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September 28, 2009

Resident
Century Farms Subdivision
Naperville, IL

Re: Patented MARS 3000 Aeration System

Dear Resident,

The root cause of the aquatic plant overgrowth (eutrophication) in stormwater ponds, such as pond 3 at Century Farms, are the nutrients that runoff into them - from such sources as fertilizers, leaves, and water fowl excrement. The goal of any aerator is to provide the oxygen necessary to oxygenate these nutrients, whether that aerator is a fountain or a bubbler or the MARS. What typically happens, however, with fountains and bubblers is that additional treatments (generally chemicals) are required to avoid the algae because they are not powerful enough to oxygenate the amount of nutrients flowing in. The problem with this approach is that it is a short term solution that contributes to a long term problem. When the algae dies it has nutrients sequestered in it, these nutrients then compound each time chemicals are applied and contribute to increasingly severe algal blooms as nutrient levels get higher and higher. Eventually with chemicals, bottom sediments of algae build up to the point where the pond has little depth and needs to be dredged—and this is an extremely costly and undesirable process.

The MARS, on the other hand, is a chemical free pond management solution. Because the MARS employs a patented Double Bubble process, one which uses large bubbles to mix the solids and small bubbles to aerate/oxygenate them, it is capable of oxygenating the nutrients at a higher rate than they are coming in. As a result, the MARS can create a sustainable pond ecosystem that does not have algal blooms.

At Century Farms, the pond has been in existence for a large number of years, and, probably has had chemical treatments at certain points in its history. Both of these factors have lead to a situation where the pond has high nutrient levels. It is these excess nutrients that are causing the current problems – newly dug ponds where MARS units are installed never become challenged by algae. Therefore because the pond already has a high nutrient level it can take some time to be rehabilitated; for enough nutrient material to be oxygenated before it becomes a sustainable ecosystem. This process can take up to three years. Rest assured that when people have stayed the course with our system, it has never failed. Moreover, they have experienced a more beautiful pond ecosystem and saved money in comparison to alternatives.

In the short term, one thing that will speed up the process and lessen the aesthetic problems is to 'algae harvest' – this is a process whereby the algae (and the nutrients in it) are removed from the pond with the use of rakes, nets and a boat. This is something worth considering because, like chemical treatments, it clears the pond of algae in the short term. However, unlike chemical treatments that compound the nutrient build up by treating the symptoms of the problem (as a result you can never stop using chemicals), algae harvesting will help the MARS create a sustainable ecosystem by removing the nutrients. Moreover, this can be done at an equal cost and save money in the long term.

Find attached a Frequently Asked Questions information sheet.

Call me if you have any further questions,

Sincerely,
SHEAFFER & ROLAND, INC.

A handwritten signature in blue ink that reads "Patrick D. Hill". The signature is written in a cursive style with a long horizontal stroke at the end.

Patrick D Hill
Business Development Manager