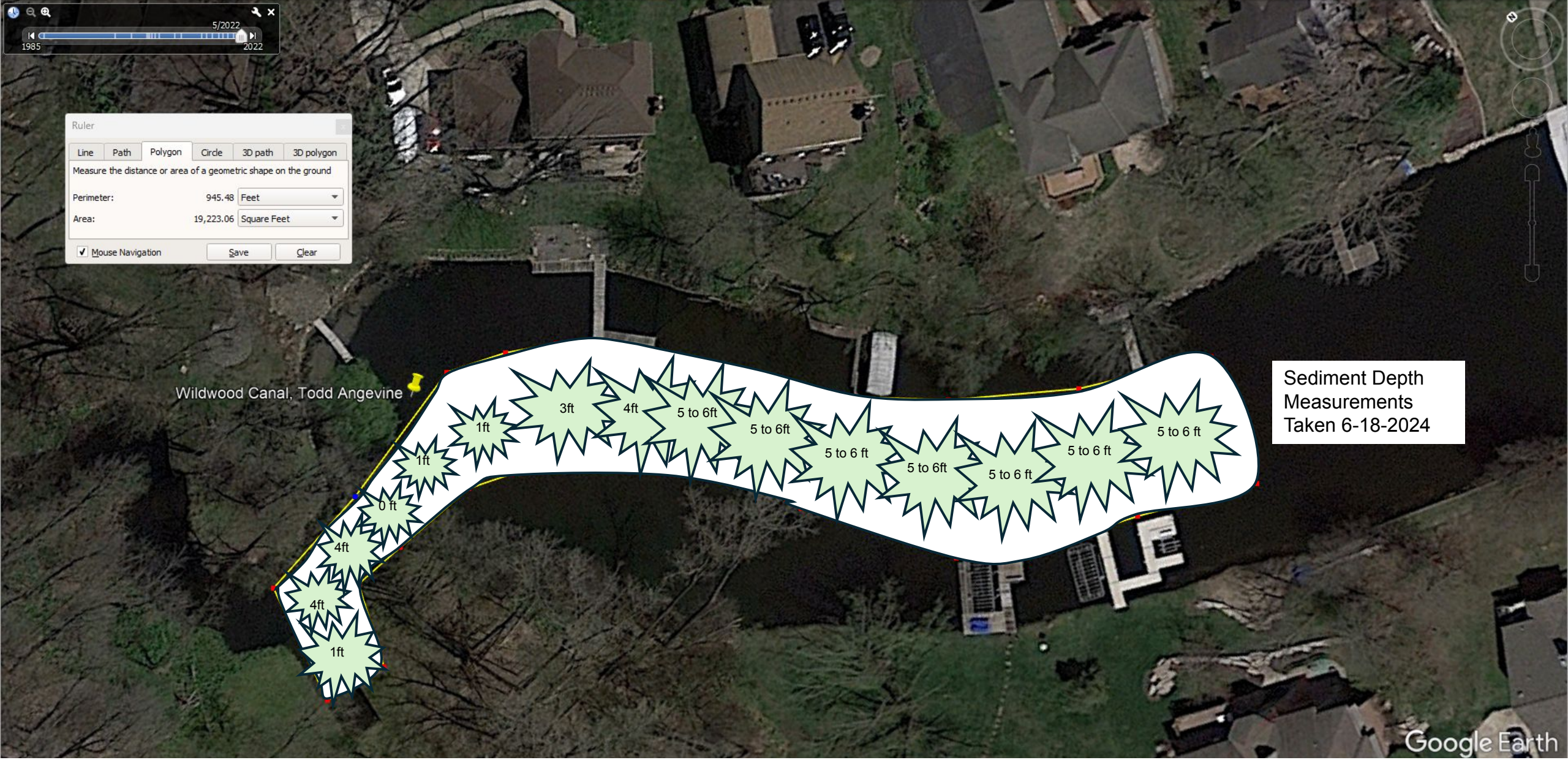
Back-up Info.

Wildwood Canal

Wildwood Canal is currently non-navigable due to lack of actual water depth

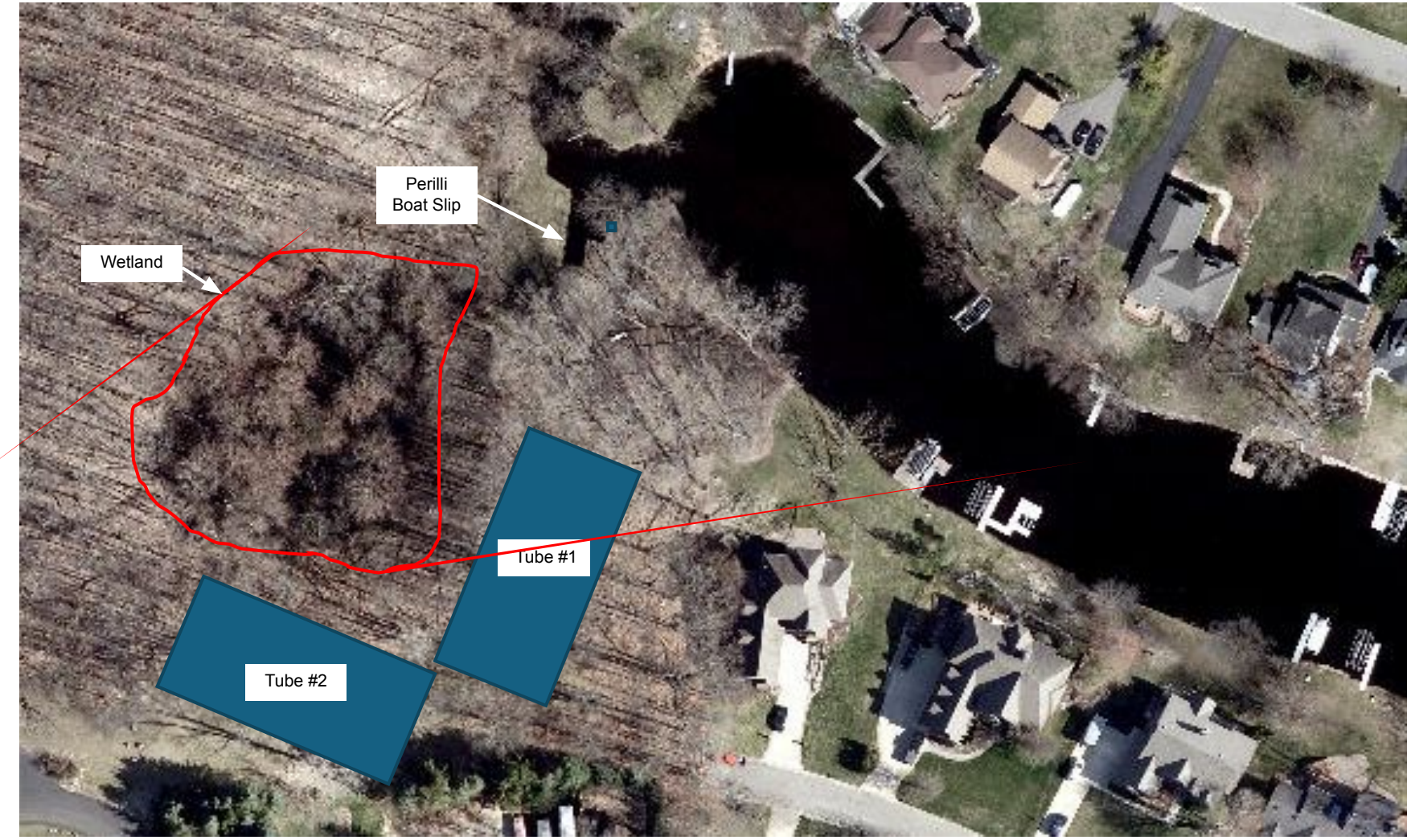
Wildwood Canal

November 2023 Post Dam Board Removal (approx. 18” of water drop)



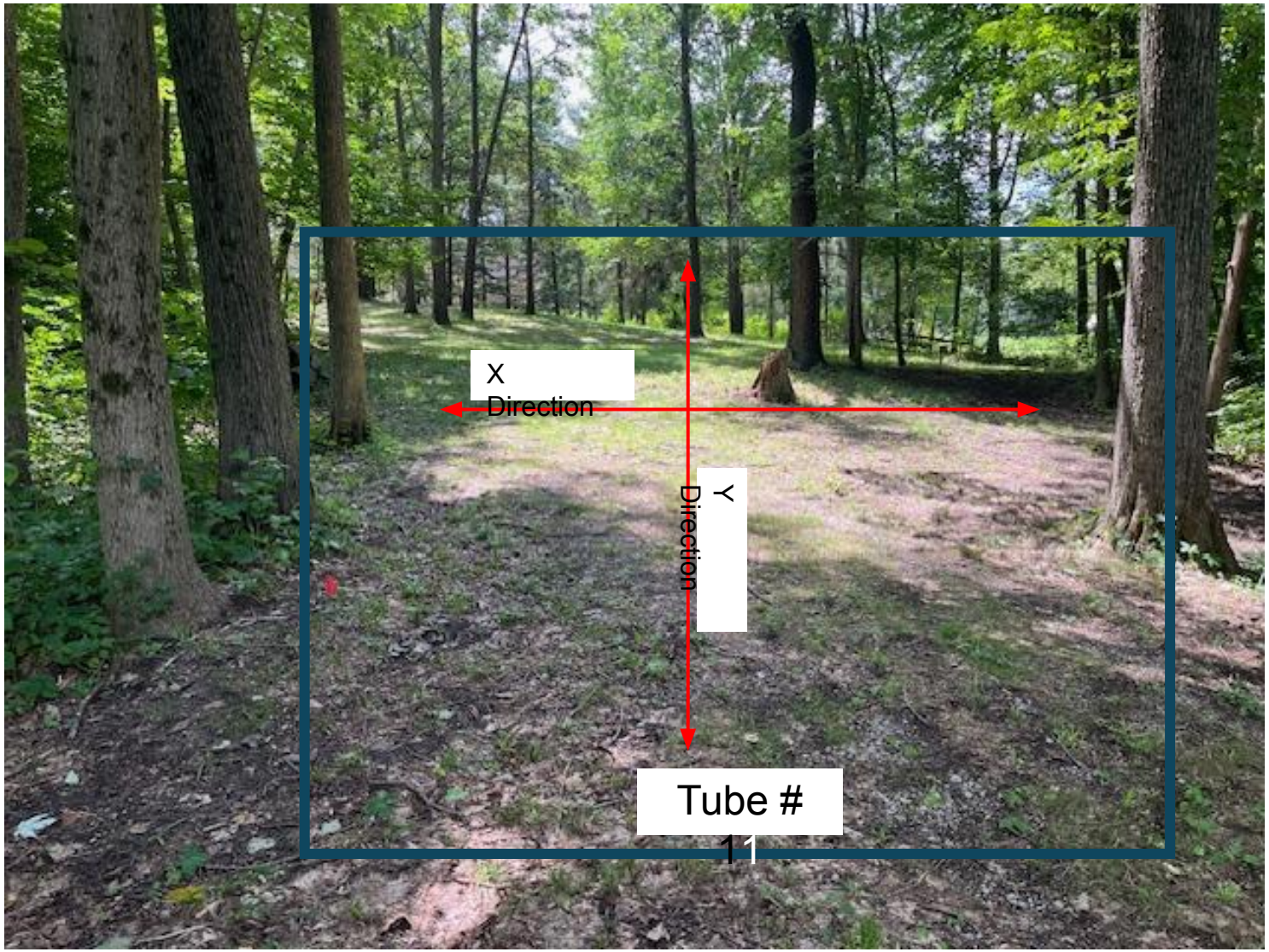
- This area measures 19,223 square feet. The removal of an average of 4-feet of sediment from this area will result in the removal of approximately **360** cubic yards (requires 2 Tubes).
- 1 Geo Tube = **200** Cubic Yards (approx.)
- Measurements obtained by Diver walking the canal from end-to-end while measuring sediment depth

Sediment Removal Tube(s) Storage Site



- Perilli property has storage capacity for **2 Tubes**

Sediment Removal Tube(s) Storage Site

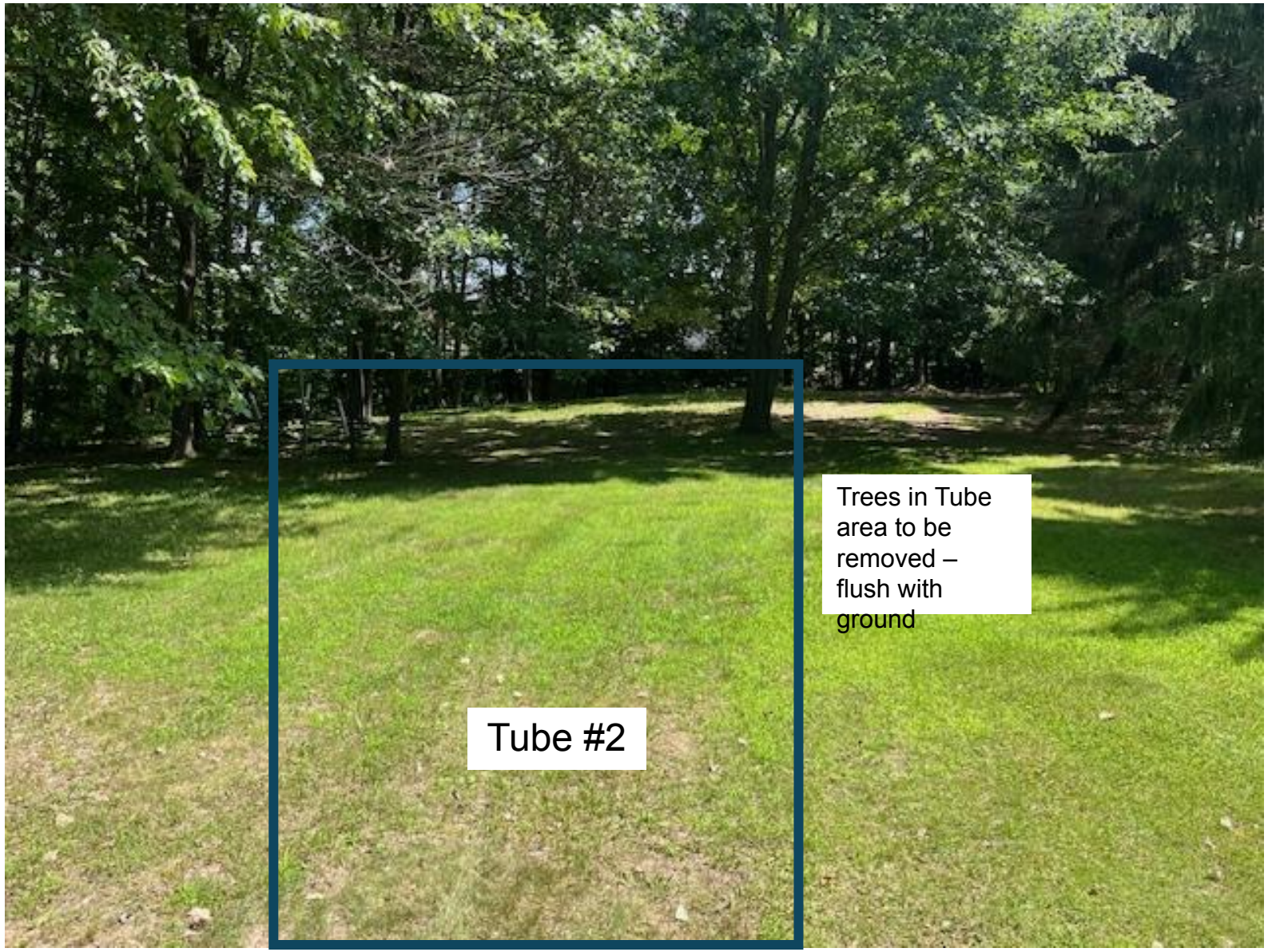


View Tube #1

Geo Tube Site Requirements

1) Tube Size is 25’x100’
2) Site Size is 5’ Larger than Tube – 4 Sides
3) Pad Size 35’x110’
4) All Trees in Tube area to be removed flush to ground
5) Wood Mulch Base will be constructed prior to Tube placement
6) Tube Site can have max 1 degree of grade in both X & Y Directions to prevent bag from moving (sliding). Site must be built up with Mulch to meet this
7) It is estimated that 300 cubic yards of mulch will be needed to make the tube pads level

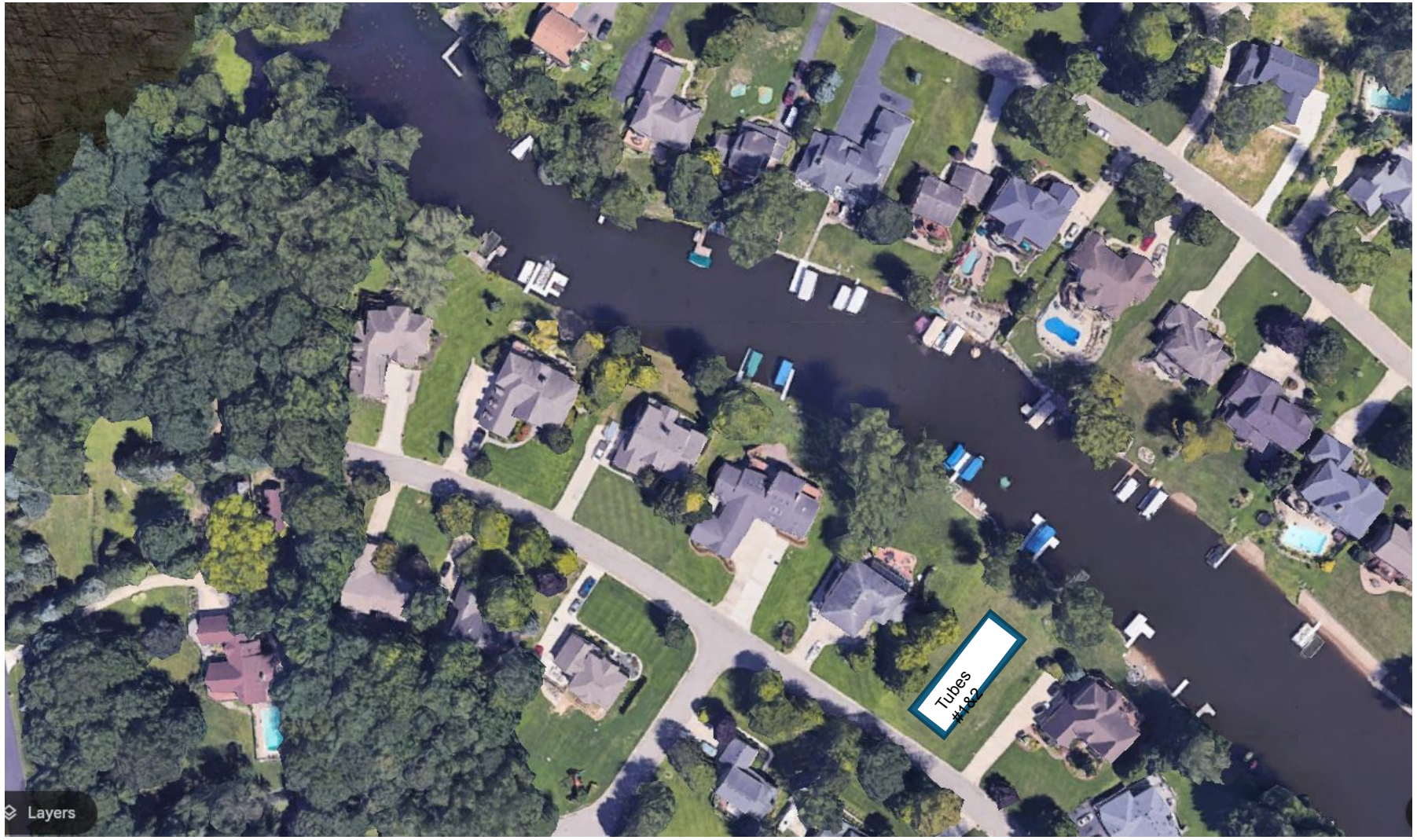
Sediment Removal Tube(s) Storage Site



Tube #2

Alternate Tube Storage Site

Potential Tube Storage – Vacant Lot



5390 Inverrary - Myrold

Potential Tube Storage #1&2

- Room for 2 Geo Tubes
- Property is fairly flat and does not require tree removal
- Tony Salciccoli & Angelo Carlesimo assisted with pursuing this option
- We offered increasing incentives to Lot Owner - turned us down 3 times, final answer is No

Tube Storage Site Preparation

Tube Storage Site Sample

Grade & Build-up with Mulch for Drainage and to Level Pad

Planning to have downed trees shredded to create mulch for Tube Storage

Sample Geo Tube prior to Pumping

- Lake Sherwood Pad Size = 35’x110’
- Pad must be level - cannot exceed 1 degree of slope to prevent tube movement (sliding)
- Pirelli property quoted at 300 Yds of Mulch to provide level pad

Sample Geo Tube

Tube De-Watering Process
8-12 Weeks for Water to Drain

Sample Geo Tube

- Tube After De-Watering Process
- Each Tube Contains Approx. 200 cubic yards of sediment
- Current Quote includes sediment removal

One Likely Source (not necessarily the primary) of Sediment Accumulation

- The woods area adjacent to the West side of the Wildwood Canal is dense with leave covered trees
- In the Fall, the leaves tend to blow to the East and accumulate in the Canal
- The leaves then tend to sit on the water until they sink in this area
- 24 Years of accumulated leaves will play a role in the sediment accumulation