


Water Distribution System Annual Report 2009



submitted for

New  Nouveau
Brunswick

Environment and Local Government
Drinking Water Approvals

Prepared By:

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January 28, 2010

1. INTRODUCTION

The purpose of this document is to satisfy condition 43 of the Certificate of Approval to operate a water distribution system W-249 for the City of Dieppe. The following Water Distribution Annual Report is intended to provide the Department of Environment and Local Government with updated information related to the drinking water distribution and facilities in the City of Dieppe.

2. ANALYTICAL RESULTS

The City of Dieppe water source is from the City of Moncton. Therefore, all testing as per approved Water Sampling Plan are done by the City of Moncton. In addition to these tests, the City of Dieppe also samples for inorganic, organic and microbiological parameters at the three reservoirs locations. Chlorine is also added at these reservoirs in order to maintain adequate chlorine residuals throughout the system.

A) Sampling Plan

Refer to the City of Moncton Water Sampling Plan Revised January 31, 2008 and approved by N.B. Dept. of Environment & Local Government. See attachment

B) Inorganic Test Results

Inorganic testing is carried out twice a year. See attached results.

C) Organic Test Results

Organic testing is carried out quarterly. See attached results.

D) Microbiological Test Results

Months	# of Samples	Positive TC Tests	# of Non-Compliant Re-test Samples (TC > 1)
January	11	0	0
February	8	0	0
March	10	0	0
April	8	0	0
May	11	0	0
June	21	0	0
July	38	1	0
August	45	0	0
September	42	0	0
October	21	0	0
November	21	0	0
December	16	0	0
Total	252	1	0
Detection %		0.40%	0.00%

Table 1 : 2009 Total Coliform Bacteria Test Results

Months	# of Samples	Positive EC Tests	# of Non-Compliant Re-test Samples (EC > 0)
January	11	0	0
February	8	0	0
March	10	0	0
April	8	0	0
May	11	0	0
June	21	0	0
July	38	0	0
August	45	0	0
September	42	0	0
October	21	0	0
November	21	0	0
December	16	0	0
Total	252	0	0
Detection %		0.00%	0.00%

Table 2 : E-coli Bacteria Test Results

Months	# of Samples	Positive HPC Tests	Sample with HPC > 500
January	6	1	0
April	8	0	0
July	8	0	0
October	8	0	0
Total	30	1	0
Detection %		3.33%	0.00%

Table 3 : 2009 Heterotrophic Plate Count Bacteria Test Results

3. MONITORING RESULTS

Please find attached all daily monitoring data from our SCADA System which monitors various sites throughout our different pressure zones for Free Available Chlorine, Turbidity and PH, Total Coliform, E-Coli, HPC test and THM test results are also recorded.

In addition, Public Work Utility Water Workers flush **8 sites weekly, 13 sites bi-monthly and 131 sites monthly** to ensure chlorine residuals are maintained above 0.2 mg/l at all dead-ends. These sites are periodically reviewed and updated throughout the year.

4. WATER PRODUCTION

Month	2008 Monthly Production (m3)	2009 Monthly Production (m3)	Month	2008 Monthly Production (m3)	2009 Monthly Production (m3)
January	218,544	220,797	July	256,192	220,219
February	206,318	195,435	August	220,501	229,569
March	214,536	219,014	September	215,432	222,744
April	210,484	208,953	October	223,784	216,254
May	226,048	225,768	November	213,626	208,418
June	236,643	229,558	December	219,159	216,898

Table 4 : Water Production Data for the City of Dieppe 2009

2009 TOTAL YEARLY PRODUCTION = 2,613,627 m³
2009 AVERAGE DAILY CONSUMPTION = 7,598 m³ / day

5. OPERATIONAL HIGHLIGHTS

A) Significant Events

There were a total of 8 watermain breaks during the year 2009. The watermain breaks were all circular breaks on ductile Iron and Cast Iron pipes and had minimal affect on the water system. One significant event took place in the water system, the relining of the 450 mm watermain feeding the City of Dieppe on Main St. The event is explained in details below:

July 7, 2009 - The City of Moncton did the relining of the 450 mm watermain feeding the City of Dieppe on Main St. Part of this process was to change the watermain supply from Main St. to Harrisville new 400 mm watermain. In August 9, the City of Moncton commissioned the watermain on Main St and the City of Dieppe gravity zone was back supplied by the watermain from Main St. The Harrisville watermain only supplies the inlet of the Industriel Park Reservoir and the gravity zone if needed.

B) System Improvements, Changes or Additions

Dieppe Utility Water Workers once again were kept very busy performing swab removal, pressure testing, disinfecting and commissioning of 8.5 km of new watermain installations in 2009. The following describes system improvements, changes and/or additions each categorized by: 12 – New Subdivision Developments, 7 - Private Developments, 3 - Capital Projects:

New Subdivisions

1. Fox Creek Golf Com – Unit 4 = 60 m of 150mmØ (online May 15/09)
2. Fox Creek Golf Com – Unit 5, Phase 1 = 120 m of 300mmØ (online June 19/09)
= 480 m of 250mmØ (online June 19/09)
= 280 m of 200mmØ (online June 23/09)
= 55 m of 150mmØ (online June 23/09)
3. Fox Creek Golf Com – Unit 5, Phase 2 = 405 m of 300mmØ (online Nov. 30/09)
= 25 m of 150mmØ (online Nov. 30/09)
4. Fox Creek Golf Com – Unit 6, Phase 1 = 865 m of 300mmØ (online Nov 27/09)
= 195 m of 250mmØ (online Nov. 27/09)
= 760 m of 200mmØ (online Nov. 27/09)
= 90 m of 150mmØ (online Nov. 27/09)
5. Champlain Gardens – Unit 29, Phase 2 = 750 m of 200mmØ (online Jan. 5/09)
= 35 m of 150mmØ (online Jan. 5/09)
6. Champlain Gardens – Unit 30, Phase1 = 525 m of 200mmØ (online Oct. 5/09)
= 55 m of 150mmØ (online Oct. 5/09)
7. Vieux Moulin – Unit 2, Phase 2 = 425 m of 200mmØ (online Jan. 5/09)
= 15 m of 150mmØ (online Jan. 5/09)
8. Villa Dieppe – Unit 19 = 200 m of 200mmØ (online Oct. 2/09)
= 8 m of 150mmØ (online Oct. 2/09)
9. Le Faisan – Unit 1, Phase 6 = 310 m of 200mmØ (online July 17/09)
= 12 m of 150mmØ (online July 17/09)
10. Bouchard Subdivision – Unit 2 = 90 m of 200mmØ (online Oct. 2/09)
= 10 m of 150mmØ (online Oct. 2/09)
11. Le Vignoble – Unit 2, Phase 2 = 120 m of 200mmØ (online Nov. 24/09)
= 10 m of 150mmØ (online Nov. 24/09)
12. Le Village – Unit 1, Phase 1 = 435 m of 200mmØ (online Dec. 21/09)
= 20 m of 150mmØ (online Dec. 21/09)

Total 300mmØPVC = 1390 m

Total 250 mmØPVC = 675 m

Total 200mmØPVC = 3895 m

Total 150mmØPVC = 395 m

Private Developments

1. Domaine du Ruisseau – Phase 12 = 100 m of 200mmØ (online June 26/09)
= 255 m of 150mmØ (online June 26/09)
2. Buiding A (Principale-Ouest) = 12 m of 100mmØ (online Oct. 27/09)
3. Irving Expansion (100 Midland) = 90 m of 200mmØ (online)
= 130 m of 150mmØ (online)
= 25 m of 100mmØ (online)
4. 25 Unit apartment (115 Kedgwick) = 20 m of 150mmØ (online March 23/09)
5. Ste-Thérèse School Ex. (195 Ste-Thérèse) = 200m of 150mmØ (online Aug. 4/09)
= 80 m of 100mmØ (online Aug. 4/09)
6. Beaux Souvenirs (393 Amirault) = 30 m of 150mmØ (online Nov. 25/09)
7. D.M.S.L. Holdings (14 Murray) = 115 m of 150mmØ (online Oct. 2/09)

Total 200mmØPVC = 190 m

Total 150mmØPVC = 750 m

Total 100mmØPVC = 117 m

Capital Projects

1. Champlain St. = 590 m of 350mmØ (online)
2. Thérien St. = 210 m of 200mmØ
3. Georvette St. = 340 m of 200mmØ (online)

Total 350mmØPVC = 590 m

Total 200mmØPVC = 550 m

Operational Improvements –

Temporary Watermain – A total of two (2) temporary water systems were installed. A total of 675 m of 50 mm diameter Aquamine piping was installed for the capital project watermain renewals on Thérien St and Georvette St. All piping were tested, disinfected and commissioned by the Utility Water Workers. All temporary water systems were supplied by the City’s fire hydrants and connected with portable backflow prevention device units and a water meter. Daily chlorine residual checks and weekly microbiological tests were taken to ensure continuous good water quality was maintained in the temporary water system.

As-Built Improvements - The City of Dieppe Public Works and Engineering Department continues to update the electronic database (pdf format) for the entire underground infrastructure.

C) Cross Connection Control Program

The City of Dieppe continues to receive all plumbing inspection and management of the backflow prevention devices from the N.B. Department of Public Safety. In January 2010 the City of Dieppe is hiring Reg LeBlanc from Water Protections Services for our cross connection control program.

D) Uni-Directional Flushing Program

In summary, the purpose of a Uni-Directional Flushing Program is to systematically and uni-directionally flush the distribution system through the manipulation of valves and fire hydrants. Clean water is flushed from the source to the extremities, from larger to smaller pipes and from cleaner to dirtier pipes.

The City of Dieppe continued with Aqua Data Atlantic for the updating and configuration of the computer programming of the UDF program. Once the program was completed, the City of Dieppe Utility Water Operators solely performed the Uni-Directional Flushing program in 41 days.

The following summarizes the results of the Uni-Directional Flushing program for 2009 compared to the years 2008, 2007 and 2002. It shows the effectiveness of the program since less time and water is required to achieve a clean system:

Item	Year 2002	Year 2007	Year 2008	Year 2009
Total number of fire hydrants in water system	740	1,071	1108	1140
Number of fire hydrants flushed	213	248	263	281
Total number of valves in water system	724	1,128	1176	1205
Number of valves used	269	352	386	408
Total amount of watermain in system	103 km	125 km	130 km	139 km
Length of watermain flushed	96 km	116.9 km	122.7 km	128.5 km
Total flushing time	120 hrs	76 hrs	98 hrs	113 hrs
Total amount of water volume used	22,712 m ³	15,140 m ³	18,927 m ³	24,227 m ³

Table 5 : Uni-Directional Flushing Data for the City of Dieppe 2009

6. OPERATOR INFORMATION

A) Training

The following describes all the training courses, seminars and conferences attended by Water Distribution Staff during the year 2009.

Date 2009	Course / Conference Name	Location	Attended By
Feb 27, Mars 4	First Aid (6hr)	Dieppe, N.B.	Gabriel Belliveau Martin LeBlanc Serge Robichaud Christian Vienneau Edwin LeBlanc Martin Dupuis Denis Bourgeois Robert Allain
March 11, 13	Water Distribution Level 1 and 2	Halifax, N.S.	Martin Dupuis Denis Bourgeois
April 1	Neptune Water Meter Training (8hr)	Moncton, N.B.	Gabriel Belliveau Martin LeBlanc Serge Robichaud Christian Vienneau Martin Dupuis Denis Bourgeois Robert Allain
April 8	Arc Flash	Dieppe, N.B.	Gabriel Belliveau Martin LeBlanc Serge Robichaud Christian Vienneau Martin Dupuis Denis Bourgeois Robert Allain
Avril 26-29	MPWWA Annual Conference	Charlottetown, PEI	Christian Vienneau Edwin LeBlanc Robert Allain
May 11-13	Cla-Val Automatic Control Valves (12hr)	Ontario	Serge Robichaud Christian Vienneau
May 27	Enbridge gas (4 Hrs)	Dieppe, N.B.	Gabriel Belliveau Martin LeBlanc Serge Robichaud Denis Bourgeois Edwin LeBlanc
June 15, 18	AWWA Annual Conference	San Diego, California	Gabriel Belliveau

August 27	M40 Gas Monitor (4 Hrs)	Dieppe, N.B.	Gabriel Belliveau Martin LeBlanc Serge Robichaud Christian Vienneau Martin Dupuis Robert Allain
Oct 5 - 8	Water Tower / High Angle Rescue Training (16 hrs) Confined Space Entry & Rescue Training, Certification RAT International (24hr)	Dieppe, N.B.	Gabriel Belliveau Martin LeBlanc Serge Robichaud Denis Bourgeois Edwin LeBlanc Robert Allain Serge Bisson
October 18-20	ACWWA Annual Conference	Halifax, N.S.	Martin LeBlanc Serge Robichaud
Dec 10-11	First Aid (16hr)	Dieppe, N.B.	Martin LeBlanc Serge Robichaud Christian Vienneau Edwin LeBlanc Serge Bisson Denis Bourgeois Reggie LeBlanc

Table 6: Water System Employee's Training for the City of Dieppe 2009

B) Certification

There were 4 Public Works utility workers who received **Water Distribution Certification Level 1 (Denis Bourgeois, Martin Dupuis, Serge LeBlanc and Marc Richard)** and 2 Water System Operators who received **Water Distribution Certification Level 3 (Gabriel Belliveau and Christian Vienneau)** in 2009. See attached certificates.

C) Staffing

In 2009 it was a very big year for the department. A new Water System Operator (Christian Vienneau) was hired at the end of February and the new Water and Sewer Manager (Reggie LeBlanc) was hired at the end of August. In October, due to a job opening in the Public Works department, one change occurred with the Utility Water Worker, Serge Bisson replaced Martin Dupuis. At the present time the total number of employees working directly with water are one Water and Sewer Manager, four Water System Operators and four Utility Water Workers.

7. PUBLIC RELATIONS

A) Notifications

Here is a few example of notification that has been issued for the City of Dieppe residences and commercial customers of various water system activities such as line flushing, watermain closure, etc.

Public Notices ***Flushing of Hydrants***

*The flushing of fire hydrants will be done as part of the maintenance program of the City of Dieppe from **April 23rd to June 8th, Monday to Friday, 8:00 a.m. to 5:00 p.m.** Water may be discolored during this period. Residents are advised to run their water and check it before laundering.*

We regret any inconvenience this work may cause.

PUBLIC NOTICE

AMIRAULT STREET

*The City of Dieppe's Public Works Department will be undertaking work on the water system in your area on Wednesday, July 9, 2008 from 8 :30 a.m. to 6:00 p.m., assuming no unforeseen delays. During this time period, **YOUR WATER SERVICE WILL BE SHUT OFF.** To minimize the potential inconvenience from this disruption to your service, we recommend the following:*

- 1) Close the water valve where the water lines enters your basement.*
- 2) When the water service is restored, run your cold water a few minutes or until clear water shows. **ONLY AFTER**, run your hot water until clear hot water shows.*

We regret any inconvenience. Thank you for your cooperation and understanding.

B) Public Education

The Communication Department had a summer student that worked on public education relating to water conservation. Efforts were made at getting the message to the citizens of Dieppe through the media (newspaper and radio), in the *Scoop* (July), *DieppeMag* (August). Other methods used for the general public were through brochures installed at City Hall and at the *Mini Marché de Dieppe*, Web page and during the Public Works Week in May. This program was very successful and will continue for the summer program in the years to come.

Here are two examples issued to the City of Dieppe customers for public education and information concerning water conservation.

Every drop counts!

Water conservation TIPS

506-877-7900
www.dieppe.ca

Outdoors

Did you know that...

- Lawn watering accounts for the most significant water usage outside your home and represents 75% of municipally treated water. Garden hoses deliver approximately 1,200 litres per hour, the equivalent of a three-year water drinking supply for one person.
- In July, your lawn goes into dormancy. During this period, you should not fertilize and you should limit watering. Remember that 80% of landscaping problems are related to overwatering.
- It is generally recommended to water only once a week and to soak your lawn to the required depth. The root system will develop to a deeper extent and your lawn will be thicker and robust.
- The truth is that a lawn with longer grass uses less water and looks better.

Tips

- For a healthy lawn, apply approximately 2.5 cm of water, not more than once a week. You can estimate the exact amount by placing an empty tuna can on your lawn when you are watering. When the can is full, you have applied approximately 2.5 cm of water.
- Water your lawn early in the morning or at night to prevent evaporation.
- Don't operate your automatic water sprinkler when rain is in the forecast. After a good rainfall, your lawn does not need to be watered before another week.
- Place mulch around your trees and plants for better water retention. Leave the grass that has been cut on your lawn; this helps trap humidity.
- Place your sprinklers so only your lawn gets watered; don't water the sidewalks or the street.
- Use a lawn instead of water to clean your driveway or entrance.
- Collect rain water in big containers and use it for exterior plants.

In the home

Did you know that...

- At least half of the volume of water used by each household is wasted unnecessarily.
- Households use more water (66%) than the public sector, industries and businesses combined (32%).
- On average, a person uses more than 100 litres of water per day just to flush the toilet. That amounts to 45% of total water consumption for one person in a home.
- Leaky taps and toilets can amount to a loss of 400 litres of water per day.

Tips

In the bathroom: spend less time in the shower. Take fewer baths and don't fill the bathtub unnecessarily (a quarter full is sufficient). Don't leave the water running when you brush your teeth, wash your hands and face or when you shave. Avoid flushing the toilet unnecessarily. Place soft tissues and other similar waste products in the garbage can rather than in the toilet.

In the kitchen: defrost frozen items in the refrigerator or in the microwave, not under running water. When you hand wash your dishes, don't let the water run continuously. Make sure your dishwasher is full before running it. Keep a jug of cold water in the refrigerator instead of letting your tap water run until cold.

In the laundry room: wash only full loads in your washing machine, choose the shortest wash cycle and adjust the water level accordingly. When you wash clothes by hand, wait until you have enough items to fill the sink or wash tub.

Why should we conserve drinking water?

- By using water strategically, we avoid waste which means the water distribution and treatment system can sustain better quality water in sufficient quantity. Saving water also ensures sufficient water pressure for firefighting.
- When water is wasted, technical problems and premature degradation of equipment occurs. This, in turn, requires investments in the water distribution system that could have possibly been avoided, lessened or done at a later date. Generally speaking, wasting drinking water requires the construction of unnecessary and bigger infrastructure, which is costly for taxpayers.
- The more water we use, the more we create wastewater, hence requiring additional chemical products to purify our water and treat our wastewater. This process increases the amount of chemical substances that filter into the Potomac River.
- By using less water in the summertime, we reduce the pressure on the water system and contribute towards maintaining a water supply less prone to dryness.

Brochure 1 Water conservation Tips

Water conservation FOR TENANTS

In Dieppe, your landlord pays for water, based on the amount you use. Water charges are included in your rent. Wasting water can raise your rental costs.

Easy ways to reduce your water consumption:

Leaky taps and toilets can amount to a loss of 400 litres of water per day. Report leaks from taps, shower heads and toilets to your landlord as soon as possible.

Take a quick shower rather than a bath. Don't leave the water running when you brush your teeth, wash your hands and face or when you shave. Avoid flushing the toilet unnecessarily.

Defrost frozen items in the refrigerator or in the microwave, not under running water. When you hand wash your dishes, don't let the water run continuously. Keep a jug of cold water in the refrigerator instead of letting your tap water run until cold.

Every drop counts!

You can help preserve our water supply and the environment by using water wisely.

506-877-7900
www.dieppe.ca

Brochure 2 Water conservation for tenants

In May 2009, the City of Dieppe in conjunction with the National Public Works Week did a presentation to the Amirault elementary school with a visit to our Water Tower. This helped to better inform the younger citizens of Dieppe. Positive feedback came from the teachers of the schools and also the parents. The City of Dieppe will be continuing this event during the Public Works Week to the same school with different students every year.

C) Complaints

There were 17 recorded customer complaints related to water quality, meters and pressure. Of the 17, there was three (3) significant events that resulted in a chain of complaints regarding water quality.

Taste and odour -The first complaint of taste and odour was at 303 Normandie St. on September 21. The complaint was investigated by visiting the site. A Chlorine residual of 0.88 mg/l and a turbidity sample of 0.22 ntu were taken at the above address. With those results it was determined that there was no direct health risk. After receiving several other complaints in the Moncton, Dieppe and Riverview water distribution system, The City of Moncton did a press release for reassuring all residents of Dieppe, Moncton and Riverview that tap water remains safe to drink. The cause of the taste and odour is related to reservoir conditions caused as a result of tropical storm Danny.

8. CONCLUSIONS

The water entering the city is of excellent quality. Over the years, system improvements through capital projects, new construction, system upgrades in the water facilities and regular yearly maintenance programs are a priority of the water utility staff to ensure that the customers continue to receive excellent water quality with minimum interruptions.