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September 15, 2015
File: 2014-4531.000.E.400

Ms. Tracey Braun, M. Sc.
Director, Environmental Approvals
Manitoba Conservation
123 Main Street, Suite 160
Winnipeg Manitoba, R3C 1A5

**Re: TOWN OF VIRDEN WWTF - NEW EAL
NOTICE OF ALTERATION REQUEST**

Dear Ms. Braun:

On behalf of the Town of Virden, please find enclosed one hard copy and one electronic copy of the Notice of Alteration request for the above mentioned project.

This notice requests minor alterations to the new Licence being prepared for the new Virden WWTF, specifically to the Phase 1 works.

We trust that the enclosed application contains sufficient information for your staff to complete the new Licence. Should the reviewer require any additional information or require any clarifications, please do not hesitate to contact myself.

We thank you for your consideration of this application.

Yours truly,

Ken Anderson
Manager, Water

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Director, Environmental Approvals
Manitoba Conservation
123 Main Street, Suite 160
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**Re: TOWN OF VIRDEN WWTF - NEW EAL
NOTICE OF ALTERATION REQUEST**

Dear Ms. Braun:

In accordance with the Environment Act (Section 14), this submission is a request for a minor alteration to the new Licence being prepared for the Town of Virden Wastewater Treatment Facility (WWTF).

With the completion of the Phase 1 Headworks in April of 2015, there were some alterations from what was proposed in the original EAP submitted in January of 2014.

The following revisions are made in reference to the Draft EAL that was circulated by Mr. Boswick earlier this year.

Page 3 of 13:

"Phase One" means all activities and components of the Development associated with the following:

...

- d) ~~new electrical service entrance in the headworks and sub-feed service back to the old wastewater treatment plant;~~

revise to:

- d) *new electrical service that enters one CSTE and it then splits into two services; one feeding the old wastewater treatment plant one feeding the new headworks building.*

- g) ~~relocation of the effluent line away from future related construction areas.~~

Delete from Phase 1. This work will be included in Phase 2.



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16. The Licencee shall, during Phase One operation, utilize a hypochlorite solution that will provide a chlorine dose to achieve effective primary effluent disinfection process with ~~two pass channels with length to width ratio of 40:1 and minimum contact times of 30 minutes at design average daily flow and not less than 15 minutes at design peak hourly flow or maximum rate of pumping.~~

revise to:

16. *The Licencee shall, during Phase One operation, utilize a hypochlorite solution that will provide a chlorine dose to achieve effective primary effluent disinfection process with the existing chlorine contact chamber.*

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Respecting Operation – Phase One

23. The Licencee shall, during Phase One operation, not discharge effluent from the wastewater treatment plant, as sampled at the monitoring station located after chlorination/dechlorination, where:
- ...
- b) the fecal coliform content of the effluent, as indicated by the MPN index, is in excess of 200 per 100 millilitres of sample, as determined by the monthly geometric mean of 1 grab sample collected at equal intervals on each of a minimum of 3 consecutive days per week;

Over the last several months the Town has been trying to increase chlorine dosage to reduce the fecal coliform content of the effluent. At one point they were dosing nearly two 250L barrels per day and the fecal concentration was only reduced to 15,000 to 20,000 per 100 ml. Although there is a sodium bisulfite feed to de-chlorinate prior to the outfall, the Town was concerned with dosing this amount of chlorine into the effluent. It does not seem feasible for the town to achieve the 200 per 100 ml MPN limit with chlorine at this time given that they only have primary treatment in place.

The Town and MB Conservation will likely need to have further discussion on this issue. With the announcement of funding for Phase 2, it is anticipated that the full treatment system will be in place by early 2017, and the new system will then meet the disinfection targets.

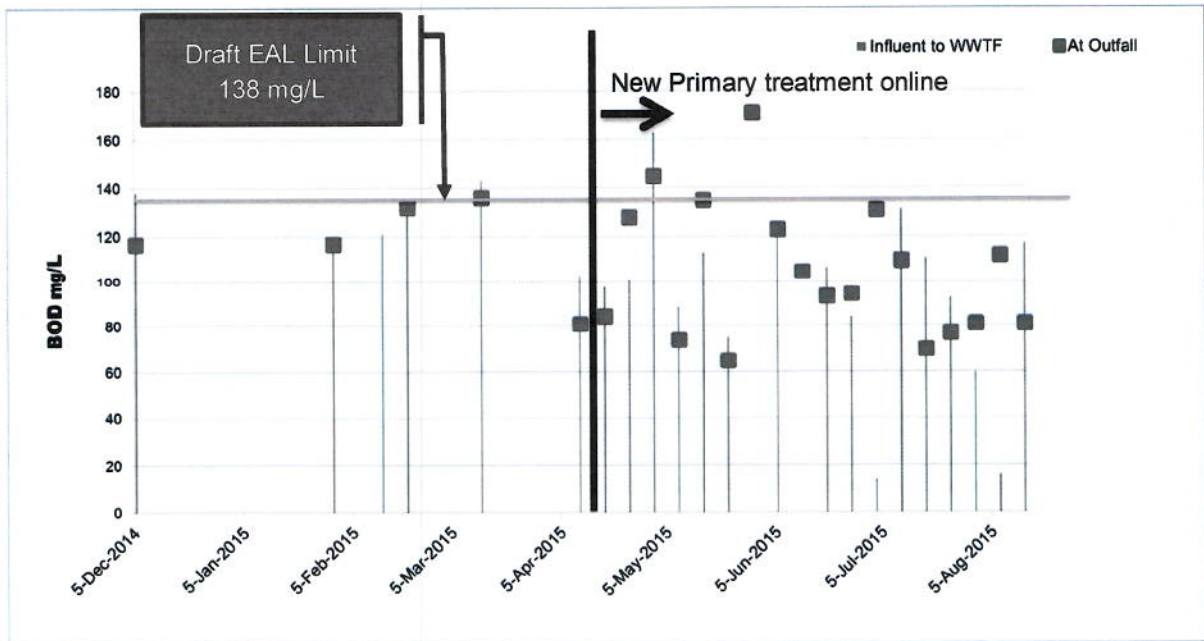


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As additional information, included are the lab summary results from December 2014 through to August 2015. The results show that in general the new primary treatment process is performing as expected with a moderate reduction in TSS and a minor reduction in BOD through the process.

Given that this is only primary treatment, there is no reduction in pathogens to be expected through the Salsnes; this will need to be treated through chlorine addition. The amount of chlorine required to provide sufficient pathogen kill (<200 MPN) is extremely high and concerning to the Town. As the flowing charts show, the Fecal count was reduced to near 230 MPN at one time, but at the cost of two sodium hypo barrels per day. The Town feels this amount of chlorine, even when suitably countered with de-chlorination, can be more harmful to the environment than the elevated Fecal counts. Thus they are currently dosing a barrel every one to two days.

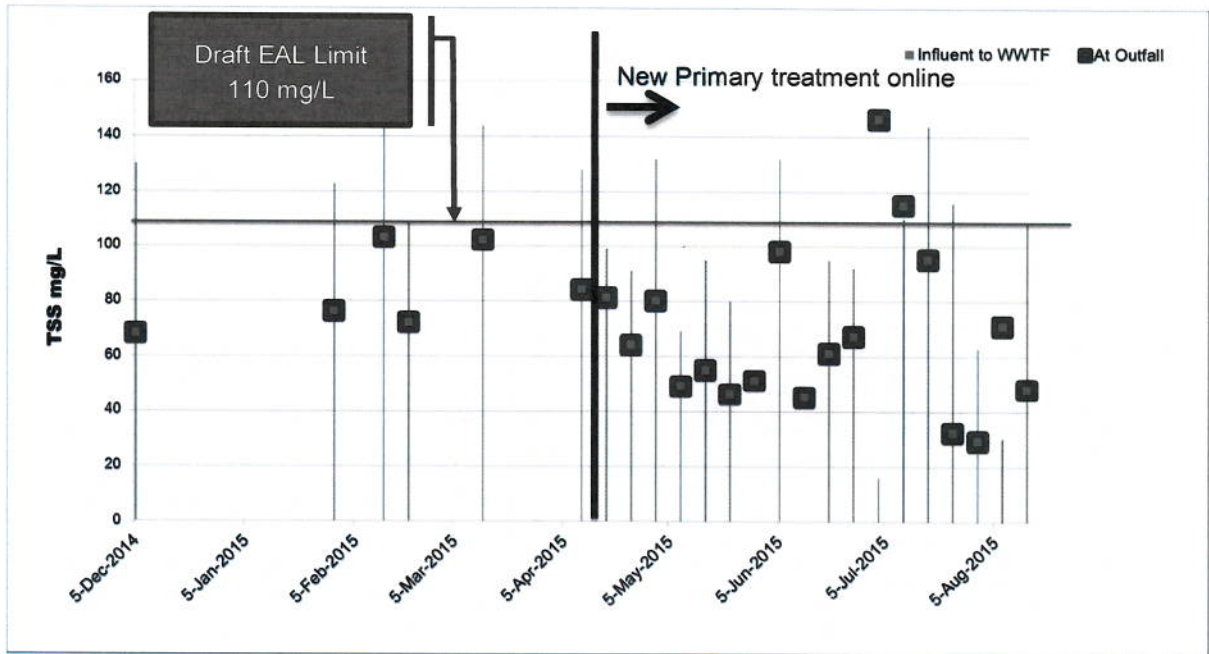
Virden BOD Results





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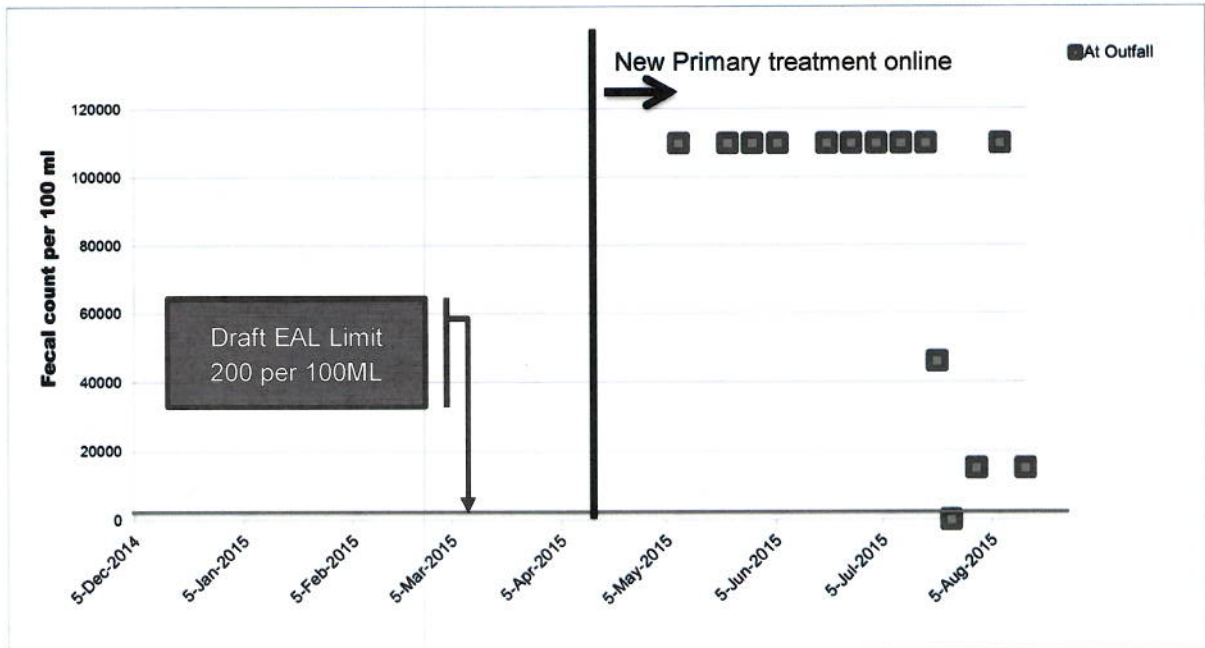
Viriden TSS Results





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Viriden Fecal Results



If there are any questions regarding this submission, please contact the undersigned.

Yours truly,
Associated Engineering Ltd.

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