



Maritime Provinces Water & Wastewater REPORT

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NOTE FROM THE CHAIR

Todd Richard
Chairperson of the MPWWA

Another summer has quickly come and gone and now it's crunch time, time to wrap up our water and wastewater projects before the frost sets in and this year's construction season ends.

Hopefully you as members of the MPWWA will take advantage of the Fall lineup of training workshops put together by our Training Chair, Tim Hiltz. Tim has worked hard to provide a good cross section of high quality training to allow our members (new and old) to keep up-to-date with our changing industry and collect valuable ceu's to maintain or increase their certification status while gaining valuable knowledge.

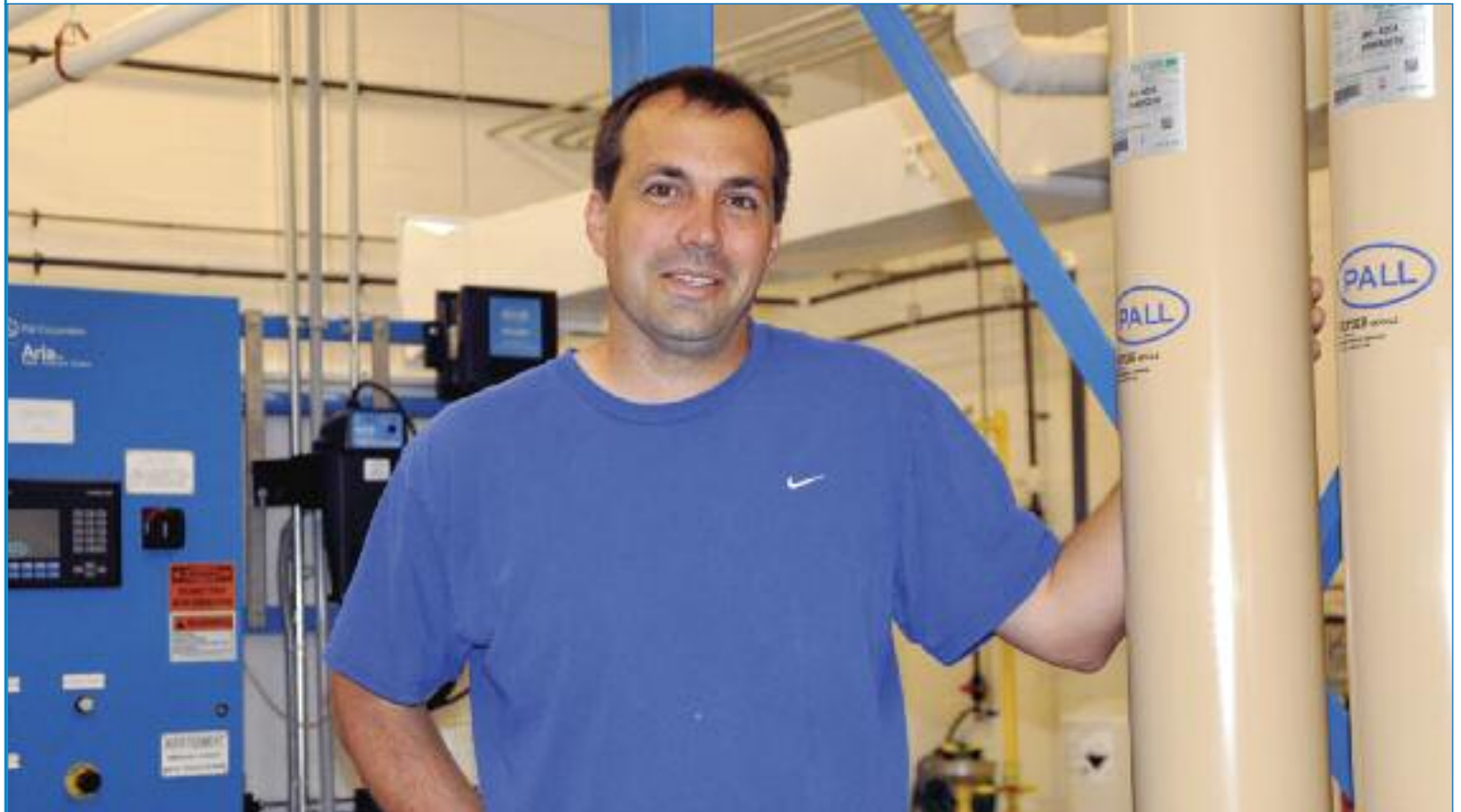
On August 9th, 2011 the MPWWA was officially incorporated, a lengthy process that took many meetings, discussions and deliberations. This was necessary for legal reasons to protect our association. We also updated our by-laws and made terminology changes within them. Please visit the website to see the new by-laws: www.mpwwa.ca

The MPWWA board will be meeting in November to continue working on plans for the 2012 Annual Training Seminar – being held in PEI April 22nd to 25th— led this year by Conference Chair, Jerry Villard.

We have issued a "Call for Presentations" and invite you as members to please bring your ideas forward. Have you been involved in a project or have an innovation or product you would like to share with your peers? Operators love to hear stories from other operators, things like commissioning a new plant, upgrading an old one or a crisis diverted due to the operation excellence of trained knowledgeable operators. Please send in a brief outline for consideration. This year's theme is "The Earth is Our Island – How We Protect It".

There are many things you can do to become more involved in your Association. If this is something you would like to do please contact a member of the board to find out how you can contribute. We welcome all input from all our members as we work to continue to make this association the great one it is.

Todd Richard
Chairperson of the MPWWA



Martin Kehoe stands in the processing room of the Town of Hantsport's Water Treatment Facility. (Photo: Ashley Thompson/Hants Journal)

No quick fix for trihalomethanes: CAO

■ BY ASHLEY THOMPSON
HANTS JOURNAL

Hantsport's council is having no luck finding an easy answer to the (Nova Scotia) town's drinking water dilemma.

These things take time, says Hantsport's CAO Jeff Lawrence.

The town belongs to a handful of municipalities that must reduce the levels of trihalomethanes (THMs) in its public drinking supply to adhere to guidelines set by Health Canada, and regulations enforced by Nova Scotia Environment.

As it stands (Aug. 16), Lawrence says Hantsport's water treatment plant, which also serves portions of Kings County bordering Hantsport and Glooscap First Nation, is a state of the art facility when it comes

to ensuring the water is free of viruses and bacteria.

And, he says, it's greener than most water treatment facilities.

"We have a lot less wastewater than the traditional plant," said Lawrence, during a 40-minute tour of the Bishopville plant.

"It's using filtration instead of chemicals to purify the water."

That may soon change.

Town staff hired CBCL Ltd. to determine if nanofiltration — an enhanced filtration method that would demand more electricity and create more wastewater — or coagulation — a solution that would involve using more chemicals to purify the water — will significantly reduce the level of THMs in the drinking supply.

"When you look at the plant, you understand the complexity of it," said Lawrence, noting that nanofil-

tration would generate more wastewater than the facility's existing backwash ponds can contain.

"It's not as simple as flicking a switch or adjusting a valve."

CBCL is expected to submit a report detailing the pros and cons of both proposed solutions to the Town of Hantsport's staff by Sept. 30. The necessary upgrades could cost between \$500,000 to \$1.5 million.

Martin Kehoe, a water treatment operator who has been working at the plant since 2006, says he feels his hands are essentially tied on the THMs issue until the upgrades are made.

"We're helpless right now. We can't do anything about it right here, right now at the plant," said Kehoe, who conducts regular quality assurance tests on the water treated at the facility.

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Boil water order issued for Greenwood

Greenwood Water Utility customers have been ordered to boil their water. Of the more than 420 campus fountains and cold water taps tested by mid-September, 81 (18 per cent) came back with results that exceeded Health Canada Guidelines.

The Municipality of Kings County (Nova Scotia) issued the order Wednesday (Oct. 5) after one of the two samples taken during the day tested positive for bacterial contamination.

"As a precautionary measure we are advising customers of the Greenwood Water Utility to boil their

water until further notice," said a message from the municipality. "As new test results come in we will update the public as soon as possible."

The utility serves about 625 customers.

People are advised to boil all water for at least 20 minutes before drinking, preparing infant formulas, preparing juices, making ice cubes, washing fruits and vegetables, brushing teeth or any other activity requiring human consumption.

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UNB getting the lead out

BY KATHY JOHNSON

The University of New Brunswick's Fredericton Campus is getting the lead out from its drinking fountains and sink taps after water testing revealed higher than acceptable levels of the heavy metal.

Of the more than 420 campus fountains and cold water taps tested by mid-September, 81 (18 per cent) came back with results that exceeded Health Canada Guidelines.

"All drinking water sources on campus that have exceeded acceptable lead levels have been turned off and/or marked out of service," reads a university statement.

Facilities Management has already begun the task of replacing some of the fountains, with 20 more on order.

"We continue to replace drinking fountains as quickly as we can in light of long delivery times."

The units are equipped with filtration systems to keep the lead out.

The university has also installed bottled water coolers in some areas where drinking water is limited. It is also in the process of replacing taps and faucets.

Further testing is also ongoing, both at UNB and neighbouring St. Thomas University, where elevated

lead levels have been found in five drinking fountains.

"Aging building infrastructure on campus and questions and concerns from students, faculty and staff," were the reasons for embarking on the campus-wide water testing initiative," the university statement said.

Once immediate precautions are taken, the "next steps will be to find out where the lead is being picked up in our water," said the statement. It noted that "in some instances it looks like the lead is being picked up in the fountain themselves and not the pipes."

It is also noted that in a few buildings where piping was replaced in the last few years, there were "better test results in our sampling campaign."

The water tested by UNB was done under a worst-case scenario basis, meaning the water was collected without running the tap for five minutes, as recommended by the Guidelines of Canadian Drinking Water Quality.

"We did this because we recognize that students, faculty and staff may drink the water first thing in the morning without letting the water run."

UNB is advising students, faculty and staff if they are unsure of the water quality from a given fountain or sink, to let the water run for five minutes before drinking.



On Sept. 16 Saint Andrews residents joined Campobello-Charlotte MLA Curtis Malloch, New Brunswick Southwest MP John Williamson and Saint Andrews Deputy Mayor Roger McNabb to officially open the town's improved wastewater treatment facility and welcome the important contribution it brings to the quality of services available to the families, residents and businesses. (Photo: ACOA)

CALL FOR PRESENTATIONS 32nd Annual Training Seminar

Delta Prince Edward - Charlottetown, PEI
April 22nd to 25th, 2012

The Maritime Provinces Water & Wastewater Association will be accepting submissions for workshop presentations for the MPWWA Annual Training Seminar in Charlottetown. Effective and relevant training helps us continue to protect public health and the environment in the communities we serve.

The theme for our 32nd Annual Training Seminar is "The Earth is Our Island - How We Protect It". MPWWA will be accepting abstract submissions for all topics related to water and wastewater that meet with the theme. Presentations shall be 1 hour in length - approximately 45 minutes for the core presentation and 15 minutes to accommodate questions from the delegates.

Have you been involved in a project? Or have an innovation or product you would like to share with Maritime water and wastewater operators? Please provide a brief presentation outline for consideration to share with your peers.

We are accepting abstracts until the program is full. The deadline for abstracts to be submitted is October 31st, 2011.

Abstracts may be submitted electronically in 'Microsoft Word' format for consideration; send them along your contact information to: **Todd Richard, Chairman**, MPWWA, Email: todd.richard@town.windsor.ns.ca; Phone: (902) 798-8000; Fax: (902) 798-0144 or by mail to: Town of Windsor, PO Box 158, Windsor, NS B0N 2T0.

MPWWA TRAINING COURSES

Oct. 3, 2011	Basic Math	Bathurst, NB
Oct. 4, 2011	Chemical Feed Systems	Bathurst, NB
Oct. 5, 2011	Pumps	Fredericton, NB
Oct. 6, 2011	Electrical Awareness	Fredericton, NB
Oct. 7, 2011	Electric Motor Controls	Fredericton, NB
Oct. 12, 2011	Mechanical & Small Engines	Moncton, NB
Oct. 13, 2011	Mechanical & Small Engines	Charlottetown, PE
Oct. 14, 2011	Basic Math	Charlottetown, PE
Oct. 17, 2011	Intro to WD	Windsor, NS
Oct. 18, 2011	Intro to WT	Windsor, NS
Oct. 19, 2011	Intro to WWC	Windsor, NS
Oct. 20, 2011	Intro to WWT	Windsor, NS
Oct. 24, 2011	Chemical Feed Systems	Baddeck, NS
Oct. 25, 2011	Electrical Awareness	Baddeck, NS
Oct. 26, 2011	Electric Motor Controls	Baddeck, NS
Oct. 27, 2011	Lab Skills	Antigonish, NS



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MPWWA PROFILE: Phillip Chiasson

Every issue, the MPWWR shines a spotlight on an MPWWA member making a difference in the industry. Phillip Chiasson is the focus of our October Issue.

Any Given Sunday

■ BY STEPHEN PATRICK CLARE

According to Phillip Chiasson, anything can happen on any given Sunday.

"Because of the tremendous parity in the National Football League these days, anyone can beat anyone else at anytime," explains the operations supervisor for Environmental Industrial Services Inc, the organization that manages provincially-owned water and wastewater treatment systems.

"And that makes for some very exciting games."

The 52 year-old, lifelong fan of the Detroit Lions is cautiously optimistic about his team's chances for this season.

"Let me preface that by saying that, as has happened all too many times before, they have come out of the gate looking good, but they have a long and gruelling schedule ahead of them," he confides. "And when you are the doormat of the league for so long, you are almost always waiting for the other foot to fall.

"But the offence is explosive," he adds enthusiastically, "the defense is strong and if they keep up a good work ethic then they could make the playoffs."

The Glace Bay, Nova Scotia-born Chiasson is no stranger to effort.

After leaving home in 1977 to study chemistry in Michigan, he went west for work before returning to Halifax to take courses in process operations at the now-defunct Nova Scotia Institute of Technology.

After a short stint at the heavy water plant in his Cape Breton hometown, he relocated to Prince Edward Island in 1985 where he

has since worked for Northeast Energy Services, Cavendish Farms and CBSI.

He has been with the PEI provincial government since 2004. "I've got a good gig here," laughs the father of two, and grandfather of three. "And they are going to have a hard time getting rid of me."

He adds that the rewards of his profession are many.

"I have an incredible team of people around me, who are just as committed to making a difference in the lives of others as I am. We share a common vision for the province."

Chiasson concedes there are a number of challenges to doing what he and his peers do on a daily basis.

"Staying on top of all the changes to the industry is a never-ending process," he notes.

"The technology is evolving so rapidly, and the learning curve is so steep, that by the time we are up to speed on one thing, there are ten more things to know."

Still, all things considered, Chiasson believes that the water and wastewater management sector in Atlantic Canada is in good shape overall.

"The funding is there, the infrastructure is strong, the labour pool is deep and the education system continues to produce solid talent," he points out. "So the future of the industry here looks very promising."

He stops short of saying the same for his Detroit Lions, however.

"Well..."

And while Chiasson he is hesitant to make any sort of bold pre-



dition for this year's Super Bowl, he isn't counting his team out of the big game just yet.

"Hey - anything can happen on any given Sunday."



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Efforts continue to control sewage overflows in Charlottetown harbour

■ BY ANDY WALKER

It has spurred protests at city council, resulted in numerous closures of a lucrative shellfishery and been a political football.

However, a long-term solution to the problem of upgrading the storm sewer system in Prince Edward Island's capital remains elusive.

Following periods of heavy rain, the combined sewer collection system in Charlottetown is overtaxed and the overflow goes directly into the harbor. That usually results in the closures of the shellfishery in the harbor and, quite often, adjacent parts of the Hillsborough River.

The answer is an upgrade to the wastewater collection system and the sewage treatment plant—something Water and Sewer Chair Eddie Rice told city council earlier this year would come with a \$24 million price tag. The city councillor said such a large project would require funding assistance from the federal and provincial governments. During the campaign leading up to the October 3 provincial election, both the Liberal and Progressive Conservative parties pledged provincial funding for one third of the project.

The issue made its way into the headlines in late summer after a delegation of five oyster fishermen went to a city council meeting de-

manding action on the issue. They were back by the PEI Fishermen's Association, which represents the majority of fishermen in the province.

"The high frequency of recent discharges of raw sewage affects not only shellfish but also poses a threat to rock crab, scallops, groundfish, lobsters and other small pelagics in the vicinity," said PEIFA Executive Director Ian MacPherson. "The total adverse effects on these species are not known, but we risk losing our stellar reputation for high quality seafood products if this situation is allowed to continue."

PEI Fisheries Minister Neil LeClair agreed a plant upgrade is the answer to the problem, but said action is also needed in the short term. He said in a statement, "Because the upgrades may take some time to implement, my Department is working closely with the affected shellfishers, processors and the federal government to explore alternate harvest options that will support the fishery in the immediate future. We are confident that, when the necessary changes are in place, the frequent closures of shellfish areas in the Charlottetown Harbour area due to by-passes will become a thing of the past."

Communities working out deal for sewer extension

■ BY ANDY WALKER

Negotiations are ongoing in Prince Edward Island between Charlottetown and neighbouring Miltonvale Park about integrating their sewer systems.

"Staff in the two communities are now passing drafts back and forth," said Craig Walker, the utility manager for Charlottetown. "Once we have something we can agree on it will be taken to both councils for final approval."

The issue arose earlier this year when a lagoon that serviced a mobile home park was decommissioned, as it did not meet federal environmental standards. Residents were told they would need to hook up to the capital city system at an additional cost of \$50 per year.

That coincided with a plan by the community council to upgrade its sewer system, and they began talks with Charlottetown to explore the possibility of integration.

Miltonvale Park residents voted earlier this year

to spend \$2.1 million to upgrade its system with a view to hooking up to the capital system. A total of 137 of the 146 people who cast ballots supported the expansion.

Just before the vote, Charlottetown Mayor Clifford Lee indicated that the city would not allow the hook-up until a deal was reached with the federal and provincial governments for construction of a \$24 million renovation to the sewage treatment plant. During periods of heavy rain, the system often overflows, resulting in the closure of the shellfishery in the Hillsborough River.

Lee's pronouncement sparked a war of words between the two communities. They had struck a deal in 2010 allowing Charlottetown to set up a well field on land in Miltonvale Park. The community council has threatened to rescind that agreement unless the hook-up is allowed.

"The final agreement will lay out what both sides expect," Walker said.

NB mining commissioner hearing

New Brunswick's mining commissioner will resume the Penobscis water dispute hearing in Sussex on Oct. 12.

Twenty-five Penobscis residents are looking for financial compensation from PotashCorp.

The Concerned Citizens of Penobscis say they lost the use of their well water in 2004 when the company began seismic testing in the community.

Brian Roulston of PotashCorp told CBC News his company was "looking forward to putting out the facts as we know them to be and countering the complaints that we have heard."

CBC said the mining commissioner is authorized to award compensation but his decision can be challenged in court.

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New sewer treatment plant exceeds effluent standards

■ BY LAWRENCE POWELL
THE SPECTATOR

After \$4 million and more than a year of work, Middleton (Nova Scotia) is state of the art when it comes to sewer treatment. And Middleton Mayor Calvin Eddy said not only is the town meeting its environmental obligations, it now has capacity for growth.

Eddy, along with West Nova MP Greg Kerr, cut the ribbon Monday (Sept. 12) to open the new sewer treatment plant located between Highway 1 and the Annapolis River at the west end of town.

Town CAO Clayton MacMurtry said the plant has a capacity to handle eight million gallons a day, more than enough to meet Middleton's current and future needs.

Kerr, who toured the new plant with Eddy, said he's attended many ribbon cuttings but said ones like Monday's event are the ones that really count, adding that he is pleased the federal government could help with one third of the funding.

Middleton had been under pressure by the Department of Environment to upgrade its sewer treatment capacity.

"The old plant was built 45 years ago and was undersized even when it was built," said MacMurtry. "As the town grew it was not able to process the needs of the town. This plant is eight million gallons per day which leaves lots of capacity for future growth in the town."

STATE OF THE ART

The new plant was built on land just south of the old plant which has been decommissioned and filled in, MacMurtry said. Construction of the new plant started in May of 2010.

He said the new plant is state of the art with liquid pumped by two 30-horsepower pumps into a building that takes out plastics and rags. From there it goes into two lagoons where it is aerated. It then passes into a building where it is UV disinfected. Finally it goes into a wetland where it continues to be processed naturally. MacMurtry said the treated sewer waste goes into the river.

"When it goes into the river it more than exceeds today's environmental standards," MacMurtry said.

The lagoons are bermed and lined with plastic and ladders are built into them in case a person or wildlife happened to fall in. The entire lagoon area is also fenced.

A SCADA monitoring system also town employees to monitor both sewer and water. If something goes wrong, the SCADA system alerts staff via cell phone. Staff can then open a laptop and in most cases resolve the issue remotely – like opening and closing valves.

The treatment plant building contains a laboratory for testing samples, plus offices. And there is a backup generator in case of power failures.

WILDLIFE

An added bonus for Eddy, MacMurtry and town staff is the wildlife component of the new facility. More than 100 ducks have taken up residence at the lagoons and the wetland has become home to several dozen turtles.

MacMurtry said the entire project was complete on time and within budget.



Middleton Mayor Calvin Eddy and West Nova MP Greg Kerr cut the ribbon to officially open the town's new sewer treatment plant on Sept. 12. The \$4-million state-of-the-art facility can handle eight million gallons a day and is more than adequate for the Nova Scotia town's future growth. From left are: Middleton CAO Clayton MacMurtry, councillor Gail Smith, Deputy Mayor Vera Errington, Eddy, Kerr, and councillor Dan Smith. (Photo: Lawrence Powell/The Annapolis Spectator)

Recycling shower water into ice

Hockey players at the Dakota Community Centre may soon be skating on ice made from recycled shower water.

A \$10,000 consultant's feasibility study being conducted at the Winnipeg arena is due Oct. 31.

In July, Water Stewardship Minister Christine Melnick introduced the concept of reusing shower water. She said it will be crucial to determine how to clean the grey water so it conforms to all government regulations.

The arena, being renamed in recognition of the

NHL's Jonathan Toews who played there as a child, has five rinks, two of them outdoors. Its indoor rinks operate seven days a week year round.

Showers at the Dakota Community Centre consume close to 450 litres of city water every hour and 200 litres of water is required hourly to flood each ice surface.

The arena's bill for ice maintenance and shower water is about \$37,000 a year.

If the project is successful, Melnick believes it will be expanded throughout Manitoba.

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Cleaner waterways for Summerside, PEI

■ BY FRANK MURPHY
& CITY OF SUMMERSIDE STAFF

The City of Summerside has long had a vision of a clean waterfront to allow visitors to enjoy the city. An abundance of algae and eelgrass filled the waterfront shore, releasing odors and causing an unpleasant appearance. The original wastewater treatment plant was built in 1973 and provided primary treatment only. Nearing its life expectancy, due to the tightening of regulations, it was decided that a new wastewater treatment plant was to be built to serve the entire city and surrounding areas.

In 2004 a team of engineers and operators from the city started to look at what was needed to best serve the current and future needs of our city. Many different types of treatment plant were looked at and it was decided to build a Biological Nutrient Removal (BNR) treatment facility which was completed in 2008. The release of nutrients into the harbour was one of the main contributing factors to the seaweed problem.

The BNR system that we have is a Johannesburg process with two, seven cell reactors. This model would allow for the removal of nitrogen and phosphorus from the wastewater. There are four mixing chambers and three aerated cells in each reactor. The BNR system starts with a pre-anoxic zone in front of both reactors. This zone is where the return activated sludge (RAS) from the secondary clarifiers gets mixed with the effluent from the primary clarifiers. Cells one and two of the process are anaerobic which is necessary for phosphorus removal. Cells three and four of the process are anoxic and cells five through seven are aerobic with oxygen supplied from air blowers through fine bubble diffusers.

Air levels in the reactor must stay fairly consistent;

this can be difficult in such a municipal plant due to the variance in influent volume and strength over a 24-hour period. We experienced some issues related to low dissolved oxygen (DO) levels in the aerated cells. Unwanted filamentous bacteria (*H. hydrossis* in our case) were forming causing poor settling and denitrification was carrying over into the secondary clarifiers. It took a great deal of trial and error with the reactor in order to get the proper air feed to each cell along with controlling the bacteria population within the reactor.

The creation of a schedule for the air blowers to follow allowed the blowers to respond to the different influent loads that we received at different times of day. With this schedule we adjust the air valves to respond to the DO readings within the reactor. For this plant we have found that carrying 3 mg/L of DO in cell five, 2.5 mg/L on cell six and 2 mg/L in cell seven has been the best defense against the unwanted bacteria that cause so many problems in the reactor.

Another problem that we faced is controlling the volatile fatty acids (VFA) within the primary clarifiers. We found that the longer the retention time of the primary sludge the more fermentation took place and the more VFAs were produced, thus adding a rich organic source to the reactor. VFAs are an important part of the process and essential for nutrient removal but too much will cause problems. Several types of filamentous bacteria will grow with abundance of organic acids and in our case an abundance of *N. limicola* which caused poor settling in the secondary clarifiers. We have found that 20-30 mg/L of VFA was suitable as a food source for this reactor.

Nocardia was another type of filamentous bacteria that we encountered likely due to grease and oil in the influent. This caused poor settling and the only way to get rid of this is to remove it from the



Summerside, Prince Edward Island's Biological Nutrient Removal treatment facility. (Photo: Frank Murphy)

system. It will form foam on the surface of the secondary clarifier and cover the later cells in the reactor. This means bringing in a vacuum truck and sucking it off the top of the secondary clarifier. This is the only real way to remove it as it takes forever to overtake this type of bacteria any other way. Best to be avoided if at all possible.

With the construction of the new and larger plant there were going to be a lot more solids to get rid of and this cost would be double what was being paid at the original plant. It was decided to look at some way of saving this cost by turning the waste solids into a useable product that could be put back onto the land. Different types of biosolids facilities were investigated and it was decided to go with a system called N-Viro that turns usable waste from treatment plants

into a product that can be marketed for sale.

The N-Viro System is the solids disposal entity of the facility. It exists to rid the BNR and primary clarifiers of excess solids in the form of sludge. Each day a "batch" of approximately 120m³ of primary sludge and thickened WAS is mixed. Batch ratios are the single most influential factor affecting performance. A proper batch will take into account the number of hours of wasting and match this amount of WAS with the appropriate amount of primary sludge. It will also include start and stop times of all pumps and mixers in the process. The final product of the batch, known as the "blend", will determine how well the presses will dewater and the amount of lime dust needed to effectively dry the material.

Continued on page 16

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NL announces multi-million dollar infrastructure projects

In August the Newfoundland & Labrador government announced a number of projects through its Municipal Capital Works program that included water and wastewater improvements and road infrastructure upgrading.

The Burin Peninsula received approximately \$3.7 million.

- **Marystown** will have about \$1.7m for a variety of work including the completion of the industrial water supply and water and sewer upgrading
- **Lawn** will receive funding for water and sewer upgrading which includes the relocation of the current Brazil's Pond intake.
- **Fortune** will upgrade water and sewer services in three areas of the community
- **St. Lawrence** will receive funding for phase three of a water and sewer upgrading project. Several communities in the Conception Bay region received approximately \$5.6 m.
- **Conception Bay South** will receive approximately \$3 m for a number of water and sewer upgrading projects, along with street upgrading and paving projects
- **Paradise** will receive approximately \$2 m in funding to complete water and sewer upgrades to Quilty's Road and Stonewall Drive, along with street improvements to Paradise Road
- **Wabana** will get funding for a sanitary sewer service study. Communities in the Harbour Main and Port de Grave areas received approximately \$1.5 m.
- **Holyrood** will replace a sewer lift station, upgrade water and sewer services and extend water and sewer for Ridge Road
- **Brigus** will begin water main improvements

- **Upper Island Cove** will use the funding for to replace the water booster station. The northeast coast of the province received \$6.5 m.
- **Summerford** will update its water system pumphouse with self-cleaning filters and improved chlorination
- **Twillingate** will upgrade its booster pumping station to improve water pressure for some town residents
- **Lewisporte** will conduct water and sewer work on both Main Street and Layte's Avenue and loop the water line in the industrial park
- **Stoneville** will replace water lines and over 40 homes will be connected to water and sewer services
- **Loon Bay** will also replace some water lines with larger lines, which will enhance services. The Bonavista Peninsula and Bonavista North both received \$1.2 m.
- **Bonavista** will receive support to upgrade a water transmission line to provide enhanced water quality to residents
- As per the annexation Memorandum of Understanding between Trinity Bay North and **Little Catalina**, water and sewer upgrades will take place in the community
- **Carmanville** will upgrade its booster pumphouse
- **Cape Freels** will implement a water main loop that will improve chlorination, pressure and circulation
- **Indian Bay** will replace its two current tanks with a larger water tank at a higher elevation. A total of \$2.6 million was allocated for municipal infrastructure projects in Labrador.
- **William's Harbour** will receive funding for

water system upgrades. Trinity-Bay de Verde will receive over \$1.7 million for municipal infrastructure projects.

- **Salmon Cove** will receive funding to extend water service
- **Heart's Content and Heart's Delight-Islington** will receive support to replace sewage lift stations
- **Whiteway** will receive funding to complete a water and sewer project. The districts of Hum-

ber Valley and Bay of Islands will receive approximately \$1.6 m.

- **Deer Lake** will receive funding for water and sewer
 - **Irishtown-Summerside** will upgrade water and sewer systems in Meadow Lanes
- All projects will be undertaken by the province on a cost-shared basis with municipalities with the ratio dependent upon the population of the respective municipality.

'Contractor error' cause behind July flooding incident in Moncton

■ BY KATHY JOHNSON

'Contractor error' has been determined to be the cause behind a flooding incident in Moncton, New Brunswick this past July, where an estimated 14 homes sustained damage when raw sewage backed up into basements and bathrooms during a heavy rainstorm.

The City received complaints of flooded basements on both July 11 and 13, said Alcide Richard, (P. Eng.) director of design and construction with Moncton's engineering department.

In between, on July 12, a month's worth of rain, 38 mm, fell in a few short hours, washing out 12 feet of roadway and creating a hole about one foot in depth on West Main Street, and causing localized flooding throughout the city.

The cause of the road washout was determined to be a faulty pipe "due to a joint separation," stated a City press release.

"This allowed leaking, and during heavy rains on Tuesday evening (July 12), surcharged the pipe. Water then was forced to the roadway, causing the washout."

As for the flooding and sewage backwash into homes, Richard said an investigation found the cause to be "contractor error by a contractor working upstream... on the same pipeline."

Richard said the findings were reported to the committee and the matter is now in the hand of the City's legal department.

"They're dealing with it," he said. Richard said the contractor has been notified of the findings and affected homeowners have been apprised of the situation.

While Richard didn't have a cost estimate of the damage sustained, he said typically, flood damage to a finished basement is an average of \$15,000.

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Kingston to continue to explore water system

■ BY NANCY KELLY

KINGS COUNTY ADVERTISER

The Village of Kingston (Nova Scotia) is moving forward with plans for a potable water system.

Commissioners voted Aug. 11 to continue moving ahead with development following a well-attended public information session a night earlier.

"We are going forward with the question because it is the right thing to do," said chairman Tom Beardsley.

During the information session, Kings County public works director Scott Quinn presented three scenarios for making the transition from its current individual well system to a central system maintained by the village.

"These are preliminary estimates to give a range of costs for installation of a water distribution and supply system," said Quinn.

The options included:

- connecting directly to the municipally owned and operated Greenwood Water Utility;
- installing a secondary line from Greenwood's water towers;
- developing its own water utility and drawing from its own aquifer.

While the first two options could have some drawbacks with the cost of piping in obtaining easements and eventual water pressure, Quinn indicated there "could be some efficiencies in operating costs" achieved if Kingston chose to connect to the Greenwood system in some manner.

At \$19.5 million, the first option is the least expensive, with the standalone water system coming in at \$22.4 million. The second option would cost between \$22 million and \$25 million depending on the route of piping.

Quinn said the village-owned option is cost effective at the development end, but estimates do not include system maintenance or service provision costs.

"And in that case it would be your utility entirely, with all costs born by Kingston ratepayers,"

pointed out Quinn.

Kingston clerk-treasurer Greg Towne broke down the numbers after Quinn's presentation. He projects if the village is able to secure funding through a cost-sharing agreement with the federal, provincial and municipal levels of government, it will cost about \$4,200 per household to connect to a new water system.

When asked if residents would be able to opt out of the system and remain on wells, Towne said the financial models "would go out the window" if opting out was part of the deal. A 90 per cent participation rate would up the costs to \$4,600 per household, a 50 per cent rate would push costs to \$8,300.

Towne noted the village would be able to assist by establishing a multi-year payment plan that would ease the financial impact on ratepayers.

Some in the crowd were skeptical of the process, noting the village went through a similar exercise in 2006. Results from that water study showed 66 per cent of village residents had some concern about the quality of their water.

Some voiced opposition to development of a system because of satisfaction with their well water or concerns about rising costs for water.

"Why fix something if it isn't broken?" wondered one resident.

"Some people want (water), some people don't. I say cut to the chase, hold a plebiscite and get your answer," said Kings County Coun. Wayne Atwater.

Commissioner Scott Peckford, who was on the commission six years ago when the possibility of a central water system was first floated, said it is incumbent on the commission to show leadership on the issue.

"We have an obligation to do what is right for everyone," he said. "If you don't have good water, you don't have a good quality of life."

Kings West MLA Leo Glavine recalled the 2003 water crisis for Bowlby Park residents in Greenwood, who for 15 months "couldn't drink or bathe in their water or sell their homes."

Kings County Warden Diana Brothers added the Bowlby Park contamination caused "a crisis in the community. I encourage you to continue on this path towards developing a new system that

will mean clean water and no worries."

The village has \$53,000 in a reserve fund that could be used to finance the next stage of the development process.

Kingston residents to have option of connecting to water system

■ BY NANCY KELLY

KINGS COUNTY ADVERTISER

New information from Nova Scotia's Utility and Review Board (UARB) has put "a bit of a damper" on Kingston's plans to move ahead with the development of a municipal water system.

The village recently learned ratepayers would have the option to connect to a new central water system. Clerk Greg Towne said reduced public participation would impact the project costs, ultimately putting the burden on fewer people and businesses.

Towne pointed out 100 per cent participation would translate into a setup cost of \$4,200 per household and quarterly consumption rates of \$105. If participation falls to 30 per cent, which has been the case in some Kings County communities where a water distribution system was established in response to environmental concerns, consumption costs would be closer to \$350 per quarter with setup bills running beyond the \$10,000 mark.

Chairman Tom Beardsley, who remains committed to the development of a water system, isn't deterred by the new data.

"We are still going ahead with this, although we

may have to look at doing it in stages. As demands come up we will deal with them," said Beardsley, who acknowledges the system's \$20-million price tag "can be scary."

"But if we can pay for it over 10 to 15 years, the whole thing becomes more manageable."

Beardsley thinks having a municipal water system in the works will be good for business, and future economic development.

"Just look back to the hotel study released earlier this year. It was made pretty clear that a hotel won't come (to Kingston) unless we have water."

Residents should also not lose sight of the fact that at any time the Department of the Environment "could change the rules," and force people to abandon their grandfathered sand point wells for drilled wells.

"Drilling a well can cost between \$3,000 and \$5,000, and that cost won't be split over several years. It's a pay-now situation."

Beardsley is adamant having municipal water will bring the village "into the 21st century," create a healthier environment for residents, enhance property values and foster growth in the village.

"As long as I am here, I am going to push for it," concluded Beardsley.

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Kinkora repairs sewer system

BY ANDY WALKER

Roger Savoie jokes that the upgrades to the sewer system will provide his home community of Kinkora with a first class sewer system “long after I’m gone.”

The community of 350, located in the central area of Prince Edward Island, recently took advantage of joint funding through Build Canada and Build PEI to complete an \$183,423 upgrade to its sewer lines.

The upgrade included removing about 670 metres of deteriorating concrete lines and replacing them with new sewer mains.

Combined with construction of a new lagoon last year Kinkora now has a sewer system that is virtually brand new, the community council chair said.

“We have a few metres of pipe that will need to be replaced in a few years, but other than that we are in excellent shape,” Savoie said.

The sewer utility serves just over 150 customers, all of them located within the boundaries of the municipality. The community does not have a water system, so residents rely on individual wells. Savoie said the project was cost shared equally with each level of government contributing \$61,141.

The council chair said Kinkora has been experiencing steady growth over the last several years. Another \$329,846 project under the building fund allowed for the construction of streets and sewer lines for a new subdivision off Somerset Road.

Continued on page 16



The 2010 aerial photograph of Kinkora shows both its lagoons. (Photo: PEI Department of Environment, Energy and Forestry)

North Rustico prepared for the future

BY ANDY WALKER

The picturesque Prince Edward Island community of North Rustico is a prime tourism destination during the summer months. And that, Allan Nisbet says, presents some unique challenges when it comes to providing water and sewer services.

The population of 600-plus doubles during the summer and Nisbet, who is head of maintenance for the water and sewer utility, explains, “Our sys-

tem has to be ready to handle the increase including some large water users like restaurants.”

Nisbet says that was one of the reasons the community took advantage of funding under the Build Canada and Build PEI infrastructure program to identify a site for a fourth well site. But, he notes there are no immediate plans to bring it into production.

“There would have to be something drastic happen like a contamination of one of the existing

wells or rapid growth in the community,” he explains. “However, it is a nice security blanket that could be bought on stream relatively quickly.”

Nisbet says the \$1,243,749 project also saw a new transmission main installed that connects the wells to a central control building for storage and chlorination treatment. Water systems in PEI are required to chlorinate water under provincial regulations and Nisbet says North Rustico is one of the last systems to come on line.

“We have been chlorinating our water now since January 17 and it has been working reasonably well.”

Nisbet says both North Rustico’s water and sewer system each have about 450 customers.

The infrastructure project was cost shared with each level of government contributing \$414,583. The community was able to access \$207,291.50 from the Gas Tax Fund.

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Concerns raised about NB dams

■ BY STEPHEN PATRICK CLARE

Concerns are being raised across New Brunswick, as many of the province's dams are in need of repair. And with higher water levels from climate change expected for the region in the months and years ahead, some are calling for immediate action to access the risks associated with the structures.

In August, Andy Small of the Canadian Dams Association (CDA) told CBC News that although many dams in NB were in good shape, "there are hundreds of dams in the province and many aren't being managed by the owners effectively."

Speaking over the phone from his home in Fredericton, Small expounds upon the issue.

"These are structures that were originally built for a variety of reasons such as water supply and power in the 1930s, 1940s and 1950s. Some were built by mining and forestry operations. Most of them have now outlived their 50-year shelf-life."

To further complicate matters, ownership of some of the dams is unclear and some landowners do not realize that they own a dam.

"A lot of the firms that built the dams are no longer here," Small notes, "and most of them made no provisions to manage the sites after they left."

"It is difficult to predict what might happen should one, two or more of the dams simply overflow or give way. It could cause something akin to a domino effect, with one breach triggering another breach down the line."

Small points out that "roadways, power lines and other infrastructure could be affected by the resulting flooding. In some cases there can be environmental damage depending on what is contained upstream of the dam."

While the dams in question pose no immediate threat to the province's bigger centers—Saint John,

Fredericton and Moncton, he says the damage to infrastructure could have an impact upon smaller communities.

Although New Brunswick remains one of the few provinces with no management regulations for dams that have already been built, Small says recent developments have raised his hopes that something can be done.

"A group is being formed by the province that is still very much in the planning and strategy stage and it has asked for input from the CDA on how to move forward."

"To get these dams to meet current standards or remove them could be an expensive endeavour," he continues, "and the first step will be to identify those dams that present the highest risk in case of failure."

Those issues, along with others, will likely be addressed at the CDA's annual convention, which will be held in Fredericton from October 15 - 20.

"Much of our talks each year revolve around dam safety," Small says, "so what is taking place here in New Brunswick is certainly going to be on the agenda at this conference."

The annual gathering will see between 250-400 engineers, geoscientists, dam owners and operators from across Canada, the U.S., Europe and even Iran come together for five days of workshops, seminars, round-table chats and social activities.

Topics this year will include surveillance and instrumentation, emergency preparedness, coastal zone and shoreline protection, decommissioning and restoration, and education and outreach.

"It's a real opportunity for us to exchange information and to share best practices with one another," says Small. "Actually, the timing probably couldn't be better."



A water tower in Shelburne, Nova Scotia. (Photo: The Coastguard)

Water towers need expensive paint job

■ BY AMY WOOLVETT

THE COASTGUARD

Two water towers in Shelburne (Nova Scotia) are in need of a very expensive paint job.

It is estimated that the job will cost upwards of \$250,000.

"All you have to do is look at it to see why it would be so expensive," said Chuck Thomas, water plant operator for the Town of Shelburne.

The 105 foot tower, holding 250 thousand imperial gallons of water, is complicated enough to paint because of its size but added to that are the many cross braces lining the structure.

It is estimated that the structure will need to be

painted by next year.

The inside of the unit will need to be sandblasted on the inside and out and primed and painted with a special coating safe for water, giving the structure corrosion protection.

Thomas explained that the tower is at risk of becoming corroded if the problem is not fixed.

"If it's that costly to paint it you can imagine how much it would cost to replace it," he said.

He said that he advised the town to begin budgeting for the project now.

He isn't exact about the figures but will be more certain by the new year.

A new paint job is expected to last 25-years.



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Gov't again turns down Kippens sewer development funding

■ BY CHRISTOPHER VAUGHAN
THE GEORGIAN

They thought careful planning would help cinch the deal.

So it came as a surprise when members of Kippens (Newfoundland & Labrador) council recently (September) learned the provincial government had, for the third time, turned down their request for funding of a proposed sewer development project.

"I've been on council since 2008 and the first two years did the (capital works funding) application out. We were told that it was a great idea but there just wasn't enough money," said Councillor Debbie Brake-Patten.

"That wasn't a good enough answer for council, so we started to arrange meetings with (provincial government) ministers. We went through three ministers and had a great discussion with the late Minister (Diane) Whalen, who informed us the best route to go was the Abydoz engineered wetlands."

Abydoz Environmental, a wastewater treatment firm, had previously set up facilities in such municipalities as Stephenville and Appleton.

Kippens council arranged a meeting with representatives from Abydoz and contracted the company to conduct a \$40,000 feasibility study for their town. The company's engineers recommended a multi-phase approach, the first of which would include the construction of a wetlands sewer treatment system, at a public meeting held in May.

"Fortunately enough, we're going to use our (federal government) gas tax money to pay for

this study, so it's not money out of our own pockets," said Councillor Brake-Patten.

"But unfortunately, the (provincial) government has turned down our application and it's very sad to note that they turned down the application even prior to our study being completed, which means they didn't really have all the facts straight about the plan that we had intended for."

Upon receiving the bad news, council met with Port au Port MHA Tony Cornect, who informed them the government estimated the overall cost of the project to be in excess of \$30 million, making the project unfeasible for the time being.

"When the letter of denial came to the Town of Kippens, I spoke to (Municipal Affairs Minister Kevin O'Brien) on it and I asked the minister, 'How can we move this project forward?'" said Mr. Cornect.

"The minister's intention is to have his assistant deputy minister work with the Town of Kippens how we can best move forward this project, if at all possible."

Councillor Brake-Patten said the town is growing, with both young professionals and retirees moving to the town. However, she noted the current use of residential septic tanks is "a major hindrance to growth and development."

Councillor John Dawson also expressed his frustration with the lack of financial support from government, noting Kippens council consistently took government officials' advice when writing the funding proposals.

"It almost seems to us that if we're going to have success, we're going to have to move this for-

ward from doing things sanely and appropriately and so on, and into the political arena where we ask our political officials why is the town and res-

idents of Kippens not getting the same treatment as residents of other towns in our area and across the province," he said.

\$10K sewer costs for Coldbrook

■ BY KIRK STARRATT

KINGS COUNTY ADVERTISER/REGISTER

If a petition is successful, a handful of Coldbrook (Nova Scotia) residents could have municipal sewer services in the near future, but it will come at a cost.

County of Kings engineering and public works manager Scott Quinn, who presented a staff report on the proposal to council in August, said staff has completed an initial assessment. In late May, the department received a letter from a Lovett Road resident requesting the sewer service extension.

Quinn said the proposed project is somewhat consistent with the integrated communities sustainability plan and consistent with the goal of encouraging growth within existing growth centres. Since the subject area is within the Coldbrook growth centre, the provision of central sewer is supported by planning policy and the area's secondary planning strategy.

Although current policies and bylaws don't specifically address requests for sewer service extensions within growth centres, Quinn said much of the municipality's policy regarding such initiatives is based on a user-pay model. Residents would have to pay to recover the capital costs of the work, estimated at \$78,479 for the roughly 450-foot extension.

Staff is recommending that any petition for the work would have to be supported by two-thirds of eligible residents, agreeing to full capital cost recovery, in order for the project to proceed. The estimated cost per resident, based on eight homes, is \$9,810.

"Some infrastructure projects for water and sewer have been ranging from \$4,000 to \$10,000 as of late," Quinn said in regard to capital costs for residents.

The Lovett Road extension would be at the high end, mainly because of the limited number of potential hookups.

Quinn said the subject area could be serviced by a gravity system or small diameter pressure system. Staff is recommending using the cost estimates for the gravity system for the petition. A sewer survey hasn't been conducted to determine if there are any issues with existing onsite systems but could be incorporated into the survey process.

Staff will prepare a petition based on full cost recovery from residents. If the petition is successful, staff will report back to council's committee of the whole for ratification. If the petition is unsuccessful, staff will send a written report to residents informing them of the results and report back to council.

Quinn said the municipality would probably be ready to start the petition process in early September.

Watching our water

■ BY DIANE CROCKER

WESTERN STAR

[Corner Brook, NL]—Conserving water has become a habit at the Peddle household over the last couple of years.

In 2009, Cathy and Byron Peddle signed on to take part in a water metering project the City of Corner Brook (Newfoundland & Labrador) was piloting.

The project, which involved the installation of water meters in residences, was totally voluntary with no cost to participate.

Cathy Peddle said when she saw the project advertised she thought it was a good idea.

"I jumped at the chance to get a water meter because it was free and I knew that down the road perhaps everybody would have to be metered and then you would have to pay for your meter and pay for the installation, so that was a big selling point for me," Peddle said.

Once the meter was installed the city provided participants with a monthly report on their water usage and with tips on how to reduce their consumption.

Peddle said having the meter has made her family a lot more aware of how much water they were using.

And she said they've taken a lot of steps to reduce that.

Things like not washing clothes until there was a full load or not running the dishwasher until it was full, turning off the tap when brushing their teeth, being more careful of using the watering hose in the garden and not washing their cars as much.

The meter has also made them conscious of other ways to save water.

Peddle said she no longer fills the sink up when

she washes dishes and if she's going to put water in a bucket to wash something she only fills it a third of the way now.

The Peddles also bought a high-efficiency washer that is helping cut down on water consumption.

And she's even found a way to recycle, or reuse water.

Before the water meter, Peddle said, they would just throw the water from their dehumidifier out in the garden. Now she pours that water into a watering can just outside the door of their Country Road home and uses it to water the plants in her garden.

Early in the project Peddle said the monthly reports comparing their household to others with the same number of people showed their water usage was high and the steps they were taking to conserve water didn't seem to be making a difference.

Working with the city the Peddles discovered they had a leak in two of the toilets in their home.

Peddle said they were told to put food colouring in the toilet tanks and not flush them. Sure enough the coloured water showed up in the toilet bowls indicating a leak.

"And when we fixed it our consumption of water went way down."

With the ease of participating in the program, Peddle said she doesn't understand why more people didn't get involved. She said they may have been afraid that they'd have to start paying for their water usage.

"But if you do have to start paying having your meter already installed is a plus for me. And we won't have to learn to conserve water because we've been doing it for the last two years."

Continued on page 16

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Council sets water utility budget for Tatamagouche

BY HARRY SULLIVAN

TRURO DAILY NEWS

[Truro, NS]—The Tatamagouche Water Utility is projected to have an operating surplus of \$3,589 for the fiscal year of 2011/12, based on figures approved by Colchester County (Nova Scotia) council.

Total revenues for the year are set at \$310,961 with operating expenses of \$283,228. When non-operating expenses of \$24,144 are factored in for such things as debt payment, however, the total expenses are projected at \$307,372 for a balance of \$3,589.

That will leave the utility with a deficit of \$35,517. Tatamagouche residents will pay an average base rate of slightly more than \$700 for their water for the year, an amount which Mayor Bob Taylor described as one of the highest in the province.

Rates are set by the Nova Scotia Utility and Review (URB) Board but some councillors believe that

more should be done to offset depreciation values to protect against higher expenditures in future years.

"It's the age-old question about depreciation based on the value of that asset that we have there," Coun. Bill Masters said.

"If we're not charging enough and putting enough aside, all we're doing is postponing the problem and has that been discussed at that utility and are they aware of it? I know it means higher rates but it's either pay me now or pay me later," he said.

"I know you're right," Taylor responded, "but with the rates being probably the highest in the province that's one of the considerations (against the URB increasing the rates further)."

"It's going to come back and bite us one of these days," agreed Tatamagouche area Coun. Jimmy LeFresne.

Possible funding for drainage project

BY MONIQUE CHIASSON

TRURO DAILY NEWS

[Bible Hill, NS]—The commission of Bible Hill (Nova Scotia) is crossing its fingers that substantial funding for a major project will come through.

The village has applied to the Building Canada Fund to help pay for a \$700,000 storm drainage upgrade project at the Bible Hill Recreation Park on College Road.

"If the application is approved, it could pay two-thirds of the project," village clerk Bob Christianson told the Truro Daily News (Aug. 17).

The project consists of replacing the existing concrete culvert under College Road with a new, larger concrete culvert. Inside the rec park, a new culvert would be connected to a 1,200 mm pipe that measures 120 metres.

"The new pipe provides storage for storm water

in heavy rain conditions," said Christianson, adding the current system is past its lifespan.

In addition, the outfall in the back of the rec park, that leads to the Salmon River, would be replaced and a new manhole would be created to help with system cleaning.

Christianson said the current storm drainage system serves "one-quarter or one-fifth" of the village and as the village becomes more densely built up, there is less storage area for such a system.

"It can become overloaded so this these upgrades are allowing for future growth," said Christianson.

Village officials hope to receive word about the funding by the fall. If the application is approved, the village would have until 2013 to complete the project.

Berwick talks wastewater funding with feds

BY NANCY KELLY

KINGS COUNTY ADVERTISER/REGISTER

Berwick (Nova Scotia) officials had a chance recently to sit down with federal cabinet ministers Bernard Valcourt and Peter MacKay to make their case for funding for infrastructure upgrades to the town's wastewater treatment plant.

"We feel very fortunate to have gotten a face-to-face meeting," explained Mayor John Prall.

Chief administrative officer Don Regan also attended the meeting at Cornwallis Park on Aug. 17 with several representatives of the Atlantic Canada Opportunities Agency (ACOA). Prall credits West Nova MP Greg Kerr for making the meeting happen.

"Greg has done a lot of work for us on this," noted Prall.

In June, the town met with federal and provincial government officials about the possibility of securing a funding deal that will allow the town to make the necessary wastewater upgrades in preparation for higher effluent volumes anticipated with the establishment of Eden Valley Farms' chicken processing facility in the former Larsen plant.

Prall said he had 30 minutes to present his case to

the ministers.

"I was surprised how well minister Valcourt had been briefed. He was aware of our project," he said.

Prall added both ministers seemed very supportive of Berwick's request.

Regan's report to the Aug. 23 town council meeting noted "Minister Valcourt agreed to treat an application expeditiously; of course we must meet the criteria, but I believe we can do that."

Prall said the town had received an application from ACOA for funding under Innovative Communities Fund and was being encouraged to start the application process.

"The ball is definitely in our court," said Prall, explaining he is pushing for a funding agreement that will offer a four-way split between the federal and provincial governments, the town of Berwick and a private enterprise.

Prall wouldn't comment on specifics of the private-industry funding component. The entire project, estimated to run close to \$2 million, will allow Berwick to get started on the upgrades that Prall says will serve the needs of the community and avoid a wastewater situation that could make Berwick "a stinky little town."

Bottled water levy to be discussed with province

BY HARRY SULLIVAN

TRURO DAILY NEWS

[Truro, NS]—The Municipality of Colchester is to request a meeting with the (Nova Scotia) minister of environment over the issue of bottled water royalties.

Council has long expressed concern over the extraction of water by private companies that bottle and retail the resource.

Because the Municipal Government Act does not give municipalities legislative authority to tax or place a levy on water extraction, however, the county does not receive any value from such activity.

"I think it is very important (to push the issue)," District 1 Counc. Christine Blair said (in August). "This is a natural resource. Any other natural resource would have a fee and it is something that we are going to have to deal with sometime."

According to a staff report, the government's position is that, "due to the complexities involved and the potential legal ramifications regarding this issue, it requires further study before a decision can be made."

But Mayor Bob Taylor said government officials should be aware of the potential tax gains that could be available if a water levy were enacted.

"The province stands to gain on this also," he said.

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Technology that meets a real need

Northern Sunrise County, Alberta is considering a by-law that would require all agricultural water come from filtered dugouts.

Over the years, steady population, industry and tourism growth in the municipal district, located 485 kilometers north of Edmonton, increased the demand for potable water that exceeded the capacity of its two local water treatment plants.

In 2004 a program to lower the demand on the plants was initiated. One aspect of the program was to provide farmers with an alternative non-potable source of irrigation water.

The County installed 150-micron manually cleaned strainer baskets in two dugouts. But the treated drinking water was not clean enough and deposits—a suspected reaction between chlorine and agricultural chemicals—plugged the sprayer nozzle fine filter screens.

County Utilities Coordinator Brent Schapansky contacted Orival Inc. and told them about the problem.

The company set up a feasibility study to determine if dugout water could be treated and used by farmers without clogging their irrigation systems. It installed an Orival ORG/A-040-LS Automatic Self-Cleaning Filter with a 50-micron weave-wire stainless steel screen to treat the water.

Figure 1 shows the pilot filter.

Water passes into the filter body at the bottom of the filter then through the 50-micron cylindrical screen element. Suspended solids are retained on the screen's surface and the filter cakes capture smaller particles.

When a differential pressure switch senses a sustained pressure drop of 7 psi across the filter, it signals the controller to initiate a rinse cycle. A rinse

valve (1" on this filter model) opens the internal rinse chamber to atmosphere dropping the pressure in the chamber.

Water is forced into the dirt collector's nozzles and out (through) the hydraulic motor in the rinse chamber.

The water movement causes the hydraulic motor to rotate the dirt collector. Water rushes back through the screen at a high velocity pulling the filter cake into the nozzles through the dirt collector, into the rinse chamber and out the rinse valve into a drain.

The dirt collector is held in place by a water-pressurized piston on top of the filter. During the rinse cycle the pressure is bled off allowing the dirt collector to be slowly pushed upward. The combination of rotation and upward linear movement causes the nozzles to pass by and clean every square inch of screen area.

The cleaning cycle takes about 12 seconds. Then the rinse valve closes, the dirt collector stops rotating, the piston is re-pressurized and the dirt collector returns to its lower starting position.

Schapansky says local farmers are thrilled with water quality and even with having to manually trigger filter cleanings on the pilot unit, they would not go back to the old system.

The Northern Sunrise County Utilities Coordinator has maintained a hands-on involvement with the project sampling, testing and analyzing the water. "Our water coming out of the (Orival) filter tested at 1.1 NTU which is just over the Alberta drinking water standard by 0.1 NTU with no chemical treatment."

The County has purchased a second Orival filter and set up a fully automatic self-cleaning filtration



Figure 1

system. The pilot unit will be incorporated into the local treated water reservoir building with a new submersible pump that has sufficient output to make the unit fully automatic.

A heated building and large supply of water at the site of the pilot location could remain open year round for industrial and fire fighting use.

Schapansky says the Northern Sunrise County story is a great testimony to a technology that meets a real need and a filter company dedicated to finding real solutions.

For information about Orival Inc. and its products, contact (201) 568-3311 or filters@orival.com or visit www.orival.com.

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GridBee grid-connected mixers and circulators from SolarBee, Inc. provide superior, economical mixing and are designed for applications where utility power is readily available. Developed from the same long-distance circulation technology as the well-known solar-powered models, GridBee mixers help solve water-quality problems in potable water storage tanks, wastewater lagoons and basins, and park and golf course ponds.

The patented long-distance circulation tech-

nology creates a near-laminar flow that can prevent and control blue-green algae in lakes and raw water reservoirs reduce aeration run-time in wastewater and eliminate stagnation and thermal stratification in potable-water storage tanks.

The GridBee GS-12 submersible mixer thoroughly mixes potable water storage tanks of a wide size range, ensuring uniform distribution of disinfectant, preventing stratification and providing uniform water age. The electric-powered, low-

voltage GridBee GS-12 mixer pulls water right off the tank floor for the most efficient mixing of important boundary layers. The GS-12 mixer is compatible with SolarBee's optional Disinfectant Boost and THM Removal Systems to ensure optimal water quality and help to meet the EPA Stage 2 Disinfectants and Disinfection Byproducts Rule.

GridBee GF Mixers for wastewater lagoons and basins can provide thorough mixing in partial- and total-mix lagoon systems and activated sludge

basins. Mixing wastewater reduces aeration run-time, reducing energy costs. Active mixing can also help control odors, meet NPDES discharge permits, and improve BOD, TSS, ammonia, and sludge reduction. Four models are available, providing a choice of intake designs and mixing capacity.

For more information visit www.solarbee.com.

New sewage treatment plant to be ready by June 2012

BY DARRELL COLE

AMHERST DAILY NEWS

[Amherst, NS]—Construction of Amherst's multi-million-dollar sewage treatment plant is behind schedule thanks to Mother Nature.

Speaking to members of Amherst (Nova Scotia) town council during its September committee-of-the-whole meeting, construction manager George Goad of Dillon Consulting said the project went from being a month ahead of schedule last fall to being a month behind because of a mild winter and wet spring and summer.

There has been above average precipitation in 10 of the 14 months since construction began.

"We're at the point where we're building buildings and completing mechanical systems in the lagoons," Goad said. "The weather has put a delay of about three months in the system that translates to about six weeks added to the construction schedule. Progress is still good and it will not have an impact on the project as whole."

The project, budgeted at \$12 million, will see the remainder of the wastewater removed from the La-Planche River. Brydon began construction of the fa-

cility last summer and was making tremendous progress early on as weather conditions co-operated.

The contractor was hoping for a good freeze-up over the winter to allow crews to return to the site and work on the frozen berms. The weather was milder than expected with little or no frost in the ground, delaying the return of workers to the site over the winter.

Goad said rain and wet conditions hampered construction throughout the spring and summer months while there were also concerns with tempermental soil conditions on the marsh, co-ordinating with the wind turbine portion of the project and concerns with access to the site over the CNR crossing near the LaPlanche Street overpass.

"When the weather is bad you close the site so you don't make a mess," Goad said. "Sometimes when it rained more than one day we had to close the site for a couple of days to allow it to dry. The weather is something you can't control," he said. "Last summer was great and we moved a lot of material and we gained time. We lost it with wet weather."

The project is now scheduled for completion in May or June 2012 and while the project is a little behind schedule, Goad said it's still on budget.



Amherst's \$12-million sewage treatment plant is about a month behind schedule due to weather and other factors. (Photo: Dave Mathieson/ Amherst Daily News)

Digby town council passes balanced budget

BY JONATHAN RILEY

DIGBY COURIER

Digby (Nova Scotia) town council approved a balanced operating budget at their regular Sept. 6 council meeting.

"We're real pleased to approve this," said Mayor Ben Cleveland. "It's getting tougher and tougher every year — all our expenses are going up but there are only so many dollars to go around."

The town's budget rose 0.3 per cent from \$4,228,299 to \$4,244,009...

The town managed to hold the sewer surcharge at \$5.05 per 1,000 gallons. (Town CAO Tom) Ossinger hopes those costs have plateaued now and will begin to drop as the new treatment plant comes online. He expects for example the \$127,000 the town now spends on having sludge hauled away to be drastically reduced.

The five councilors in attendance, Danny Harvieux, Peter Turnbull, Jean Brittain, Brian Manzer and Mike Bartlett; and the mayor Ben Cleveland unanimously approved the 2011/ 2012 operating budget.

Trenton approves various project works

[Trenton, NS]—Work on the storm sewer separation project, continuing the Main Street development project and paving a road to the new seniors complex are just some of the items on Trenton's (Nova Scotia) five-year capital work plan.

The plan, which was approved at Tuesday's council meeting (Sept. 13), was done at the request of the province.

"Every municipality sort of has to earmark where they're going to put money for the next five years," said Mayor Glen MacKinnon. "The government asks us to make the five-year plan, so they know if we're going to borrow money and they have an idea where our capital is headed."

The storm sewer separation project is the most costly on the list, but the \$1.2 million total cost will be spread over more than five years.

The rest of the projects are earmarked for this fiscal year and the next, including \$253,000 for the Main Street project, which covers the costs of a new flagpole and sodding across from town hall.

Paving costs for the new road leading to the seniors complex will total \$150,000, with work expected to commence shortly. Other items are: new computer hardware, \$5,000; a dehumidifier, already purchased for the stadium at a cost of \$25,000; and a new retaining wall on the main street for \$20,000.

The News

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No quick fix for (THMs): CAO

Continued from page 1

“As an operator you never want to know that something is there... you want to see things solved right away and you want things (to be) perfect.”

THMs are chemical compounds formed when chlorine reacts with organic matter, such as leaves, in water.

Kehoe said the level of THMs found in the treated water in Hantsport differs according to the season.

Lori Errington, a communications advisor for Nova Scotia Environment, said Hantsport is one of about six to eight of the 55 municipalities in the province finding substandard levels of THMs in drinking water.

Nova Scotia Environment's website states that it is believed overexposure to THMs could potentially lead to health complications.

“There is concern among experts in Canada that

THMs may pose a risk in the development of cancer. And though there is presently insufficient evidence to establish a causal relationship, some studies report an association between THMs and adverse birth outcomes,” the website explains.

“The easiest way to reduce or eliminate THMs in drinking water is to use a water pitcher with a carbon filter, install a tap-mounted carbon filter, or to use bottled water.”

Lawrence says he gets phone calls about three or four times a month from citizens requesting an update on the THMs situation in Hantsport.

He says he is willing to take residents on tours of the water treatment facility if they are interested in learning more about the treatment process.

For more information about THMs, visit the Nova Scotia Environment's website at www.gov.ns.ca/nse/water/thm.asp.

Cleaner waterways

Continued from page 7

The system includes two; four channel Fournier rotary presses which dewater the sludge blend. Once dewatered to 18-20% solids the cake is mixed with lime and lime dust to bring it to increase the dryness before it goes through a drum style dryer which dries the product to 65+% solids. Our final product is marketed as a lime additive used for the agriculture industry.

One of the main factors used to control the water treatment and biosolids production processes is the results of daily laboratory sampling and testing. Sampling is conducted at the first of each workday

and consists of composite and grab samples, as well as temperature and dissolved oxygen readings, from our raw influent to our final effluent and throughout the process. Internal testing is done in the on-site lab while our regulatory testing (TSS, cBOD and Faecal Coliform) is done by the provincial water microbiology lab in Charlottetown. On site testing consists of Total Suspended Solids, Volatile Suspended Solids, settleability, pH, Alkalinity, Chemical Oxygen Demand, Reactive and Total Phosphorus, Ammonia, Nitrate, Nitrite, Total Kjeldahl Nitrogen, and Volatile Fatty Acids. Microscope analysis is also done on site as well as through consulting agencies.

Summerside Water Pollution Control Centre 2010 Averages

Influent Flow m ³ /day	Final Effluent					
	TSS mg/L	cBOD mg/L	NH ₃ mg/L	NO ₃ mg/L	PO ₄ mg/L	Faecal Coliform MPN
10,000	7	<10	0.3	2.7	0.9	<2

Now that the plant has been in operation for several years and most of the usual bugs have been worked out the plant runs well and produces a marketable solid product and most importantly, a clean and clear effluent. (This article was originally published in the Canadian Municipal Water News & Reviews)

Watching our water

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Rhea Hutchings, supervisor of sustainable development with the city, said 110 meters were installed on homes in the city through the funded project that cost approximately \$2 million.

(In August) She said the pilot project is now in the analysis stage where the data collected through the water meters will be looked at closely to determine where the city goes next.

She said this could involve site visits with participating homeowners, implementing a more active education campaign or even looking at the city's water distribution system to ensure water is not being wasted by leaks.

To find out the attitudes and perceptions of resi-

dents participating in the project, Hutchings said pre and post surveys were also conducted.

She said the results so far from the post survey conducted this summer by a Conservation Corps Newfoundland and Labrador Green Team working with the city show that people have become more aware of water conservation and are more conscientious of their water use habits.

Hutchings said the city is nowhere close to the stage where people could have to pay for their water consumption, but she would like to see more meters installed in city homes.

She said it is possible the city may look at adding more with a new project.

Kinkora repairs sewer system

Continued from page 10

“I understand there is another sub-division now being planned as well,” he said. “It is great to see that kind of development.”

Savoie recently joined Natural Revenue Minister Gail Shea (who represents the province at the federal cabinet table) and provincial Transportation and Infrastructure Renewal Minister Ron MacKinley viewing progress at the new sub-division.

“The development of this new subdivision, along with upgrading our lagoon and sewer lines, is allowing us to prosper and grow as a community,” said Savoie. “Our mandate, as a community council, is to continue to move forward and we are thankful to partner with both the federal and provincial governments to help us reach our future goals.”

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