

GRATTAN TOWNSHIP

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Grattan Township Sewer Systems Update - Spring 2010

For the benefit of residents that are utilizing the Grattan or Grattan/Vergennes sewer systems, the Township would like to provide some information on your sewer systems and updates on completed and planned capital improvements to these systems as well.

The Grattan and Grattan/Vergennes sewer systems were built in 1978. These systems service 743 REUs (Residential Equivalent Units) in the Township, which accounts for over 50% of our Township's population. The purpose of the installation of these systems was and is to preserve the lakes' water quality and to provide for the health, safety and welfare of our lakes residents. Under normal operating conditions, the life expectancy of this type of system is 30 years.

The Grattan sewer system services the households around the perimeter of Big Pine Island Lake. The Grattan/Vergennes system services households around Murray Lake, Big Crooked Lake, Ratigan Lake and along certain portions of 5 Mile Rd. Each of these systems is comprised of numerous pump stations (total of 53), lagoons (4 at each site) for wastewater treatment and an irrigation system at each site to spray treated water onto adjacent fields. The asset value of these systems is currently \$5.6 million. (The 5.6M dollar value does not include depreciation).

The sewer systems are over 30 years old and have been evaluated by numerous O&M providers and engineering firms over the past 7 years. The summary of the findings are the same (all indicating progressive deterioration of the system). They conclude that the township needs to provide funding for replacement and improvement of the mechanical components of these systems to improve the useful life of the systems and to avoid catastrophic/emergency failures in the system. The worst case scenario is that these failures would typically lead to sanitary sewer overflows (SSO) in the township's lakes and/or interruption of the sewer service for lakes' residents for a period of time. If an emergency like this occurred today, no sewer reserve funds currently exist to deal with financing a project of this magnitude. Cannon Township experienced such a failure two years ago at a (reported) cost of \$235,000.00.

Grattan Township initiated a plan 7 years ago, with previous operators and boards, to devote a higher percentage of fees and future funding to capital and equipment replacement versus O&M (break and fix). We adopted a "proactive versus reactive" strategy with the current operator. Twenty (20) percent of your user fees for the past two years have been utilized and earmarked for equipment replacement. A change in the Sewer O&M provider was also completed in 2009 to bring O&M costs under control and to provide increased technical expertise in the improvements needed in the sewer systems. The new O&M provider has delivered on both goals.

The township embarked on "Phase 1" of a capital improvement project in 2003 to address the issues that presented the most risk to the systems. This was a \$575,000 (before interest and loan costs) capital project that was financed by sewer users via a special assessment of \$940.00 per user. Users had the option of paying this in a lump sum or in annual billings over 10 years. This money was utilized to perform the

following repairs: reline the concrete of three major pump stations at the lakes where the concrete was failing, to raise man ways in yards/easements, digitally inline inspect gravity main lines in the systems, install (10) Mission dialers at pump stations that had no auto call in emergency dialers on them, replace floats in all pump stations, replace 32 pumps, install four new control panels and to replace (12) corroded guiderails at pump stations.

The net result of the "Phase 1" improvement project has been reduced emergency call outs, reduced number of sanitary sewer overflows, reduced risk of a catastrophic failure and an increased useful life of many parts of the sewer systems.

Unfortunately, the recent "Assessment of Facilities" report submitted by Infrastructure Alternatives(IA) in September of 2009 details numerous mechanical upgrades at pump stations and the treatment sites that still need to be addressed and planned for over the next five years. Many of these issues have been noted in prior years but were delayed due to other, higher priority items. Again, the systems are over 30+ years old and many mechanical components and controls in the system are obsolete (parts not available) and/or are beyond their estimated useful life (i.e.; high risk for failure).

The IA report estimated a need for investment of over \$800,000.00 over the next 5 years to replace or upgrade components in the systems. Approximately 50% of this estimate is for new control panels at (32) pump stations. The township and IA are in the process of prioritizing the list of recommended improvements and investigating ways to reduce the costs on the individual items as well.

It is important to note that since Infrastructure Alternatives has taken over as the township sewer O&M provider in May of 2009, they have accomplished the following: reduced the lagoon levels in the Grattan site to normal/low levels, reorganized and repaired the buildings at the Grattan and Grattan/Vergennes sites, reduced emergency call out costs by 50%, completed a pump station "draw down study" that highlighted pumps operating at below design capacities, corrected wiring and instrument issues at (25) control panels, and repaired/rebuilt (15) pumps.

A major issue that must be addressed in 2010/2011 is the irrigation system at the Grattan/Vergennes site. As part of the permit renewal in 2010 for this site, the MDNRE (Michigan Department of Natural Resources Environmental) has mandated that the township must replace the current drip irrigation system with a more efficient irrigation system. The old drip irrigation system is 30+ years old, obsolete in design and is not operating to current state operating parameters/standards. Estimates for this project are currently at \$616,200.00, however, the design and firm numbers are not yet finalized with Williams & Works (engineering firm on project) or the MDNRE.

The question for the township is how to finance the Grattan/Vergennes Irrigation Project and the recommended improvements from IA. The sewer systems are self funding and financed solely by the user fees of the 743 REU customers utilizing the systems, or via special assessments to the users.

Initial feedback from some sewer customers and the Sewer Advisory Committee is that residents would prefer not to try to finance the capital projects with an increase to the \$125.00 quarterly user fee. This should be utilized for O&M and normal repairs. Realistically just the increase of a quarterly rate could not finance this large of a project anyway. Hence, the Board has decided upon a special assessment to sewer users to cover the \$616,200.00 (estimated) Grattan/Vergennes Irrigation Project and \$200,000.00 of the proposed IA capital improvements. Sewer users would be given the option of making a one time payment (yet to be determined) for this assessment or making an annual payment (yet to be determined) for 10 years. The special assessment would not commence until the fall of 2010 when the irrigation project commences. (Until we obtain firm quotes on the exact cost of the irrigation upgrade and the sludge

removal, amount of interest on a bank loan and up-front costs such as legal, engineering, etc. we will not be able to determine these numbers. Everyone will know by the autumn of 2010 what these numbers will be.)

In order to finance the remainder of the proposed capital improvements recommended by IA, sewer users will note on their April 2010 billing statement, a second line item for \$25.00 which will be coded CI (Capital Improvement). This money will be used exclusively for capital improvements and equipment replacement on the Grattan and Grattan/Vergennes systems, per IA's recommendations. Items requiring replacement will be highly scrutinized, prioritized and individually approved, on a line item basis, by the township moving forward. The township will review the progress each fiscal year and determine annually if this user fee for capital improvements needs to be increased, decreased or eliminated.

Another issue that is looming in the future is the sludge levels in Pond #1 at the Grattan site and Pond #1 at the Grattan/Vergennes site. These ponds have never had sludge removed from them since their installation in 1978. Sludge has built up in these ponds to a point where it has decreased the volume of the ponds and may start to transport sludge into the secondary ponds at these sites. The township and MDNRE may be forced to address these projects in the near future. We are awaiting test results in the spring from vendors and IA to determine how critical this is. Initial cost estimates to remove sludge from these ponds is \$400,000.00 (estimated) per lagoon. We are anticipating firm bids from vendors on this work shortly.

We are very aware that times are tight locally and that finances are stretched as well for many of the Grattan Township sewer customers. The township has spent years trying to find alternative funding (i.e. grants) for these projects and have only been addressing the most critical items that we can, budget permitting. Unfortunately, the state has now demanded we make some major investments in one of our systems and we need to take proactive steps to increase the useful life and dependability of the sewer systems as well.

(The township engineers and the sewer administrator have been investigating grant sources for quite some time. There just are not any grants currently available for wastewater upgrades, especially in a township with our median income level.)

A detailed presentation on the sewer systems can be accessed on the Grattan Township website under the "Sewer" tab on the left side of the home page. Also on the website is the detailed report submitted by Infrastructure Alternatives and the "Wastewater Rate Study" submitted by Prein & Newhof in 2007.

Some resident have asked what they can do to help control or reduce the operating costs of our systems. A simple answer is to think about what you dispose of in your household into the sewer system. Anything that goes down your drain must go thru a number of pumps with impellers or blades and eventually ends up in our lagoons. The items that cost you, the users, and the township the most problems and emergency call outs are: rags, diapers, baby wipes, tampons, cooking greases/oils, toys, clothing and almost anything small enough to fit down the drain or toilet. Any of these items will clog a pump or stop it from working, can cause an overflow at a pump station and a resultant emergency call to site. Grease and oil build up on the walls of a pump station and can cause floats to fail and increase maintenance costs, as these wells then need to be cleaned out periodically to remove grease.

Salts or chlorides are not kind to our lagoon and irrigation field as these salts build up in concentration in the irrigation field eventually and cause issues with the DEQ and our sewer permitting. It's recommended that water softeners not discharge into the sewer systems but rather into a separate wet well or collection area in your yard. The salt you place in your softeners eventually ends up in the treatment lagoons and then back into the groundwater. Obviously we do not expect everyone to revise their softener plumbing

due to their lot configuration or due to costs. But, if some could, or even if new construction or remodeling were planned for this, it would benefit the sewer systems in the future.

If you experience a power outage in your area remember that most of the pump stations require restarting by our O&M provider once power is restored. Even if it is a momentary power interruption please be cognizant of pump stations in your areas and report all power outages to the emergency phone number: 691-7784. Also try to minimize your use of water during a power outage to limit the load on the sewer systems. During a power outage our O&M provider needs to transport a portable generator to the majority of major pump stations in the systems in order to keep wastewater flowing and preventing backups and sewer overflows.

If you require any additional information on your sewer systems or have any questions, feel free to contact us at the township office via phone or email. Your Lake Association or Sewer Advisory Committee members can also provide you information as well.

As a closing note I would like to invite any township sewer customer to a sewer tour that will be conducted on April 27, 2010 at 6pm. We will all meet at the township hall, break down into smaller groups if necessary and move out to see some of the major pump stations and both of the treatment sites.

After the tour, for those interested, Infrastructure Alternatives (our operations and maintenance providers) will be serving hot dogs at the Grattan Vergennes treatment site.

This will be an excellent opportunity for our sewer customers to gain first hand knowledge of their sewer system and how it operates.

Sincerely,



Grattan Township Board
Frank Force
Sewer Administrator