



CLEARWATER RIVER WATERSHED DISTRICT

75 Elm Street East, P.O. BOX 481
Annandale, MN 55302
(320) 274-3935 | www.crw.org

March 3, 2017

Re: Clearwater Harbor & Hidden River Communal Sanitary Sewer Systems
Nitrogen Mitigation & Analysis Plan (NMAP) Implementation Update

PURPOSE

The Clearwater River Watershed District (CRWD) has prepared this letter to update residents of the Clearwater Harbor & Hidden River Communal Sanitary Sewer Systems on efforts to implement the Minnesota Pollution Control Agency's (MPCA) mandated Nitrogen Mitigation & Analysis Plan (NMAP). This plan is a requirement of the MPCA's operating permit both systems fall under. The CRWD, as owner and operator of the systems, is mandated to implement this plan.

BACKGROUND

The two sewer systems are located north of Clearwater Lake. The systems treat wastewater for 112 properties in a manner that must protect groundwater as well as nearby surface waters from sewage pollution. Both systems were constructed in the early-to-mid 2000s at a cost of ~\$2 million, paid for by residents via special assessments.

The systems are permitted by the Minnesota Pollution Control Agency (MPCA). The permits have a robust set of requirements which includes groundwater monitoring for nitrogen levels. The original MPCA permit required monitoring of nitrogen via groundwater wells, but in 2014 the permit changed to require that nitrogen not exceed 10mg/liter. One of the monitoring wells located down-gradient of the drain fields for the two systems has had total concentrations above 20mg/liter, exceeding the MPCA policy standards. As such, the MPCA mandated the CRWD address these levels and develop a nitrogen mitigation and analysis plan (NMAP). By May 30, 2019, the CRWD must demonstrate to the MPCA the nitrogen policy standards are being met in order to comply with the permit.

The CRWD Board of Managers has developed the required NMAP and is currently in the process of implementation. For implementation, here is what has been accomplished:

- Held multiple public information sessions for residents of the two systems to provide input;
- Conducted more detailed engineering analysis to determine potential alternatives to meet permit requirements;
- Developed preliminary engineered designs needed to apply for grant funding to offset residents' costs;
- Prepared cost analysis to estimate potential costs;
- Secured placement of the project on the state's project priority list, increasing opportunities for grant funding;
- Contacted state legislators for the support of state legislation to increase grant funding;
- Conducted a detailed hydrogeological investigation to better quantify what is occurring with the groundwater to provide better information for project design.

At the public information sessions in May and June 2016, the Board of Managers made the following clarifications:

- The implementation of a nitrogen removal system rests on the assumption that the State of Minnesota will provide at least 50% grant funding to help offset implementation costs to residents;
- Construction of any nitrogen removal system will be held until after the completion of the 2017 legislative session in the hopes the State will increase grant funding for projects of this type;
- Determined that until such time that the residents of the Hidden River development are able to demonstrate broad consensus regarding decommissioning the Hidden River Sewer System and converting to individual septic treatment systems, the CRWD will not spend any further time investigating this option;
- Funding the implementation of the NMAP will be accomplished by a multi-year special assessment

GRANTS AND LOANS

Numerous grant and loan options were evaluated for the systems' nitrogen mitigation. Currently the Point Source Implementation Grant via the MN Public Facilities Authority provides the best opportunity. If successful, this grant currently reimburses 50% of cost of the project, which includes costs incurred prior to grant execution. The 2017 bonding bills introduced in the Minnesota Legislature include increasing the Point Source Implementation Grant to 80%. Included with this information is a *Contact Your Legislator* request; you are encouraged to contact your legislator to voice your support for this grant program.

OPTIONS TO REDUCE NITROGEN

Four options were evaluated to meet nitrogen reductions goals. Options one and two below are being considered for the Point Source Implementation Grant. The District is in a good position to receive the grant. Option four (connecting to Annandale Municipal Waste Water) is the least-practical option. Current operation and maintenance (O&M) for the two systems is approximately \$70,000 per year.

Option	Description	Estimated Nitrogen Load Reduction	Estimated Capital Cost	Estimated Annual Operation & Maintenance
1	Orenco Treatment & Denitrification System	50%	\$1,620,000	\$68,000
2	Bio Microbics Treatment & Denitrification System	45%	\$1,160,000	\$72,000
3	Recirculating Gravel Filter & Denitrification System	40-75%	\$1,440,000	\$66,000
4	Connect to Annandale Wastewater System	100%	\$4,850,000	\$127,000

ESTIMATED RESIDENT COSTS

Below is an estimated break-down of the options per resident.

Option	Description	Estimated capital cost per household (1- w/o grant, 2- w/ 50%grant, 3- w/ 80% grant)*
1	Orenco Treatment & Denitrification System	1- \$14-17K 2- \$7-9K 3- \$3-4K
2	Bio Microbics Treatment & Denitrification System	1- \$10-13K 2- \$6-7K 3- \$3-4K
3	Recirculating Gravel Filter & Denitrification System	1- \$12-15K 2- \$6-8K 3- \$3-4K
4	Connect to Annandale Wastewater System	1- \$40-49K 2- \$20-25K 3- \$9-11K

*Factors in additional costs, such as bonding and one year O&M reserve

UPCOMING LISTENING SESSION WITH LOCAL LEGISLATORS

As requested by sewer systems' residents, the CRWD is hosting a listening session where residents can voice their concerns directly with Senator Michelle Fischbach and Representative Jeff Howe. The session will focus on the MPCA's permitting actions and the need for the state to assist residents with the costs to meet said permit requirements. This session is scheduled for March 25th, 2017 from 9am-11am at Lynden Town Hall (21367 CO RD 44 | Clearwater, MN 55302, see map link below). We encourage residents to speak with one other in terms of ride sharing.

<https://www.google.com/maps/place/21367+Co+Rd+44,+Clearwater,+MN+55320/@45.4322338,-94.1101976,17z/data=!3m1!4b1!4m5!3m4!1s0x52b48cf329d63be3:0xf95fb62a8ad188b2!8m2!3d45.4322338!4d-94.1080089>

SUMMARY

- Clearwater Harbor and Hidden River Communal Sewer Systems are not meeting Minnesota Pollution Control Agency permit requirements. Operational modifications continue, but have not resolved the high nitrogen levels.
- CRWD has developed and is implementing the required NMAP. The implementation of a nitrogen removal system (options listed above) rests on the assumption that the State of Minnesota will provide at least 50% grant funding to help offset implementation costs to residents.
- CRWD engineers remain in close contact with the Minnesota Pollution Control Agency and with waste water experts in the state to formulate the most cost effective solution.
- Legislation has been introduced in the Minnesota Legislature that includes language to increase the Point Source Implementation Grant from 50% to 80%.
- Residents are encouraged to contact their state legislators to support the increase in the Point Source Implementation Grant. Included with this mailing is a sample letter to send to your state representative and senator. A face to face meeting with your legislator is the most effective method. A hard copy letter is believed to be more impactful than an email.
- The CRWD is hosting a listening session on March 25th, 9am-11am at Lynden Town Hall (21367 CO RD 44 | Clearwater, MN 55302), for residents to voice their concerns directly with local legislators on both the MPCA's permitting actions and the need for the state to assist residents with the costs to meet said permit requirements. Please plan to attend as constituents attending meetings has impact and consider car-pooling.
- The Clearwater River Watershed District is committed to the residents of Clearwater Harbor and Hidden River to resolve the nitrogen mitigation issue in a long-term, fiscally responsible manner. Potential District funding, grants, loans, and other creative approaches continue to be explored.