

As Ratepayers would we be receiving good value for a Low Pressure System as an Alternative? *Filet Mignon or Tube Steak?*

Alberta generally does not have low pressure systems of this scale and size to compare to. Most systems in operation presently are connected to communal tanks and then truck hauled for further treatment. Some are villages that are nearby to the disposal site (lagoon). One system on the north shore of Lac St. Anne is comparable and has piping but is not in operation. A survey of other municipalities and regions who have experience with low pressure systems is revealing. Below is a summary of those experiences.

I'm paying them to take it away, not to bring it to me!" Canmore (170 dwellings)

Those in South Canmore fed up with their low-pressure sewer system and want a change would see it come with a hefty price tag. Town of Canmore manager of engineering Kevin Van Vliet was in front of council last month with an overview of what it would take to change the area to a gravity sewer system. Van Vliet said at a minimum, without taking into consideration costs per homeowner to hook into a new system, it would cost up to \$5 million to make the change.

"Some people have had very bad experiences," he said. "It would not be a cheap transition."

Rocky Mountain Outlook - October 2010

System in British Columbia _(locality is confidential)

Please note: We would like to remind those residents with homes on the low pressure sewer system (homes with individual sewer pumps) to please flush plenty of water through your system prior to vacating the home for an extended period of time. This practice will prevent sewer odour from forming and releasing upon initial use after sitting idle for weeks or months.

So, after a few months, the system has fouled again. Low seasonal populations causing high retention times are the root cause of the problem according to the senior operator. What is planned now is a chemical intervention using BioMax tablets that would be flushed into the system by residents.* It would provide oxygenation to the system to hopefully keep sewage from turning septic (*Using additives could be used in grinder pump systems only*). Water sample tests in the collection pipes show readings for **e-coli of 240,000 per 100ml and total coliform reading of 5,000,000 per 100ml**. Allowable limits for discharge to a watercourse in Alberta are readings of 200 per 100ml for e-coli and 1000 per 100ml for total coliforms. There would be dilution from the pipe to the receiving treatment facility, but dilution alone is obviously not possible when it factors of 2000 to 5000 are required. Not surprisingly, this jurisdiction now has policy to discourage the use of any further low pressure sewer systems.

HINTON ALBERTA _ *Odour Issues with Low Pressure Sewer portion (Woodley Drive)*

WOLF CREEK ESTATES, ALBERTA _ *System froze_ A well was drilled and commissioned to pump freshwater through the system in winter months*

CADOMIN , ALBERTA _ *System froze_ Pipes re-excavated and heat tape added*

SCOTT TOWNSHIP COLUMBIA COUNTY PENNSYLVANIA - 2011-13 *Times Tribune*

Nearly 20 months after contractors installed the multi-million dollar sewer system, Scott Township Sewer Authority members are still searching for answers to a smell that has blanketed the township.

"We should not have to be dealing with this issue right now" said Mr. Giannetta, adding that BCM Engineering's "defective design" failed to address the "well known" problem associated with low-pressure systems.

Chairman Stanley Stracham of Scott Township Sewer Authority commenting on their Low Pressure System " sewage stays in the sewer lines too long and rots before it gets to the pump station" ... BCM Engineers sued by Lackawanna County over gas odor problems.

Seeking debt relief from a multimillion-dollar sewer project, Scott Twp. Sewer Authority authorized its attorneys to take legal action against BCM Engineers. Trouble with Clark Summit-based BCM began when the firm charged the authority \$24 million to construct a township-wide sewer system that often produces a noticeable odor. BCM had originally bid the project at \$18.5 million and told the authority there would be no odor, Scott Twp. supervisor and sewer authority member Michael Giannetta said.

In 2011, the authority hired Glace Associates for an independent assessment. That study found BCM was primarily to blame for the overrun due to errors in construction and design. BCM's failure to include odor reduction in the system also resulted in the unpleasant smell, Glace found.

Details about when a lawsuit will be filed by were unavailable, but sewer authority chairman Stanley Stracham said he hopes action is taken soon.

The township received about \$9 million in grant funding for the project but had to take out loans to cover the remaining \$15 million. After not receiving state aid for the project, the authority was forced to raise rates to \$88 per household.

Less than two years after officials finished installing the township's low-pressure pump system, members of the sewer authority Tuesday agreed to a temporary solution designed to combat the lingering odor issue.

At a Scott Twp. sewer authority meeting, Dan Farnham of Farnham & Associates of Clarks Summit presented a list of steps authority members should take to "permanently fix" an odor issue caused by the township's six pump stations. The cost is still unknown.

The permanent solution involves the purchase of sodium hydroxide and a calcium nitrate solution, but Mr. Farnham said he likely won't be able to move forward with that until this summer.

In the meantime, officials agreed to purchase a number of high-powered fans to be placed at the edge of each pump station to disperse the smell. The brand and size will be recommended by Mr. Farnham in the next few days.

Though nothing is finalized, the fans will likely cost the authority around \$10,000, Chairman Mike Grant said.

"We need to do something because we have received a number of complaints, and the problem seems to be getting worse," Mr. Grant said. "Everything that has been done thus far has been ineffective."

Since August 2011, when installation was deemed complete, the odors emitted from the pump stations scattered throughout the township have been a source of frustration for residents.

At the recommendation of the authority's engineer, officials have purchased a number of proposed solutions, including activated charcoal canisters for about \$7,000.

But nothing has stopped the smell, Mr. Grant said. Two weeks ago, the authority turned to Mr. Farnham, who examined the pump stations and the odor being emitted by them.

“It is not an unusual problem,” said Mr. Farnham, who said the location of the pump stations aren’t the best. “Essentially, what you have within the system is a mini bio-reactor. You are making bacteria.”

In the coming weeks, he will conduct an odor logging test, which he said will provide a breakdown of the different compounds involved.

Then, he will know “for sure” what steps are required.

Baby steps in converting McCormick Woods STEP system

by BRETT CIHON, Port Orchard Independent Staff Writer - Jun 29, 2012 at 11:00AM

Known as the McCormick Woods STEP System Retrofit project, city officials are hoping to gradually convert homes in McCormick Woods from the existing septic tank effluent pumping system to a more manageable grinder pump system. The STEP systems, installed in more than 600 McCormick Woods homes, are a combined storage tank and pump sewage system. Liquid effluent is drawn to a city sewer line while solids are stored in home tanks that the city **pumps on a five year cycle**.

Problems with the McCormick Woods STEP system **are numerous**, said Rob Putaansuu, city council member and chair of the city's utility committee. **Effluent from the system is corrosive to the city's sewer infrastructure.**

The city spends about \$70,000 a year to pump out home septic systems and perform other regular maintenance to the system. The STEP systems are commonly clogged with feces, clothing and other foreign objects. The most worrisome problem for McCormick Woods homeowners is effluent from the sewage pumped to a tank near the entrance of McCormick Woods emits a powerful odor, especially in the warm summer months.

"The homeowners' biggest issue out there is the odor caused by the STEP systems," Putaansuu said.

The city has gradually tried to ween McCormick Woods residents off the step system to a different pumping system more in line with the remaining city homes. In 2011, letters were sent to 60 McCormick Woods homes outlining the STEP problems and asking the residents if they would voluntarily switch over to a grinder pump sewage system that would eliminate the problems caused by the STEP systems. In the letter, the city said it would pay for \$6,000 per-home conversion cost.

But after the letter was sent out, the city hit a few roadblocks. First, the bids the city received from companies slated to perform the STEP system retrofit were higher than expected, and needed to go out for rebid. Of the 60 letters that were sent out, only 22 homeowners responded and said they would voluntarily make the switch. Dick Ziglar, a McCormick Woods resident, said he wasn't mailed a letter last year, and doesn't know if he will voluntarily switch sewage systems when the time comes. Unlike other city residents, McCormick Woods residents pay nothing to have their septic tank pumped and all maintenance comes from the city right now, he said. Converting to the grinder system would eliminate the need for a septic tank pump every five years, but Ziglar would be fiscally responsible for maintenance and replacement of the grinder system.

"At the moment I have a system that costs me zero dollars," Ziglar said. **"If I went to the grinder system, there could be some cost for that system."**

The cost, Ziglar said, would come in replacing the grinder pump. Best estimates show grinder pumps cost \$2,700 and need to be replaced every 10 years. The initial pump would be installed by the city, but after that, it's up to the homeowner to replace them. Ziglar said he understands the city is trying to preserve city infrastructure and mitigate odor by trying to have homes in McCormick Woods switch to the grinder pump.

Putaansuu and the city have responded to every question Ziglar has had, he said, and have been very helpful in providing information about making the switch. Ziglar said ultimately, for the good of McCormick Woods and the city, it would be better to switch to a grinder system before the corrosive effluent wore through the city's sewage infrastructure and sewer rates city-wide skyrocketed to replace the damage. But it's hard to make that decision when the fiscal incentive to replace isn't there at the outset.

"It is a somewhat expensive grinder," he said. **"At some point it would need to be replaced."**

Putaansuu hopes with a new bid, the city can start work converting the 22 homes that agreed to move to a grinder system sometime this year. He thinks once those first homes are converted, and yards are intact afterwards, other residents will recognize that converting is the right thing to do. The city had originally hoped to have all of McCormick Woods converted to a grinder system in 10 years. That estimate is a little behind now, Putaansuu said. But he holds out hope that the STEP system and its problems, will eventually be gone for good.

"At some point, we're going to run a normal sewer out there," he said.

<http://www.cityofportorchard.us/step-conversion>