

KENT COUNTY HEALTH DEPARTMENT



ENVIRONMENTAL HEALTH DIVISION
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ADAM LONDON
ADMINISTRATIVE HEALTH OFFICER

December 21, 2017

Frank Force
Grattan Township Supervisor
12050 Belding Road NE
Belding, MI 48809

**RE: Cowan Lake Sewer Project
Grattan Township**

Dear Mr. Force:

The Kent County Health Department has been authorized to review and regulate the installation of private onsite wastewater disposal systems (septic systems) since the enactment of the Michigan Public Health Code in 1978. Prior to that time, Kent County had a limited mechanism to review and document the installation of septic systems, that relied heavily on the property owner to install systems according to best practices at the time. The primary focus at that time was moving sanitary waste away from drinking water systems and keeping sewage below the ground surface. The regulations at the time did little to protect surface water from contamination from sanitary sewage.

Cowan Lake was developed prior to current sanitary codes. The resulting parcels were platted without regard to sustainable wastewater treatment and dispersal and certainly not intended for permanent year around residences. Today's policies regarding land divisions would not allow platted communities like Cowan Lake to develop without first providing a public sanitary sewer collection and treatment system.

The current Kent County Sewage Disposal Regulations were adopted in 1994. A review of records for the Cowan Lake area demonstrates that nearly every dwelling was constructed prior to current standards. In fact, of the 67 dwellings adjacent to the lake, only 13% conform to current standards. An even higher percentage, (16%) do not have any documentation of the septic system. Given the age of development, it is likely that the septic tanks directly discharge into the lake.

The most common reasons that the septic systems do not conform to current regulations is inadequate isolation to saturated soil layers and/or inadequate isolation to surface water. A review of records indicates that 11 of the homes have septic systems that are installed below the seasonal water level and within 50 feet of the lake. These are of the highest concern as they would have little to no soil treatment of effluent before it enters surface water.

The soil around Cowan Lake is clay loam with a high-water table. Other areas consist of fill material over wetland areas. This type of soil is not suitable for onsite wastewater treatment or dispersal. The soil is not permeable or well drained and results in premature failure of drainage areas. Filled areas can have unpredictable infiltration rates and may not adequately filter effluent before it enters surface or groundwater.

Cowan Lake is located in the headwaters of the Seely Creek Watershed. Seely Creek is part of the larger Flat River Watershed which is part of the Lower Grand River. The Flat River Watershed is under review to develop a Watershed Management Plan to address recreational water use impairments due to *E. coli*. The Seely Creek Watershed has been identified as a subwatershed with *E. coli* levels above body contact limits.

Mapping of septic system locations around the lake was performed by this agency in 2015. This was done at the request of several concerned residents living on the lake. While this Department had some understanding of the difficulties surrounding replacement septic systems in the area, the full impact of the situation was not apparent until this evaluation. This study revealed the compact nature of development around the shoreline of the lake. There is very little to no options for replacement septic systems for any of the residents on the lake. All the existing development along the lake shore has little to no available greenspace, outside of the littoral wetlands, for replacement septic system areas. This has resulted in several repair systems in the last two years that required complete removal and replacement of the existing septic systems and underlying soil. It is this Department's fear that lakeshore residents may forgo getting permits and complete "make-shift" repairs to save money and coveted yard space.

The average septic system (on record) of cottages around the lakeshore is 40 years. This places the average system well beyond the expected lifespan of conventional septic systems. Assuming the average life span is 25 years, nearly every system around the lake is anticipated to be at or near a state of failure. With the probable need for septic system repairs in the next few years, now is the time to construct a community sewage collection system for Cowan Lake.

Extension of public sewer system or the construction of a community wastewater treatment system will benefit the property owners around Cowan Lake and recreational use in Flat River Watershed. Current interest and need for wastewater disposal solutions is at an all-time high. Residents around the lake have expressed urgency for solutions to their failing septic systems. This Department believes that an offsite solution will provide a greater positive impact to water quality rather than onsite sewage dispersal systems, even those with advanced treatment components. This Kent County Health Department would like to encourage the State of Michigan to give due consideration of the Cowan Lake Sewer Project for funding under the Strategic Water Quality Initiatives Program.

Sincerely,



Brendan M. Earl
Supervising Sanitarian

cc: Jason Buck, Kent County Health Department, Sanitarian Specialist