JANUARY 6, 2015
STERLING BOARD OF HEALTH MEETING
BUTTERICK MUNICIPAL BUILDING
1 PARK AVENUE, ROOM 205
STERLING, MA 01564
MEETING MINUTES

BOARD MEMBERS:	Gary Menin (Menin) , Chairman Allen Hoffman (Hoffman), Vice Chairman Donna Clark (Clark), Clark
BOH Staff:	David Favreau (Favreau), Health Agent
MINUTES:	Jane Brunetta (Brunetta)
ATTENDEES:	Cindy Schicho, John Morin, Richard Maki, Stephen and Carla Kroll, Barbara Roberti, Dick Hautaniemi, Ann Heinemann, Lisa Kloczkowski, Terry Heinold, Rita McConville, Susan Templeton, Matt Mario, Chuck, engineer for 4 Boutelle Road,

6:30 p.m. Menin called meeting to order, **Roll Call Attendance, Menin present, Hoffman present, Clark present , Favreau present.**
Gary Menin noted that he was recording the proceedings as a member of the public and that they would be available on 'the cloud' for those who wish to listen to it.

Approval of Past Minutes:
Clark made a motion to approve as amended November 6, 2014 minutes, Hoffman seconded, no discussion, Menin aye, Clark aye, Hoffman aye, all in favor
Hoffman made a motion approve as amended December 11, 2014 minutes, Clark seconded, no discussion, Menin aye, Clark aye, Hoffman aye, all in favor

Correspondence:

Health Agent Report:

1. Update to water quality results for 57 and 59 Lake Shore Drive - Favreau reported that the test came back satisfactory, no further action needed
2. Trash complaint at 46 Bean Road – Favreau spoke to the owner about trash/cardboard boxes – owner said it would be taken care of this week.
3. Substance abuse grant - Favreau said application has been submitted and should hear something by the end of January, 2015

Signatures Required :
Certificate of Compliance: 4 Deborah Lane, signed by Menin
2015 Food Establishment Permits: Favreau stated all annual permits have been submitted most likely as a result of the policy that has been implemented by the BOH August 21, 2014. Approximately 3 seasonal permits have not been submitted as a result that they are seasonal.

FY16 BOH Budget after review and discussion of budget, Clark made a motion to approve the BOH FY16 budget and include a 2.5% salary increase as recommended by the Personal Board, Hoffman seconded, no discussion, Clark aye, Hoffman aye, Menin aye, all in favor.
Hoffman made a motion to approve the animal inspection's budget as written, Clark seconded, no discussion, Clark aye, Hoffman aye, Menin aye, all in favor

Public Session: 14 North Cove Road – The engineer presented the Board with 3 separate designs. Discussion between Board Members and the engineer as to the best design presented out of the three proposed was the one with the 50' offset and drip system.
Members asked the engineer to present changes to Health Agent for review and a final decision on the septic design will be made at a special meeting on January 20, 2015 at 7:00 p.m.

Appointments, Agenda Item:

1. Board Members met with MPHN inspector, Rita McConville to clarify the process by which request of services from the MPHN are processed. All completed permit applications and permits shall originate through the BOH office; subsequently a request for scheduling an inspectional service shall be solicited to the MPHN or their inspector through the BOH office. Prior to the inspection, a copy of this permit shall be provided to the inspector for purposes of a sign off upon completing the inspection. Upon completion of the inspection and the inspector's sign off, the permit shall be returned to the BOH office or drop box outside the Town Hall building for tracking and accountability for this expense. All BOH members wanted to make sure that the process is followed in order to maintain efficient accounting practice and that certificate of compliance can be issued in a timely manner. Ms. McConville stated that she will follow this process.
2. 4 Boutelle Road variance request to reduce the minimum separation distance from high groundwater as required in Title 5, Section 15.212(1) from 5 feet to 3 feet. After review of the plan the members concluded that this system is in the aquifer district area, variances to these regulations require a consecutive notification through the newspaper media. The BOH will put this variance request on the February agenda and the applicant will notify through the media as required aquifer district zoning regulations. .
3. 225 Worcester Road LUA requests for system components buried deeper than 3'. Hoffman made a motion to approve the request, concluding it was a local upgrade approval, Clark seconded, no discussion, Hoffman aye, Clark aye, Menin aye, all in favor
4. Warrant for article concerning request by East Lake Waushacum Association. Menin presented the attendees with information concerning treatments to the lake. After much discussion, it was concluded that there was a mis-communication between the Board of Selectman and the BOH. The association stated that there was no specific request at this time for alum or copper sulfate treatment to the lake, rather the request was for monitoring and assessments of the lake and any treatment needed resulting from these assessment. Past concerns have been associated with Blue Green algae monitoring similar to Indian Lake in Worcester. Menin will speak to the Board of Selectman concerning their request, but stated there was no need to attend the next Selectman meeting – further it was decided that the BOH would take no further action on this issue until the requested action/consideration is presented to the Board in writing.
5. BOH fee structure – Board Members agreed that this should be discussed at the January 20, 2015 special meeting.

During the end of the BOH meeting, Ms. Kroll requested the Board of Health to look into her concerns that L.R.Favreau Septic is transferring sewage from truck to truck indoors and this may be

an issue as L. R. Favreau advertise that they sell grass fed beef at the same location sewage is transferred. Ms. Kroll asked if there are any health related concerns regarding this operation. Ms. Kroll submitted this written complaint during the BOH meeting.

9:00 p.m. Motion to Adjourn

Attachment:

1. Gary Menin ELWA Position Statement – dated January 6, 2015

POSITION STATEMENT - CHEMICAL TREATMENT of EAST LAKE WAUSHACUM - G Menin 01-06-15

Earlier BOH discussions / positions taken on the subject of chemical treatment of East Lake Waushacum notwithstanding the BOH was recently (11/14/14) approached by the BOS to render an opinion on a forthcoming warrant article towards the funding ($10K this FY) to treat the Lake with Copper Sulfate as may be determined necessary by the Conservation Commission.

Though my research both in years previous and most recently indicates that Copper Sulfate addition to fresh water lakes and ponds is harmful to the lake in the long term (see attached summary of a most recent finding), I put aside this perspective for the time being to focus on the question: What's the "end-game"?

In other words, as I think most will agree that the question of recurring chemical addition is treating a symptom and not the cause – will this treatment be an annual cost to the Town of the maintenance of this resource far into the future? - and if so would it not be better to spend these funds in addressing the root cause?

In this regard, this thought is not new:

From Frank Heineman (June 12, 2000) in a Letter to Alton Stone – *"At a recent meeting of the East Lake Waushacum Association it was suggested that I get in touch with you to find any suggestions you may have in regard to the names of engineering firms to undertake a feasibility study of a community sewer/septic system to serve some of the area abutting the lake. The Lake Shore Drive area is densely populated with houses that are on small lots and much of that area was identified by the recent leachate survey as being a major problem area. Input from septic systems was considered the "major source of total phosphorus" to the lake according to the DEQE 1980/81 study (p. 105). Our current thinking is that the problem is only going to get worse, and we should face the reality that addressing the problem will involve raising significant sums of money to protect one of the Town's most valuable natural resources."*

From The Most Recent Sterling Open Space & Recreation Report – *"East Lake Waushacum is in a nutrient rich relatively eutrophic state. Algal blooms have occurred a few times in the past decades and again there was a bloom in the summer of 2009 in some coves. ELWA has arranged for a consulting firm to look into potential solutions beyond alum treatments. The BOH health agent questioned what other alternatives could be considered and the affect past alum treatments have had on the lake ecology. This may be an opportunity for ELWA, the Conservation Commission, and the BOH to host a fisheries biologist and water quality expert from MassWildlife and MassDEP for an informational forum. Development of a sewage treatment facility in the vicinity of the lake should be considered, though others point out this could open the door to even more development. The 2002 OSR Plan recommended pursuing a Community Development Block Grant for this but it did not happen. The success story of Wauschacum Village (Campgrounds) may serve as a model, although the infra-structure needed at the lake is likely to be more complex. Pollution issues facing East Lake Waushacum include increased nutrients that support algae growth and bacterial contamination from animals and septic systems."*

From ConComm Meeting (February 15, 2011) On The Subject Of Chemical Treatment - *"Mr. Curtin noted that while he was not opposed to the idea he was wondering how many times and how much more money was going to be put into alum treatment and was wondering how much more was going to be needed."*

From ConComm Meeting (November 16 2010) on East Lake Washacum Alum Treatment – *"J Curtain commented he would feel better about an article if there were dollars for finding a long-term solution to the issue - concerned that we could spend money every few years on treatments rather than fix the problem."*

The hard work and extensive protection efforts of ELWA and the ConCom is acknowledged – but to date, among other issues, there remain approximately sixty or so un-upgraded systems on the lake shore that are probably in the ground water. Further, very few if any systems can be upgraded without the granting of some variance or other from DEP or the Town's protective health bylaws to permit their installation.

To conclude – I would support the funding of this article if funds were designated towards ultimate mitigation of the root cause.

Copper Compounds as Algaecides - In my discussions with George Heufelder of the MA-DEP Alternative Technology Test Center - I was led to these conclusions (below) about Copper Sulfate application in fresh water lakes and ponds. In is regard he indicated he would not recommend its use. You may contact George at http://www.barnstablecountyhealth.org/massachusetts-alternative-septic-system-test-center

Copper sulfate and other derivatives of copper have been used to control undesirable algae in lakes and ponds. Application consists of spreading copper sulfate crystals or powder along problematic areas, or spraying a slurry across the water surface. In most instances, copper sulfate is very effective in killing the floating mats of algae; unfortunately, such control of algae is of very short duration. On the contrary, the negative impacts of the copper sulfate are long term.

Following application of the copper salt, reactive copper concentrations become elevated and remain so for about two hours. The active copper ions are attracted to carbonate ions and become strongly bound. This new compound of copper carbonate drops out of the water column and binds up the copper. **The result is that the copper is only effective at killing algae for only two hours.** Button et al. (1977) performed copper experiments in Columbus, Ohio ponds, demonstrating that within two hours, the copper concentrations returned to pretreatment levels. After this period, only the algae exposed to the copper for the 2 hour time period may die. **However, new algae already begin to grow following the precipitation of the copper. To add to this, the alga that has been killed is releasing nutrients, spurring new growth.**

Besides promoting algae growth as a result of nutrient recycling, **copper sulfate kills tiny beneficial animals that filter algae from the water column. Doses of copper sulfate required to kill algae are 10 to 100 times that required to kill these beneficial zooplankton (Cooke and Kennedy 2001).** The result is increased planktonic algae growth with every copper sulfate application. Cooke and Kennedy affirm this reporting that "very low levels of copper are toxic to algae-grazing zooplankton, leading to a 'rebound' of algal biomass as copper is removed from the water column by precipitation within hours of application."

drinking water ponds, there is also concern of the copper-induced release of toxins from blue-green algae. Specific types of algae produce toxins harmful to humans and pets. These toxins can cause gastrointestinal distress, liver failure, and even death (Hitzfeld et al. 2000). Bluegreen algae blooms are more prevalent in ponds without algae-grazing zooplankton, a situation that can result from copper treatments (Cooke and Kennedy 2001). Copper sulfate has also caused species of bluegreen algae cells to lyse, causing the release of hepatotoxins into the water column (Lam et al. 1995). **Because typical water treatment methods have limited ability to remove these toxins, preventing the growth of these algae is key.**

Finally, copper sulfate negatively affects the benthic community in lakes and ponds. The rapid precipitation of the copper ions causes the accumulation of the copper in the bottom sediments. At this point, the copper reduces the diversity of benthic organisms that maintain the aquatic ecosystem. Most importantly, benthic microbe (bacteria) growth is inhibited by elevated copper concentrations. Without microbes, dead organic material accumulates on the pond bottom, causing a rapid filling of the pond. **Without the use of copper, microbes will thrive on the dead organic material and will slow the filling process of the pond.**

Copper sulfate has historically provided a quick fix for algae problems in lakes and ponds. Unfortunately, the long-term side-effects outweigh the short-lived benefits. While attempting to make ponds more aesthetically pleasing, the balance of the ecosystem is skewed, pond filling accelerates, and the possibility of algae toxicity increases. The best solution for excessive algae is to eliminate copper usage and to adopt a Holistic Approach. This approach includes aeration, microbial augmentation, and physical removal.

Button, K.S., H.P. Hostetter, and D.M. Mair. 1977. Copper dispersal in a water supply reservoir. Wat. Res. 11:539-544.

Cooke, G.D. and R.H. Kennedy. 2001. Managing drinking water supplies. Lake and Reserv. Manage. 17(3):157-174

Hitzfeld, B.C., S.J.Hoger, and D.R. Dietrich. 2000. Cyanobacterial toxins: Removal during drinking water treatment, and human risk assessment. Environ. Health Perspectives 108: 113-122.

I , A. K-Y., E.E. Prepas, D. Spink, and S.E. Hrudey. 1995. Chemical control of hepatotoxic phytoplankton blooms: Implications for human health. Water Res. 29:1845-1854.

http://www.ibnature.com/

GC Menin 01-06-15