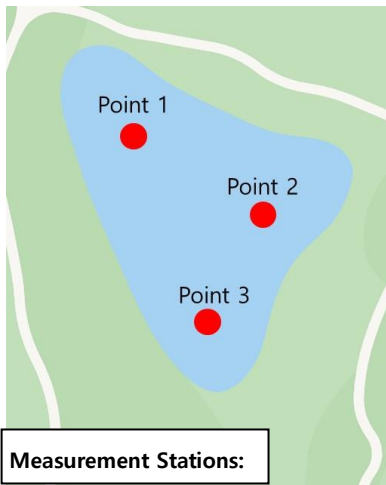
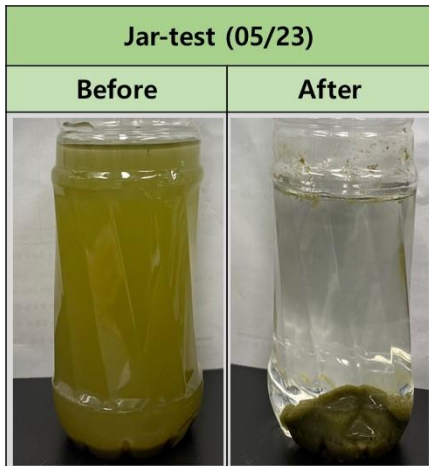


Marquee National Golf Course Pond

Dates: June 09, 2021 – August 09, 2021
Size & Depth: 2.5 Acres, average depth 6 ft.
Average Sludge Depth at Inception: 24”
Pre-treatment Inception: Pea Green, Low Visibility, Dearth of Wildlife, Odor
Treatment: Sludge removal, Odor Removal, Turbidity and Color Retoration



Quantitative Analysis: Produced by University Staff

Observation:	Sludge			
	Depth (cm)	TP (mg/L)	TN (mg/L)	COD (mg/L)
06/09/21	73	0.16	1	44.5
06/20/21	71	0.13	3.1	63.5
06/21/21	66	0.20	5.136	29.8
06/28/21	59	0.46	7.824	89.8
07/12/21	55	0.26	3.12	65.4
07/28/21	42	0.06	1.00	43.9
08/05/21	33	0.04	0.61	29.8
08/09/21	24	0.03	0.52	28.1

Qualitative Analysis:

A large water hazard serving three golf holes is one of the focal points of a golf club hosting a National Open. Board attempted numerous remediation methods and spent significant amounts annually to limit turbidity and discoloration and occasional pungent odor events. Main impurities are Phosphorous and Nitrogen, reflecting the over use of organic fertilizers on surrounding land. The pond was dead. Visibility was less than 20cm and 0cm during host season. No observable fish navigated its waters and few birds patrolled its sky, or stopped by.

Today: visibility is more than 4 ft, fish are jumping, birds are hunting and healthy plant life is flourishing. Local authorities are monitoring the pond to provide certification of remediation at national standards. Once certification is achieved, Phase II will be conducted in warm weather months to increase visibility to the point that balls will be visible from land and color will be remediated to a more desirable bluish hue.