POND AND STREAM CONSULTING, INC.
626 Ferguson Ave., Suite 1, Bozeman, MT 59718 Phone: (406) 522-4056 Fax: (406) 522-0506

November 5, 2018

Lazy TH Owner's Association
c/o Nicholas Hether
373 Sir Arthur Dr.
Bozeman, MT 59718

Dear Nick,

It was a pleasure to meet you at the Lazy TH pond today to discuss maintenance of your fire pond. Over the past 20 years, we've managed construction of over 100 lined ponds and are frequently involved in continuing maintenance of those and other ponds. Based on the design of the pond, it's apparent to me that the vast majority of any buildup in the pond would be organic sludge derived of decomposed plants and algae – there appear to be no other sources of sediment.

Based on our verbal communication, I understand that the pond does not leak, and its storage volume and elevation is easily maintained by the existing well setup. In addition, the local fire department has inspected and tested the hydrant system and determined it works satisfactorily. I also understand that a Professional Engineer has recently inspected the inlet screen system for the hydrant via SCUBA. While he indicated some organic sludge buildup, the intake screen was at least one foot above the existing pond bottom sludge.

The pond needs to be maintained to keep the hydrant inlet screen free of vegetation and other debris to remain in good working order. My assessment is that this can be accomplished using herbicides, algaecides and sludge-eating bacteria products that are otherwise environmentally safe and appropriate to use in a fire protection pond. Dyes may also be used to prevent production of aquatic macrophytes and algae in the first place.

I see no reason to reconstruct the pond for its sole purpose of providing water storage for a draft hydrant, so long as the fire department is happy with the available volume and accessibility of the water for fire protection. The owner's association should develop a maintenance plan and schedule starting next spring that controls growth of algae and rooted aquatic plants in a proactive fashion. Depending on your preferences, this will include application of algaecides and likely 2,4-D pellets for the rooted plants, and possibly a liquid algaecide with integrated dye to block sunlight. I did not see any rooted plants during my visit, but some rooted plants (such as elodea) don't respond to 2,4-D and a harsher (but safe, if applied properly) herbicide product must be used. All of these products can be broadcast or applied without a weed sprayer.

For maintenance of rooted plants, algae and sludge, we typically use products purchased from the Aquacide Company in Minnesota (www.killlakeweeds.com). Application of Aquacide Pellets (2,4-D) will kill most aquatic plants, such as milfoil, and should be used as directed for control. If you identify pondweed or elodea, you may need to use an additional product such as Aquathol or Hydrothol. Algae control will likely best be handled using Cutrine-Plus liquid regularly – this product is blue and also seems to act to block sunlight and really does a good job controlling algae. We don't usually use this in aesthetic fish ponds because of the color (and because we want invertebrates to flourish), but it is very effective at controlling algae growth if regularly applied.

If you really want to control all growth, you could even use Aquashade to block out all sunlight, prohibiting growth of both algae and plants if maintained, but be advised, the pond will be an obviously artificial blue color similar to popular toilet bowl products.

And, for the sludge buildup, Aquaclear pellets or liquid are effective in slowly breaking down and reducing organic sludge and are much cheaper than an excavator and a new liner. There are detailed application directions for all of these products available from the Aquacide Company, and I'm confident the correct applications as part of a maintenance schedule will keep the pond clear enough to avoid any problems with the draft hydrant system.

Cattails are also controlled with Aquacide pellets, but you may want to consider carefully removing the dead remaining material from the pond manually. Putting on some chest waders and pulling them is probably the best plan for this – so as not to affect the integrity of the pond liner, use of sharp tools should be avoided near the pond bottom.

If you'd like us to help you maintain the pond next year, we can develop a maintenance plan and schedule, then adjust as necessary according to results. But frankly, these products are generally easy to apply with minimal labor and guidance from the Aquacide Company literature – they'll also help you out over the phone. A few volunteers from the subdivision could get rid of those cattails in a matter of a few hours. Maintenance with chemicals, if done in-house, might require an hour or two a week during summer.

Please don't hesitate to give me a call if you have any questions or concerns at all. Thanks, and we look forward to hearing from you.

Sincerely,

J. Scott Davis
Principal/Fisheries Biologist

Enclosure: Invoice #3556