



City of Auburn, Maine

Office of Planning & Permitting

Eric Cousens, Director

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To: Auburn Planning Board

From: John Blais, Deputy Director

Re: Review proposed text update to agricultural buffers, subsurface wastewater systems and Planning Board Approval.

Date: October 11, 2022

PROPOSAL: Review Planning Board Approval; text Sec 60-952 (c) and (f) (1-5) for agricultural buffer strip and subsurface wastewater systems in Division 4- Lake Auburn Watershed

DISCUSSION: As we look at implementing updating the subsurface wastewater systems in Division 4- Lake Auburn Watershed we now understand that this action needs to be two-fold with decreasing density in the lake Auburn watershed (1 acre lot to 3 acre lots) and implementing the updated septic ordinance based on updated scientific and engineering evidence provided by David Rocque, FB Environmental and GIS Data research completed by City Staff.

CURRENT CONDITIONS: As presented in the April 12th, 2022 planning board meeting, the current Lake Auburn Septic System ordinance requires a minimum depth to Limiting Factor (LF) of **36 inches**. Limiting Factors include hard pan, bedrock, and seasonal high groundwater table. The ordinance also requires the disposal field to be installed **at least 12 inches below the bottom of the organic duff layer** (below the mineral soil surface) **in the lowest point of the ground where the disposal field is installed**. These two requirements are, actually counterproductive in accomplishing the objective of the ordinance which is to provide greater protection of water quality in Lake Auburn.

Installing disposal fields deep into the ground, below the organic duff layer, particularly in coarse textured soil or soil that is shallow to bedrock can result in what scientist refer to as **“Short Circuiting”**. This occurs when the effluent moves through the soil without being treated or only being minimally being treated. If the bio-mat is absent, it removes one of the more important components of wastewater treatment. The reasons why a bio-mat may be absent are too little organic matter (BOD5 and TSS) coming from the septic tank, which is very rare, or a soil material that is very coarse textured or when the disposal field rests on fractured bedrock. Coarse textured soils and disposal fields resting on bedrock are extremely permeable and very oxygenated, so organic particles are readily decomposed or pass through the soil and do not build up to create a bio-mat. This condition could result in nutrients (phosphorus & nitrogen) entering the ground water and ultimately entering the lake.

Soils in Maine with at least 36 inches to limiting factor are not very common, it encourages people interested in building a home within the watershed boundary to sell easements to their suitable soil site. Clustering wastewater disposal systems in a relatively small area where very little wastewater treatment occurs is not going to achieve the intent of the ordinance, providing an additional layer of protection for the water in Lake Auburn. It would be much better to allow septic systems to be installed on finer textured soils, even if the seasonal groundwater table is shallower than 36 inches.

There are 275 septic systems out of a total 321 or 86% systems within the watershed that exist in the watershed that are not affected by the current ordinance that are essentially “grandfathered” to allow for minimum standards set forth in the septic system rules for under 10-144 CMR 241, Maine Subsurface Wastewater Disposal Rules, Section 4, Design Criteria which allows replacement septic systems down to 9” (LF) outside the shoreland zone.

RECOMMENDATION:

“First is that approval of this must coincide with the adoption of the zoning change that reduces the housing density in all parts of the watershed to one dwelling unit per three acres as recommended in the comprehensive plan.

Second, that the city establishes a monitoring of the lake and the watershed with reports on a biannual basis based on a plan developed in collaboration with the Auburn Water District and other stakeholders. If it’s discovered that degradation occurs through that monitoring program, that the city enacts a moratorium on the development until it can assess what needs to happen to stabilize conditions within the lake.

And third, that we require inspection at the point of sale and on an ongoing five-year basis for all systems within the watershed.”

Planning Board Approved 7-0 on April 12, 2022

PLANNING BOARD ACTION/STAFF SUGGESTIONS: *No action required from Planning Board.*