

Report

The City of Winnipeg Sewer Overflow Information System Pilot Program Year One, 2004

Introduction

Recommendation number 9 of the Manitoba Clean Environment Commission's (CEC) August 2003 report recommended the City of Winnipeg be directed to develop and implement a notification system to inform the public whenever there is a release of raw sewage from any source into the Red and/or Assiniboine rivers. This public notification system should be operational by the beginning of the 2004 summer recreational season.

Objectives

- Ø To demonstrate that the City is a good steward of the environment and is transparent in its management of wastewater collection and treatment processes;
- Ø To inform the public whenever there is a release of raw sewage from any source into the Red and/or Assiniboine Rivers;
- Ø To provide information about the operation of the City's wastewater collection system and the City's future plans to improve the collection and treatment systems.

Background

During the rainy weather season (May 1 through September 30) diluted raw sewage is released to the rivers in varying amounts whenever the flows in the combined sewer system are greater than sewer interceptor capacity.

The Water and Waste Department (WWD) issues a news release whenever there is a heavy rainfall in the Winnipeg area that affects river levels. The message covers river safety and the increased risk of basement flooding.

The WWD project team focused on developing a public information system for combined sewer overflows (CSOs), because these are the more predictable and frequent type of sewage release during the recreation season. The combined sewer system serves about 30% of the city's land surface, primarily in the older areas. There are 41 combined sewer districts with 79 combined sewer outlets. Diversion weirs (dams) located near the outlets of the combined sewer pipes are automatically monitored for high wastewater levels. When wastewater levels rise near the top of the weir an alarm is sent to the central monitoring station.

Sewer Overflow Information System (SOIS) Web site

We determined the best way to inform the public that CSOs are occurring is through an automated webpage available on a 24 hour, 7 day per week basis. The SOI system is based on high level alarm data received electronically at the central monitoring station from approximately 60 sewer outlets along the Red and Assiniboine Rivers. Using that information, the WWD Web site indicates the overflow status of the entire combined sewer system. An 'Indicator' dot on the Web site's 'present status' page changes colour from white (indicating no or low probability of overflows) to yellow or red as the probability of sewer overflows increases. **(See Appendix 3 – Figure 1.)**

The present status page also has a link to a summary of sewer overflows in the last 24-hour period. The duration for any overflow status is shown beside the 'Indicator' dot.

In season, the Web site includes a safety message about recreational use of the rivers. Generally, the public is advised against swimming in the river because of fast currents, cloudy water, and slippery banks. They are also advised never to drink river water and to wash their hands if they come in contact with river water, especially before touching food. Dr. Margaret Fast, Medical Officer of Health for the Winnipeg Regional Health Authority and Dr. Jim Popplow, Senior Medical Advisor, Environmental Health Unit, Public Health Branch, Manitoba Health, were both advisors on these messages and on the general concept of the Web site. **(See Appendix 3 – Figure 2.)**

In addition to the overflow indicator, the Web site provides an explanation of the operation of Winnipeg's combined and separate sewer systems. It explains, with the help of diagrams, why sewer overflows occur. There is also information about the City's plans to improve wastewater collection and treatment processes. These improvements are in keeping with CEC recommendations and provincial requirements.

Citizens without access to the Internet can get information about sewer overflows by contacting WWD Customer Service Monday to Friday (excluding statutory holidays) from 8:30 a.m. to 4:30 p.m.

Communication Activities

On August 4, 2004 the City launched the pilot SOIS Web site at a well attended media information session. The session was hosted by then Public Works Chair, Councillor Gord Steeves. Senior staff WWD explained the history and workings of the wastewater collection and treatment system as well as the future plans for improving the system. Reporters were given a demonstration of the new Web site. A news release was issued at the same time.

On launch day we emailed or faxed letters to rural municipalities (RM's) downstream to the mouth of the Red River. The letters advised Reeves and Chief Administrative Officers of the new Web site and the City's plan for communicating other types of

sewage releases. It provided the Web address for the site, a copy of the news release and invited feedback about the Web site.

Manitoba Water Stewardship received advance notice of the launch event and was provided with a copy of the news release and correspondence with RM's.

Post-Launch Activities

Media coverage of the launch was very good although the stories tended to portray the Web site as an 'alert system'.

In the first seven days after the launch media coverage was as follows:

- ⌘ Nine news items on local television noon-hour, supper-time and evening newscasts (CKY, CBC, Global and A-Channel)
- ⌘ Seven radio news items on various news programs on CBC Radio and CJOB
- ⌘ A story on front page of local news section in the Winnipeg Free Press
- ⌘ Mention of the SOIS in a front page story
- ⌘ A story in the Winnipeg Sun and in the Real Estate News
- ⌘ Coverage on all three local morning television newscasts. (Four times on A-Channel's morning shows)

The late summer and fall periods of 2004 were very wet with above normal rainfall. Reporters who produced weather-related stories often referenced the SOIS Web site.

After August 11 there were 11 news inquiries that resulted in:

- ⌘ Three stories in the Free Press
- ⌘ At least 10 mentions on local TV newscasts
- ⌘ A number of items on local radio

Web site Activity and Information Requests

We regularly monitor page views of our Web site. The highest traffic for the Sewer Overflow Information System was immediately following the launch on August 4th and 5th, with the 'present status' page receiving 1193 views and the 'previous 24' page 623 views. For the period August 4th to October 29th the 'present status' page received a total of 2,824 views and the 'previous 24' 830 views. The 'sewer operations' information page received a total of 971 views, while the four other sewer information pages received a little over 100 views each. The SOIS pages together received a total of 5,068 views during the same period.

The increased traffic to the sewer overflow pages contributed to a noticeable jump in overall traffic to the Web site. There was a 48% increase in average page views per month from August through October in comparison to the previous seven months in 2004. In fact, August, September and October had the highest monthly traffic statistics for all of 2004.

People accessing the Web site can provide feedback through a 'contact us' online form. There were no messages of any kind received about the SOIS while the overflow indicator was live.

Our Customer Service Centre did not receive any calls for information about sewer overflows.

End of Season and Winter Activity

The SOI System was shut down for the winter months on October 29/04. The information pages were maintained throughout the winter and there was some continued access to these pages. The sewage and drainage home page includes a message letting people know that the SOIS is inactive and will be re-started in May 2005. The 'present status' page includes a similar message. This page also included a message box to solicit feedback from visitors for one month after shut down. No feedback was received during that time.

On October 25th, we emailed letters to the downstream RM's to advise that the SOIS site would be shut down for the winter. A brief questionnaire, with a requested return date of November 30/04, was attached to the letter to solicit feedback. **(See Appendix 6)**

In December/04 downstream RM's were contacted by telephone to obtain responses to the surveys. All four RM's provided responses. The City of Selkirk was contacted but no response was obtained.

Results of the survey were as follows:

- ## 3 out of 4 RM's recalled receiving a letter and news release in August/04
- ## 2 out of 4 indicated they had visited the SOIS at least once
- ## 1 RM indicated they would visit the site regularly in 2005, while 2 were unsure
- ## The 2 RM's that had visited the Web site felt it clearly communicated the status of overflows in Winnipeg
- ## 3 out of 4 RM's indicated the Web site was useful to them
- ## Only 1 RM indicated they had received feedback from ratepayers about the Web site and it was supportive
- ## 3 out of 4 indicated they were satisfied with the City of Winnipeg's effort to make information on sewer overflows available to the public
- ## None of the RM's contacted made suggestions for improving the Web site
- ## All 4 indicated they would like to continue to receive information from the City about sewer overflows and their preferred method of communication was by email.

CSO Occurrences

The Clean Environment Commission recommended in its August 2003 report that the City reduce CSOs from an average of 18 per season to 4 per season in the next 20 to 25 years. While actions to reduce CSOs will not be implemented for some time, we do monitor CSO activity for seasonal averaging purposes.

The Wastewater Field Services Branch conducted a post-season review of warning alarm and rainfall data to estimate the number of CSO events in 2004. For the period May through October, they estimate a total of 26 CSO events. This number exceeds the current average of 18 per season because the City saw above average rainfall throughout the measurement period.

Conclusions

The wastewater collection and treatment system in Winnipeg is vast and complex. It includes approximately 3400 kilometres of wastewater and land drainage pipes and 3 wastewater treatment facilities. The system collects and treats about 87 billion litres of wastewater annually. Customers tend to expect continuous service and not concern themselves with how service is provided. We are providing information on the premise that an informed public will better understand the service and the cost of improving collection and treatment processes now and in the future.

Environmentally sustainable wastewater operations and practices are the basis of good environmental stewardship. This is a basic principle in our wastewater operations. We recognize that proactive sharing of information about wastewater operations will help create public confidence in its stewardship, over time.

Launching the SOIS Web site in 2004 took the City a step closer to meeting the intent of CEC Recommendation number 9 and towards greater public transparency of operating practices.

Plans for 2005

Overall, we are satisfied with the technical operation of the SOIS Web site. Given that it was a pilot year and limited feedback was received, we plan to re-activate the SOI System in May 2005 using a similar indicator system.

The only change to the site will be to the 'indicator dot' colour scheme as follows:

- low probability of overflow will be indicated by a white dot (same as last year)
- likelihood of overflow will be indicated by a grey dot (yellow last year)
- high probability of overflow will be indicated by a black dot (red last year)

The reason for the change is to move away from indicator colours that have been interpreted as an early warning or alert system. The intent of the SOIS is to provide information about sewage releases from sewer overflows during wet weather, as part of our goal to be transparent about wastewater operations. **(See Appendix 5)**

Sewer Service Interruptions Information

We are adding a new section to the sewage and drainage pages called Sewer Service Interruptions (SSI). The SSI pages include reports of raw sewage releases from sanitary sewer overflows at pumping stations and other releases that may be detected in the system. These reports (**See Appendix 4**) show the date, location, amount, duration, cause, and incident details/response for each overflow occurrence to-date in 2005 and in 2004. Reports will be archived by year.

With the addition of the SSI page, communication activities are now in place to cover all types of sewage releases referred to in CEC Recommendation number 9.

2005 Communications Plan

1. A news release will be sent to local news media announcing re-activation of the SOIS, the changes to the 'indicator' dots.
2. A letter will be sent to Manitoba Water Stewardship announcing the date of re-activation, along with a copy of the news release and copies of correspondence to downstream communities.
3. Letters will be emailed or faxed to downstream communities along with a copy of the news release on the day the site is re-activated. Contact information will be provided for any follow-up.
4. A news release will be issued during the wet weather season whenever there is a significant rainfall event that affects river levels and public safety.
5. Manitoba Water Stewardship and the downstream communities will be advised when the SOIS is taken down in the fall. Feedback will be solicited and incorporated into a year-end report.

Appendices

1. Team members and advisors
2. 2004 News releases
3. Screen shots of SOIS pages
4. Screen shot of SSI page
5. Screen shot of new Indicator dot colours for 2005
6. Sample letters & questionnaire

Appendix 1

Team Members

Bill Borlase, Manager, Wastewater Services
Dave Wardrop, Field Service Operations Engineer, Wastewater Services
Hobie Searles, Process Control Analyst, Wastewater Services
Mike Shkolny, Manager, Engineering Services
Nick Szoke, Senior Wastewater Facilities Planning Engineer, Engineering Services
Kelly Kjartanson, Acting Manager Laboratory Services
Brian Phillips, Manager, Customer Services
Scott Gaber, Internet Services Officer, Customer Services
Kathy Taylor, Public Information Officer, Customer Services

Advisors

Dr. Margaret Fast, Medical Officer of Health, Winnipeg Regional Health Authority
Dr. Jim Popplow, Senior Medical Advisor, Environmental Health Unit, Public Health Branch, Manitoba Health



INFORMATION - COMMUNIQUÉ

August 3, 2004

NOTICE TO NEWS MEDIA

City of Winnipeg Introduces a System to Inform the Public of Sewer Overflows into the Rivers

Members of the media are invited to a briefing session to announce a new system to inform the public whenever there is likely to be sewer overflows into the river system. The system was developed in response to a recommendation by the Manitoba Clean Environment Commission in 2003.

Date: Wednesday, August 4, 2004
Time: 11:00 a.m.
Location: 1155 Pacific Avenue, Training Room C

Participants will include:

Councillor Gord Steeves Committee	Chair of the Public Works
Bill Borlase, Manager of Wastewater Services	Water and Waste Department
Dave Wardrop, Field Services Operations Engineer	Water and Waste Department

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Media inquiries should be directed to:

Kathleen Taylor
Public Information Officer
Water and Waste Department
986-4478

INFORMATION - COMMUNIQUÉ

August 4, 2004 - For immediate release

City Introduces System to Inform Public of Sewer Overflows

Winnipeg - Today the City of Winnipeg introduced a system to inform the public whenever there is likely to be a sewer overflow into the rivers.

Councillor Gord Steeves, Chair of the Standing Policy Committee on Public Works, says, "We developed this system after a recommendation by the Manitoba Clean Environment Commission in 2003. The system is Web-based and is available 24 hours a day, 7 days a week, at winnipeg.ca/waterandwaste/sewage/overflow/present.stm."

Bill Borlase, Manager of the City's Wastewater Services Division says, "The system indicates the current condition of our entire sewer network with regard to overflows. It is based on a reading of high water sensors in the system, together with an assessment of other indicators, such as river levels."

⌘ A white dot indicates that there is a low probability of overflows.

⌘ A yellow dot indicates an increased likelihood of overflows.

⌘ A red dot indicates a high probability of sewer overflows.

Most of the overflows occur in the combined sewer system. Combined sewers are pipes that carry both wastewater (sewage from homes and businesses) and land drainage. Typically, they serve areas of the city built before the 1960's.

Steeves says, "Combined sewers are not unique to Winnipeg. Many North American cities, including several others in Manitoba, have similar wastewater systems. Hundreds of communities built combined sewers because they were a cost-effective way to provide sewer service and improve drainage. Combined sewers in our city date from 1880. They were the first sewer infrastructure."

Combined sewers carry all of the wastewater flow to the wastewater treatment plants during dry weather conditions. In fact, they can carry at least 2.75 times the normal dry weather flow. Most of Winnipeg's rainfall events are light, and all of the rain/wastewater mixture flows to the treatment plants. However, during heavy rainstorms the combined sewers cannot handle all of the runoff. This results in some of the diluted wastewater overflowing to the river system.

- more -

City Introduces System to Inform the Public of Sewer Overflows

Steeves says, "We could be investing up to \$392 million over the next 25 years to reduce the number of combined sewer overflows from our current average of 18 to a target of 4 during the recreation season (May 1 to September 30). We could also spend an additional \$359 million on other wastewater system improvements, such as reducing nutrients in effluent, and disinfecting effluent."

More information on the Wastewater Treatment Improvement Plan is available at winnipeg.ca/waterandwaste/pdfs/sewage/wastewaterTreatmentOverview.pdf

"We will continue to issue a news release whenever there is heavy rainfall in the Winnipeg area to advise on river levels and the increased risk of basement flooding," says Borlase.

Dr. Margaret Fast, Medical Officer of Health with the Winnipeg Regional Health Authority says, "We advise the public not to swim in the river system at any time because of fast currents, cloudy water, and slippery, muddy banks. Never drink river water, whether overflows are occurring or not. Wash your hands if they come in contact with river water, particularly before you touch food."

Citizens without access to the Internet can get information about sewer overflows by contacting our Customer Service Centre at 986-5858, Monday through Friday, 8:30 a.m. to 4:30 p.m.

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Media inquiries may be directed to:
Kathy Taylor
Public Information Officer
Water and Waste Department
986-4478

Appendix 3
 Figure 1. 'Present status' page - sewer overflows indicators

Winnipeg.ca Water and Waste

Home > Water and Waste > Sewage and Drainage > Sewer Overflows

Garbage | Recycling | Water | Sewage and Drainage | Billing | Department Info | Library | Sitemap

Sewer overflows

Current status	Legend
	○ White indicates low probability of overflow
	● Yellow indicates likelihood of overflow
	● Red indicates high probability of overflow

This information system indicates the current condition of our entire sewer network with regard to overflows. It is based on a reading of high water sensors at various overflow locations along the city's rivers, like the one pictured above, together with an assessment of indicators such as river levels.

What do the coloured dots represent?

- A white dot indicates that there is a low probability of overflows.
- A yellow dot indicates an increased likelihood of overflows.
- A red dot indicates a high probability of sewer overflows.

Sewer overflows

Current status	Legend
	○ White indicates low probability of overflow
	● Yellow indicates likelihood of overflow
	● Red indicates high probability of overflow

Sewer overflows

Current status	Legend
	○ White indicates low probability of overflow
	● Yellow indicates likelihood of overflow
	● Red indicates high probability of overflow

Figure 2. 'Present Status' page safety message

Do I have to take any special precautions if I use the rivers?
 Yes. Dr. Margaret Fast, Medical Officer of Health with the Winnipeg Regional Health Authority, advises:

- Never drink river water, whether overflows are occurring or not.
- Do not swim in the river system at any time because of fast currents, cloudy water, and slippery, muddy banks.
- Wash your hands if they come in contact with river water, particularly before you touch food.

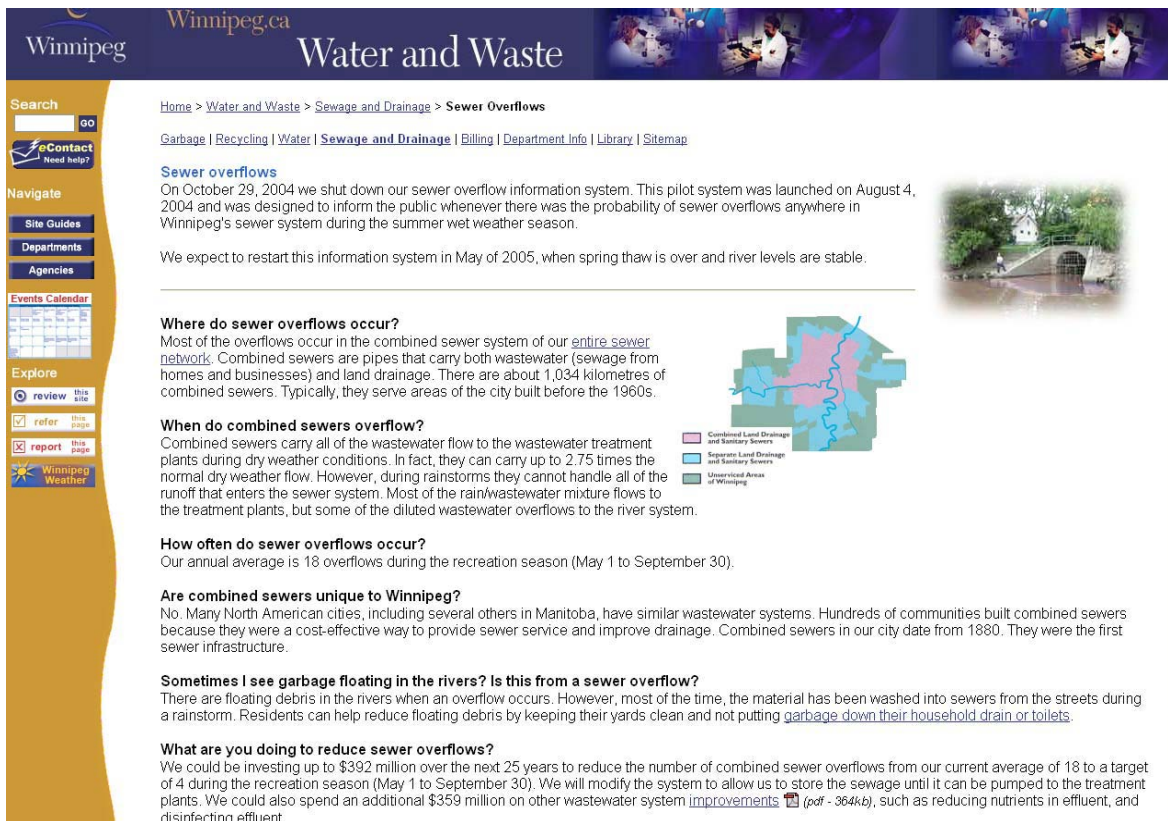
Fish caught in the rivers are safe to eat as long as they are cooked thoroughly.

Sometimes I see garbage floating in the rivers? Is this from a sewer overflow?
 There are floating debris in the rivers when an overflow occurs. However, most of the time, the material has been washed into

Appendix 3
Figure 3. 'Previous 24' page



Figure 4. 'Present status' page - overflow information



Appendix 3

Figure 5. 'Wastewater collection system

Winnipeg
Water and Waste

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Wastewater collection system operation

The City of Winnipeg wastewater collection (sewer) system is made up of combined, separate and interceptor sewers, land drainage systems, lift stations and diversion structures.

Click on any of the images below to see a larger version.




Combined sewers
A combined sewer is a system of single pipes that collect both wastewater from homes, businesses and industries as well as surface runoff from rainstorms and snow melt.

The older, central region of Winnipeg is served by 1,034 km of combined sewer pipes. Prior to 1937, the collected sewage and storm runoff flowed directly into the local river system without being treated.

In 1937, an interceptor sewer system was built to carry sewage in the combined sewer system to the North End Treatment Plant.

Weirs, or small dams, were installed in all combined sewers near the outlet of the pipe to divert sewage to the interceptor sewer system during dry weather conditions.


There are 130 kms of interceptor sewers in the city that carry sewage to the 3 treatment plants.

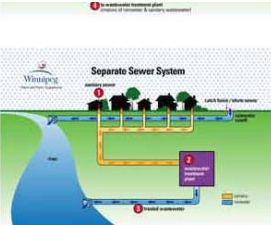


In wet weather conditions, flows are higher because runoff enters the system. A higher flow means the wastewater level in the pipe may become higher than the height of the weir. When this happens, combined sewers overflow to the river system.

The combined sewer system services an area of approximately 8,700 hectares or about 30% of the city. There are 79 combined sewer outfalls or outlets to the river system.

Combined sewer overflows occur an average of 18 times during the open water recreational season (May 1 – September 30).






Separate sewers
Since the 1960s, new property developments in the city have been serviced by a two-pipe system. One pipe is for carrying sewage and the other for land drainage.

The sewage or sanitary sewer system has about 1,182 km of dedicated pipes that are completely separate from the land drainage system. The role of the separate sewer system is to collect wastewater from homes and buildings and carry it to a water pollution control centre for treatment.

Land drainage sewers
Land drainage sewers, like the one shown in the image to the left, carry rainfall and snowmelt runoff from urban areas to the river system. There are 1,372 km of land drainage sewers in Winnipeg. The total area serviced by separate wastewater and land drainage sewers is approximately 22,300 hectares.

The separate and combined sewer areas are illustrated below.



Map of city showing areas serviced by separate and combined sewer systems

Lift stations and diversion structures
Because of Winnipeg's relatively flat terrain, it is necessary to pump wastewater using lift stations to the interceptor sewers or to the water pollution control centres. The main purpose of a lift station is to raise sewage to a higher level so that it can be moved into a sewer system where it can flow by gravity. There are 76 wastewater pumping stations and 10 gravity-based wastewater diversion facilities located throughout the city.

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This page was last updated on November 22, 2004

Appendix 4 Figure 1. 'Sewer service interruptions' 2005 page

Winnipeg Water and Waste

Home > Water and Waste > Sewage and Drainage > 2005 Sewer Service Interruptions

Garbage | Recycling | Water | Sewage and Drainage | Billing | Department Info | Library | Sitemap

2005 sewer service interruptions
Occurrences during 2005 when untreated wastewater was discharged from the wastewater collection system to the river system:

Date	Location	Estimated discharge	Estimated duration	Cause	Incident details and response
March 10, 2005	Red River - St. Norbert sewage pumping station	147,000 litres	3 hours and 42 minutes	Manitoba Hydro power outage	Power failure alarm received at 5 a.m. Sewer system storage capacity exceeded and overflow began around 6:40 a.m. Power restored at 9:40 a.m. and overflow alarm stopped at 10:22 a.m. Incident reported to Manitoba Water Stewardship .
January 10, 2005	Red River - Crane sewage pumping station	172,000 litres	1 hour	Manitoba Hydro 600V power outage	Estimate overflow occurred between 5:40 a.m. and 6:40 a.m. Power restored by 8:50 a.m. and alarm stopped at 8:55 a.m. Incident reported to Manitoba Water Stewardship .
January 4, 2005	Assiniboine River - Conway combined sewer station	Volume unknown as flow from watermain breaks difficult to estimate.	3 hours 43 minutes	Watermain breaks	Overflow alarm received at 6:30 a.m. Responding crew determined that source was three local watermain breaks. Breaks isolated around 10:00 a.m. and overflow stopped at 10:13 a.m. Harbourmaster advised so appropriate signage for thin ice in the area could be undertaken. Incident reported to Manitoba Water Stewardship .

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Appendix 5 Figure 1. 'Present' page new dot colours

Winnipeg.ca Water and Waste

Home > Water and Waste > Sewage and Drainage > Sewer Overflows

Garbage | Recycling | Water | Sewage and Drainage | Billing | Department Info | Library | Sitemap

Sewer overflows

Current status

○ Legend
○ White indicates low probability of overflow
● Grey indicates likelihood of overflow
● Black indicates high probability of overflow

Current status

○ Legend
○ White indicates low probability of overflow
● Grey indicates likelihood of overflow
● Black indicates high probability of overflow

Current status

○ Legend
○ White indicates low probability of overflow
● Grey indicates likelihood of overflow
● Black indicates high probability of overflow



Water and Waste Department • Service des eaux et des déchets

File No. 010-17-06-01-00

August 4, 2004

Reeve

Dear Sir/Madam:

In response to the Clean Environment Commission of August 2003, we have developed a system to inform the public whenever there is likely to be a sewer overflow into the Red or Assiniboine Rivers.

The information system includes:

- ☞ A special page on the City's Web site showing the probability of overflows anywhere in the sewer system (www.winnipeg.ca/waterandwaste/sewage/overflow/present.stm.)
- ☞ News releases following heavy rainfalls, advising the public on river levels, sewer overflows, and the increased risk of basement flooding
- ☞ Public announcements about raw sewage spills following wastewater system malfunctions

I have enclosed a news release explaining how the information system works.

We have an extensive plan to improve the wastewater treatment system to protect the quality of water in the rivers. An overview of the plan is available at winnipeg.ca/waterandwaste/pdfs/sewage/wastewaterTreatmentOverview.pdf.

At the end of the recreation season we will be contacting you to get your feedback on our overflow information system, so that we can make improvements for the next year. If you want to contact us any time before then, please call Mr. Brian Phillips, our Manager of Customer Services at 986-4954.

Yours truly,

*Original signed by Dan McInnis, P. Eng.
A/Director on behalf of*

Barry MacBride, P. Eng.
Director



Water and Waste Department • Service des eaux et des déchets

File No. 010-17-06-01-00

October 25, 2004

Reeve

Dear Sir/Madam:

This is to advise you that on October 29, 2004, we will be taking down our web site that shows the probability of sewer overflows occurring in Winnipeg's sewer system (www.winnipeg.ca/waterandwaste/sewage/overflow/present.stm). We informed you of this pilot web site by letter dated August 4, 2004. The site is designed to provide information for the public during the summer about the likelihood of sewer overflows into the Red or Assiniboine Rivers.

We expect to put the web site back up during May 2005, when spring thaw is over and river levels are stable.

Our goal over the next few months is to improve this web site. Your feedback is important to us, and we would appreciate it if you would discuss the attached questionnaire with your staff, complete it, and return it by November 30, 2004:

☞ by email to bphillips@winnipeg.ca

☞ by mail to Brian Phillips, Manager of Customer Service, Water and Waste Department, 101 - 1155 Pacific Avenue, Winnipeg, MB, R3E 3P1

If you have questions or concerns regarding this subject, please call Brian Phillips at 986-4954.

Yours truly,

Original signed by Barry MacBride

Barry MacBride, P. Eng.
Director



Sewer Overflow Information System Questionnaire

1. Do you recall receiving the letter from the City's Water and Waste Department dated August 4, 2004, announcing a web site that shows the probability of sewer overflows into the Red or Assiniboine Rivers?

Yes No

2. Have you visited the sewer overflow web site?

Yes No

If yes, how many times?

Once A few times Many times

3. Do you plan to visit the sewer overflow information web site next year?

Yes No Unsure

If yes, how frequently do you anticipate visiting the site?

Occasionally Regularly

4. Does the web site clearly tell you the status of sewer overflows in Winnipeg?

Yes No

5. Is the information on the web site useful to you?

Yes No

If yes, how do you use this information?

6. Have you received calls or messages from residents in your community about the sewer overflow information web site?

Yes No

If yes, what was the nature of the calls?

7. Are you satisfied with the City of Winnipeg's effort to make information on sewer overflows available to the public?

Yes No

8. Please suggest ways to improve the sewer overflow information system.

9. Would you like to continue to receive information from the City of Winnipeg about sewer overflows?

Yes No

If yes, how would you like us to communicate with you?

☞ By email at _____

☞ By letter

☞ Other _____

Thank you for your time.

Please return by November 30, 2004:

☞ by email to bphillips@winnipeg.ca

☞ by mail to Brian Phillips, Manager of Customer Service, Water and Waste Department, 101 - 1155 Pacific Avenue, Winnipeg, MB, R3E 3P1