

**Elk Rapids Township
Summary of Special Sewer Informational Meeting, June 19, 2019**

The regular meeting of the Elk Rapids Township Board was held at the Elk Rapids Government Center located at 315 Bridge St. Elk Rapids. The meeting was called to order by Supervisor Amos at 4:00 pm. This meeting was recorded.

Present: Supervisor Dorance Amos, Clerk Shelley Boisvert, Trustee Aaron Isenhardt, and Trustee Richard Hults

Absent: M. Szymanski

Also Present: B. Derman, M. Zimmerman, L. Nix, B. Muma and 43 members in the audience.

1. Meeting Called to Order/Pledge of Allegiance
2. Introduction – Dorance
3. Water Samples: Process and Results – B. Muma, Performance Engineering:
 - Muma presented samples taken by SOS Analytical showing E.Coli levels in the Inwood Harbor area from four (4) different sites on three (3) different dates.

Date	1 South End	2 Boat Launch	3 Harbor Mouth	4 6724 E. Harbor Dr.	Sampling Average	5 Birch Lk Outlet
5/21/19	23	435	111	50	155	0
5/29/19	17	42	47	43	37	2
6/5/19	387	261	649	613	478	50
Average	142	246	269	235	223	17

Also See attached sample document.

4. Legal Perspective – Matt Zimmerman: Varnum Law
5. Questions Submitted on cards and read by Larry Nix.

Public Comment: Audio of all questions and comments is on our website: elkrapids.com

Meeting Adjourned: 6:18 PM

Inwood Harbor Community | Elk Rapids, MI 49629 | 2019 Water Sampling

There has been some water quality concerns around the community of Inwood Harbor near Elk Rapids, MI. It was decided that some water sampling should take place. SOS Analytical out of Traverse City, MI was brought in to assist in processing and collection of water samples. SOS has been a part of a long term E.coli sampling program throughout the Grand Traverse area. They perform samples such as this all summer long at many locations and are certified for compliance monitoring under the safe drinking water act.

Jack from SOS met with Brad with Performance Engineers, Inc. onsite during the first day of sampling. They surveyed the site to determine where the best areas to take samples, how many locations to sample from, and how many events to complete. Jack recommended that one event per week for the next 3 weeks is what he could get done prior to the scheduled informational meeting.

The locations sampled from are identified as:

1. South End
2. Boat Launch
3. Harbor Mouth - This is the North shoreline leading out to Grand Traverse Bay.
4. 6724 E. Harbor Dr. - This is across from the harbor mouth along the East side of harbor.
5. Birch Lk Outlet - This is taken from the water that outlets Birch Lake.

(Table below represents E. coli test results completed by SOS Analytical between 5/21/19 and 6/5/19)

SOS ANALYTICAL WATER SAMPLING (E. COLI COUNTS IN COLONIES PER 100mL)						
DATE	1 SOUTH END	2 BOAT LAUNCH	3 HARBOR MOUTH	4 6724 E. HARBOR DR.	INWOOD HARBOR SAMPLE AVG.	5 BIRCH LK OUTLET
5/21/19	23	435	111	50	155	0
5/29/19	17	42	47	43	37	2
6/5/19	387	261	649	613	478	50
AVERAGE	142	246	269	235	223	17

This sampling data is just a small snap shot of what is happening with the Inwood Harbor area. You will notice that all samples collected show some level of E.coli. The first event had a mean count of 155 per 100 ml. This event was taken on the day that is believe to be when the mouth dredging began. The mouth was not open at this point. The next event was lower with a count of 37 per 100 ml. This lower number may be contributed to dredging and the opening of mouth and movement of stagnant water outward. The last sampling event was taken on the Wednesday following Memorial Day weekend. These numbers were by far the highest of the three events sampled with a mean count of 478 per 100 ml. This number would trigger a "no total body contact" by itself without the need for a 30 day geometric mean. Location 5 at the Birch Lake outlet serves as a control for the Inwood Harbor events.

You can easily determine that Birch Lake has no significant E. coli counts, and is in no way contributing to the high E. coli levels found at Inwood Harbor.

We are recommending that continued sampling be performed for the remainder of summer so as to see what a 30 day geometric mean would look like. Not enough events have been sampled yet to establish this number yet. However, with the data collected to this point, it is trending as such that the harbor water would exceed the 130 E. coli colony count per 100 ml for a “no total body contact” result.

It should be noted that E. coli counts can vary from event to event from natural fluctuations. This is the reason for recommending the continued sampling. We would also like to recommend that some samples be taken from the underdrain system that was installed around Inwood Harbor to lower the natural ground water elevation for septic field approvals. This sample would be assumed to be near or at zero given its purpose to lower clean ground water. If it was found to be high in E. coli it would indicate that community drain fields are reaching the underdrain system and thus discharging into the harbor.

(Consider the following information regarding safe E. coli levels in surface water)

E. coli standards for water used for total body contact recreation are provided in the Michigan Public Health Code and Rule 323.1062(1) of the Part 4. Water Quality Standards (Promulgated pursuant to Part 31 of the Natural Resources and Environmental Protection Act, 1997 PA 451, as amended). R 323.1062(1) states, "All waters of the state protected for total body contact recreation shall not contain more than 130 Escherichia coli (E. coli) per 100 milliliters (ml), as a 30-day geometric mean. Compliance shall be based on the geometric mean of all individual samples taken during five or more sampling events representatively spread over a 30-day period. Each sampling event shall consist of three or more samples taken at representative locations within a defined sampling area. At no time shall the water of the state protected for total body contact recreation contain more than a maximum of 300 E. coli per 100 ml. Compliance shall be based on the geometric mean of three or more samples taken during the same sampling event at representative locations within a defined sampling area."