

# AGENDA

## *REGULAR MEETING OF COUNCIL*

**Monday, April 16, 2012**

**7:00 p.m.**

**Council Chamber, Municipal Hall**

**355 West Queens Road,**

**North Vancouver, BC**

**Council Members:**

Mayor Richard Walton

Councillor Roger Bassam

Councillor Robin Hicks

Councillor Mike Little

Councillor Doug MacKay-Dunn

Councillor Lisa Muri

Councillor Alan Nixon



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**7:00 p.m.**  
**Monday, April 16, 2012**  
**Council Chamber, Municipal Hall,**  
**355 West Queens Road, North Vancouver**

### AGENDA

#### BROADCAST OF MEETING

- Rebroadcast on Shaw channel 4 at 9:00 a.m. Saturday
- Online at [www.dnv.org](http://www.dnv.org)

#### CLOSED PUBLIC HEARING ITEMS NOT AVAILABLE FOR DISCUSSION

- Rezoning Bylaw 1277: Rezoning for Proposed Triplex Development – (3068 Fromme Road)

#### 1. ADOPTION OF THE AGENDA

##### 1.1. April 16, 2012 Regular Meeting Agenda

*Recommendation:*

THAT the agenda for the April 16, 2012 Regular Meeting of Council for the District of North Vancouver be adopted as circulated, including the addition of any items listed in the agenda addendum.

#### 2. PUBLIC INPUT

(limit of two minutes per speaker to a maximum of thirty minutes total)

#### 3. PROCLAMATIONS

- 3.1. **ESL Week** – April 29 to May 5, 2012 **p. 7**
- 3.2. **Organ and Tissue Donor Awareness Week** – April 22 - 29, 2012 **p. 9**

#### 4. RECOGNITIONS

Nil

#### 5. DELEGATIONS

- 5.1. **Judith Brook, CLUCK for North Vancouver District** **p. 13 - 43**  
Re: Backyard Hen Proposal
- 5.2. **Seaspan Presentation** **p. 45**

**6. ADOPTION OF MINUTES**

**6.1. November 28, 2011 Council Workshop** **p. 49 – 52**

*Recommendation:*

THAT the minutes of the November 28, 2011 Council Workshop be received.

**6.2. March 26, 2012 Regular Council Meeting** **p. 53 - 61**

*Recommendation:*

THAT the minutes of the March 26, 2012 Regular Council meeting be adopted.

**6.3. April 2, 2012 Regular Council Meeting** **p. 63 - 66**

*Recommendation:*

THAT the minutes of the April 2, 2012 Regular Council meeting be adopted.

**7. RELEASE OF CLOSED MEETING DECISIONS**

Nil

**8. REPORTS FROM COUNCIL OR STAFF**

With the consent of Council, any member may request an item be added to the Consent Agenda to be approved without debate.

If a member of the public signs up to speak to an item, it shall be excluded from the Consent Agenda.

\*Staff suggestion for consent agenda.

*Recommendation:*

THAT items \_\_\_\_\_ be included in the Consent Agenda and be approved without debate.

**\* 8.1. Early Pay-Out Debt Issue #78** **p. 69 - 71**  
File No.

*Recommendation:*

THAT Council approves the early pay-out of debt issue #78 for \$1,858,836;

AND THAT the 2012-2016 Financial Plan be amended in the Fall to include the debt retirement.

**8.2. Bylaw 7922: The District of North Vancouver Rezoning Bylaw 1278** **p. 73 - 81**  
**(Bylaw 7922) - 3053-59 Edgemont Boulevard (North Shore Credit Union)**  
File No. 08.3060.20/062.11

*Recommendation:*

THAT Bylaw 7922 "The District of North Vancouver Rezoning Bylaw 1278 (Bylaw 7922), be given SECOND reading as amended.

**8.3. Bylaw 7931: 2012 Sewer and Drainage User Charges and Connection p. 83 - 87  
Fees Amendment**

File No. 05.1830.20/002.000

*Recommendation:*

THAT Bylaw 7931, "Sewer Bylaw, Amending Bylaw 6656" be given FIRST, SECOND, and THIRD readings.

**8.4. District of North Vancouver Drinking Water Quality - 2011 p. 89 - 131**

File No. 11.5600.50/003.000

*Recommendation:*

THAT the April 4, 2012 District of North Vancouver Drinking Water Quality – 2011 report from the Manager – Utilities, be received for information.

**9. REPORTS**

**9.1. Mayor**

**9.2. Chief Administrative Officer**

**9.3. Councillors**

**9.4. Metro Vancouver Committee Appointees**

**10. ANY OTHER BUSINESS**

**11. ADJOURNMENT**

*Recommendation:*

THAT the April 16, 2012 Regular Meeting of Council for the District of North Vancouver be adjourned.

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## PROCLAMATION

### “ESL WEEK”

(April 29 to May 5, 2012)

- WHEREAS:** Metro Vancouver is renowned for its multiculturalism and now has the second-highest proportion of foreign-born residents in Canada; and
- WHEREAS:** Over the past four decades, immigrants have added to our city's diversity by bringing their culture, customs and heritage which has resulted in a rich blend of various traditions and languages; and
- WHEREAS:** Learners of English as a second language are represented by a large cross section of individuals that includes students of elementary and secondary schools, colleges, universities, public and private schools, and adult education students, all pursuing literacy and basic skills.
- NOW THEREFORE, I** Richard Walton, Mayor of the District of North Vancouver, do hereby proclaim April 29 to May 5, 2012 as “**ESL WEEK**” in the District of North Vancouver.

Richard Walton  
MAYOR

Dated at North Vancouver, BC  
this 16<sup>th</sup> day of April 2012

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## PROCLAMATION

### “Organ and Tissue Donor Awareness Week” April 22 - 29, 2012

- WHEREAS:** There are currently 432 people in BC waiting for an organ transplant, and more than 5,000 British Columbians that have already received the gift of life through organ donation since 1968; and
- WHEREAS:** There is an increasing need to raise awareness of the shortage of organ donors, and to acknowledge the families that demonstrate their compassion by sharing the precious gift of life with others; and
- WHEREAS:** There are volunteer groups within our community, like the BC region of the Canadian Transplant Association, that are dedicated to the support of pre and post-transplant patients, and to informing the public of the need for organ and tissue donations.
- NOW THEREFORE I,** Richard Walton, Mayor of the District of North Vancouver, do hereby proclaim April 22 – 29, 2012 as “Organ and Tissue Donor Awareness Week” in the District of North Vancouver.

A handwritten signature in black ink, appearing to read 'Richard Walton'.

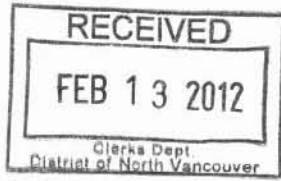
Richard Walton  
MAYOR

Dated at North Vancouver, BC  
this 16<sup>th</sup> day of April 2012

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## DELEGATIONS

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# Delegation to Council Request Form

**District of North Vancouver  
Clerk's Department**  
355 West Queens Rd, North Vancouver, BC V7N 4N5

Questions about this form: Phone: 604-990-2311  
Form submission: Submit to address above or Fax: 604.984.9637

**COMPLETION:** To ensure legibility, please complete (type) online then print. Sign the printed copy and submit to the department and address indicated above.

Name of person or group wishing to appear before Council: CLUCK for North Vancouver District

Title of Presentation: Backyard Hen Proposal

- Purpose of Presentation:
- Information only
  - Requesting a letter of support
  - Other (provide details below)

Please describe.

We will present our proposal for the amendment of the current by-laws that prohibit the keeping of backyard hens. Requested date: April 16, 2012

Attach separate sheet if additional space is required

Contact person (if different than above): Judith Brook

Daytime telephone number: 604.988.3988

Email address: jbrook\_4@hotmail.com

Will you be providing supporting documentation?  Yes  No

- If yes:
- PowerPoint presentation
  - DVD
  - Handout

Note: All supporting documentation must be provided 12 days prior to your appearance date.

Arrangements can be made, upon request, for you to familiarize yourself with the Council Chamber equipment.

- Technical requirements:
- Laptop
  - Multimedia projector

**Delegation to Council Request Form**

**Rules for Delegations:**

1. Scheduled by the Clerk after receipt of a request submitted in writing and addressed to Mayor and Council.
2. If a delegation request concerns a matter previously decided by Council or concerns an issue which is being or has been dealt with in a public participation process, the delegation's request to appear before Council may be placed on the appropriate agenda for Council direction.
3. Supporting submissions for the delegation should be provided to the Clerk by noon 12 days preceding the scheduled appearance.
4. A maximum of 3 delegations will be permitted at any Regular Council meeting.
5. Delegations will be allowed a maximum of five minutes to make their presentation.
6. Any questions to delegations by members of Council will seek only to clarify a material aspect of a delegate's presentation.
7. Persons invited to speak at the Council meeting may not speak disrespectfully of any other person or use any rude or offensive language or make a statement or allegation which impugns the character of any person.

**Helpful Suggestions:**

- have a purpose
- get right to your point and make it
- be concise
- be prepared
- state your request if any
- do not expect an immediate response to a request
- multiple-person presentations are still five minutes maximum
- be courteous, polite, and respectful
- it is a presentation, not a debate
- the Council Clerk may ask for any relevant notes from you if not handed out or published in the agenda

I understand and agree to these rules for delegations

Judith Brook  
 Name of Delegate or Representative of Group  
 \_\_\_\_\_  
 Signature J. Brook.

Thursday February 9, 2012  
 Date \_\_\_\_\_

For Office Use Only			
<input checked="" type="radio"/> Approved	<input type="radio"/> Rejected	<input checked="" type="radio"/> Municipal Clerk	<input type="radio"/> Deputy Municipal Clerk
By: Signature: <u>James A. Guder</u>			
Appearance date if applicable: _____		<u>April 16, 2012</u>	
Applicant informed of approval/rejection on (date): _____		<u>Feb. 14, 2012</u>	
By (signature): <u>James A. Guder</u>		Date: <u>February 14, 2012</u>	

The personal information collected on this form is done so pursuant to the Community Charter and/or the Local Government Act and in accordance with the Freedom of Information and Protection of Privacy Act. The personal information collected herein will be used only for the purpose of processing this application or request and for no other purpose unless its release is authorized by its owner, the information is part of a record series commonly available to the public, or is compelled by a Court or an agent duly authorized under another Act. Further information may be obtained by speaking with The District of North Vancouver's Manager of Administrative Services at 604-990-2207 or at 355 W Queens Road, North Vancouver.

**District of North Vancouver**  
355 West Queens Road  
North Vancouver, BC, V7N 4N5  
Canada

March 26, 2012

Dear Mayor Walton and Councillors,

As a group of North Vancouver residents, the undersigned have an interest in sustainable living, urban green spaces and food security. We present to you our proposal for the amendment of the current by-laws that prohibit the keeping of backyard hens.

A growing list of major metropolitan cities across North America, such as Vancouver, Victoria, Saanich, Burnaby, New Westminster, Seattle, Portland and even New York City (to name but a few), have allowed urban backyard hens. In these communities, urban backyard hens have enhanced environmental sustainability, food security, education, animal welfare practices and overall community building. This proposal will examine each of these areas in detail to assist council members with any questions they might have.

This proposal was composed for both the City and The District of North Vancouver as the undersigned have individuals residing in both communities and will be presenting this proposal to both councils concurrently. We recognize each council as independent authorities and respect each will make decisions based on their communities' individual and unique considerations.

Being that Vancouver has been one of the latest cities to allow for backyard hens, and is also most similar to North Vancouver in environment and considerations, this proposal will draw heavily upon its by-laws, as well as the Vancouver city staff recommendations that went before the Vancouver City Council in order to create their current by-law. This proposal will speak to those recommendations, but also to the recommendations of this group, as some issues may present variances since both the City and District of North Vancouver are certainly distinct and unique communities. Some of these varied recommendations may be modeled on other communities' by-laws.

The major areas addressed in the proposal will be:

- Public health concerns such as Avian flu, salmonella, and pest and predator control
- Number of hens per property
- Setbacks from dwelling on lots and lot lines as well as size restrictions on hen enclosures
- Perceived nuisance issues such as noise & odor
- The humane treatment and care of hens including housing requirements

We, the undersigned citizens of North Vancouver, hope you will find this proposal helpful in your decision making process and we are sure the majority of stakeholders will find this a positive change for the community that will also reflect the City and District of North Vancouver's sustainable living and environmental mandates. Please do not hesitate to contact any of the undersigned with questions or concerns. We look forward to presenting at the April 16, 2012 District council meeting.

Best regards,  
The Undersigned members of *CLUCK (Canadian Liberated Urban Chicken Klub)*

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# BACKYARD HEN PROPOSAL

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## EXECUTIVE SUMMARY TABLE

<b>Subject</b>	<b>Proposed Provision</b>
Zoning	<ul style="list-style-type: none"> <li>• Hen keeping will be allowed in all residential zones, including multi-family</li> <li>• Keepers of hens will reside on the lot containing the hen enclosure</li> <li>• Hen keeping will be prohibited in commercial, industrial, and comprehensive development zones</li> <li>• Hen facilities will be prohibited, for the time being, in public parks and community gardens</li> <li>• All zones be subject to same requirements</li> </ul>
Number and Type of Chickens Allowed	<ul style="list-style-type: none"> <li>• Maximum 6-8 hens per lot</li> <li>• Minimum of 2 hens per flock</li> <li>• Hens younger than four months prohibited (pullets only)</li> <li>• No roosters</li> </ul>
Siting and Size Restrictions for Hen Enclosures	<ul style="list-style-type: none"> <li>• Enclosures will be kept back 1 m (3.28 ft) from the property lines on all sides</li> <li>• Enclosures will be kept only in back and side yards</li> <li>• On grade level</li> <li>• 9.2 m<sup>2</sup> (100 ft<sup>2</sup>) floor area limit, and a 2 m (6.56 ft) height limit</li> </ul>
Housing Enclosure Requirements	<ul style="list-style-type: none"> <li>• Hens need an enclosed run and house, with a locking door for safety insurance from potential predators (raccoons, skunks, bears)</li> <li>• Minimum space requirement of 0.37 m<sup>2</sup> (4 ft<sup>2</sup>) of coop space and 0.92 m<sup>2</sup> (10 ft<sup>2</sup>) of outdoor enclosure per hen</li> <li>• Minimum of one perch measuring at least 15 cm (6 in) per bird</li> <li>• at least one nest box</li> <li>• 1 cm (½ in) hardware cloth be used on outside runs; secured at the base or buried 30 cm under the ground all the way around the coop to insure protection from potential burrowing predators (rodents, raccoons, skunks)</li> <li>• We strongly recommend a course on how to construct a secure coop; such as those offered by Duncan Martin or through Maplewood Farm</li> <li>• We have a website, <a href="http://www.chickensinnorthvancouver.com">www.chickensinnorthvancouver.com</a>, that offers many links and resources such as instructional videos, documents and forums</li> </ul>

<p>Basic Care and Humane Treatment</p>	<ul style="list-style-type: none"> <li>● Humane treatment of farm animals is commonly defined by the “five freedoms,” as developed by the Farm Animal Welfare Council, an advisory body to the UK government.             <ol style="list-style-type: none"> <li>1) Freedom from thirst, hunger and malnutrition</li> <li>2) Freedom from discomfort</li> <li>3) Freedom from pain, injury and disease</li> <li>4) Freedom to express normal behavior</li> <li>5) Freedom from fear and distress</li> </ol> </li> <li>● We strongly recommend a course on chicken ownership; such as those offered by Duncan Martin or through Maplewood Farm</li> <li>● A minimum of 2 hens per flock</li> </ul>
<p>Sanitation</p>	<ul style="list-style-type: none"> <li>● Enclosure must be maintained in sanitary conditions free from unpleasant odor and substances</li> <li>● Recommended that manure and scraps be removed at least weekly</li> <li>● Manure may be flushed down the toilet or composted, not allowed in North Vancouver city or district disposal service at this time</li> <li>● Storage of manure/compost must be within fully enclosed structure, such as the compost bins sold by the North Vancouver Recycling Program</li> </ul>
<p>Other Regulations</p>	<ul style="list-style-type: none"> <li>● Slaughtering or attempts at euthanasia prohibited by those who keep hens</li> <li>● Chicken carcasses are not allowed in City or District garbage containers</li> <li>● Voluntary registry</li> <li>● Voluntary foster/adoption registry</li> </ul>
<p>Reasonable Access</p>	<ul style="list-style-type: none"> <li>● By-law needs to be open enough that hen ownership is possible and not too expensive</li> <li>● Maplewood Farm course will be under \$50</li> <li>● Our website, <a href="http://www.chickensinnorthvancouver.com">www.chickensinnorthvancouver.com</a>, which is free to use, offers many links and resources such as instructional videos, documents and forums</li> </ul>

<p>Common Misconception</p>	<ul style="list-style-type: none"> <li>● Noise             <ul style="list-style-type: none"> <li>○ Hens only vocalize for approximately 5 minutes after laying an egg</li> <li>○ Hens make less noise than dogs or even human conversations</li> <li>○ Roosters will not be permitted</li> </ul> </li> <li>● Odour             <ul style="list-style-type: none"> <li>○ A frequently cleaned coop has no odor that can be detected outside the immediate vicinity</li> <li>○ Manure can be composted in compost bins in residents' yards</li> </ul> </li> <li>● Pest and Predator Attraction             <ul style="list-style-type: none"> <li>○ A well-built coop will ensure predators cannot access chickens, feed or eggs                 <ul style="list-style-type: none"> <li>▪ Solid henhouse construction as insurance from potential predators (raccoons, skunks, bears)</li> <li>▪ Hardware cloth on the run, buried 30 cm under the ground all the way around the coop to insure protection from potential burrowing pests and predators</li> <li>▪ Bulk feed stored indoors</li> </ul> </li> </ul> </li> </ul>
<p>Public Health Concerns</p>	<ul style="list-style-type: none"> <li>● Avian Influenza             <ul style="list-style-type: none"> <li>○ Avian Influenza is transmitted via direct contact bird droppings, feathers, and body fluids</li> <li>○ The greatest risk of Avian Influenza infection for humans appears to be through the slaughtering of live infected poultry, which will not be legal</li> </ul> </li> <li>● Salmonella             <ul style="list-style-type: none"> <li>○ Salmonella is bacteria in the intestine of an infected animal.</li> <li>○ Salmonella is spread through contact with fecal matter</li> <li>○ Proper hand-washing and manure handling will eliminate Salmonella transmission</li> </ul> </li> </ul>
<p>Enforcement</p>	<ul style="list-style-type: none"> <li>● No facilities would need to be built</li> <li>● Confiscated chickens would spend 24-48 hours in a dog/cat kennel at the Animal Shelter and then be fostered or adopted by a willing urban chicken owner</li> <li>● Registration for this voluntary program would be coordinated through our website</li> </ul>

## INTRODUCTION AND BENEFITS

Although prohibited, some backyard hens are kept in the City and District, and many more individuals have expressed interest in keeping them. Enthusiasm for urban chickens has grown throughout North America in the past few years, as increased attention is paid to issues of sustainability, food security, and consumption of locally grown food. During this time, many North American cities have enacted or updated by-laws to allow the keeping of chickens. A summary of by-laws in select North American cities, including Lower Mainland municipalities, has been provided with this package.

With a growing awareness of environmentally-friendly and sustainable living practices that include food security and concern for animal welfare, the trend of keeping backyard hens has been rapidly increasing throughout North America. Even before the so-called “free-range” or “organic eggs” in the grocery store hit \$4 a dozen, thousands of people around the country were discovering the benefits of raising their own backyard hens.

Besides the obvious benefit of a regular supply of eggs, here are several benefits of keeping backyard hens<sup>1</sup>.

- 1) **Eggs from well-tended backyard chickens are healthier.** Factory farmed chickens live their lives without ever touching the soil or being allowed to hunt and peck for bugs. They are fed an unnatural and unvaried diet. These environmental conditions are designed to produce eggs quickly and cheaply in the factory farm. However the result is an egg that is less nutritious than one produced by chickens allowed to exercise, peck for bugs and engage in their natural chicken-y behavior.

In contrast to factory farm eggs, eggs from backyard chickens have 25 percent more vitamin E, a third more vitamin A and 75 percent more beta carotene. They also have significantly more omega-3 fatty acids than factory farmed eggs.

- 2) **Eggs from backyard chickens are tastier.** Eggs purchased in the grocery store can be weeks—even months—old. As these eggs age, air seeps into the naturally porous eggshell, degrading not just the nutrition, but also the taste and affecting the consistency of the egg.

Fresh eggs from backyard chickens have firmer whites and bright orange yolks. (That’s the beta carotene). But the real difference is in the taste. Backyard chicken eggs have a more robust taste that is difficult to describe.

- 3) **Chickens are natural composters from start to finish.** Chickens love to eat table scraps and just about anything you were otherwise going to put in your compost. On the other end of things, chicken droppings are high in nitrogen. Added to the compost bin, they add more nitrogen and improve your compost. Chicken manure is a highly regarded additive to soil for most gardeners and is sold in garden centers regularly.
- 4) **Chickens provide natural insect and weed control.** As they hunt and peck around the yard, chickens gobble up grubs, earwigs and other bugs, treating our garden pests as tasty, nutritious treats. They are also voracious weed eaters – dandelions being one of their favourites.

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<sup>1</sup> Gardening Examiner, Robin Ripley. [www.examiner.com/gardening](http://www.examiner.com/gardening)

- 5) **Their scratching for bugs is good for the soil.** Chickens are enthusiastic foragers and will scratch around in the leaves and soil searching for the tastiest morsels. As they do, they aerate the soil and break down larger pieces of vegetation with their sharp talons, accelerating the decomposition process.
- 6) **Chickens are fun and interesting.** Every chicken has a personality—and lots of it. They aren't particularly smart, but when properly socialized, chickens can be very friendly and even do tricks.
- 7) **Backyard chickens provide lessons for children about responsibility and where food comes from.** Tending chickens is pleasurable and even easier than caring for a dog. There is no walking the chickens or even giving them a bath. However chickens do require daily food and fresh water. The coop must be cleaned and the chickens inspected regularly to ensure they are healthy. Children can participate in all of these chicken-related chores.  
  
Of course, the eggs must also be collected daily. The average laying hen will produce about 300 eggs a year, but production depends much on the breed and the environment. The happier the hens, the more they will produce. A child's favorite chicken-related chore is bound to be collecting eggs.
- 8) **The keeping of backyard hens allows hens to live out their lives in humane conditions with caring and attentive owners.** The conditions most chickens are forced to exist in, large commercially run operations, are deplorable. Chickens are housed by the thousands, crammed three or four to a cage. As mentioned, most of these hens never see the light of day or touch the earth throughout their entire lives.
- 9) **The keeping of backyard hens fits into environmentally-sustainable living practices such as the reduction of greenhouse gas emissions, the 100 Mile Diet, and food security.** It is also extremely cost-effective and requires very little start-up capital. It also educates the owners, their children and neighbours, on animal husbandry, farming techniques and food production. This contributes to a more aware community, and neighbourhood connection.
- 10) **The keeping of backyard hens builds community through the sharing of education and resources.** Our website, [www.chickensinnorthvancouver.com](http://www.chickensinnorthvancouver.com), will create an automatic communication hub where people can come together to share advice, information, and even tools or eggs. All of this contributes to developing and sustaining community in North Vancouver.

## OVERVIEW

As mentioned, this proposal draws heavily upon the recommendations put forth by the Vancouver City Staff and members to the Vancouver City Council to assist them in making their decision to create the by-laws that allow for the keeping of backyard hens. In considering the Vancouver City Council's mandate to allow the humane and sanitary keeping of backyard hens, we hope you will consider several by-law amendments that intend to meet three criteria:

- 1) protection of public health and welfare;
- 2) humane treatment of hens; and
- 3) reasonable access to hen keeping for residents.

## 1. Protection of Public Health and Welfare

Public health and welfare must be a primary concern when considering regulations for backyard hens. Many urban dwellers fear that they will bring disease, increased noise, unpleasant odours, and unwanted animals such as rodents to their neighbourhoods. This section examines some of the main health and nuisance concerns associated with backyard hens, and the measures proposed to address them. We are proposing the by-law address the following concerns:

- A. Proper and healthy siting of chicken coops and runs to reduce potential visual impact
- B. Address common misconceptions about noise, odor and pest and predator concerns
- C. Address public concerns about avian flu and salmonella

### A. Siting of Chicken Coops

To minimize visual impact, we recommend that the chicken enclosures be kept back 1 m (3.28 ft) from the property lines on all sides, and only be kept in back and side yards. We also recommend that hen keeping be allowed in all residential zones, including multi-family, and that both of those zones be subject to the same requirements. Thus, a multi-family development could have 6 hens per lot, not 6 hens per unit, and hen facilities would have to be at grade level. Further, a chicken bylaw should require that keepers of hens reside on the lot containing the hen enclosure in order to ensure that hens receive appropriate care and supervision. Thus, under the proposed by-law provisions, an apartment dweller could maintain a flock of 6 hens in the yard of the apartment complex, but could not keep the hens on a balcony, because the chickens would not have access to soil for scratching. It would be the tenant's responsibility to obtain property owner approval for keeping hens.

We recommend that hen keeping be prohibited in commercial, industrial, and comprehensive development zones due to the lack of suitable physical environments and absence of supervision on many commercial and industrial sites, particularly after the closure of businesses. We also recommend that hen facilities be prohibited, for the time being, in public parks and community gardens, again due to the absence of consistent supervision, particularly at night, and the complexity of establishing responsibility for maintenance and care of hens. The latter recommendation could be revisited once basic hen keeping provisions are in place, and a more detailed review of communal hen keeping is possible.

We recommend some limits on the size and height of hen facilities, including a 9.2 m<sup>2</sup> (100 ft<sup>2</sup>) floor area limit, and a 2 m (6.56 ft) height limit. The height restriction is recommended to minimize visual impacts, and the floor area restriction exempts chicken owners from Floor Area Ratio (FAR) limits and building permit requirements.

### B. Common Misconceptions

The main public concerns that we've encountered are that hens may be a nuisance because of their noise and odor, and because of the potential attraction of pests and predators that chickens and chicken feed may create. These concerns are very widespread and understandable; however, as many other cities that have legalized backyard hens have realized, the problems are negligible if proper care and maintenance standards are followed. Our proposed by-law addresses the three main concerns:

- a) Noise
- b) Odor
- c) Pest and Predator Attraction

#### a. Noise

Laying hens produce a variety of vocalizations, none of which are very loud. Perhaps the loudest noise is an approximately five-minute period of cackling or squawking that occurs when a hen lays an egg. In an investigation conducted by staff from the City of Pleasanton, California, noise readings of a “squawking” chicken registered at 63 dbA at two feet away, and would not register at 2.75 m (9 ft) away<sup>2</sup>. For comparison, the average human conversation registers at about 60 dbA<sup>3</sup>, and a barking dog can be as loud as 100 dbA<sup>4</sup>.

City Noise Control By-law No. 5819 and District Noise Control By-law No. 7334 limits “continuous sound” levels in residential areas to 55 dbA in daytime and 45 dbA at night, measured from the point of reception. In addition, it prohibits the cries of animals or birds that unreasonably disturb the “quiet, peace, rest, enjoyment, comfort, or convenience” of that person. The same provision is applied to dog barking in the Animal Control By-law.

Given that noise from hens is relatively quiet and intermittent, it is unlikely to be a significant nuisance under the proposed guidelines, which provide setbacks and other management measures to ensure some separation between hen enclosures and neighbouring properties. Specifically, we recommend minimum setbacks of 1 m from all property lines. Given this separation, it is unlikely that hen sounds will be above allowable levels on neighbouring properties. The recommendation that hens be kept in their coops from sunset to sunrise, which is primarily to protect hens from predators, will reduce potential noise impacts at night.

Unlike hens, a crowing rooster can reach decibel levels of 85-90 dbA. For this reason, it is recommended that roosters be prohibited under the proposed by-law amendment. In this regard, it is also recommended that no chickens under the age of four months be allowed, as determining gender (and thus avoiding unexpected roosters) can be more difficult in young chickens.

#### b. Odour

Unpleasant odours from accumulation of manure and/or food scraps can result if chicken enclosures are infrequently cleaned and food is broadcast in the pens. Although chickens produce only a few tablespoons of manure per day, accumulations of manure can produce ammonia, which is both harmful for chickens and unpleasant for others. It is recommended that manure and scraps be removed at least weekly, and preferably daily. Manure can be flushed down the toilet or composted, but is not allowed in garbage cans in North Vancouver. Composted chicken manure is an excellent fertilizer. In order to address potential odour issues, we recommend that a provision requiring enclosures to be maintained in a sanitary condition, free of unpleasant smells and substances, be added to the Animal Control by-law. Recognizing the value of composted chicken

<sup>2</sup> City of Pleasanton [www.ci.pleasanton.ca.us/pdf/pcsr-6f-prz30-ord.pdf](http://www.ci.pleasanton.ca.us/pdf/pcsr-6f-prz30-ord.pdf)

<sup>3</sup> National Agricultural Safety Database <http://nasdonline.org/document/1144/d000933/hearing-protection-for-farmers.html>

<sup>4</sup> Coppola, Crista L., Enns, R. Mark, Grandin, Temple. “Noise in the Animal Shelter Environment: Building Design and the Effects of Daily Noise Exposure,” *Journal of Applied Animal Welfare Science*, 9(1), 1-7.



manure, as well the potential odour issues associated with manure accumulation, we recommend a by-law provision that allows storage of manure only if it is stored in a fully enclosed structure (such as a compost bin).

### c. Pest and Predator Attraction

Hen enclosures can attract unwanted animals, including rodents seeking food scraps and larger animals, such as raccoons, foxes, skunks, bears and coyotes, seeking eggs or a chicken dinner. For this reason, it is vital that hen enclosures be secure from all other animals. In order to discourage rodents and predators, we recommend by-law language that requires hen enclosures to be constructed and maintained to prevent rodents from being harboured underneath, or within the walls of the coop and the run, and to prevent access to the enclosure by any other bird or animal.

Poultry require a dry, relatively draft-free henhouse. This can be accomplished by building a relatively draft free henhouse with windows and/or doors which can be opened for ventilation when necessary. The henhouse walls should be constructed of solid materials and leave no gaps for smaller rodents to get in. All windows must be fixed or covered in hardware cloth. Allowing an adequate level of space per bird also helps keep the humidity level in the coop to a minimum, which reduces the possibility of odour and illness. We further recommend that owners be required to keep hens, as well as their food and water, inside the coop between sunset and sunrise, and that they keep the coop locked during that time. Leftover feed should be removed in a timely manner to discourage rodent interest.

On the outside runs, 1 cm (½ in) hardware cloth must be used, as it is the only material impervious to all predators. The wire should be buried along the pen border at least 30 cm (1 ft) deep, and toeing the fence outward about 15 cm (6 in) to stop any digging predator.

The doors on the exterior of the coop and run needs to have a substantial lock – a good rule of thumb is if it is too difficult for a three-year old to open, it will be too difficult for a raccoon.

To prevent problems with hawks and owls, we recommend the by-law stipulate that people cover their outside runs with hardware cloth or put a Plexiglas or solid roof over the coop and run, which protects the chickens from the elements as well<sup>5</sup>.

The best deterrent for pests and potential predators such as raccoons, skunks and bears, is a clean, well-built and well-maintained coop. Just as with garbage, the feed must be kept in a house or lockable garage, and not outside. The eggs must be collected daily, to ensure they don't tempt predators.

Some of this information is covered in the Humane Treatment Section, as hens being harmed by pests is not just a nuisance but also inhumane. We will also cover this information, and more, in the course that we will be offering through Maplewood Farm. The curriculum and handouts will include strict guidelines on coop construction and material recommendations, similar to the attached documents by Heather Havens and Duncan Martin.

## C. Public Health Concerns

The public has also expressed worries over the spreading of Avian Influenza (bird flu) and Salmonella. We have researched this topic and are confident that these concerns are unfounded.

<sup>5</sup> Keeping Backyard Hens, Heather Haven. 2009

### a. Avian Influenza

Chickens, like other birds, are susceptible to forms of Type A influenza that are collectively known as “avian influenza” (AI). The AI virus is widespread, particularly among wild birds, but most forms produce relatively mild or no symptoms. AI can mutate, after circulation in a concentrated poultry population, into highly pathogenic forms (HPAI) that produce severe symptoms, but this is less common<sup>6</sup>. AI is not an airborne disease, but is transmitted from infected to healthy birds via direct contact with birds and their droppings, feathers, and body fluids<sup>7</sup>.

AI has spread to humans in rare instances. Transmission from birds to humans remains difficult, usually involving prolonged and close contact, and human-to-human transmission has been suspected in only a handful of cases<sup>8</sup>. The greatest risk of infection for humans appears to be through the handling and slaughtering of live infected poultry. Public health concerns centre on the potential for the virus to mutate or combine with other influenza viruses to produce a form that could easily spread from person to person.

The British Columbia Center for Disease Control (BCCDC) conducted a literature review on the risks of infectious disease from backyard hens and found that:

Overall, the risk of pathogen transmission associated with backyard chicken keeping appears to be mild and does not present a greater threat to population health compared to other animals allowed by similar by-laws (reptiles, dogs, etc). Public adherence to proper hygiene will significantly mitigate the risk of any disease acquisition including pathogens commonly found in chickens<sup>9</sup>.

Our coop siting and waste removal recommendations are in alignment with Vancouver Coastal Health recommended guidelines and considers them to be protective of public health as explored by the City of Vancouver and in the development of their Urban Chicken By-law.

Similarly, Interior Health recently released a document entitled “Backyard Chickens in the Urban Environment,” which is intended as a guide for municipalities considering the health implications of backyard chicken keeping. The document states:

The risk of avian influenza development is not appreciably increased by backyard hens. Urban hen keepers should be encouraged to follow the advice of CFIA: Bird Health Basics - How to Prevent and Detect Disease in Backyard Flocks and Pet Birds.

Our recommendation requires hen keepers to follow the CFIA bio-security standards, and include the standards as a recommended reading on our website. These measures are intended to limit introduction of diseases from other domestic poultry and cross-contamination between humans and hens. We further recommend that owners be required to provide veterinary care for hens sufficient to keep them in good health.

<sup>6</sup> World Health Organization (WHO) [www.who.int/mediacentre/factsheets/avian\\_influenza/en/](http://www.who.int/mediacentre/factsheets/avian_influenza/en/)

<sup>7</sup> Food and Agriculture Organization of the United Nations (FAO) [www.fao.org/avianflu/en/qanda.html](http://www.fao.org/avianflu/en/qanda.html)

<sup>8</sup> World Health Organization (WHO) [www.who.int/csr/disease/avian\\_influenza/Timeline\\_10\\_01\\_04.pdf](http://www.who.int/csr/disease/avian_influenza/Timeline_10_01_04.pdf)

<sup>9</sup> [www.vancouver.ca/ctyclerk/cclerk/20100408/documents/penv3.pdf](http://www.vancouver.ca/ctyclerk/cclerk/20100408/documents/penv3.pdf)

Additionally, a prohibition on backyard slaughtering will reduce exposure to blood and other body fluids from diseased birds and requirements to keep enclosures sanitary and free from accumulated manure and waste, as detailed under the Humane Treatment section of this document.

#### b. Salmonella

Salmonella is another health concern associated with poultry and eggs. Salmonella bacteria lives in the intestines of infected chickens, and can be shed in large numbers in the droppings. Humans who handle the birds or clean their enclosures can then be exposed to the bacteria, which can cause severe gastrointestinal illness if ingested. Person-to-person transmission of salmonella occurs when an infected person's feces, unwashed from his or her hands, contaminates food during preparation or comes into direct contact with another person<sup>10</sup>. The guidelines recommended to reduce the risks of avian influenza will also help minimize the risk of Salmonella poisoning from contact with chickens. This risk is further reduced by the recommended prohibition of hens less than four months old, as chicks shed much more Salmonella than older birds.

With the recommended regulations in place, keeping of backyard hens should pose minimal risks to public health.

## 2. Humane Treatment

The humane treatment of the animals is a priority in the development of guidelines for keeping hens. Humane treatment of farm animals is commonly defined by the “five freedoms,” as developed by the Farm Animal Welfare Council, an advisory body to the UK government.

#### a. These 5 freedoms include:

- 1) Freedom from thirst, hunger and malnutrition –  
by ready access to fresh water and a diet to maintain full health and vigour.
- 2) Freedom from discomfort -  
by providing a suitable environment including shelter and a comfortable resting area.
- 3) Freedom from pain, injury and disease –  
by prevention or rapid diagnosis and treatment.
- 4) Freedom to express normal behaviour -  
by providing sufficient space, proper facilities and company of the animals own kind.
- 5) Freedom from fear and distress -  
by ensuring conditions that avoid mental suffering<sup>11</sup>.

To enjoy the Five Freedoms, hens need shelter, food, water, adequate space, environmental conditions (such as adequate ventilation and light) conducive to good health, and the opportunity to socialize and engage in fundamental behaviours, which for them include scratching (foraging by scraping the ground with their claws),

<sup>10</sup> [www.idph.state.il.us/public/hb/hbsam.htm](http://www.idph.state.il.us/public/hb/hbsam.htm)

<sup>11</sup> Farm Animal Welfare Council [www.fawc.org.uk/freedoms.htm](http://www.fawc.org.uk/freedoms.htm)

roosting (resting on a stick or branch), and dust-bathing (thrashing around in the dirt to clean feathers and remove parasites). These needs must be met under the recommended requirements for care of backyard hens.

We propose a maximum number of 8 hens per property. This provision maximizes public and animal health and welfare by both limiting the concentration of birds, and ensuring a number sufficient to supply eggs to an average family of 4.

In consideration of chickens' social nature and to ensure chickens have adequate social engagement, our recommendations stipulate not only a maximum of 8, but also a minimum number of 2 hens per flock.

For shelter and protection from predators, hens need an enclosed house, with a locking door. Coops should contain nest boxes, in which hens will lay their eggs, and one or more perches per bird. Hens also need access to the outdoors, either by free ranging or by use of an enclosed outdoor space that allows them ground on which to scratch and peck. For hens without access to bare earth, a dust bath, made of any combination of sand, soil, ash, food grade diatomaceous earth (to control parasites) or other similar material, should be provided.

Hens also require adequate space. Too little space can be a stressor for hens, who may respond with aggressive behaviours such as egg eating, pecking at each other, and cannibalism. Too much space in the coop can increase heating demands. Significant debate exists on the amount of space required to raise hens. While most large-scale commercial producers provide between 24 cm – 36 cm (0.8 ft<sup>2</sup> – 1.2 ft<sup>2</sup>) of space per hen, space requirements for smaller free range, organic, and humane-certified flocks are more generous. Recommended cage-free or free range indoor space requirements vary from 45.5 cm – 244 cm (1.5 ft<sup>2</sup> - 8 ft<sup>2</sup>) per hen, depending on the size of the hen and other factors.

Our recommendation includes a minimum space requirement of 0.37 m<sup>2</sup> (4 ft<sup>2</sup>) of coop space and 0.92 m<sup>2</sup> (10 ft<sup>2</sup>) of outdoor enclosure, reflecting the roomier standards. This liberal space allotment is appropriate, given that the hens will be continuously confined. Other housing requirements include at least one nest box, to accommodate the need for seclusion during egg-laying, and one perch measuring at least 15 cm (6 in) per bird, to allow hens to engage in roosting, an essential behaviour. Keeping hens in cages, which would prevent them from utilizing the full space allotment, and may cause injury, is not allowed in the proposed by-law amendment.

Our recommendation also prohibits slaughtering or attempts at euthanasia by those who keep hens, as slaughtering by untrained individuals can result in unnecessary suffering. Hens at the end of their lives may be euthanized by a veterinarian (at an estimated \$40 cost), or taken to a farm or abattoir for slaughtering. Chicken carcasses may be taken to the Vancouver Animal Shelter for cremation, or disposed of in any other legal manner (i.e. buried in a pet cemetery, or in any other area where burial is allowed under Ministry of Environment regulations, or composted on a farm). Chicken carcasses are not allowed in City garbage containers.

Along with regulations, education plays a vital role in promoting humane care. We therefore recommend that our website be a vehicle for ensuring that owners receive basic information on chicken care and maintenance. Specifically, we will include information and links on best management practices, humane considerations, biosecurity protocols, educational resources, and by-law requirements, including a list of local workshops on hen keeping, with a strong encouragement for all registrants to attend.

Maplewood Farm<sup>12</sup> has come forward with the recommendation of a course put on by the Farm, in which all the basics of chicken ownership would be covered, from coop construction to proper care and maintenance of the coop and run, to basic health concerns with hens. We, the undersigned, considered requiring registrants to attend the workshop, but do not recommended that this be a by-law requirement. The administrative process this would involve, including reviewing, assessing and endorsing the appropriate courses, and providing proof of course completion, would be difficult and costly. In addition, many people that keep hens have prior experience and may not require courses to properly manage them. By forgoing the workshop requirement, we recognize that a balance must be maintained between providing adequate regulatory control and avoiding burdensome requirements.

### **3. Reasonable Access**

#### **A. Cost and Resources**

In creating this by-law we want to ensure that we don't make it so restrictive or limiting that it is unreasonable for the average citizen to become a chicken owner. We believe that if the recommendations put forth are followed, and the cost of the Maplewood Farm course is kept below \$50, chicken ownership will not be out of reach for the average citizen.

We also want to ensure that citizens have access to the resources required to learn how to be responsible and well-informed urban chicken stewards. The website we have constructed will offer ample resources and information, as well as opportunities for owners to network and gather information from each other, or collaborate on orders of hay or feed. There would even be opportunities for shared labor on coop building – swapping weekends to build together.

#### **B. Enforcement**

Animal Control would enforce the recommended by-law provisions, using procedures currently authorized for control of "other animals." These procedures, which are outlined in the Animal Control By-law, include measures for impoundment, seizure, detainment, and disposal of animals, as well as descriptions of fees and penalties. To ensure that these measures would be available, we recommend that the definition of "other animals" in the Animal Control by-law be clarified to include hens. Enforcement would be done on a complaint basis.

We recommend a foster program in the case of chickens impounded due to by-law infringement. There would be a voluntary registry for chicken owners, through which they would be able to offer their homes and coops to house the impounded birds. The birds could then be adopted out to new urban chicken owners, or those whose flocks are still below the legal number.

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<sup>12</sup> 405 Seymour River Place, North Vancouver, B.C. Canada V7H 1S6 Phone: (604) 929-5610

## CONCLUSION

We feel that backyard hens provide many benefits and that existing by-laws can be altered to accommodate this positive step towards both environmental and food sustainability. The changes we have outlined encompass the necessary amendments to the current zoning by-laws, which would allow for the humane keeping of hens while addressing setbacks, floor area and height standards, which would alleviate the need for building permits and reduce visual impacts. We also recommend amendments to the Animal Control By-law, including repeal of the prohibition on keeping of hens, and addition of a new section providing limits on the number of chickens allowed, requirements for housing and care, prohibitions on backyard slaughtering and/or commercial use, and requirements for pest control, sanitation and biosecurity. A registration system should be at the discretion of the City and the District of North Vancouver, respectively. We recommend a “foster family” program to address hens in need. In total, our recommendations provide the framework for a system of regulations that will allow residents of the City and District of North Vancouver to safely and humanely enjoy the rewards that backyard hens provide.

\* \* \* \* \*

**CITY OF VANCOUVER  
BRITISH COLUMBIA**



**ANIMAL CONTROL BY-LAW NO. 9150**

This By-law is printed under and  
by authority of the Council of  
the City of Vancouver

(Consolidated for convenience only  
to October 18, 2011)

- (c) pay all outstanding fines or penalties imposed on such person for breach of this By-law.

## **SECTION 7 REGULATION OF ANIMALS**

### **Controlling other animals**

7.1 A person who keeps an other animal, or a person who has care, custody or control of an other animal, must not permit, suffer, or allow the other animal to be elsewhere than on his or her property unless it is under the immediate charge and control of a competent person.

### **Prohibition against keeping certain domestic animals**

7.2 A person must not keep in any area, temporarily or permanently, any horses, donkeys, cattle, swine, sheep, goats, ducks, geese, turkeys, pheasants, quail, or other poultry or fowl, except that this prohibition does not apply to:

- (a) keeping hens, subject to sections 7.15 and 7.16;
- (b) areas in which the Zoning and Development By-law allows the keeping of such animals;
- (c) licensed pet shops or kennels;
- (d) slaughter houses; or
- (e) the exceptions set out in section 7.4.

### **Prohibition against keeping certain exotic or wild animals**

7.3 A person must not keep in any area, temporarily or permanently, any animal listed in Schedule C to this By-law, except as permitted by section 7.4.

### **Exceptions to prohibitions**

7.4 The prohibitions set out in sections 7.2 and 7.3 do not apply to:

- (a) the Vancouver Animal Control Shelter;
- (b) premises operated by The British Columbia Society for the Prevention of Cruelty to Animals;
- (c) a veterinary hospital under the control of a veterinarian registered as a member of the British Columbia Veterinary Medical Association;



- (d) premises operated by an institution of education for research, study, or teaching purposes;
- (e) premises operated by the Vancouver Police Department; or
- (f) an aquarium or zoological park operated by an organization accredited by the Canadian Association of Zoos and Aquariums.

#### **Prohibition against keeping excessive numbers of certain animals**

7.5 A person must not keep in any area, temporarily or permanently, at any one time, more than:

- (a) six, in aggregate, hamsters, guinea pigs, tame mice, chinchillas, cats, rabbits, and other small animals and reptiles including snakes, not referred to in Schedule C;
- (b) 12, in aggregate, registered homing pigeons, canaries, budgerigars, parrots, parakeets, and exotic birds of all species, except that a person who has obtained permission from Council to keep an aviary may have a greater number of such birds in or about the premises designated in the permit;
- (c) four hens, in aggregate, on any one parcel despite the number of dwelling units permissible on that parcel.

#### **Housing for animals**

7.6 In addition to the other requirements of this By-law, the owner of any animal, bird, or reptile must provide for its housing in a suitable manner, and must maintain such housing in a clean and wholesome state appropriate for the particular animal, bird, or reptile.

#### **Seizing other animals under this By-law**

7.7 The Poundkeeper or a police officer may seize an other animal who is elsewhere than on property referred to in section 7.1, and who is not under the immediate charge and control of a competent person.

#### **Seizing other animals under Parks Control By-law**

7.8 A police officer or a person authorized by the Park Board who seizes an other animal under a by-law enacted by the park board may deliver the other animal to the Poundkeeper or to the pound.

#### **Impounding other animals**

7.9 Promptly upon receiving an other animal under section 7.7 or 7.8, the Poundkeeper may impound the other animal at the pound.

#### **Detaining impounded other animals**

7.10 The Poundkeeper may detain an other animal impounded under section 7.9 for 48 hours.

#### **Caring for other animals**

7.11 The Poundkeeper, as he or she considers necessary and humane, may maintain and care for impounded other animals including the provision of food, water, and shelter, and may arrange for veterinary care and medication.

#### **Destroying other animals for humane reasons**

7.12 Despite section 7.10, if the Poundkeeper believes that an impounded other animal is suffering from injury, disease, sickness, or other cause which it is unlikely to survive or from which it is unlikely to recover, and that destroying the other animal would be humane, the Poundkeeper may destroy the other animal immediately.

#### **Disposing of other animals**

7.13 After expiry of the 48 hour period referred to in section 7.10, the Poundkeeper may destroy, or sell by auction or private sale, an impounded other animal.

#### **Reclaiming other animals**

7.14 At any time before destruction or sale of an other animal under section 7.13, the person who keeps the other animal may apply to the Poundkeeper to reclaim the other animal, and, when applying, must:

- (a) give the Poundkeeper proof of ownership by such person of the other animal;
- (b) pay all outstanding charges and fees under this By-law that apply to such other animal; and
- (c) pay all outstanding fines or penalties imposed on such person for breach of this By-law.

#### **Registration of hens**

7.15 A person must not keep a hen unless that person first registers with the city:

- (a) electronically by:
  - (i) accessing the city's animal control computer website at <http://vancouver.ca/animalcontrol>,
  - (ii) accessing the link from that website to the on-line registry at <http://vancouver.ca/commsvcs/licandinsp/animalcontrol/chicken/index.htm>,
  - (iii) reading the information on keeping hens at the on-line registry site,
  - (iv) completing the application at the on-line registry site including the following mandatory fields:

- (A) the date,
- (B) the person's name, address and postal code,
- (C) confirmation that the person resides on the property where he or she will be keeping hens,
- (D) confirmation that the person has read the information referred to in clause (iii), and
- (v) submitting the application to the on-line registry site; or
- (b) by requesting, by telephone to 311, the mailing to that person of the information on keeping hens and an application form, and by:
  - (i) reading such information,
  - (ii) completing the application including the mandatory fields referred to in subsection (a)(iv), and
  - (iii) submitting the completed application to the city;

and such person must promptly update, and provide to, the city any information given when any change occurs.”

### **Keeping of hens**

7.16 A person who keeps one or more hens must:

- (a) provide each hen with at least 0.37 m<sup>2</sup> of coop floor area, and at least 0.92 m<sup>2</sup> of roofed outdoor enclosure;
- (b) provide and maintain a floor of any combination of vegetated or bare earth in each outdoor enclosure;
- (c) provide and maintain, in each coop, at least one perch, for each hen, that is at least 15 cm long, and one nest box;
- (d) keep each hen in the enclosed area at all times;
- (e) provide each hen with food, water, shelter, light, ventilation, veterinary care, and opportunities for essential behaviours such as scratching, dust-bathing, and roosting, all sufficient to maintain the hen in good health;
- (f) maintain each hen enclosure in good repair and sanitary condition, and free from vermin and obnoxious smells and substances;
- (g) construct and maintain each hen enclosure to prevent any rodent from harbouring underneath or within it or within its walls, and to prevent entrance by any other animal;

- (h) keep a food container and water container in each coop;
- (i) keep each coop locked from sunset to sunrise;
- (j) remove leftover feed, trash, and manure in a timely manner;
- (k) store manure within a fully enclosed structure, and store no more than three cubic feet of manure at a time;
- (l) remove all other manure not used for composting or fertilizing;
- (m) follow biosecurity procedures recommended by the Canadian Food Inspection Agency;
- (n) keep hens for personal use only, and not sell eggs, manure, meat, or other products derived from hens;
- (o) not slaughter, or attempt to euthanize, a hen on the property;
- (p) not dispose of a hen except by delivering it to the Poundkeeper, or to a farm, abattoir, veterinarian, mobile slaughter unit, or other facility that has the ability to dispose of hens lawfully; or
- (q) not keep a hen in a cage.

## SECTION 8 DISPOSITION SERVICES

### Removing carcasses

8.1 If the Poundkeeper learns that the carcass of an animal, except for a skunk, is lying on a street or other public place, the Poundkeeper may remove the carcass.

### Delivering carcasses

8.2 A person may deliver to the Poundkeeper the carcass of a dog, cat, or other animal that weighs less than 150 pounds, and request the Poundkeeper to cremate the carcass.

### Picking up carcasses from private persons

8.3 The Poundkeeper, on request by a person and payment of the fee set out in Schedule B, may pick up the carcass of a dog that weighs less than 150 pounds, and cremate the carcass.

### Picking up carcasses from veterinarians

8.4 The Poundkeeper, on request by a veterinarian, may pick up the carcass of a dog, cat, or other animal that weighs less than 150 pounds, and cremate it.

## Basic Chicken Care

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### GENERAL INFORMATION

#### Lifespan

- Chickens can live as long as a dog or cat--- up to 14 years or longer.
- Egg laying for a hen generally starts at 6 months old, peaks at 18 months and declines with age.

#### Cost

- Start Up costs for coop, maintenance, tools, cleaning, equipment, heating / cooling appliances, dishes, nets, food storage, scale, fencing, security locks, lighting,
- Supplies per bird for food, bedding, nutritional supplements, cleaning supplies
- Vet care if your hen becomes ill. Consider exam fee, possible diagnostics, medications costs and other costs related to illness or injury.

#### Time

- 1 hour per day minimum for cleaning, parasite control, grooming, physical exam, travel time to purchase supplies, construction, repair, medication, feeding, supervise free time out of pen.
- Hens should be cared for twice daily. During the am to ensure food, water, and cleaning for the day and again in the evening to ensure adequate supplies for the evening and that all birds are securely confined overnight.
- Think ahead for vacations and weekends away. Do you have someone is able to care for your birds while you are away and knows about your flock and chicken health in case something goes wrong?

#### Location

- Coop and pen should be located in an area that provides shade, direct sunlight, good drainage and protection from prevailing winds and will not present a problem to neighbors.

#### Uninvited guests

- Chickens will attract bird mites and lice, mice, yard birds, squirrels, raccoons, dogs, coyotes, rats, and humans. You must ensure that your flock is safe both from predators and pests.

#### Companionship

- A single chicken is a sad chicken. Plan to have at least 2--- they are flock animals and need the companionship of other chickens. Generally, 3---4 compatible chickens can be well maintained in a typical city environment. Individual bird's age and temperament can affect compatibility. Over crowding chickens is the most common mistake. Sometimes single birds can thrive with a human friend if they have special needs.

#### Handling and Restraint

- Never handle a chicken by wings, feet or legs. Herd bird to corner using slow deliberate movement. Fast= predator, slow = less threat. Place hands over top part of wings

(shoulders) and hold securely but do not squeeze. Pick up and hold under arm to keep wings in place. Support feet with other hand if bird will tolerate. To restrain for transport or examination, drape a towel over shoulders cape style and wrap around body.

### **Transportation**

- Consider travel time and avoid extreme weather conditions when bringing home new hens. Heat exhaustion can develop quickly; interior car temps can reach a fatal point in 10 minutes. Medium sized hard pet carriers work well for security, safety and stress. Line with a towel, shredded paper or straw. Food is a good stress reducer. Offer wet food like greens or cucumber for long trips.

### **Bringing Hen Home**

- If other birds are already present a 2 week quarantine in a separate area is recommended to watch for signs of illness and parasites. Avoid noisy, high traffic areas and allow the bird to acclimate before introducing to other birds, animals and family.
- The majority of their waking hours are spent active, grazing, foraging for food - plants, bugs and occasionally small rodents.
- The hens spend their days scratching for food, dust bathing, preening, playing and napping. Hens begin to lay eggs at about 6 months of age. Domesticated hens have been bred to lay one egg a day but by 18 month of age, egg laying frequency generally diminishes and many adult or senior hens stop laying altogether.
- Chickens are sociable, cheerful and intelligent creatures that can form lifelong bonds with each other and other species. Because of their keen intelligence and instinctive physical activity, they need a stimulating environment that mimics as much as possible the rich and diverse world nature designed them to enjoy.

## **COOP**

### **Placement**

- The coop needs to be a closed structure which provides shelter from cold, heat, wind, rain, snow and predators for protected roosting, nesting, feeding and watering space.

### **Construction & Materials**

- Coops can be purchased ready made or in kits, constructed within an existing structure or built from scratch.
- NOTE: rabbit hutches, plastic igloos, dog houses and such are not appropriate structures.

### **Floor**

- The floor should not collect and hold moisture, be easy to clean, retain heat in cold weather and exclude rodents/predators. A dirt floor draws heat away and is not easy to clean or rodents/predators proof. A wood floor is adequate provided it is at least a foot off the ground, insulated and sealed properly but is difficult to sanitize because it is porous. A concrete floor is ideal since it discourages rodents/predators and is easy to sanitize. Regardless of the floor type, bedding strewn on the surface is needed to absorb moist fecal matter and facilitate cleaning. Leaves or wood shavings work best and can be composted or easily bagged and disposed of as solid waste.

### **Walls**

- Materials that are resistant to moisture and mold and easily cleaned are best. Chemically treated materials should be nontoxic. A good compound with anti fungal agents is good for humid areas. Clear varnish is also good. Everything should be treated or painted before it is assembled. Wooden structures should be draft free.

#### Roof

- The coop roof should be made of a material that will not collect and hold heat. The roof surface should be covered with an insulating tar paper to protect from heavy rains. The roof should be slightly inclined, to allow water to run off and if it overhangs it will protect from downpours. A few small openings along the eaves allow moisture to escape and provide fresh air.

#### Doors

- Doors for chickens should be just large enough for the largest bird and can be positioned anywhere from ground level to about 2 feet high with a stable ramp with cleats. Chickens are ground dwellers, not parrots---small doors at heights greater than 3 feet with flimsy, unstable ladders are not appropriate. Doors must be able to be secured against predators at night.
- Do not forget to provide easy human access to the coop so you can collect eggs and clean the entire coop.

#### Windows

- You may consider windows as chickens love windows and need natural light. Cover with 1/2" metal screen so they can be opened for ventilation in hot weather.

#### Roosts

- Lumber or branches can be used. They should be strong enough and mounted securely enough to hold all birds. The surface should be rough for good grip with no splinters or sharp edges. For medium sized birds, 2" or 4" flat or 1 1/2" diameter is best for foot comfort. The longer roost the better to prevent competition. They should be set 18" from wall, 2 ---3 feet off the floor. If mounted higher, rung steps are needed spaced 8--12 inches apart. The addition of a dropping board underneath and elevated roost will collect droppings and keep floor space below clean and inhabitable.

#### Climate

- If you provide heat for your hens you may consider only providing a heat lamp. If hens are kept dry and the coop does not have drafts your birds will not need much heat. Use caution when considering what to put in your coop as heaters and lamps can cause fire hazards. Your coop can have a lot of dust and combustible materials, from feathers, to feed, to straw. Your best protection is to build a coop and outdoor enclosure to keep your birds dry and free from drafts.
- On hot summer days you will need to think about keeping you coop and birds cool. You can do this by building your coop in a shaded area and keeping the surrounding area cool on hot days. You can do this by spraying down the coop, not the birds. You may consider providing a fan on very hot days if there is little or no air movement.
- Chickens can tolerate quite a bit of cold weather. You will need to ensure that their drinking water does not freeze and that their coop is not drafty or damp.

#### Ventilation

- Doors, windows and vents near the ceiling supply oxygen, remove heat from breathing, remove moisture from breath and droppings, harmful gasses and dust particles, and dilute disease causing airborne organisms.

#### **Light**

- Natural light from windows and/or skylights should be provided. The minimum light intensity you should provide should be enough to clearly see the hens feed when standing over the feeder.

#### **Feeders**

- Food receptacles should be made of non-corrosive material that is easily cleaned minimizes spillage, prevents contamination with droppings and keeps food dry. The containers should be large enough for all the birds to comfortably eat at once or numerous enough to prevent competition or intimidation.

#### **Waterers**

- Water receptacles should be made of non-corrosive material that can be cleaned and disinfected with a solution of chlorine bleach, prevent contamination with droppings and is spill and leak proof. The containers should be large enough for all the birds to comfortably drink at once and hold enough water for all birds for an entire day. They should be slightly positioned higher than the feeder or far enough away to prevent contamination with food.

#### **Nest boxes**

- One nest box for every 2 -3 hens. Chickens prefer wooden nest boxes with covered opening for privacy placed on or as low to the floor as possible. If set higher they require a perch in front of the opening. They should be filled with 2 -4 inches of straw, litter or grass.

## **PEN**

#### **General**

- The fenced area surrounding the coop that provides secure access to exercise, sunlight, earth and vegetation and is freely available to the birds when they are unsupervised during the day. It is constructed to prevent the bird's escape and prevents entry by intruders/predators.
- If the coop is elevated 2 feet so the chickens can use the space underneath, the coop and pen should not occupy the exact same footprint. Do not forget to provide adequate opening and space for a person to be able to clean the entire outdoor pen area and to be able to catch hens if needed.

#### **Pen Floor**

- Choose a well drained area. Material for the floor should be clean, non-toxic, biodegradable, readily available, inexpensive and replaceable. Since it will become compacted from little feet and contaminated by concentrated droppings and parasites, it will need to be raked out and replaced frequently to reduce odor and fly activity. Play sand, leaves, municipal wood chips, sod and hard wearing ground cover work well.



## **Fencing**

- The type of fencing depends on what the most likely predators are in your area. Dogs, rats, raccoons, and coyotes are the most prevalent in city neighborhoods. It's best to build the strongest deterrents possible. Chain link panels or welded or woven fencing on a sturdy frame reinforced at the bottom with small mesh metal wire that prevents predators from tunneling under the fence will discourage most intruders. Regular inspection is key to security.

## **Cover**

- The outdoor pen should be covered to keep hens in and predators out. Covering the pen with a roof such as corrugated fiberglass can provide shade and rain shelter.

## **Windbreak**

- Providing a wind and rain/snow break will give the birds a protected area to be outdoors even in winter.

## **Shade**

- Shade must be available and can be provided by vegetation or strategically placed materials.

## **Dust bath**

- Taking a dust bath is the closest thing to heaven for a chicken. They bathe in the sun and in loose dry soil depressions in the dirt which cleans their feathers and rids them of parasites. Birds will usually dig their own hole for dust baths. If they are unable to dig their own dirt bath area you will need to provide one. Keep the soil in the dust bath loose and add play sand if it is a heavy clay soil. Adding a little poultry dust, diatomaceous earth or wood ash increases the effectiveness of parasite control. Large heavy rubber feed buckets filled with play sand are a welcome addition to the indoor coop in the winter.

## **Enrichment furnishings**

- Lots of large branches, stumps or platforms provide places to go and things to do and look natural and attractive in the pen. You can include bushes, boxes or other objects to sit in or hide behind. You can plant kale or other safe, edible vegetation around the outside of the pen for forage. Overcrowding, boredom and barren pens are the most common cause of behavior problems.

## **Nontoxic plants**

- Chickens are inquisitive and voracious eaters of vegetation and many ornamental garden plants can be toxic to them. Learn which of your plants might be harmful and be sure your hens cannot reach them through the fencing.

## **PROVIDING GOOD CARE FOOD/WATER**

### **General**

- Fresh food and water are required daily and should be available at all times of day and night. Hay, grain and prepared feed should be fresh, less than one year old and free of mold, insects or other contaminants.
- Caution toxic: onion, avocados, chocolate, among other items
- Supplements: oyster shell or limestone
- For calcium, granite grit for digestion, mineral salt or ground salt licks. Chickens drink 1 - 2 cups of water a day. Feed should be stored in rodent proof containers in a cool dry area inaccessible to animals. Food that is uneaten or spilled should be removed from animal enclosures daily.

### **Social Needs**

- Temperament and social structures of animals should be taken into account, and separate areas provided for incompatible birds.

### **Vet Care**

- Locate a veterinary clinic nearby that will see chickens before one is needed. Preferably one that specializes in avian care. Chickens are welcome in increasing numbers of city clinics.

## **SANITATION**

- Manure and wet bedding should be removed from coop and animal feeding and lounging areas daily. Thorough, complete cleaning of walls and perches, removal of all bedding and disinfecting of coop and furnishings should be done at least once a year. If your birds have been diagnosed with an illness you will want to clean your entire coop and outdoor area before getting any new hens. Keeping shelter areas clean and dry will help prevent bacteria, fungi, insects, rodents, etc. Rodent levels will be minimized by keeping all feed in rodent proof containers and removing spilled or uneaten food promptly. Litter can be double bagged and disposed of as solid waste or composted but must be done in an area where chickens will not scratch for at least a year. Housing animals in spacious, clean and relatively dust free environments will keep them healthy and will minimize human exposure to infectious disease.

## Humane Considerations for Backyard Hen Owners

*DISCLAIMER: The following information is not intended to be exhaustive; inclusion as a resource in no way is intended to represent an endorsement by the City of Vancouver or a warranty as to the accuracy of the information or the quality of products or services listed on this page.*

Humane treatment of farm animals is commonly defined by the “five freedoms,” as developed by the Farm Animal Welfare Council, an advisory body to the UK government. These include:

1. Freedom from hunger and thirst - by ready access to fresh water and a diet to maintain full health and vigour.
2. Freedom from discomfort - by providing a suitable environment including shelter and a comfortable resting area.
3. Freedom from pain, injury and disease - by prevention or rapid diagnosis and treatment.
4. Freedom to express normal behaviour - by providing sufficient space, proper facilities and company of the animals own kind.
5. Freedom from fear and distress - by ensuring conditions that avoid mental suffering.

To enjoy the Five Freedoms, hens need shelter, food, water, adequate space, environmental conditions (such as adequate ventilation and light) conducive to good health, and the opportunity to socialize and engage in fundamental behaviours, which for them include scratching (foraging by scraping the ground with their claws), roosting (resting on a stick or branch), and dustbathing (thrashing around in the dirt to clean feathers and remove parasites). The Animal Control by-law (include link) includes provisions to meet these basic needs.

For more information on providing humane care for your backyard hens, consult the many excellent links included on our resource list (include link), or contact one of the organizations below:

### Humane Organizations

**British Columbia Society for the  
Prevention of Cruelty to Animals  
(BCSPCA)**

Vancouver Chapter  
1205 E. 7<sup>th</sup> Avenue  
Vancouver, BC V5T1R1  
604/879-7721  
<http://www.sPCA.bc.ca/>

**Vancouver Humane Society**  
#303 - 8623 Granville Street  
Vancouver, BC V6P 5A2  
604/266-9744

<http://vancouverhumanesociety.bc.ca/>

**United Poultry Concerns**  
<http://www.upc-online.org/>

**Chicken Run Rescue**  
<http://www.brittonclouse.com/chickenrunrescue>

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**DISTRICT OF NORTH VANCOUVER  
COUNCIL WORKSHOP**

Minutes of the Council Workshop for the District of North Vancouver held at 7:12 p.m. on Monday, November 28, 2011 in the Committee Room of the District Hall, 355 West Queens Road, North Vancouver, British Columbia.

**Present:** Mayor R. Walton  
Councillor R. Bassam  
Councillor R. Hicks  
Councillor M. Little  
Councillor D. MacKay-Dunn  
Councillor L. Muri  
Councillor A. Nixon

**Staff:** Mr. D. Stuart, Chief Administrative Officer  
Mr. B. Bydwell, General Manager - Planning, Properties & Permits  
Ms. N. Deveaux, General Manager – Finance & Technology  
Mr. G. Joyce, General Manager - Engineering, Parks & Facilities  
Mr. R. Boulton, Manager – Parks  
Mr. B. Dwyer, Manager – Development Services  
Mr. J. Gordon, Manager – Administrative Services  
Ms. C. Grant, Manager – Corporate Planning & Projects  
Ms. S. Haid, Manager - Sustainable Community Development  
Mr. M. Krusse, Manager – Strategic Economic Initiatives  
Mr. R. Malcolm, Acting Manager – Real Estate and Properties  
Ms. E. Geddes, Section Manager – Transportation  
Ms. S. Rogers, Section Manager – Parks Planning  
Mr. A. Lynch, Section Manager – Waste Reduction  
Ms. C. Walker, Chief Bylaw Officer  
Ms. J. Meilleur, Communications, Marketing & Program Coordinator  
Ms. T. Smith, Transportation Planner  
Ms. J. Kleinsteuber, Council Clerk

**1. Opening by the Mayor**

Mayor Walton welcomed staff and members of the public to the Council Workshop.

**2. Traffic Calming**

File No. 16.8620.25/005.000

Presentation: Erica Geddes, Section Manager – Transportation and Tegan Smith, Transportation Planner

Ms. Erica Geddes, Section Manager – Transportation, provided an update on traffic calming processes. An extensive staff review has now been completed, both of the policy and the processes that are used. Staff presented the findings of the review, made a recommendation for a minor change to the policy and sought to hear Council's thoughts on the proposed change with regards to the following:

- Focusing resources on single issue traffic calming improvements on collector roads;
- Increasing the resident approval threshold from fifty percent to at least sixty percent for Local Improvement Projects (LIP's); and,
- Completing remaining traffic calming projects along local and collector roads through LIP with one hundred percent resident pay or municipal cost share.

### **Council Discussion:**

Council discussed the proposal that twenty-five percent of the cost-share address the issue of non-local traffic using neighbourhood routes. Staff clarified that typically the District pay-out, according to various policies, takes place over five years and these funds come from the Capital budget. Council also discussed increasing the resident support threshold to sixty-six percent and discussed the effectiveness of various traffic calming measures already in effect, such as stop signs, speed cameras, and speed indication signage.

### **3. Fromme Mountain Update**

File No. 12.6100.20/002.000

Presentation: Susan Rogers, Section Manager – Parks Planning

Ms. Susan Rogers, Section Manager – Parks Planning, presented an update on the Fromme Mountain Project detailing what projects have been completed to date and what the next steps are.

Highlights of the program include:

- A comprehensive trail map including sixty-one kilometres of trails;
- One hundred new signs posted at the intersection of approved trails to provide information to the public - these maps relate to the maps at the three map kiosks in the staging area;
- Replacing portable toilets with cost effective and sturdy facilities;
- Completing the Forest Restoration Program Study which provided recommendations for restoration of badly disturbed areas;
- Re-directing water off deactivated logging roads and back to creek beds;
- Removing invasive species in the trail areas;
- Adding trail structure to improve safety such as boardwalks over creeks and bridges;
- Decommissioning six kilometres of trails with debris and re-aligning trails elsewhere to improve drainage and erosion control;
- Native and natural re-plantings;
- Building stewardship through a park use permit process;
- Trail Adoption Plan (TAP) - working with District staff to identify which trails to manage through the North Shore Mountain Biking Association.
- Special events such as adventure races, school rides, summer riding camps, and volunteer trail building events; and,
- Discussing school ride programs with Metro Vancouver.

Next steps include:

- Addressing parking – capital improvements;
- Operations budget – seasonal;
- Working with users for trail adoption;
- Strengthening the stewardship program;
- Monitoring environmental concerns; and,
- Creating trails for high school mountain bike leagues.

**Council Discussion:**

Council queried how much money has been invested in the trail networking system since 2007 including the RinC grant. Staff advised that including the forest restorative program, \$790,000 has been invested along with countless volunteer hours.

Council questioned whether an ecological assessment has been performed on the pond within Mountain View Park? Staff indicated that District staff have assessed the pond and further commented that with the improvement in drainage there is less sediment which has been seen in the water quality testing.

Staff discussed the importance of having a well managed parking area at the top of Mountain Highway. It was also suggested that the District talk to the School Board about the possibility of accessing their parking lots. Council spoke in opposition of creating an additional parking area in the Mountain Highway area but would rather invest funds in the Braemar-Dempsey access area.

Council enquired which community groups the District has consulted with regarding the Fromme Mountain trail project. Staff noted that a wide range of groups were involved including community associations, North Shore hiking and running groups, environmental groups, as well as North Shore Search and Rescue.

Council acknowledged the importance of maintaining the trail network system and ensuring the safety of these trails.

**4. North Shore Single-Family Food Scraps Recycling Program**

Presentation: Al Lynch, Section Manager – Waste Reduction

Mr. Allan Lynch, Section Manager – Waste Reduction, provided an update on the North Shore Single-Family Food Scraps Recycling Program and sought feedback from Council.

**Council Discussion:**

Council questioned if the Food Scraps Recycling Program will create a new bear attractant? Staff provided information on preventing animals from getting into bins which included:

- Keeping the yard and food bin in a secure location, such as a garage or shed and putting the bin out in the morning – not the night before;
- Wrapping food scraps in newspaper, used paper towels or paper bags before adding them to the bin;

- Storing scraps in the freezer until collection day; and,
- Washing the bin regularly with a mild detergent or a water and vinegar solution.

Council questioned how staff plans to educate members of the public about the program to make the transition easy for residents. Staff advised that the North Shore Recycling program is developing a communications strategy and will work closely with each municipality. Early plans include a direct mailing of program materials to residents before the program begins a comprehensive ad campaign via bus shelters and newspapers, as well as displays, web information and outreach to residents through community groups and events. The North Shore Recycling Program will continue to lead the program development and will also conduct ongoing program measurement which will require working with neighbourhoods to increase participation once the program has been implemented. Staff further advised that in-house training is available to new compost purchasers.

## **5. Adjournment**

The November 28, 2011 Council Workshop was adjourned at 9:07 p.m.

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Confidential Council Clerk

**DISTRICT OF NORTH VANCOUVER  
REGULAR COUNCIL MEETING**

Minutes of the Regular Meeting of the Council for the District of North Vancouver held at 7:05 p.m. on Monday, March 26, 2012 in the Council Chamber of the District Hall, 355 West Queens Road, North Vancouver, British Columbia.

**Present:** Mayor R. Walton  
Councillor R. Bassam  
Councillor R. Hicks  
Councillor M. Little  
Councillor D. MacKay-Dunn  
Councillor L. Muri  
Councillor A. Nixon (7:06 pm)

**Staff:** Mr. D. Stuart, Chief Administrative Officer  
Mr. B. Bydwell, General Manager – Planning, Properties & Permits  
Ms. N. Deveaux, General Manager – Finance & Technology  
Mr. G. Joyce, General Manager – Engineering, Parks & Facilities  
Mr. R. Boulton, Manager – Parks  
Mr. R. Danyluk, Manager – Financial Planning  
Mr. B. Dwyer, Manager – Development Services  
Mr. J. Gordon, Manager – Administrative Services  
Ms. C. Rucci, Social Planner  
Ms. L. Brick, Confidential Council Clerk

**1. ADOPTION OF THE AGENDA**

**1.1. March 26, 2012 Regular Meeting Agenda**

**MOVED by Councillor MURI**

**SECONDED by Councillor BASSAM**

THAT the agenda for the March 26, 2012 Regular Meeting of Council for the District of North Vancouver be adopted as circulated, including the addition of any items listed in the agenda addendum.

**CARRIED**

Absent for Vote: Councillor NIXON

Councillor NIXON arrived at this point in the proceedings.

**2. PUBLIC INPUT**

- 2.1** Ms. Kirsten Bell, 2800 Block Bushnell Place,
- Spoke in opposition to the proposed development variance permit for 2808 Bushnell Place;
  - Expressed concern regarding traffic; and,
  - Commented that no significant changes have been made to the application since the previous application was rejected in 2009.

- 2.2** Mr. Brian Wallace, 200 Block East Keith Road,
- Spoke in support of the proposed development variance permit at 2808 Bushnell Place;
  - Commented on driveway parking options for the proposed lot; and,
  - Presented a traffic study which was completed for the 2009 application.
- 2.3** Ms. Kirsten Oostindie, 2800 Block Bushnell Place,
- Spoke on behalf of Dirk Oostindie;
  - Expressed concern regarding the existing house location; and,
  - Expressed concern regarding environmental damage to the creek due to tree removal.
- 2.4** Ms. Margaret Rother, 1600 Block Kilkenny Road,
- Spoke in support of the proposed variances for 2808 Bushnell Place;
  - Spoke in favour of in-fill housing for homes in the area; and,
  - Opined that secondary suites were necessary for homebuyers to afford the houses.
- 2.5** Mr. Don Davis, 2800 Crestlynn Place,
- Spoke in support of the proposed variances for 2808 Bushnell Place; and,
  - Proposed a circular driveway for the two properties to mitigate traffic concerns.
- 2.6** Mr. Jim Elson, 1500 Block Westover Road,
- Spoke in opposition to the proposed variances for 2808 Bushnell Place;
  - Commented on the frontage space limitations and neighbourhood parking issues;
  - Expressed concern regarding the removal of trees on the property; and,
  - Opined that the changes are a rezoning application, not a variance request.
- 2.7** Mr. George Samilski, 1600 Block Kilkenny Road,
- Spoke in support of the proposed development at 2808 Bushnell Place; and,
  - Opined that building a home on the property could limit teenage activity in the forest.
- 2.8** Ms. Paige Larson, 2800 Block Bushnell Place,
- Spoke in opposition to the proposed variances for 2808 Bushnell Place;
  - Commented that 21 trees have been removed, 9 trees within the protected creek setback zone; and,
  - Expressed concern regarding increased density and parking pressures on the street.
- 2.9** Mr. Paul Zielinski, 2800 Block Bushnell Place,
- Spoke in support of the proposed development at 2808 Bushnell Place; and,
  - Spoke in support of secondary suites providing affordable housing options in the neighbourhood.
- 2.10** Mr. Graeme Lusk, 800 Block Regal Crescent,
- Spoke in support of the proposed development variance for 2808 Bushnell Place.

- 2.11** Mr. Eric Oostindie, 2800 Block Bushnell Place,
- Spoke in opposition to the proposed variances for 2808 Bushnell Place;
  - Expressed concern regarding the tree removal;
  - Opined that the proposed changes could be considered a rezoning request rather than a variance; and,
  - Commented that a similar application was previously rejected.
- 2.12** Ms. Rafia Sheikh, 2900 Block Bushnell Place,
- Spoke in support of the proposed development at 2808 Bushnell Place; and,
  - Opined that the development could improve the community.
- 2.13** Mr. Doug Curran, 2000 Block Curling Road,
- Spoke in support of the reconsideration of the childcare application for 1720 Hope Road; and,
  - Opined that childcare facilities are important to the development of the area.
- 2.14** Mr. Eric Andersen, 2500 Block Derbyshire Way,
- Advised that the Blueridge Community Association will be participating in the Pitch-In Canada Week on April 23 – 30, 2012; and,
  - Urged more community associations and groups participate in the campaign.

### **3. PROCLAMATIONS**

#### **3.1. Canadian Cancer Society's Daffodil Month – April 2012**

### **4. RECOGNITIONS**

Nil

### **5. DELEGATIONS**

#### **5.1. Ms. Fran Jones, North Shore Rights of the Child Community Awareness Project**

Re: To raise awareness of the program, education, and support activities of the WECAN Early Childhood Development and Middle Childhood Matters Planning Tables.

Ms. Fran Jones and Ms. Glenda Burrows spoke regarding the "Rights of the Child Campaign." Thanking the District Council for their support of the Child and Family Friendly Community Charter development. Ms. Jones invited members of Council and the public to the May 26, 2012 event at Capilano Mall.

**MOVED by Councillor NIXON**

**SECONDED by Councillor MACKAY-DUNN**

THAT the North Shore Rights of the Child delegation be received.

**CARRIED**

**6. ADOPTION OF MINUTES**

**6.1. February 13, 2012 Council Workshop**

**MOVED by Councillor MURI**  
**SECONDED by Councillor HICKS**

THAT the minutes of the February 13, 2012 Council Workshop be received.

**CARRIED**

**6.2. February 27, 2012 Council Workshop**

**MOVED by Councillor MURI**  
**SECONDED by Councillor HICKS**

THAT the minutes of the February 27, 2012 Council Workshop be received.

**CARRIED**

**6.3. February 28, 2012 Council Workshop**

**MOVED by Councillor MURI**  
**SECONDED by Councillor HICKS**

THAT the minutes of the February 28, 2012 Council Workshop be received.

**CARRIED**

**6.4. March 5, 2012 Regular Council Meeting**

**MOVED by Councillor MURI**  
**SECONDED by Councillor HICKS**

THAT the minutes of the March 5, 2012 Regular Council meeting be adopted.

**CARRIED**

**6.5. March 6, 2012 Special Council Meeting**

**MOVED by Councillor MURI**  
**SECONDED by Councillor HICKS**

THAT the minutes of the March 6, 2012 Special Council meeting be adopted.

**CARRIED**

**6.6. March 6, 2012 Council Workshop**

**MOVED by Councillor MURI**  
**SECONDED by Councillor HICKS**

THAT the minutes of the March 6, 2012 Council Workshop be received.

**CARRIED**



## 7. RELEASE OF CLOSED MEETING DECISIONS

Nil

## 8. REPORTS FROM COUNCIL OR STAFF

**MOVED by Councillor BASSAM**  
**SECONDED by Councillor NIXON**

THAT items 8.3 and 8.9 be included in the Consent Agenda and be approved without debate.

**CARRIED**

### 8.1. Reconsideration of Vote on Childcare Business License Application At 1720 Hope Road

File No. 01.0530.01/000.000

Public Input:

Ms. Roksana Harandi, 1720 Hope Road,

- Spoke in support of the application, advising that she has re-presented her childcare plans to the neighbourhood through a revised letter; and,
- Opined that the proposal will benefit the community.

The following resolution is put before Council for reconsideration pursuant to s.131 of the *Community Charter*:

**MOVED by Councillor MACKAY-DUNN**  
**SECONDED by Councillor BASSAM**

THAT Council approve business licences to the Genius Childhood Development Centre, located at 1720 Hope Road, for the operation of a group child care for 12 infants and toddlers as well as group child care for 8 pre-school aged children (30 months to School Age), subject to the following conditions: (a) compliance with District bylaws and Provincial code regulations, and (b) receipt of corresponding licences from the Vancouver Coastal Health Authority.

**CARRIED**

Opposed: Councillor LITTLE, NIXON, MURI

### 8.2. 2808 Bushnell Place – Development Variance Permit 17.11

File No. 08.3060.20/017.11

Public Input:

Mr. Brian Bell, 2800 Block Bushnell Place,

- Spoke in opposition to the proposed application;
- Expressed concern regarding the removal of the trees on the property; and,
- Expressed concern regarding densification of the neighbourhood.

Mr. Kuldip Purewall, 2800 Block Bushnell Place,

- Spoke in support of the proposal; and,
- Outlined the variances requested compared to neighbouring properties.

Council requested staff report back on the removal of the trees on the property.

**MOVED by Councillor NIXON**

**SECONDED by Councillor LITTLE**

THAT Development Permit 17.11, to allow for a two lot subdivision of the existing lot, be issued subject to the placement of a restrictive covenant on title of the proposed Lot B that will deny the approval and operation of a secondary suite.

**DEFEATED**

Opposed: Mayor WALTON, Councillors BASSAM, HICKS, MURI

The meeting recessed at 9:05 pm and reconvened at 9:10 pm.

**8.3. 2870 Philip Avenue – Development Variance Permit 11.12**

File No. 08.3060.20/011.12

**MOVED by Councillor BASSAM**

**SECONDED by Councillor NIXON**

THAT Development Variance Permit 11.12, to allow for a straight in entry carport at 2870 Philip Avenue, be issued.

**CARRIED**

**8.4. Bylaw 7926: Financial Plan Approval Bylaw**

File No. 05.1715.41/006.000

**MOVED by Councillor HICKS**

**SECONDED by Councillor NIXON**

THAT “2012 – 2016 Consolidated Financial Plan Approval Bylaw” is given FIRST, SECOND, and THIRD reading.

**CARRIED**

**8.5. Bylaw 7902 and 7903: Eliza Kuttner Park**

File No. 08.3060.20/056.11

**MOVED by Councillor LITTLE**

**SECONDED by Councillor MACKAY-DUNN**

THAT Bylaw 7902 “The District of North Vancouver Official Community Plan Bylaw 7900, 2011, Amendment Bylaw 7902, 2011” is given FIRST reading;

AND THAT Bylaw 7903 “The District of North Vancouver Rezoning Bylaw 1276” is given FIRST reading;

AND THAT Bylaw 7902 and 7903 be referred to a Public Hearing;

AND THAT pursuant to Section 879 of the Local Government Act, additional consultation is not required with respect to Bylaws 7902 and 7903;

AND THAT pursuant to Section 882(3)(a) of the Local Government Act, Council has considered Bylaws 7902 and 7903 in conjunction with its Financial Plan and applicable Waste Management Plan.

**CARRIED**

**8.6. Bylaw 7922: 3053-59 Edgemont Boulevard Rezoning Bylaw**

File No. 08.3060.20/062.11

Public Input:

Mr. Peter Thompson, 900 Block Clements Avenue,

- Spoke on behalf of the Edgemont and Upper Capilano Community Associations; and,
- Commented on traffic and parking management concerns within the development, and requested a parking plan be provided by the proponent prior to the public hearing.

**MOVED by Councillor NIXON**

**SECONDED by Councillor BASSAM**

THAT

1. Council give First Reading to Rezoning Bylaw 1278, Bylaw 7922, rezoning the subject site from Commercial-2 (C-2) to Comprehensive Development 65 (CD-65) to permit development of a commercial and office building; and,
2. Bylaw 7922 be referred to a Public Hearing.

**CARRIED**

**8.7. Bylaw 7915 and 7916: Street and Traffic Bylaw Amendment and Bylaw Notice Enforcement Amendment**

File No. 16.8620.01/012.000

Public Input:

Mr. Corrie Kost, 2800 Block Colwood Drive,

- Commented on the title of the item, expressing concern that it this does not refer to long boarding; and,
- Commented on the City of North Vancouver response to the District inquiry.

**MOVED by Councillor MURI**

**SECONDED by Councillor HICKS**

THAT

1. "Street and Traffic Bylaw 7125, 2004, Amendment Bylaw 7915, 2011 (Amendment 9)" is ADOPTED; and,
2. "Bylaw Notice Enforcement Bylaw 7458, 2004, Amendment Bylaw 7916, 2011 (Amendment 21)" is ADOPTED.

**CARRIED**

Opposed: Councillor HICKS, MACKAY-DUNN

**8.8. Farmers Markets in North Vancouver – Update Report & Approval  
Of Proposed New Location**

File No. 13.6440.01/000.000

Public Input:

Ms. Ingrid Doerr, 300 Block East 3<sup>rd</sup> Street,

- Spoke in support of the proposal;
- Outlined parking plans for the market; and,
- Commented that the Maplewood Farmers Market could work well with Maplewood Farm.

**MOVED by Councillor MURI**

**SECONDED by Councillor NIXON**

THAT Council approve Maplewood Farm as a site for the farmers market for a one-year trial period from May 27, 2012 to May 2013.

**CARRIED**

Opposed: Mayor WALTON

**8.9. Request for Noise Bylaw Variance – Paving Work on Marine Drive  
And Bridgman Avenue**

File No. 11.5210.01/000.000

**MOVED by Councillor BASSAM**

**SECONDED by Councillor NIXON**

THAT Council provide a variance to the Noise Regulation Bylaw (7188) which regulates construction noise during the night, to allow CEWE Construction Ltd. to carry out construction work on Marine Drive and Bridgman Avenue for one night, between the dates of March 28 and April 6, 2012, weather permitting.

**CARRIED**

**9. REPORTS**

Nil

**10. ANY OTHER BUSINESS**

Nil

**11. ADJOURNMENT**

**MOVED by Councillor LITTLE**  
**SECONDED by Councillor NIXON**

THAT the March 26, 2012 Regular Meeting of Council for the District of North Vancouver be adjourned.

**CARRIED**  
(10:07 pm)

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Mayor

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Municipal Clerk

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**DISTRICT OF NORTH VANCOUVER  
REGULAR COUNCIL MEETING**

Minutes of the Regular Meeting of the Council for the District of North Vancouver held at 7:00 p.m. on Monday, April 2, 2012 in the Council Chamber of the District Hall, 355 West Queens Road, North Vancouver, British Columbia.

**Present:** Mayor R. Walton  
Councillor R. Bassam  
Councillor R. Hicks  
Councillor M. Little  
Councillor D. MacKay-Dunn  
Councillor L. Muri  
Councillor A. Nixon

**Staff:** Mr. D. Stuart, Chief Administrative Officer  
Mr. B. Bydwell, General Manager – Planning, Properties & Permits  
Mr. J. Gordon, Manager – Administrative Services  
Ms. C. Grant, Manager – Corporate Planning & Projects  
Mr. S. Ono, Manager – Engineering Services  
Mr. D. Doyle, Section Manager – Engineering Development Services  
Ms. J. Paton, Section Manager – Development Planning  
Ms. S. Berardo, Confidential Council Clerk

**1. ADOPTION OF THE AGENDA**

**1.1. April 2, 2012 Regular Meeting Agenda**

**MOVED by Councillor MURI**

**SECONDED by Councillor LITTLE**

THAT the agenda for the April 2, 2012 Regular Meeting of Council for the District of North Vancouver be adopted as circulated, including the addition of any items listed in the agenda addendum.

**CARRIED**

**2. PUBLIC INPUT**

**2.1 Mr. Troy Vassos, 3300 Block Redfern Place:**

- Expressed concern that the movement of the Lucus Centre to the Balmoral site will negatively impact the area with regards to traffic and safety.

**2.2 Ms. Carolyn Berg, 460 Block West St. James Road:**

- Expressed concern regarding traffic, parking, and pedestrian safety that will result from the reprogramming of the Balmoral site.

**2.3 Ms. Barbara McKinley, 3800 Block Norwood Avenue:**

- Spoke as a member of Norwood Queens Community Association; and,
- Expressed concern regarding traffic, parking, and pedestrian safety that will result from the reprogramming of the Balmoral site.

- 2.4 Mr. Ron Beasley, 1100 Block Wendal Place:
- Spoke regarding the proposed four townhouse units at 1131 Fredrick Road;
  - Commented that the Lynn Valley Community Association was not contacted; and,
  - Expressed concern with the proposed walkway.
- 2.5 Ms. Janice Beasley, 1100 Block Wendal Place:
- Spoke regarding the proposed four townhouse units at 1131 Fredrick Road;
  - Expressed concern that the walkway will create an increase in vandalism and trespassing; and,
  - Expressed concern regarding pedestrian safety as the trail would have pedestrian traffic enter the cul-de-sac on Wendal Place which does not have sidewalks.
- 2.6 Mr. Ron Polley, City of North Vancouver resident:
- Spoke in opposition to the reprogramming of the Balmoral site;
  - Expressed concern with regards to traffic and parking; and,
  - Stated that the Lucus Centre is a better location for the programs.

### 3. PROCLAMATIONS

#### 3.1. Child Care Month – May 2012

### 4. RECOGNITIONS

Nil

### 5. DELEGATIONS

#### 5.1. Barbara McKinley, Norwood Queens Community Association

Re: Key considerations related to changes in use at the Balmoral site.

Mr. John Hinze, Director - Norwood Queens Community Association, spoke regarding the reprogramming of the Balmoral site. Mr. Hinze urged Council to engage with the North Vancouver School District and the City of North Vancouver to address issues concerning traffic, parking, and the safety of the community.

**MOVED by Councillor MACKAY-DUNN**

**SECONDED by Councillor LITTLE**

THAT the delegation from the Norwood Queens Community Association be received.

**CARRIED**

#### 5.2. Raj Janjua, Transit Operators Union

Re: State of Public Transit and North Shore Area Transit Plan.

Mr. Raj Janjua, CAW 111 Transit Operators, spoke regarding the need for a larger transit depot. Mr. Janjua urged Council to work with the City of North Vancouver and Translink to improve the North Shore transit system to better meet the needs of the community.



**MOVED by Councillor NIXON**  
**SECONDED by Councillor MACKAY-DUNN**  
THAT the delegation from the Transit Operators Union be received.

**CARRIED**

**6. ADOPTION OF MINUTES**

Nil

**7. RELEASE OF CLOSED MEETING DECISIONS**

Nil

**8. REPORTS FROM COUNCIL OR STAFF**

**8.1. Bylaw 7926: 2012 – 2016 Consolidated Financial Plan Approval Bylaw**  
File No. 11.5400.01/000.000

**MOVED by Councillor NIXON**  
**SECONDED by Councillor HICKS**  
THAT “2012–2016 Consolidated Financial Plan Approval Bylaw 7926, 2012” is ADOPTED.

**CARRIED**

**8.2. Bylaw 7883 and Bylaw 7930: Official Community Plan Amendment (Bylaw 7930) and Rezoning (Bylaw 7883) to Permit the Development of 4 Townhouse Units at 1131 Fredrick Road (Argyle School)**  
File No. 08.3060.20/063.10

**MOVED by Councillor HICKS**  
**SECONDED by Councillor LITTLE**  
THAT Bylaw 7930 “The District of North Vancouver Official Community Plan Bylaw 7900, 2011” be given FIRST Reading;

AND THAT Bylaw 7883 “Rezoning Bylaw 1265” be given FIRST Reading;

AND THAT Bylaws 7930 and 7883 be referred to a Public Hearing;

AND THAT pursuant to Section 879 of the Local Government Act, additional consultation is not required beyond that already undertaken with respect to Bylaw 7930;

AND THAT in accordance with Section 882 of the Local Government Act, Council has considered Bylaw 7930 in conjunction with its Financial Plan and applicable Waste Management Plans.

**CARRIED**

Opposed: Councillors MACKAY-DUNN and NIXON

**8.3. Boundary/Kirkstone Traffic Safety & Calming Study -  
Trial Evaluations**  
File No. 16.8620.30/012.000

Councillor MURI left the meeting at 8:43 pm and returned at 8:45 pm.

**MOVED by Councillor NIXON**  
**SECONDED by Councillor HICKS**  
THAT this report be received for information.

**CARRIED**

**9. REPORTS**

**9.1. Mayor**

Mayor Walton commented on his attendance at the 1<sup>st</sup> annual Transplant Trout and advised of his reappointment to the Board of the Municipal Finance Authority.

**9.2. Chief Administrative Officer**

Nil

**9.3. Councillors**

Nil

**9.4. Metro Vancouver Committee Appointees**

Councillor Bassam reported on the Zero Waste Committee, advising that tipping fees have been increased to cover the cost of the new food work program.

**10. ANY OTHER BUSINESS**

**11. ADJOURNMENT**

**MOVED by Councillor MURI**  
**SECONDED by Councillor MACKAY-DUNN**  
THAT the April 2, 2012 Regular Meeting of Council for the District of North Vancouver be adjourned.

**CARRIED**  
(9:06 pm)

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Mayor

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Municipal Clerk

## REPORTS

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Dept. Manager	Director	CAO

## The District of North Vancouver REPORT TO COUNCIL

April 4, 2012

File:

Tracking Number: RCA -

**AUTHOR:** Nicole Deveaux

**SUBJECT:** Early Pay-Out Debt Issue #78

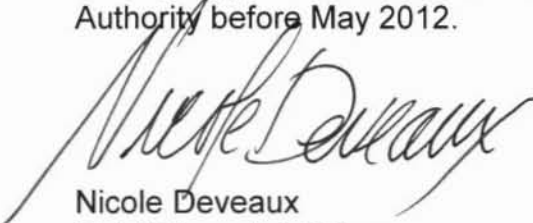
**RECOMMENDATION:** That Council approves the early pay-out of debt issue #78 for \$1,858,836 and that the 2012-2016 Financial Plan be amended in the Fall to include the debt retirement.

**REASON FOR REPORT:** The Finance and Audit Committee approved a resolution on February 17<sup>th</sup>, 2012 to bring this recommendation forward to Council for approval.

**SUMMARY:** In an environment where there is cash on hand and the interest on debt exceeds the rate of return on investments, it makes sense to retire debt early and preserve future borrowing capacity.

**BACKGROUND:** see attached report

**Timing/Approval Process:** Notification needs to be issued to the Municipal Finance Authority before May 2012.



Nicole Deveaux  
Chief Financial Officer

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_____ Dept. Manager	_____ Director	_____ CAO
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## The District of North Vancouver

### REPORT TO FINANCE AND AUDIT STANDING COMMITTEE

January 10, 2012

File:

Tracking Number: RCA -

**AUTHOR:** Nicole Deveaux, Chief Financial Officer

**SUBJECT:** Early Payout - Debt Issue #78 - Outstanding Balance \$1,858,836

#### RECOMMENDATION:

"THAT the Finance and Audit Standing Committee recommends to Council:

That Council approves the early payout of debt issue #78 for \$1,858,836 and that the 2012-2016 Financial Plan Bylaw includes the debt retirement".

#### REASON FOR REPORT:

Issue #78 can be paid out early for a net positive cash flow of \$214,648. In an environment where there is sufficient cash on hand and the interest on the debt exceeds the return on investment, it makes sense to retire debt early and preserve future borrowing capacity. The interest rate of Issue #78 is 5.37% and the return on applicable investments for fiscal 2011 is 1.9%. The MFA projects a refinancing interest rate for December 2012 is between 3.25% and 4.0%

Issue #78 is reaching the 10 year-milestone on December 3, 2012. It was issued for \$3,000,000 as part of the 1996 referendum for specific capital projects. The net positive cash flow associated with the early payout of debt issue #78 is estimated to be \$214,648 per annum. Early payout reduces debt servicing costs by \$251,828 which is offset by an estimated \$37,180 of reduced investment income. In 2011, a similar debt retirement generated a net positive cash flow of \$276,500. The early payout will be funded from Accumulated Surplus from General Municipal Operations.

Pending further discussion with Council, the funds generated by debt retirement are used to replenish the Infrastructure Replacement Reserve. These funds may also be available in the future to service new debt issues. Using the MFA's Dec 2012 reinvestment rate projections

of between 3.25% and 4%, the net positive cash flow from the retirement of Debt Issue #78 and Debt Issue #75 could service between \$10.5 million and \$11.7 million of debt via the MFA in today's market.

**Assent Free Zone Impacts**

For planning purposes the MFA's posted interest rate as at December 1, 2011 is 3.95% for a 20 year term. This is .80% lower than the posted rate from May 2010. This is the rate the District uses to establish the assent free zone.

- At today's lower interest rate of 3.95% the assent free zone is estimated at \$65.7 million before early payout and \$69.2 million after early payout.
- MFA and Provincial staff confirm that they focus on the debt serving costs and the actual assent free zone is determined by the market rate in effect at the date funds are borrowed. Therefore, in today's market, 3.95% is reasonable as is a total of assent free zone borrowing room of \$69.2 million. Should interest rates increase the assent free zone would be lower.

**EXISTING POLICY:**

The Community Charter requires that any expenditure be authorized by Council in the Financial Plan Bylaw. The expenditure that led to the debt was approved by Council at the time of issue, but given the non-routine nature and materiality of this transaction, Staff seeks Council's approval before proceeding with the issue of a formal request to the MFA to retire Debt Issue #78.

**Timing/Approval Process:**

The MFA needs a letter of intent to be issued before May.


Nicole Deveaux, Chief Financial Officer

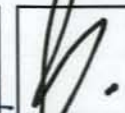
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Dept.  
Manager

  
Director

  
CAO

## The District of North Vancouver REPORT TO COUNCIL

March 30, 2012  
File: 3060-62.11  
Tracking Number: RCA -

**AUTHOR:** Jennifer Paton, Section Manager Development Planning

**SUBJECT:** 3053-59 EDMONTON BOULEVARD: CONSIDERATION OF SECOND  
READING BYLAW 1278 (BYLAW 7922)

**RECOMMENDATION:** Council give second reading, as amended, to Rezoning Bylaw 1278, Bylaw 7922 (Attachment A), to amend the bylaw by adding take-out restaurant to the list of permitted uses.

**REASON FOR REPORT:** To add take-out restaurant to the list of permitted uses for the site.

**SUMMARY:** Bylaw 7922 proposes to rezone the commercial property at Edgemont Blvd and West Queens Rd to Comprehensive Development Zone 65 (CD 65) to allow for the development of a three-storey retail, service and office building. The CD 65 zone uses the definitions found in Part 2A of the zoning bylaw (the broader group of zoning definitions applicable to the new village commercial and employment zones).

Take-out restaurants in a retail storefront should also be permitted in CD 65 in order to maximize the flexibility in the proposed CD65 zone.

**ANALYSIS:** As the new employment and village commercial zones separate take-out restaurant from retail or service uses the specific use class needs to be listed in the permitted uses in order to allow for a take-out restaurant on the site.

The site is within the Edgemont Village centre and designated Commercial Residential Mixed Use Level 1 in the District Official Community Plan. Take-out restaurant use is compatible with the retail office use proposed in CD 65 as well as with the village nature of the area.

**Timing/Approval Process:** Amending the bylaw at second reading prior to a public hearing is required as use cannot be changed after a closed public hearing without holding another public hearing.

**Public Input:** A public hearing is currently scheduled for May 15, 2012.

**SUBJECT: 3053-59 EDMONTON BOULEVARD: CONSIDERATION OF SECOND READING BYLAW 1278 (BYLAW 7922)**

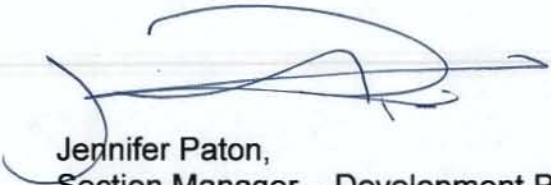
March 30, 2012

Page 2

**Conclusion:** A take-out restaurant is not only well suited to the building design but compatible with the village area. By adding the take-out restaurant use to the CD 65 bylaw it provides the flexibility for take-out restaurants to locate in the building.

**Options:**

1. Council give second reading to Rezoning Bylaw 1278, Bylaw 7922 (Attachment A), to amend the bylaw by adding take-out restaurant to the list of permitted uses (staff recommendation), or
2. Council defer consideration of second reading until after the public hearing thereby restricting the list of permitted uses to office, personal service, retail and service uses only (no take-out restaurant use).



Jennifer Paton,  
Section Manager – Development Planning

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## The Corporation of the District of North Vancouver

### Bylaw 7922

A bylaw to amend The District of North Vancouver Zoning Bylaw 1278 (Bylaw 3210) to rezone a commercial property at Lot B, Block 41, District Lot 599, Plan 13502, PID 008-581-231 (3053-3059 Edgemont Boulevard) to CD65 to permit commercial and office development.

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The Council for The Corporation of the District of North Vancouver enacts as follows:

#### 1. Citation

This bylaw may be cited as "The District of North Vancouver Rezoning Bylaw 1278 (Bylaw 7922)".

#### 2. Amendments

1. The following amendments are made to the "District of North Vancouver Zoning Bylaw 1965" as they affect:

a) Part 2 by replacing:

"For definitions applicable to the Employment Zones and Village Commercial Zones see Part 2A, for all other zones see below."

With:

"For definitions applicable to the Employment Zones, Village Commercial Zones and Comprehensive Development Zone 65 see Part 2A, for all other zones see below."

b) Part 2A by replacing:

"Definitions Applicable to the Employment Zones and Village Commercial Zones (Sections 600-A, 600-B, 750 and 770)

The following definitions apply in the Employment Zones and Village Commercial Zones (Section 600-A, 600-B, 750 and 770) only:"

With:

"Definitions Applicable to the Employment Zones, Village Commercial Zones, and Comprehensive Development Zone 65 (Sections 600-A, 600-B, 750, 770, and 4B370 to 4B385)

The following definitions apply in the Employment Zones, Village Commercial Zones and Comprehensive Development Zone 65 (Sections 600-A, 600-B, 750, 770, and 4B370 to 4B385) only:"

c) Section 301(2) by inserting the following zoning designation:

"Comprehensive Development Zone 65 (CD 65)"

d) Part 4B by inserting the following:

**4B370 Comprehensive Development Zone 65 (CD65)**

**The CD 65 Zone is applied to:**

Lot B, Block 41, District Lot 599, Plan 13502, PID: 008-581-231 (3053-3059 Edgemont Boulevard)

**4B371 Intent**

The purpose of the CD65 zone is to permit commercial and office development in Edgemont Village.

**4B372 Uses**

The following *principal uses* shall be permitted in the Comprehensive Development 65 Zone:

**(a) Uses Permitted without Conditions:**

Not applicable

**(b) Conditional Uses:**

The following *principal uses* are permitted:

***Office use***

***Personal service use***

***Retail use*** (with the exception of liquor store use as defined in Part 2 of the Zoning Bylaw)

***Take-out Restaurant***

***Service use***

**(c) Prohibited Uses**

The following uses are not permitted:

## ***Liquor Store***

### **4B373 Conditions of Use:**

- (a) **All uses:** all uses of land, buildings, and structures are only permitted when the following conditions are met:
- i. All aspects of use are completely contained within an *enclosed building* except for:
    - a. Parking and loading areas and external corridors
    - b. *Outdoor customer service areas*
    - c. The display of goods limited to 5m<sup>2</sup> (54 sq ft) per commercial unit
    - d. Glass elevator
    - e. *Outdoor amenity areas* (balconies, patios or roof decks).
  - ii. Noise, glare, odour and air pollution generated on a parcel shall not be detectable from the parcel's property line, and shall comply with Part 4, Section 414 of the Zoning Bylaw.
  - iii. Any outdoor customer service areas must comply with the regulations found in Section 413.

### **4B374 Accessory Use**

- (a) **Accessory Uses** are permitted.

### **4B375 Density**

- a) The density in the CD 65 zone is limited to a Floor Area Ratio of 1.0.
- b) Despite Subsection 4B375 (a), Floor Area Ratio in the CD 65 Zone is increased to a maximum of 1.84 if \$312,975 is contributed to the municipality to be used for community amenities (such as public realm, park, trail, recreation improvements and the Affordable Housing Fund, with allocation to be determined by the municipality at its sole discretion), plus \$95,000 in off-site landscaping and construction of park improvements and dedication of a Statutory Right of Way to formalize the seating park adjacent to the site (at the corner of Edgemont Blvd and West Queens Rd).
- c) For the purpose of calculating Floor Area Ratio, the following are exempted:
  - i. Covered or enclosed parking and loading bays
  - ii. Bicycle storage
  - iii. Up to 11m<sup>2</sup> (119 sf) of the rooftop garden shed
  - iv. Glass elevator shaft

**4B376 Maximum Principal Building Size**

Not applicable.

**4B377 Setbacks**

Side Setback 1.8m (6 ft), applying only to the second and third storey, from the Edgemont Boulevard property line, extending 9.75m (32 feet) along the north-west property line, as illustrated on Bylaw 7922 Attachment 1: Level 2 & 3 Setbacks.

**4B378 Building Orientation**

Not applicable.

**4B379 Building Depth and Width**

Not applicable.

**4B380 Coverage**

- a) Building Coverage shall not exceed a maximum of 85%.
- b) Site Coverage shall not exceed a maximum of 90%.

**4B381 Height**

- a) The maximum building height is 14 meters (46 feet) inclusive of any roof slope bonus permitted in Part 2 of the Zoning Bylaw.

**4B382 Landscaping**

- a) All land areas not occupied by buildings, structures, parking spaces, loading spaces, driveways, manoeuvring aisles and sidewalks shall be landscaped or finished in accordance with an approved landscape plan; and
- b) All electrical kiosks and garbage and recycling container pads not located underground or within a building shall be screened with landscaping.

**4B383 Subdivision Requirements**

<b>Minimum Lot Area (m<sup>2</sup>)</b>	<b>Minimum Lot Width (metres)</b>	<b>Minimum Lot Depth (metres)</b>
1,100	30	45

**4B384 Additional Accessory Structure Regulations**

Not applicable.

**4B385 Parking and Loading Regulations**

a) Parking spaces shall be provided in accordance with Part 10 of this Bylaw.

e) The Zoning Map is amended in the case of the lands illustrated on the attached map by rezoning the land from Commercial-2 (C-2) to Comprehensive Development Zone 65 (CD 65).

**READ** a first time the 26<sup>th</sup> of March 2012

**READ** a second time as amended the

**PUBLIC HEARING** held the

**READ** a third time the day of

**APPROVED** by the Ministry of Transportation the day of

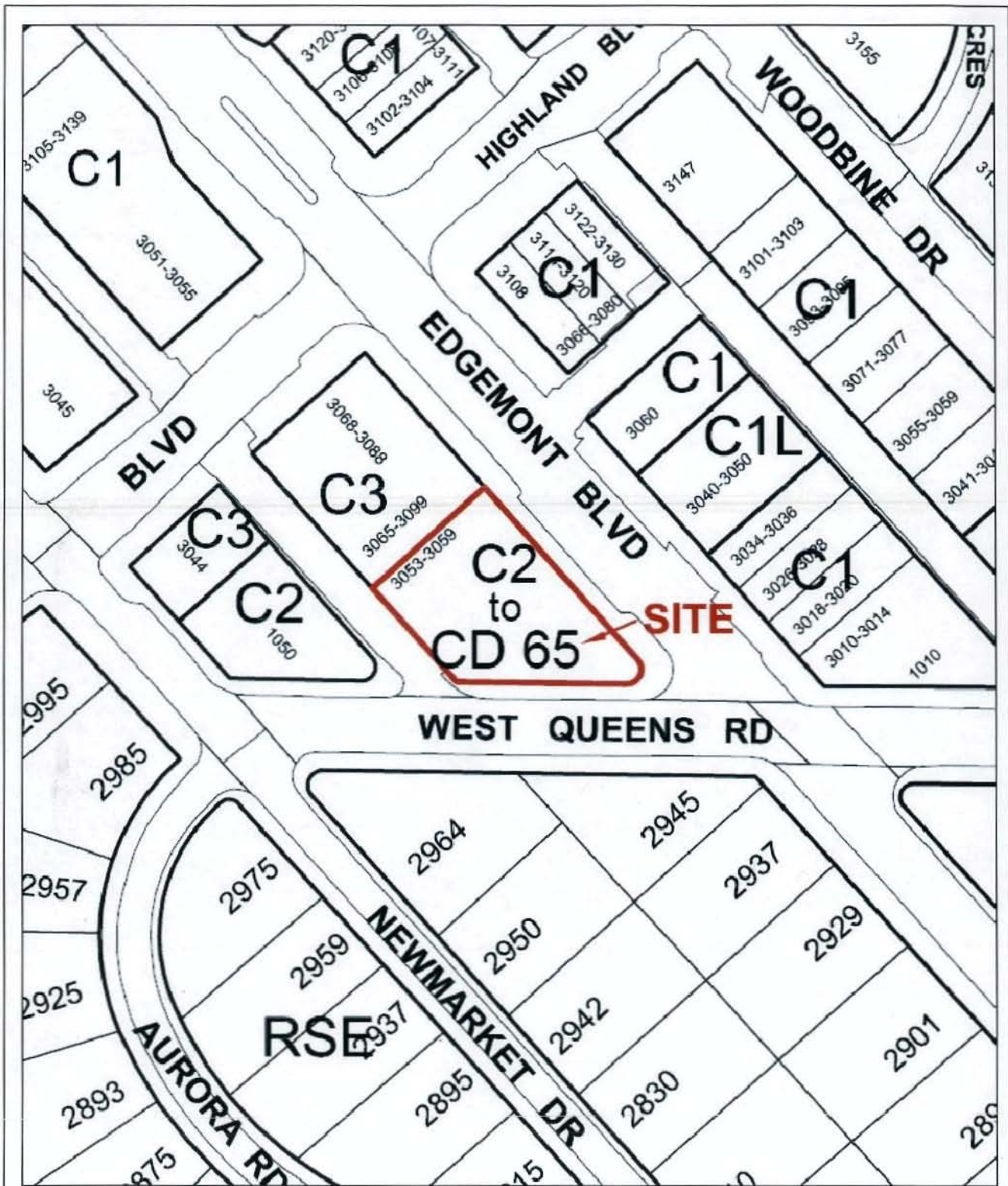
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\_\_\_\_\_  
Mayor

\_\_\_\_\_  
Municipal Clerk

Certified a true copy

\_\_\_\_\_  
Municipal Clerk

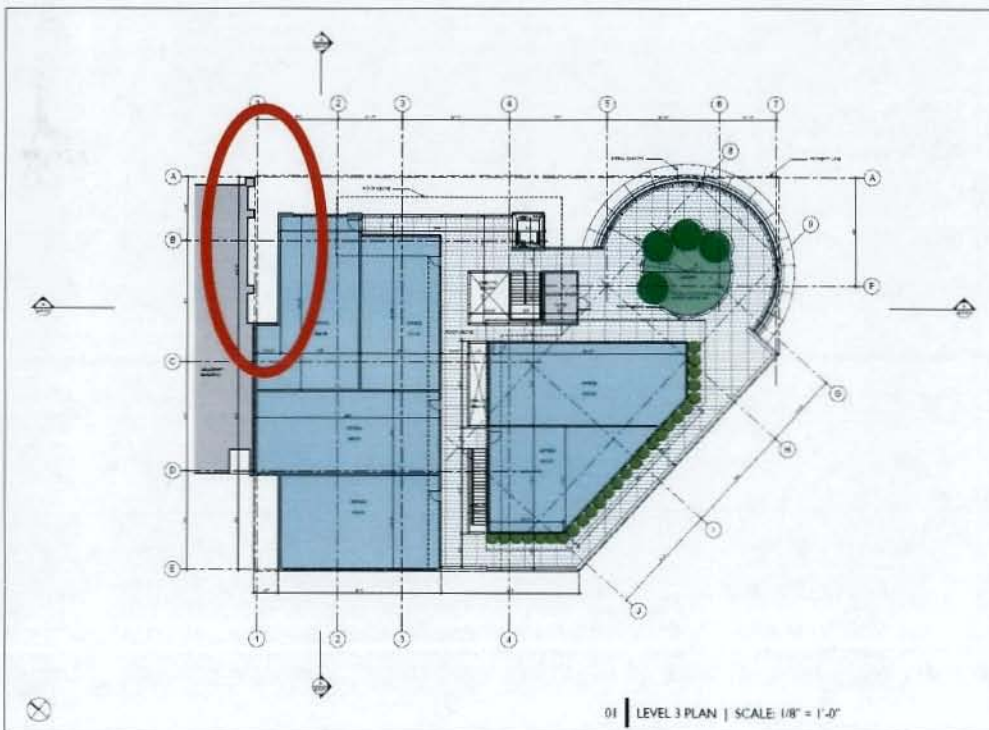
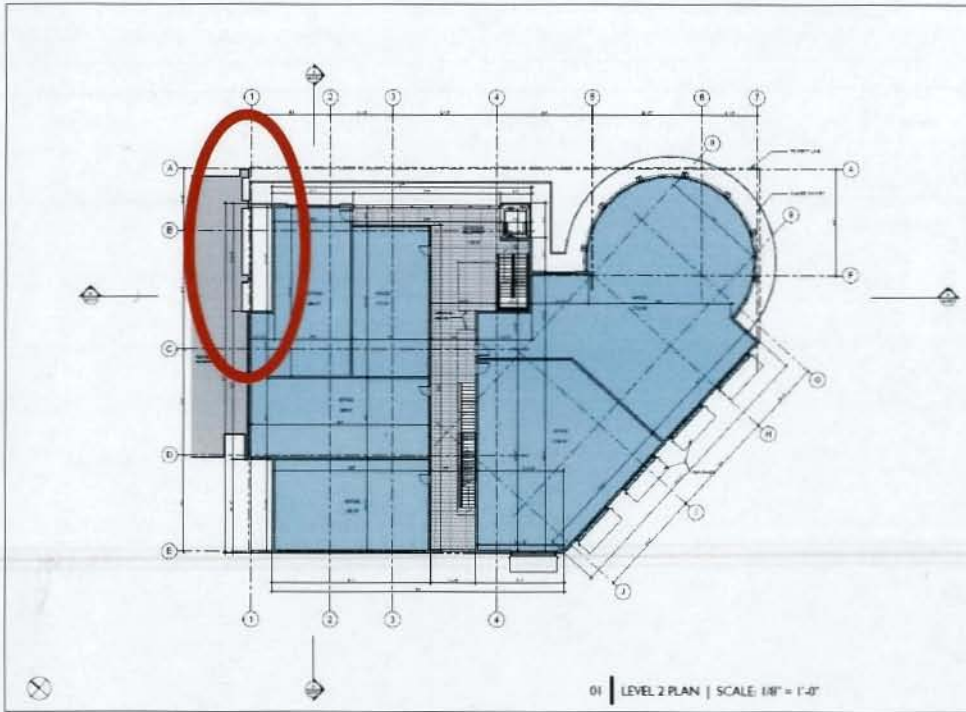


**3053 - 3059 Edgemont Blvd**  
 Bylaw 7922 Rezone From C2 to CD 65



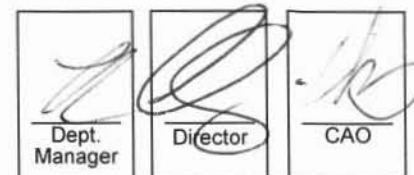


# Bylaw 7922 Attachment 1: Level 2 & 3 Setbacks



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## The District of North Vancouver REPORT TO COUNCIL

April 5, 2012  
File: 1830.20/002  
Tracking Number: RCA -

**AUTHOR:** Lorn Carter, P.Eng., Manager - Utilities

**SUBJECT:** **2012 Sewer and Drainage User Charges and Sewer Connection Fees, Bylaw 7931 Amendment**

**RECOMMENDATION:**

THAT Bylaw 7931, "Sewer Bylaw, Amending Bylaw 6656", be given 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> readings.

**REASON FOR REPORT:**

This report is intended to provide Council with information related to the proposed Sewer Bylaw amendment.

**SUMMARY:**

In 2011, Metro Vancouver (MV) began billing MV's permitted businesses directly with the first invoices sent out in August 2011. Therefore, municipalities were no longer paying for MV's conveyance and treatment of permitted dischargers flow.

The District of North Vancouver's (DNV's) 2012 Sewer Bylaw amendment did not account for MV's billing practice change. To allow appropriate MV's permitted business billing rates for the six businesses impacted by this change, appropriate charge rates need to be updated within the Bylaw. The businesses currently being overcharged will receive a credit for their overpayment once the Bylaw update is adopted.

There will be no change to our net revenue from the permittees once we complete the Sewer Bylaw amendment as we will now be billing only DNV's portion of the sewer levy, while historically we billed based on the entire sewer levy and reimbursed MV for their portion of the sewer levy.

**BACKGROUND:**

MV permits certain businesses, located within many member municipalities, if the business has high treatment requirements (i.e. Biological Oxygen Demand or Total Suspended Solids loadings) associated with their sewage.

Historically, MV and their municipal members used a complicated billing process to allow MV to recover its costs associated with conveying and treating the flow from these permitted businesses. In 2011, Metro Vancouver (MV) began billing MV's permitted businesses directly with the first invoices sent out in August 2011. Therefore, municipalities were no longer paying for MV's conveyance and treatment of permitted dischargers flow.

The District of North Vancouver's (DNV's) 2012 Sewer Bylaw amendment did not account for MV's billing practice change.

**EXISTING POLICY:**

The MV permitted businesses located in the DNV are DNV metered customers to which metered rates apply. These metered rates are found in the current Sewer Bylaw 7913's Attachment 5.

**ANALYSIS:**

The metered rates of the current Sewer Bylaw does not allow for a reduced charge to be applied to the six businesses that have been permitted by MV and are now being directly billed by MV for their specific conveyance and treatment costs.

To allow appropriate MV's permitted business billing rates for the six businesses impacted by this change, appropriate charge rates need to be updated within the Bylaw. The businesses currently being overcharged will receive a credit for their overpayment once the Bylaw update is adopted.

In 2010, total costs billed by MV to MV's permitted businesses, located in the DNV, was about \$43,000. If the Bylaw was left unchanged, those businesses would be overcharged by about \$23,000 during 2012.

The reduction in DNV's billing to the permitted businesses is almost 50% of the current metered rate. However, there will be no change in revenue for the DNV as we historically collected 100% of our metered rate and paid Metro for their portion (about 50%) of the metered costs, while now we would be billing MV's permittees only DNV's portion of the sewage levy.

Once the amended Bylaw is approved, the permitted businesses will be credited for their overbilling.

**Timing/Approval Process:**

In order to apply the proposed rate increase to the MV's permittee's metered charges for 2012, it is necessary for Council to approve the proposed user charges and adopt the amending Sewer Bylaw. Once the Sewer Bylaw adoption occurs then the affected businesses can be credited their overpayment.

**Concurrence:**

This report has been reviewed by the Finance Department.

**Financial Impacts:**

There will be no change to our net revenue from the permittees once we complete the Sewer Bylaw amendment as we will now be billing only DNV's portion of the sewer levy, while historically we billed based on the entire sewer levy and reimbursed MV for their portion of the sewer levy.

**Liability/Risk:**

If the user charges are not amended the Utility may be legally challenged on our billing practice.

**Social Policy Implications:**

N/A

**Environmental Impact:**

N/A

**Public Input:**

N/A

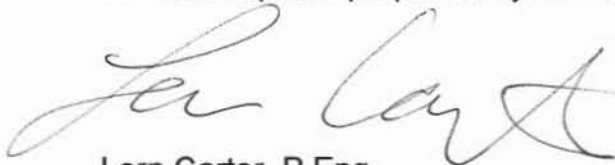
**Conclusion:**

Amending the Bylaw to allow reduced billing rates to MV's permitted businesses located within the DNV will allow appropriate future billings to those permitted businesses and will allow the DNV to credit them for any overpayment.

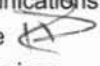
**Options:**

Adopt the proposed Bylaw. This will allow MV permitted business to be billed appropriately.

Do not adopt the proposed Bylaw. This may incur a legal challenge to our billing practice.



Lorn Carter, P.Eng.  
Manager, Utilities

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<input type="checkbox"/> Sustainable Community Development	<input type="checkbox"/> Clerk's Office	<b>External Agencies:</b>	<b>Advisory Committees:</b>
<input type="checkbox"/> Development Services	<input type="checkbox"/> Corporate Services	<input type="checkbox"/> Library Board	<input type="checkbox"/> _____
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**The Corporation of the District of North Vancouver**

**Bylaw 7931**

A bylaw to amend the Sewer Bylaw 6656, 1994

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The Council for The Corporation of the District of North Vancouver enacts as follows:

**1. Citation**

This bylaw may be cited as "Sewer Bylaw 6656, 1994, Amendment Bylaw 7931, 2012 (Amendment 20)".

**2. Amendments**

2.1 Sewer Bylaw 6656, 1994 is amended as follows:

- a) by deleting section 5 of attachment 5, *Industrial BOD/TSS Charges*, in its entirety and replacing it with the new section 5 of attachment 5, *Industrial BOD/TSS Charges*, as attached to this Bylaw as schedule 1.

**READ** a first time the

**READ** a second time the

**READ** a third time the

**ADOPTED** the

\_\_\_\_\_  
Mayor

\_\_\_\_\_  
Municipal Clerk

Certified a true copy

\_\_\_\_\_  
Municipal Clerk

**Schedule 1 to Bylaw 7931**

**INDUSTRIAL BOD/TSS CHARGES**

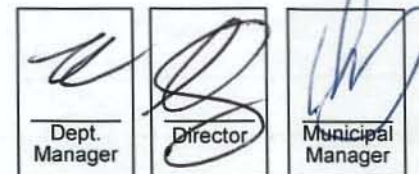
5. Where the discharge to sanitary sewer from a property is regulated under a GVS&DD Waste Discharge Permit, the total annual charge will be based on the following table :

<b>GVS&amp;DD WASTE DISCHARGE PERMITEE SEWER CHARGES - 2012</b>	
<b>MONTHLY METERED PROPERTIES **</b>	
For the first 1,000 cu.ft. - metered per 100 cu.ft.	\$4.07
For the next 1,500 cu.ft. – metered per 100 cu.ft.	\$3.40
For the next 10,000 cu.ft. – metered per 100 cu.ft.	\$2.31
For the amount metered in excess of 12,500 cu.ft. per 100 cu.ft.	\$1.85
Except that the minimum charge is	\$46.47
<b>QUARTERLY METERED PROPERTIES **</b>	
For the first 3,000 cu.ft. - metered per 100 cu.ft.	\$4.07
For the next 4,500 cu.ft. - metered per 100 cu.ft.	\$3.40
For the next 30,000 cu.ft. - metered per 100 cu.ft.	\$2.31
For the amount metered in excess of 37,500 cu.ft. per 100 cu.ft.	\$1.85
Except that the minimum charge is	\$139.40

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## The District of North Vancouver REPORT TO COUNCIL

April 4, 2012  
File: 5600-50/003  
Tracking Number: RCA -

**AUTHOR:** Lorn Carter, P.Eng. - Manager, Utilities

**SUBJECT:** District of North Vancouver Drinking Water Quality - 2011

**RECOMMENDATION:**

THAT this report be received for information.

**REASON FOR REPORT:**

To inform Council on the status of drinking water quality in the District of North Vancouver (DNV) and to provide background information on the *District of North Vancouver Drinking Water Quality Annual Report – 2011*.

**SUMMARY:**

The DNV's *Drinking Water Quality Annual Report – 2011* is included as Attachment 1. A letter-report from the Medical Health Officer (MHO) for the North Shore commenting on the 2011 report is included in Attachment 2.

- The DNV operates its waterworks system under a permit issued by the Ministry of Health Services. For many years, DNV staff have worked with Vancouver Coastal Health (North Shore) to ensure the delivery of high quality drinking water. Dr. Brian O'Connor, the MHO for the North Shore, has been empowered through the B.C. Drinking Water Protection Act and Regulation to require permit holders to conduct testing, provide information and notify the public on drinking water quality issues.
- In 2011 tests for drinking water quality in the DNV showed overall good bacteriological and chlorine results, with none of the samples out of a total of over 1340 samples collected containing coliform bacteria. Turbidity in the regional water supply has become less of an issue since the Seymour-Capilano Filtration Plant was commissioned in early 2010. Significantly lower turbidity results were recorded in 2011 (0.4% of all samples) VS 2010 (3% of all samples). The Capilano water supply was out of service for 188 days in 2011.
- Recorded Haloacetic Acids (HAAs) and Trihalomethanes (THMs) concentrations were within the Canadian standard for all 16 samples. The running annual average for HAAs and THMs concentrations are now significantly lower than they were prior to the operation of the Seymour-Capilano filtration plant.
- The MHO is pleased with the progress made over the past few years towards improving water quality for DNV residents and, at present, he has not identified any specific water quality issues requiring rectification. He has agreed that there is no longer a need for the regular water quality advisory notifications and has suggested using the tax notice to notify residents of the presence of our annual report on our website.

**BACKGROUND:**

The DNV receives all of its treated drinking water from the GVWD and is supplied through two sources; the Capilano Reservoir and the Seymour Reservoir (Seymour-Capilano Filtration Plant). The GVWD and its member municipalities have adopted a "multi-barrier" approach to reduce the risk of water borne infection. The main barriers are: watershed protection; treatment; distribution system maintenance (to maintain chlorine residuals for the control of bacteria regrowth); and water quality monitoring. Starting in early 2010, filtration, UV, and chlorination were used to treat water supplied by the SCFP. Chlorine provides primary disinfection for protection against bacteria, waterborne parasites, and viruses.

For many years, the DNV has been working with the MHO and his staff to ensure the delivery of high quality drinking water. Beginning in 2001, the MHO requested formal annual water quality reports from each North Shore municipality for water quality data collected in 2000. The MHO has completed his annual review of our current municipal annual report and has forwarded a letter-report to DNV's Mayors and Council. The DNV's *Drinking Water Quality Annual Report – 2011* is included with this report as Attachment 1. The MHO's letter-report to Mayor and Council is included as Attachment 2.

**EXISTING POLICY:**

Amendments to the B.C. Drinking Water Protection Act came into force on May 16, 2003. The amendments included a new Drinking Water Protection Regulation, replacing the B.C. Safe Drinking Water Regulation. The new Act and Regulation provide a more comprehensive framework for the protection of drinking water. No changes were made to water quality requirements, although other requirements and responsibilities, including those for water system classification and operator certification, were more clearly defined.

In 2005 Health Canada published new water quality guidelines in the *Guidelines for Canadian Drinking Water Quality* related to turbidity and protozoa (cryptosporidium and giardia). The GVWD has confirmed to the regional Medical Health Officers that treated water from the Seymour-Capilano Filtration Plant meet those guidelines.

In 2008 a new Canadian standard for Haloacetic Acids (HAAs) concentrations was established in the *Guidelines for Canadian Drinking Water Quality*. The maximum acceptable concentration for HAAs is 80 parts per billion (ppb), based on a running annual average calculated with quarterly results for different locations within the water distribution system.

Each member municipality of the GVWD is considered a water purveyor and must operate its waterworks system under a permit issued by the Ministry of Health Services.

**ANALYSIS:****DNV Drinking Water Quality Annual Report – 2011**

The DNV's 2011 report is included with this report as Attachment 1. Highlights of the DNV's report are as follows:

Physical Parameters

- In 2011, turbidity (cloudiness caused by fine sediment suspended in the water) continued to be less of a challenge to the GVWD due to the SCFP, with a significant reduction in the number samples (0.4% in 2011) containing high turbidity (> 1 NTU) compared to samples collected in 2010 (3%). The Capilano source was out of service for a total of 188 days in 2011 due to a combination of source water turbidity issues and operational preferences.
- All sample test results of turbidity levels in the DNV distribution system in 2011 were less than 1 NTU, except for 5 readings, of which only one was greater than 5 NTU. This sample was

collected in December 2011 from sampling station 724 (1478 Dominion St.). It is believed that watermain breaks, and the resultant very high flow rates, experienced prior to the sample being taken caused sediment in the piping system to be stirred up for all of the 5 readings exceeding 1 NTU.

- As in previous years, samples from most sampling locations had average water temperatures above 15° C (the aesthetic objective) during July, August and September 2011. Temperatures above 15° C can promote bacteria regrowth in the piping system. During the months in question the temperature of GVWD-supplied water depends mainly on the amount of snowmelt contributing to reservoir inflow.

#### Bacteriological Quality

- From a total of over 1340 samples tested in 2011, all samples met the bacteriological standards of the Regulation, which require 10 or less total coliform and no fecal coliform or *e-coli* per 100 millilitres of sample volume.

#### Chemical Parameters

- All of the locations identified as having low chlorine residuals in 2001 had average chlorine residuals at or above the desirable target of 0.2 mg/L (milligrams per litre) from 2002 to present. Only 4 of 1340 samples showed chlorine residual concentrations below 0.2 mg/L in 2011 and none of these were below 0.16 mg/L. A "real-time" chlorine residual recording station was installed at a Seymour area water pump station in early 2010. This location provides useful real time data related to chlorine residual levels provided by the Seymour Filtration Plant. It is planned to install an additional real time chlorine residual sampling location in 2012 for the Capilano Source waters.
- A graph of average chlorine residuals for each sampling site is presented in Appendix B of the attached report.
- Monitoring of disinfection by-products in 2011 has indicated that Haloacetic Acids (HAAs) and Trihalomethanes (THMs) remained at acceptable levels. All of the sixteen quarterly average HAAs and THMs at all four locations tested on the DNV distribution system were within allowable standard levels in 2011. The running annual average for HAAs and THMs concentrations are now significantly lower than they were prior to the operation of the Seymour-Capilano filtration plant.
- In 2011 eight samples for metals, including copper, lead and zinc were collected. Concentrations of all metals tested were less than the recommended maximum concentrations.

#### Operator Training and Certification

- The DNV currently has the appropriate levels of certified operating staff to remain in full compliance with the Drinking Water Protection Regulation.
- Province-wide discussions are also underway on the imposition of continuing education requirements on all certified operators by the Environmental Operators Certification Program, which is the agency designated by the Province to certify operators. The new requirements have raised the issues of additional training expenses for operators or their employers, and of remuneration for employees who maintain their certified status. To date, the GVRD Labour Relations department has not addressed the remuneration issue.

#### **Comments From The Medical Health Officer**

As a result of turbidity declining significantly as a result of the Capilano Seymour Filtration Plant, staff from Vancouver Coast Health (North Shore) recommended that turbidity graphs no longer appear in the annual report. Coastal Health staff are happy with the 2011 Water Quality Report. The MHO's letter-report commenting on 2011 DNV drinking water quality is included in Attachment 2. The MHO

is pleased with the progress made on drinking water quality in the DNV. At present the MHO has not identified any specific water quality issues requiring rectification. He has agreed that there is no longer a need for the regular water quality advisory notifications and has suggested using the tax notice to notify residents of the presence of our annual report on our website.

**Timing/Approval Process:**

The GVWD's Seymour-Capilano Filtration Plant was filtering Seymour water as of January 15, 2010, however Capilano water will not be filtered until the twin tunnels connecting the Capilano and Seymour sources are completed in 2013.

**Financial Impacts:**

There is the potential for additional water-related expenditures based on any changes in mandated monitoring procedures, recommended monitoring procedures, or physical system additions/modifications that would benefit water quality. We currently do not foresee any significant expenditures related to these areas. We plan to install a second real time chlorine monitoring station for approximately \$15k in the first half of 2012, requiring an hour weekly to maintain calibration.

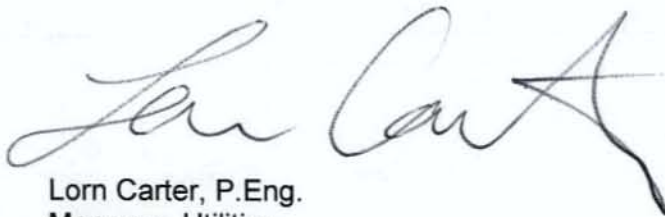
**Liability/Risk:**

Chlorine residual in the distribution system is one of several "barriers" in place to ensure the safety of drinking water in the DNV. Although the risk of infection from our drinking water is very low, if efforts to provide adequate chlorine residuals are not continued and a serious outbreak occurs, the DNV could be in a position of liability. Continuous or recurrent high concentrations of disinfection by-products in drinking water can present long-term health risks as they are potential carcinogens. Although the MHO has not expressed any concern that current concentrations are presenting any risks, he would urge the DNV to ensure that processes are in place to keep concentrations as low as possible while at the same time ensuring a chlorine residual adequate to assure water quality.

**Business Plan:**

- **Social Policy Implications:** The adequate supply of safe drinking water is a fundamental service that a community requires in order to ensure a high standard of public health.
- **Environmental Impact:** Higher chlorine residuals can increase the risk of harm to fish and aquatic life if large quantities of drinking water are released to creeks during uncontrolled events such as watermain breaks.
- **Public Input:** The public will continue to be advised of the status of the DNV's drinking water quality by:
  - the prominent posting of the DNV's annual water quality reports, along with the MHO's comments, in their entirety on the DNV web site
  - publicizing the presence of annual reports on the DNV website
- **Other Business Plan Areas:** Not applicable.

Options: Not applicable.



Lorn Carter, P.Eng.  
Manager, Utilities

- Attach: 1) District of North Vancouver Drinking Water Quality Annual Report – 2011  
2) Letter-report from the Medical Health Officer

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# NORTH VANCOUVER DISTRICT

## DRINKING WATER QUALITY ANNUAL REPORT

2011

March 2012

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## APPENDICES

### APPENDIX A

1. Map of Water System, Sampling Site Locations and Pressure Zones
2. List of Sampling Site Locations
3. 2011 Schedule for Sampling and Reporting

### APPENDIX B

1. Graphs (39) - Water Quality Results by Sample Site, 2000, 2008 - 2011
2. Graph – 2011 Heterotrophic Plate Count (HPC) results over 500 CFU/ml
3. Graph – Number of Samples Analyzed Monthly for Presence of Coliform
4. Graph – Coliform and E. coli Test Results
5. Graph (2) - Average Chlorine Residuals for DNV Sampling Sites, 2000, 2008 - 2011

### APPENDIX C

1. District of North Vancouver Response Procedures For Loss of Municipal System Integrity



## A. INTRODUCTION

This report represents the eleventh Drinking Water Quality Annual Report prepared by the District of North Vancouver (DNV) under the *Water Quality Monitoring and Reporting Plan For The GVRD and Member Municipalities*. The purpose of the report is to provide DNV water consumers with drinking water sampling test results for 2011, as well as to present background information on DNV and regional issues concerning water supply, treatment, and specific measures being taken to protect and enhance drinking water quality as per requirements under the Drinking Water Protection Act.

## B. GENERAL DESCRIPTION

The DNV delivers potable water to its customers via a waterworks system incorporating approximately 366 km of watermains, 7 water pumping stations, 11 water storage reservoirs, and 34 pressure reducing stations. A population of approximately 87,000 is served through approximately 25,000 water connections.

In 2011, 17.2 million cubic metres of water were consumed by businesses and residents. All of this water was purchased from the Greater Vancouver Water District (GWWD).

A map of the overall water system, showing pressure zones and water quality sampling site locations, is included in Appendix A.

## C. SOURCE WATER

### 1. General

All drinking water supplied to customers in the DNV is purchased from the GWWD and is drawn from both the Capilano and Seymour sources. The GWWD tests untreated source water for pathogens including total coliforms and *E. coli*, giardia, and cryptosporidium. Source waters are also tested for general water chemistry, softness, turbidity, metals, and contaminants such as pesticides and organic compounds. For 2011, the GWWD used a combination of the Capilano Source and the new Seymour-Capilano Filtration Plant (supplying filtered Seymour source waters) to the DNV. This is discussed in more detail in Section D. After treatment, but prior to transmission in GWWD watermains, the GWWD tests for total coliforms and *E. coli*, general water chemistry, turbidity, and metals.

Water quality information on these source waters, will be available from "*The Greater Vancouver Water District Quality Control Annual Report, 2011*".

### 2. Challenges

The Capilano source was out of service for three periods in 2011 for a total of 188 days due mostly to operational preferences related to GWWD's ability to meet the demand using filtered water. The GWWD maintains a rigorous program of enhanced sampling and reporting to continually monitor turbidity, bacteriology, and chlorine residuals in the region's drinking water.

### 3. Issues

The peak demand day for 2011 occurred on Aug 13, when 1,555 ML of water was delivered through the GVWD system. This was quite a bit lower than the previous year's 1,819 ML peak day and GVWD's and DNV's water delivery systems performed well, with no problems encountered.

### 4. Proposed Work

Available supply capacity will be enhanced for the Capilano reservoir once the tunnels connecting the filtration plant near Rice Lake with the Capilano system are completed in 2013. The reason for this capacity improvement is that with the completion of the tunnels the Capilano intake will be pumped to convey Capilano water to the filtration plant. This will improve the intake hydraulics, allowing the Capilano reservoir to be drawn down to a lower elevation, which in turn will increase the reservoir's useable storage volume.

## D. WATER TREATMENT

### 1. General

Until December 2009 the GVWD's only form of treatment for both the Capilano and Seymour sources was primary disinfection using chlorine. In December 2009 the GVWD began filtering some Seymour water being delivered to the Lynn Valley and Mountain Highway supply zones utilizing the new Seymour-Capilano Filtration Plant. The plant site is located near Rice Lake in the Lower Seymour Conservation Reserve, with Capilano water to be conveyed to and from the site via twin tunnels bored deep in the bedrock between the Capilano reservoir and the plant. As of January 15, 2010 all Seymour water supplied to the DNV has been filtered by the new filtration plant. In order to reduce the amount of chemicals used in water treatment as well as to provide additional protection against giardia and cryptosporidium, the treatment includes ultra-violet (UV) light for primary disinfection. Seymour water is also partially treated to reduce corrosiveness by increasing the pH with the addition of soda ash (sodium carbonate), while Capilano disinfection utilizes sodium hypochlorite rather than gaseous chlorine, resulting in improved pH levels in Capilano water.

The Capilano source was off-line a significant time in 2011, and as a result, all DNV customers received filtered water during that time. When the Capilano source was in service (when the Capilano supply source is needed to satisfy regional seasonal water demands) only areas of the DNV east of approximately St. Georges Avenue received filtered water from Seymour. Due to the lower turbidity levels, lower amounts of chlorine were required to maintain a chlorine residual that remained higher in the system for longer than for prefiltration.

The GVWD tests treated water for total coliforms and *E. coli*, general water chemistry, turbidity and metals prior to transmission in GVWD watermains.

Water quality information on treated water, will be available from "*The Greater Vancouver Water District Quality Control Annual Report, 2011*".

There are no secondary chlorination stations in the DNV.

## 2. Challenges

One of the regional Medical Health Officers' historic concerns was turbidity in the Capilano and Seymour source waters. Filtration for Seymour water has greatly reduced the turbidity issue. Filtered Capilano water will not be available until 2013, however, Metro plans to remove the Capilano source from service during the off-peak season in late fall, winter, and early spring when most turbidity events occur. This should greatly reduce the risk of high turbidity in the DNV until the time that both water sources supplying the DNV are filtered.

## 3. Issues

GVWD supplies monthly plant performance and water quality data to Vancouver Coastal Health. To date there have been no issues as result of this process.

The GVWD continued moving ahead with the implementation of the Seymour-Capilano Filtration Plant Project in 2011, focussing on the twin tunnel construction. The plant is capable of delivering filtered water to all of the DNV in off peak winter periods.

## 4. Proposed Work

The filtration plant was completed in 2010, with planned overall project completion and filtration of Capilano water in 2013 (tunnel completion). Construction continued on the twin tunnels after a new contractor was engaged.

## E. DISTRIBUTION SYSTEM

### 1. General

The water distribution system is comprised of two separately operated networks; the GVWD water transmission mains and the DNV distribution system. For the purposes of water quality monitoring and reporting in the DNV, the locations where water is drawn from the GVWD transmission system into the DNV system are considered "sources" for the DNV system.

The document entitled "*Water Quality Monitoring And Reporting Plan For The GVRD and Member Municipalities – 2006*" (the Plan) provides a common template for all municipalities within Metro Vancouver (formerly the GVRD) to report annually on water quality results and issues. That document has been followed as closely as possible in the creation of this report.

A map of the overall water system, showing pressure zones and water quality sampling site locations, is included in Appendix A. Appendix A also includes a list of water quality sampling site locations and a schedule of sampling and reporting for 2011.

### 2. Testing

#### a. Bacteria

Sample collection for monitoring bacteria levels in the DNV water distribution system is performed twice-weekly by DNV Utilities personnel. Samples are delivered to the Metro Vancouver lab for analysis and reporting. Standard bacteriological parameters analysed

by the Metro Vancouver lab are total coliform, *E. coli* and heterotrophic plate count (HPC). Standard testing for *E. coli* rather than fecal coliform was implemented in January 2006 in accordance with a 2005 amendment to the *BC Drinking Water Protection Regulation* (the Regulation). The sampling locations are listed in Appendix A.

Approximately 13 samples are collected twice each week for a total of 26 samples per week. These are collected on a rotational basis from 3 groupings of 13 sampling sites (39 sampling sites in all), with each grouping comprised of sampling site locations that are widely distributed across the District.

In addition, random samples may be taken from areas where water quality complaints have originated or where waterworks construction or maintenance activities are underway.

Locations of water quality sampling points in the DNV system are based on a guideline provided by the regional Medical Health Officers as follows:

- i. 10% of sampling points at “source” (supply points off GVWD transmission mains)
- ii. 40% of sampling points at locations with medium flow
- iii. 40% of sampling points at locations with low flow
- iv. 10% of sampling points at system dead-ends (very low flow)

Sampling frequency for presence of bacteria was completed in accordance with the Plan and the Regulation in 2011, with an average of 110 samples per month collected.

A graph showing the number of samples collected and analysed per month in 2011 is included in Appendix B. Appendix B also contains graphs showing the 2011 coliform and *E. coli* test results as well as the 2011 HPC test results.

b. Physical Parameters

Drinking water in the distribution system is tested for turbidity and temperature when bacteriological lab testing is carried out by the GVRD lab. Taste, odour and turbidity are monitored on a complaint basis and comprise the majority of water quality complaints.

c. Chemical Parameters

In 2011, chemical monitoring in the water distribution system was conducted for the following:

- i. **Free chlorine residual** – measured at all sampling sites when bacteriological samples are collected
- ii. **Haloacetic acids (HAAs)** – HAAs are disinfection by-products sampled from 4 selected sampling sites and tested by the Metro Vancouver lab. In 2011, 4 separate tests were carried out for each of the 4 selected sites.

- iii. **Trihalomethanes (THMs)** – THMs are disinfection by-products sampled with HAAs.
- iv. **pH** – measured on samples collected at one of the sample sites for HAAs/THMs testing
- v. **Metals** – during 2001, the regional Medical Health Officers developed a strategy for sampling metals “at the tap”. The requirement is to sample 10% of the sample sites twice yearly for lead, copper and zinc, with sample locations consisting of a mixture of private homes and public buildings, including schools. In 2011, the required total of eight samples was collected.

No testing for PAH's (polynuclear aromatic hydrocarbons) or BETX (benzene, ethylbenzene, toluene, xylene) was conducted. These are compounds associated with pipe wall lining materials in steel watermains, and usually they can only be detected in watermains newer in age than approximately five years. The newest lined steel watermain in the DNV was constructed in 1969. Since there are no significant lengths of PVC watermain in the DNV, no testing was performed for vinyl chloride.

### 3. Results

Test results for bacteria, turbidity, and chlorine residual are compiled for each sample site in Appendix B. The data for each site for the years 2000 (included as the “baseline” year for comparison) and 2008 through 2011 are presented in graphs to more clearly indicate trends over this period.

#### a. Bacteria

Bacteriological standards in water distribution systems should meet the requirements of the *BC Drinking Water Protection Regulation*, which stipulates the following criteria for sample tests results:

- i. *E. coli* – no detectable *E. coli* / 100 mL
- ii. Total Coliform – 10 or less total coliform / 100 mL
- iii. Total Coliform - 90% or more of the samples for a given month must have no detectable total coliform / 100 mL
- iv. HPC – Currently no maximum acceptable concentration limit. Increases in HPC concentrations above baseline levels are considered undesirable. Historic limits were set at 500 CFU/mL.

All samples collected in 2011 satisfied the bacteriological requirements of the *BC Drinking Water Protection Regulation*.

A graph of results of bacteriological testing for 2011 is included in Appendix B.

b. Physical Parameters

All sample test results of turbidity levels in the DNV distribution system in 2011 were less than 1 NTU, except for 5 readings, of which only one was greater than 5 NTU. This sample was collected in December 2011 from sampling station 724 (1478 Dominion St.). It is believed that watermain breaks, and the resultant very high flow rates, experienced prior to the sample being taken caused sediment in the piping system to be stirred up for all of the 5 readings exceeding 1 NTU. The percentage of all samples exceeding 1 NTU decreased significantly in 2011 (0.4% of all samples) compared to 2010 (3% of all samples).

During the months of July, August and September average water temperatures of several sample sites were above 15° C, which is the aesthetic objective.

Water temperature and turbidity are measured for all samples collected for bacteriological testing and are reported in the overall microbiology test results from the Metro Vancouver lab. Turbidity test results are presented along with bacteriological results and chlorine residuals in the graphs for each sample site in Appendix B.

c. Chemical Parameters

- i. **Free chlorine residual** – free chlorine residual results are provided with the bacteriological sample test results for each sample site in the graphs in Appendix B. Locations with low chlorine residuals (less than 0.2 mg/l) are discussed in Sub-section 5.
- ii. **Haloacetic acids (HAAs)** –In 2008 a new Canadian standard for HAAs concentrations was established in the *Guidelines for Canadian Drinking Water Quality* (GCDWQ). The maximum acceptable concentration for HAAs is 80 ppb (based on a running annual average calculated with quarterly results for different locations within the system). None out of the sixteen quarterly average HAAs at all four locations tested on the DNV distribution system were above 80 ppb in 2011. This was discussed at Section 5. Issues. Sample test results for HAAs are shown in Table 1 below.
- iii. **Trihalomethanes (THMs)** – the *Guidelines for Canadian Drinking Water Quality* (GCDWQ) list a maximum acceptable concentration for THMs at 100 ppb (based on a running annual average calculated with quarterly results for different locations within the system). Quarterly average THMs for all four locations tested on the DNV distribution system were below 100 ppb in 2011. This was discussed at Section 5. Issues. Sample test results for THMs are shown in Table 1 below.
- iv. **pH** – the GWWD analyzed 4 HAAs/THMs samples at one sample location for pH in 2011.

TABLE 1 2011 DISINFECTION BYPRODUCTS SAMPLING PROGRAM						
		Total Trihalomethanes (THMs) (ppb)	Running Annual Average THMs (ppb)  MAC* = 100	Total Haloacetic Acids (HAAs) (ppb)	Running Annual Average HAAs (ppb)  MAC* = 80	pH  AE** = 6.5-8.5
DNV – 727	1 <sup>st</sup> Quarter 2011	13	35	16	48	
	2 <sup>nd</sup> Quarter, 2011	16	17	41	33	
	3 <sup>rd</sup> Quarter, 2011	21	17	43	35	
	4 <sup>th</sup> Quarter, 2011	19	17	17	29	
DNV – 733	1 <sup>st</sup> Quarter 2011	17	27	16	48	
	2 <sup>nd</sup> Quarter, 2011	41	28	47	45	
	3 <sup>rd</sup> Quarter, 2011	42	30	41	35	
	4 <sup>th</sup> Quarter, 2011	20	30	32	34	
DNV – 734	1 <sup>st</sup> Quarter 2011	16	24	20	46	
	2 <sup>nd</sup> Quarter, 2011	40	25	51	46	
	3 <sup>rd</sup> Quarter, 2011	18	24	30	35	
	4 <sup>th</sup> Quarter, 2011	24	24	35	34	
DNV – 736	1 <sup>st</sup> Quarter 2011	16	29	21	50	7.2
	2 <sup>nd</sup> Quarter, 2011	44	29	59	49	
	3 <sup>rd</sup> Quarter, 2011	39	30	44	41	
	4 <sup>th</sup> Quarter, 2011	24	31	28	38	

\*MAC = Maximum Acceptable Concentration

\*\*AE = Aesthetic Objective

- v. **Metals** – a total of eight samples for metals, including copper, lead and zinc, were collected from four locations in 2011. Sample locations, results, and maximum limits are given in Table 2 below. All the metals tested were under the recommended maximum concentrations.

TABLE 2  
2011 METALS SAMPLING PROGRAM

Sample	CDNV 5396 - 1181 West 22nd #734	CDNV 5396 - 1181 West 22nd #734	CDNV 5397 - 2838 Panorama Dr #721	CDNV 5397 - 2838 Panorama Dr #721	Carisbrooke Elem. School	Carisbrooke Elem. School	Seymour Heights Elementary School	Seymour Heights Elementary School	Limits
Date Collected	Jun 2, 2011	Nov 16/ 11	Jun 2, 2011	Nov 16/ 11	Jun 2, 2011	Nov 16/ 11	Jun 2, 2011	Nov 16/ 11	
Aluminum Total mg/L	0.04	0.02	0.09	0.03	0.04	0.02	0.03	0.03	*0.1 - 0.2
Antimony Total mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.006
Arsenic Total mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Barium Total mg/L	0.0031	0.0041	0.0025	0.0038	0.0028	0.0039	0.0027	0.0036	1
Cadmium Total mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.005
Calcium Total mg/L	3.25	4.24	1.34	3.90	2.97	4.12	2.94	3.80	
Chromium Total mg/L	0.00016	0.00011	0.00016	0.00005	0.00014	0.00013	0.00005	0.00010	0.05
Cobalt Total mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Copper Total mg/L	0.00	0.00	0.01	0.01	0.02	0.03	0.05	0.03	1
Iron Total mg/L	0.01	0.01	0.06	0.02	0.02	0.02	0.01	0.01	0.3
Lead Total mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0005	0.01
Magnesium Total mg/L	0.145	0.172	0.162	0.185	0.144	0.165	0.151	0.192	
Manganese Total mg/L	0.0006	0.0016	0.0021	0.0032	0.0012	0.0012	0.0032	0.0074	0.05
Mercury Total mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.001
Molybdenum Total mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Nickel Total mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Potassium Total mg/L	0.141	0.181	0.136	0.182	0.158	0.186	0.137	0.183	
Selenium Total mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.01
Silver Total mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Sodium Total mg/L	1.45	1.52	1.79	1.52	1.94	1.54	1.46	1.53	200
Zinc Total mg/L	0.0011	<0.003	0.0025	<0.003	0.0010	<0.003	0.0009	<0.003	5

\* No health-based guideline for aluminium has been established in Canada, however where aluminium-based coagulants are used in water treatment plants, these operational guidelines should be targeted.



#### 4. Challenges

Challenges facing the DNV in 2011 for maintaining good water quality in the distribution system were ensuring that water system maintenance and replacement programs have the greatest possible positive effect on maintaining good water quality, while at the same time achieving target levels for infrastructure repair and replacement.

Chlorine residual issues, generally related to flow from the Capilano Source during times of high turbidity, have been substantially reduced due to GVWD's operational strategy of the two sources and the performance of the filtration plant.

#### 5. Issues

##### a. Chlorine Residuals

In October 2001, during a review of 2000 water quality data with the three North Shore municipalities, the Medical Health Officer for Vancouver Coastal Health (North Shore) determined that there were locations in all three North Shore municipalities where chlorine residual levels in the water distribution system were below a level that is desirable for the prevention of regrowth of bacteria in the piping system. Chlorine is added by the GVWD at the source to initially disinfect the water, but because of the elapsed time from adding chlorine to the time of water consumption, it may have dissipated (disappeared).

The Medical Health Officer has indicated that the minimum concentration for chlorine residual in the distribution system should be 0.2 mg/L free chlorine. All of the locations identified as having low chlorine residuals in 2001 had average chlorine residuals at or above 0.2 mg/L from 2002 to present. Only four of 1341 samples showed chlorine residual concentrations below 0.2 mg/L in 2011, with no samples below 0.16 mg/L being recorded. Real-time chlorine residual monitoring is active at one of DNV's water pump stations and allows real time analysis and alarming for low chlorine conditions. Another is planned for implementation within the first half of 2012. Data from these site relates closely to Metro's Seymour water and Capilano water source chlorination levels.

Results from sample sites receiving filtered water from the new Seymour-Capilano Filtration Plant continue to show that chlorine residuals are lasting longer and residuals have improved at sites where historically residuals have been low. The average Seymour filtration plant chlorine residual was 0.82 mg/L. The average system chlorine residual through the system was 0.69 mg/L. This shows that the level of chlorination continued to provide good chlorine residual levels throughout the water distribution system.

A comparison of average chlorine residuals at DNV sampling sites for 2000 ("baseline" year) and 2008 through 2011 is included in Appendix B.

b. Disinfection By-Products

Ongoing monitoring of disinfection by-products has indicated that Haloacetic acids (HAAs) levels in DNV water remain at acceptable levels. The running annual average levels of HAAs are now significantly lower than they were prior to the operation of the Seymour-Capilano filtration plant.

Trihalomethanes (THMs) also remain at acceptable levels. The running annual average levels of THMs in DNV water are now significantly lower than they were prior to the operation of the Seymour-Capilano filtration plant.

6. Work Program

a. 2011

Approximately 6,100 m of watermain cleaning was completed in the Pemberton heights area in 2011. Implementation issues in this area caused less work to be completed than scheduled.

b. 2012

System operational refinements will be made, if necessary, in 2012 to continue delivering water with optimum chlorine residuals to all areas. A second real time chlorine residual monitoring location will be installed in 2012 in the western (Capilano source) area of the DNV. In addition, the 2012 watermain cleaning program will focus on the S3, S5 and S6, and S7 areas. Approximately 35,000 m of watermain, about 10% of DNV's watermain network, is targeted for cleaning in 2012 using unidirectional flushing.

The annual watermain replacement program will continue in 2012 with the construction of approximately 4,500 metres of watermain. Approximately 650 metres of this replaces cast iron pipe, which will improve water quality by replacing old unlined pipe with new cement mortar-lined ductile iron pipe. Watermain construction projects planned for 2012 are:

<u>Watermain Project</u>	<u>Length</u>	<u>Watermain Project</u>	<u>Length</u>
Lynn Valley Road	475 m	Sunset & Virginia	530 m
Gladwin Drive	300 m	Chamberlain Dr	330 m
Lauralynn Drive	400 m	Phillip Ave	280 m
Berkley Ave	390 m	Beachview Dr	480 m
Lucerne Pl	175 m	Main St. Lane N.	170 m
Barlynn Cres	70 m	W. Braemar Rd.	85 m
Wellington Dr.	340 m	E. Keith Bridge	180 m
Timberline Pl	135 m	Pemberton Ave	200 m

F. INCIDENTS/SIGNIFICANT COMPLAINTS

There were no significant incidents or complaints in 2011.

## G. GENERAL WATER ADVISORIES

In his November 23, 2001 report on drinking water quality in the DNV, the local Medical Health Officer requested that general drinking water advisories be published on a quarterly basis and that they be made available on the DNV website and enclosed in direct communication to residents (i.e. enclosed in the tax notice). In early 2011, the MHO, in consultation with the three North Shore municipalities, made slight revisions to the advisory wording. The 2011 version (shown below) was advertised three times in 2011. In late 2011 the MHO agreed that there is no further need to advertise these advisories.

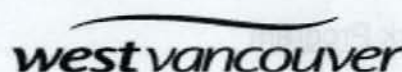


NORTH VANCOUVER  
DISTRICT

District of North Vancouver  
Phone: 604-990-3860  
[www.dnv.org](http://www.dnv.org)



City of North Vancouver  
Phone: 604-983-7333  
[www.cnv.org](http://www.cnv.org)



District of West Vancouver  
Phone: 604-925-7119  
[www.westvancouver.ca/water](http://www.westvancouver.ca/water)

# 2011 Drinking Water Quality

*The Medical Health Officer for the North Shore municipalities has requested that the following public notice be published. **THIS IS NOT A GENERAL BOIL WATER ADVISORY.***

## Drinking Water Advisory For Immunocompromised Persons

The Provincial Health Officer advises all those with compromised immune systems (such as HIV, organ or bone transplants, chemotherapy or medications that suppress the immune system) to avoid drinking water from any surface water source (such as those on the North Shore) unless it has been boiled, filtered or distilled.

## Water Flushing

Did you know that the water that comes out of your tap first thing in the morning might contain higher amounts of lead? This is why you should always run your tap for at least one minute first thing in the morning or any other time water has been left standing for a long time. Conserving water is still important. Rather than just running the water down the drain, you could use the water for things such as watering your plants.

## Disinfection of Water

Water delivered to your tap may have a chlorine residual (the amount of chlorine available for disinfection) that may be below a level that will prevent the regrowth of bacteria in the piping system. Chlorine was added at the source to initially disinfect the water, but because of the elapsed time from adding chlorine to the time of water consumption, it may have dissipated (disappeared).

This doesn't mean that the water is unsafe to drink. It only means that there is a potential for possible regrowth of bacteria as the water travels through the distribution system. The North Shore municipalities are engaged in ongoing activities to address this and other water quality issues to ensure safe drinkable water for North Shore residents.

Drinking water quality annual reports are accessible at the respective municipality's above-noted web page. For more information, contact your Municipality or North Shore Health/Vancouver Coastal Health Authority at 604-983-6700.

## H. OPERATOR TRAINING/QUALIFICATIONS

The *BC Drinking Water Protection Regulation*, which came into effect on May 16, 2003, outlines qualification standards for water supply system operators. Water systems are to be classified by the Environmental Operators Certification Program (EOCP) based on the complexity of the system and the population served. System classifications range from Level 1 for the smallest, simplest systems to Level 4 for the largest, most complex systems. The chief “operator(s)” of the system must be certified by the EOCP at a level matching the level of classification of the system.

In April 2004 the DNV received a Level 3 classification from the EOCP for its water distribution system. The DNV currently has three distribution system operators with Level 3 operator’s certification from the EOCP, keeping the DNV in full compliance with the Regulation.

The DNV, in association with Metro Vancouver and its other member municipalities, has continued its efforts to obtain clarification from the EOCP and the Ministry of Healthy Living and Sport with respect to operator training, continuing education and certification requirements for all employees engaged in work on the water distribution system. Unfortunately, a process that had been established in 2007 to work through the issues with the EOCP has fallen behind schedule, although discussions continued in 2011. In addition, as a result of EOCP continuing education requirements for all certified operators, the issue of remuneration of employees for maintaining their certification status still exists. The DNV and other municipalities are attempting to resolve this issue through the Metro Vancouver labour classification system.

## I. SECURITY MEASURES

Events both locally and internationally in 2001 brought increased attention to the security of water supply systems. In early 2001, incidents of tampering at water storage reservoirs (tanks) in other lower mainland municipalities prompted a complete review of security at DNV facilities. All DNV water storage reservoirs consist of either steel or concrete tanks, and although existing security measures were sound, some improvements were considered to be necessary, including:

- Modifying and strengthening points of access
- Improved alarm capability
- Increased frequency of inspections and patrols
- Details and locations provided to RCMP for increased security surveillance
- Detailed incident-response procedures developed

Assessments of new technology and improved systems to protect DNV water supply facilities are ongoing.

## J. NOTIFICATION AND EMERGENCY RESPONSE PLAN

### 1. Notification Requirements

Table 4 below outlines the notification process for unusual situations that could potentially affect water potability.

**TABLE 4  
 NOTIFICATION FOR UNUSUAL SITUATIONS POTENTIALLY AFFECTING WATER  
 QUALITY**

Situation	Notifying Agency	Agency Notified	Time Frame For Notification
<i>E. coli</i> -positive sample	M.V. Laboratory or BC Centre for Disease Control	DNV and Vancouver Coastal Health (North Shore)	Immediate
Total coliform over 10 mg/L and no free chlorine residual	DNV	Vancouver Coastal Health (North Shore)	Immediately upon receipt of sample test results
Chemical Contamination	DNV	Vancouver Coastal Health (North Shore)	Immediate
Turbidity > 5 NTU	M.V. Laboratory or GWWD Operations	DNV and Vancouver Coastal Health (North Shore)	Immediate
GVRD Disinfection failure	GWWD Operations	DNV and Vancouver Coastal Health (North Shore)	Immediate in any situation in which the BCSDWR or the GCDWQ may not be met
Loss of pressure due to high demand	DNV	GWWD Operations and Vancouver Coastal Health (North Shore)	Immediate
Watermain break where contamination is suspected	DNV	Vancouver Coastal Health (North Shore)	Immediate

**2. Response Plans**

The flow diagram in Appendix C illustrates the process that has been put in place for response to incidents that could potentially affect water quality.

**a. *E. coli*-Positive Samples**

If a sample analysed by the Metro Vancouver laboratory or the BC Centre for Disease Control tests positive for *E. coli*, the following response plan will be put into action.

***E. coli*-Positive Sample From DNV Water Distribution System**

- i) Results of interim samples, if any, from the site will be examined by the lab. Interim samples are any samples that may have been taken from the site in

the period between when the *E. coli* -positive sample was taken and when it was determined to be positive.

- ii) The chlorine residual noted on the sampler's field sheet will be reviewed by the lab and compared to previous readings to determine if there had been a localized loss of disinfectant residual.
- iii) The DNV Section Manager of Utilities Construction and Maintenance (SMUCM) or designate and Vancouver Coastal Health (North Shore) will be notified immediately by the laboratory.
- iv) Arrangements will be made for the immediate collection of a repeat sample (including, where possible, samples from upstream and downstream of the positive sample location).
- v) Vancouver Coastal Health (North Shore) will be contacted and the need for a "boil water" advisory will be evaluated.
- vi) If a boil water advisory is warranted, the public notification process as outlined in the *Water Quality Monitoring And Reporting Plan For The GVRD and Member Municipalities* will be followed.
- vii) The lab will contact the DNV with repeat sample results and the results of the species identification tests. The DNV will contact Vancouver Coastal Health (North Shore) to evaluate these results and to determine whether or not the advisory can be lifted.

b. Chemical Contamination

In the event of chemical contamination in the DNV water distribution system, Vancouver Coastal Health (North Shore) will be immediately notified. Immediate steps will be taken to isolate the contaminated area and the level of contamination will be determined through water sampling and testing. The chemical will be identified and any public health risk factors associated with the chemical presence will be determined. Through consultation with Vancouver Coastal Health (North Shore), a public advisory will be carried out.

c. Turbidity Events

Turbidity in the DNV water distribution system is monitored on a regular basis through the water sampling program. Water sampling results yielding readings greater than 1 NTU are scrutinized, along with corresponding free chlorine. Any areas from which high turbidity results came will be re-sampled for chlorine residual and turbidity and flushed if necessary.

In 2007 a task force comprised of Metro Vancouver, Vancouver Coastal Health, Fraser Health and member municipalities developed a communications template for source water major turbidity events. The template outlines the responsibilities of Metro Vancouver, the Health Authorities, and municipalities for notification and communications to each other and the public.

d. GVRD Disinfection Failure

Upon notification by GVWD Operations that an interruption in disinfection has occurred, DNV Water Quality personnel will immediately commence monitoring free chlorine residual levels at strategic locations and will contact the Vancouver Coastal Health (North Shore) if continued loss of residual is observed.

e. Loss of Pressure Due to High Demand

In the event of adverse pressure loss due to high demand, DNV Utilities crews will make adjustments to the system to isolate the section or facility from the system and then take measures to supplement pressure in the affected area. The DNV will immediately consult with GVWD and Vancouver Coastal Health (North Shore) regarding further actions, and all water quality complaints from the public will be immediately and thoroughly investigated for potential contamination.

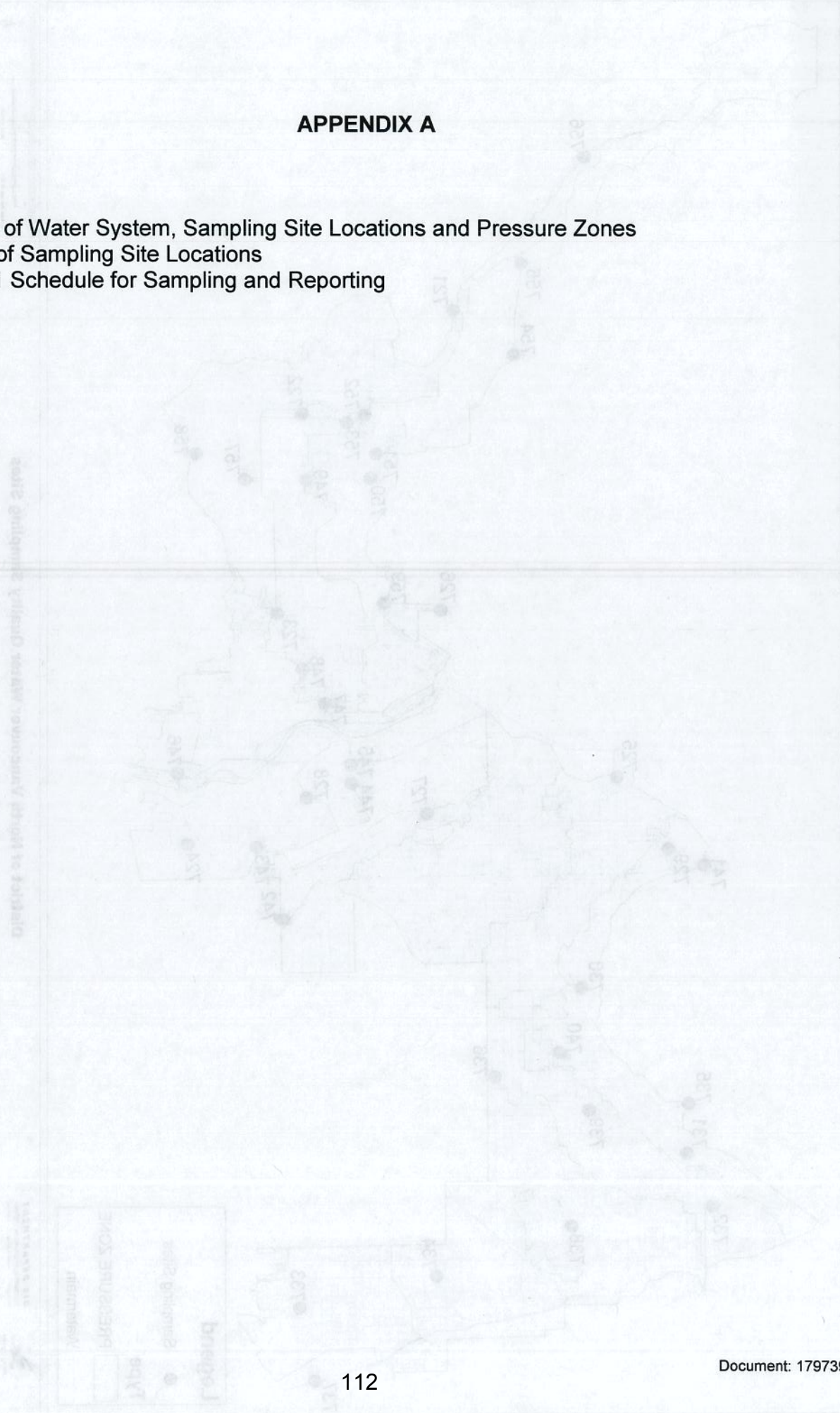
f. Watermain Break Where Contamination is Suspected

For watermain breaks where chemical or microbiological contamination of the system is suspected, DNV Utilities crews will make adjustments to the system to isolate the section or facility from the system. The DNV will immediately consult with Vancouver Coastal Health (North Shore) regarding further actions, and all water quality complaints from the public will be immediately and thoroughly investigated for potential contamination.

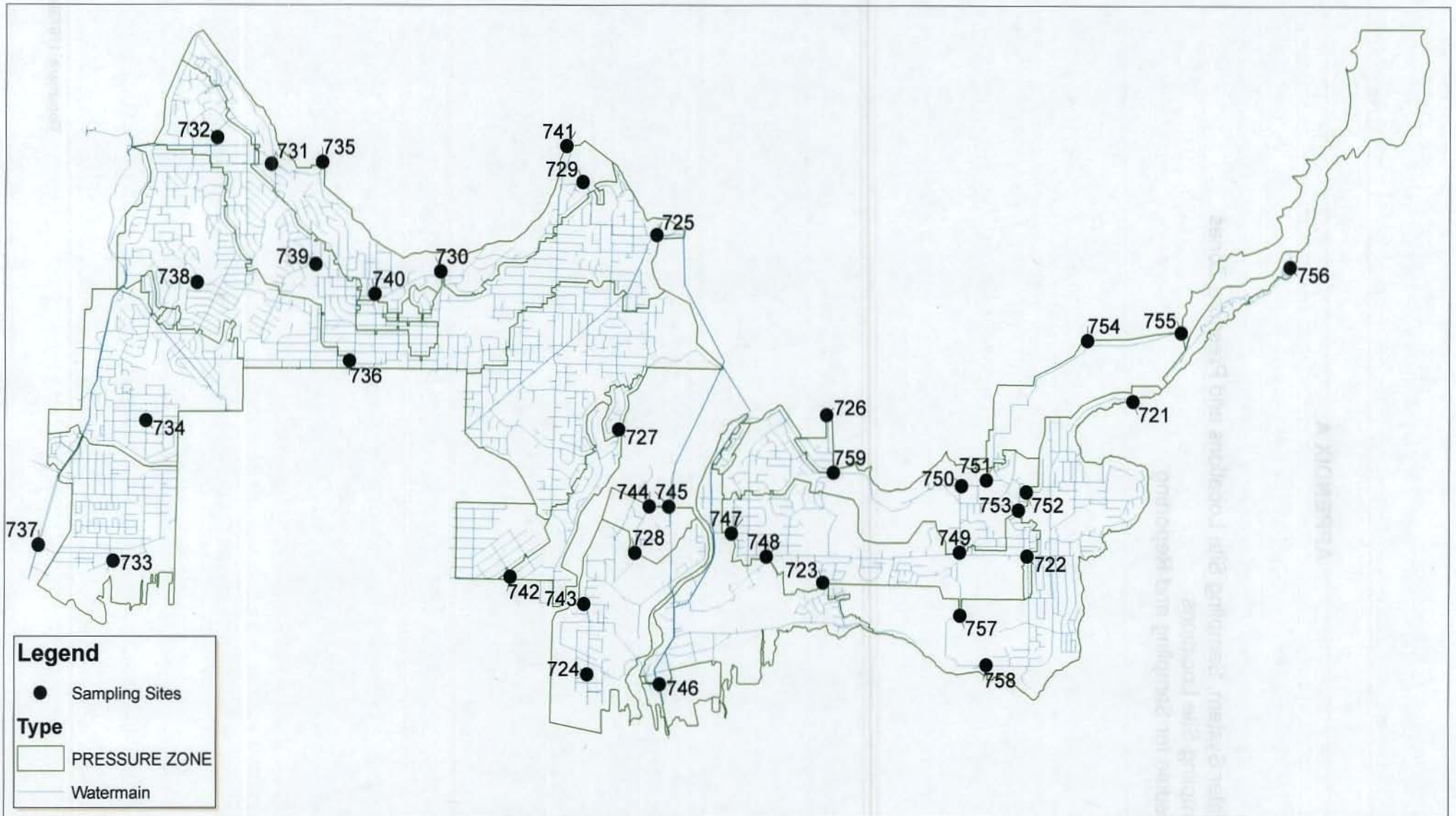
For all watermain breaks, water samples will be taken from the vicinity of the break and tested for bacteria. If chemical contamination is suspected, the procedures outlined in 2. Response Plans, b) chemical contamination, will be carried out.

**APPENDIX A**

- 1. Map of Water System, Sampling Site Locations and Pressure Zones
- 2. List of Sampling Site Locations
- 3. 2011 Schedule for Sampling and Reporting







## List of Sampling Site Locations

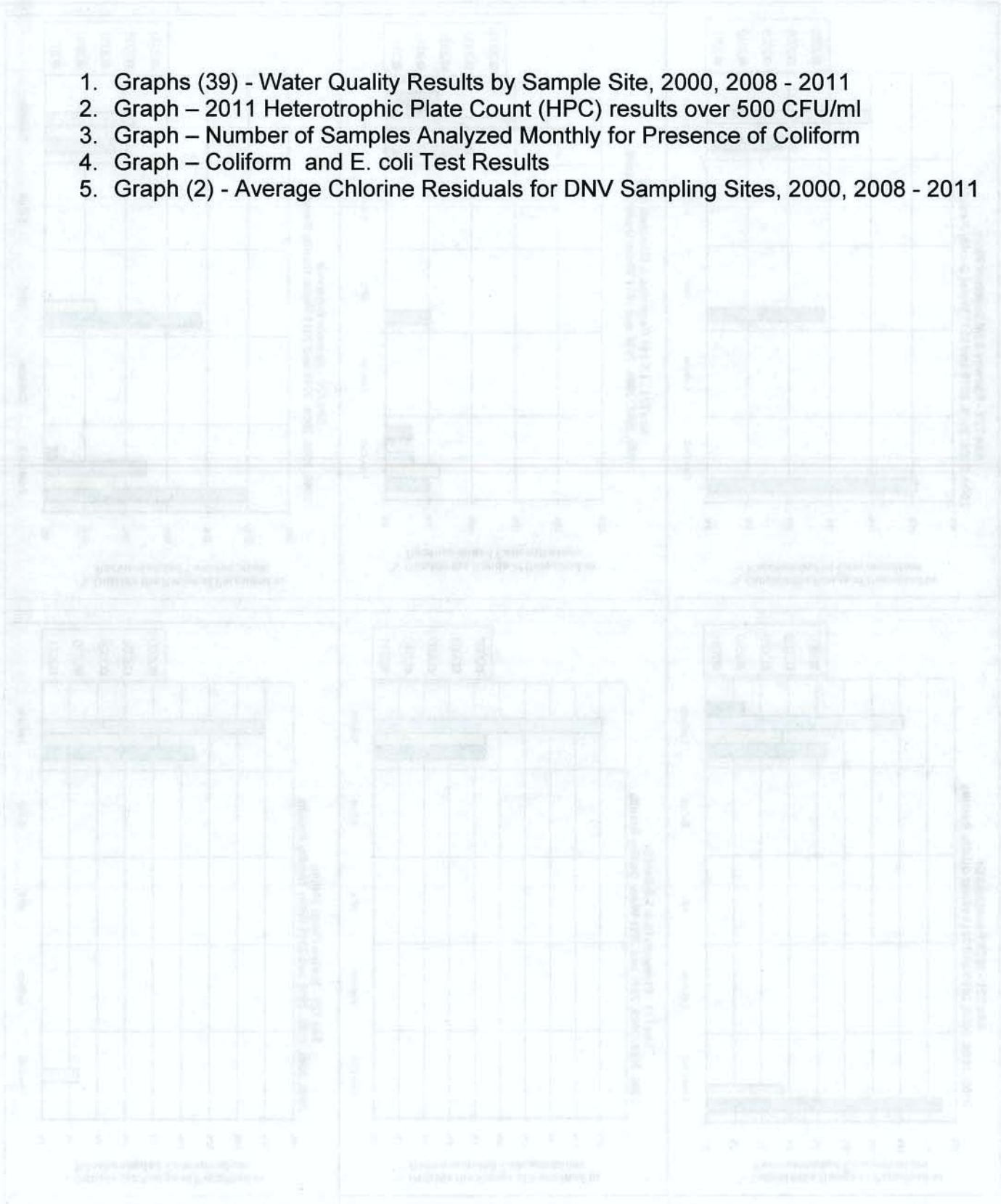
Site I.D.	Station No.	Lab No.	Location	Flow Rate
1	1	721	2838 Panorama Dr.	Low
2	2	722	Fairway & Mt Seymour Pkwy.	Medium
3	3	723	Plymouth Dr & Fairfield Dr.	Low
4	4	724	LS #13 Dominion & Mountain Hwy.	Low
5	5	725	Marion Pump Station	Source
6	6	726	Hyannis Reservoir	Low
7	7	727	Hoskins Rd & Kilmarnock Cres.	Medium
8	8	728	Lillooet Road	Low
9	9	729	Ramsay Pump Station	Medium
10	10	730	Braemar Reservoir	Low
11	11	731	Skyline Pump Station	Medium
12	12	732	Sarita Pump Station	Source
13	13	733	McKeen Ave & Phillip Ave.	Medium
14	14	734	Pemberton Heights	Low
15	15	735	Prospect Reservoir	Medium
16	16	736	PRV #4 (W Queens Rd. & Lonsdale Ave.)	Dead End
17	17	737	N. of BC Rail Tracks on Lower Cap. Rd.	Source
18	18	738	3906 Sunnycrest Dr.	Medium
19	19	739	376 Cartelier Rd.	Medium
20	20	740	PRV #5 (190 E. Braemar Rd.)	Medium
21	21	741	Mountain Hwy Reservoir (North up access Rd., N. of Mountain Hwy.)	Low
22	22	742	PRV # 11 (Across from 1086 Cloverly St.)	Source
23	23	743	PRV #7 (N across from 481 Mountain Highway)	Dead End
24	24	744	Not in use	
25	25	745	PRV # 13 (N. of 1388 Monashee Drive (Capilano College))	Source
26	26	746	PRV #17 (60 Riverside Dr.)	Medium
27	27	747	PRV # 19 (1231 Lennox St.)	Dead End
28	28	748	PRV # 16 (2592 Bendale Rd.)	Dead End
29	29	749	PRV # 18 (3728 Mt. Seymour Parkway)	Low
30	30	750	up path behind 1610 Mt. Seymour Rd.	Medium
31	31	751	Access Rd, N. end of Cascade Ct.	Low
32	32	752	PRV # 25 (4068 Deane Pl.)	Medium
33	33	753	PRV # 20 (1501 Theta Ct.)	Low
34	34	754	Woodlands reservoir (2.1 km N. of Hixon Rd. on Indian River Dr.)	Low
35	35	755	PRV # 26 3.7 km NE of Hixon Rd. on Indian River Dr.	Low
36	36	756	End of Fire Lane # 7 (Firelane #7 is 3.6 km from Hixon Rd.)	Dead End
37	37	757	PRV 200 m south of 879 Roche Point Dr.	Medium
38	38	758	3860 Dollarton Hwy.	Medium
39	39	759	Hyannis Pump Station (1919 Hyannis drive)	Low
40	40	760	3000 Block Dollarton Hwy.	Low

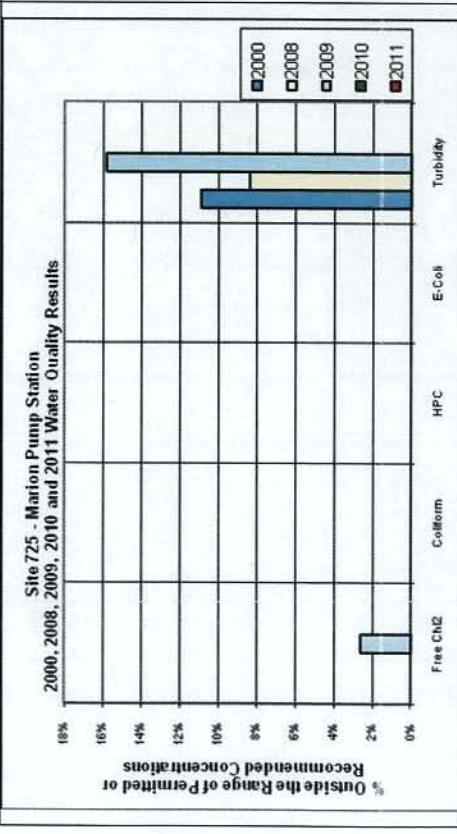
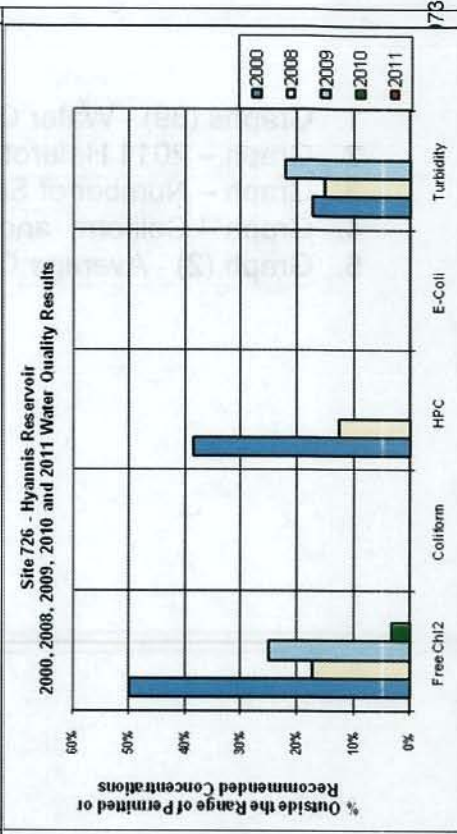
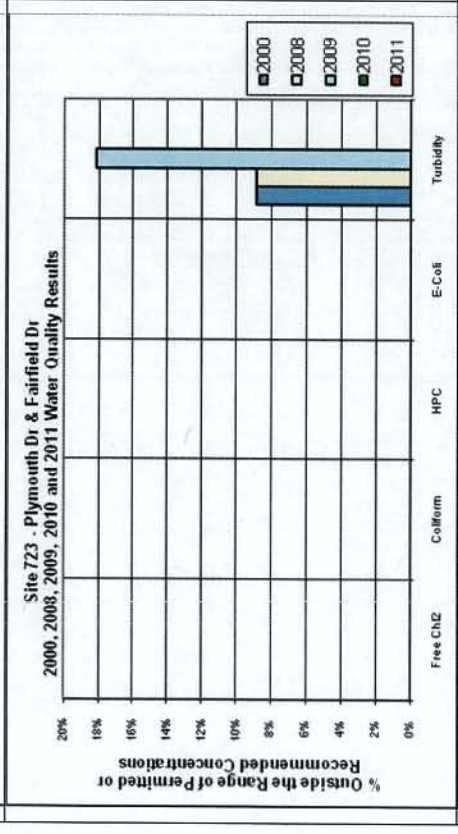
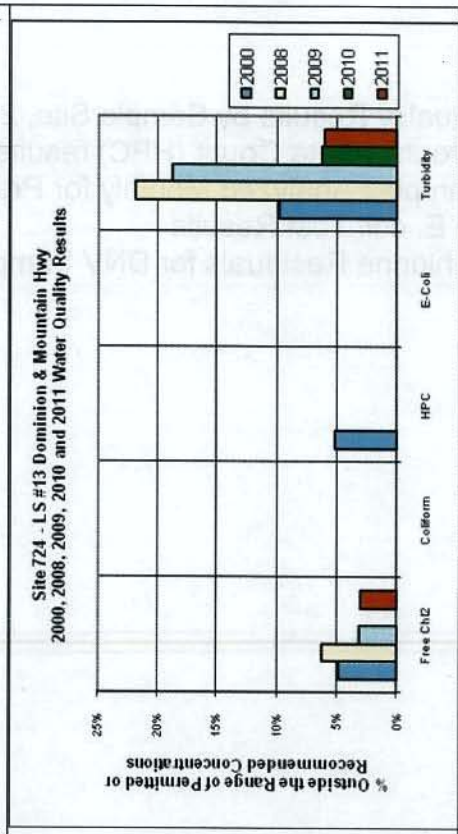
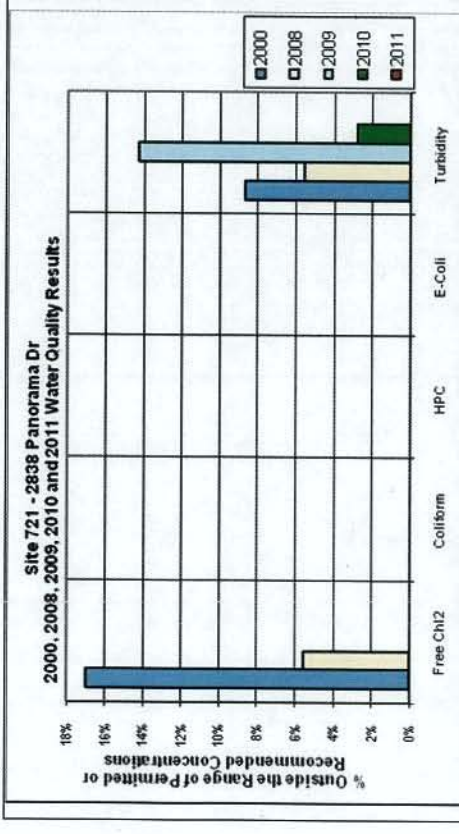
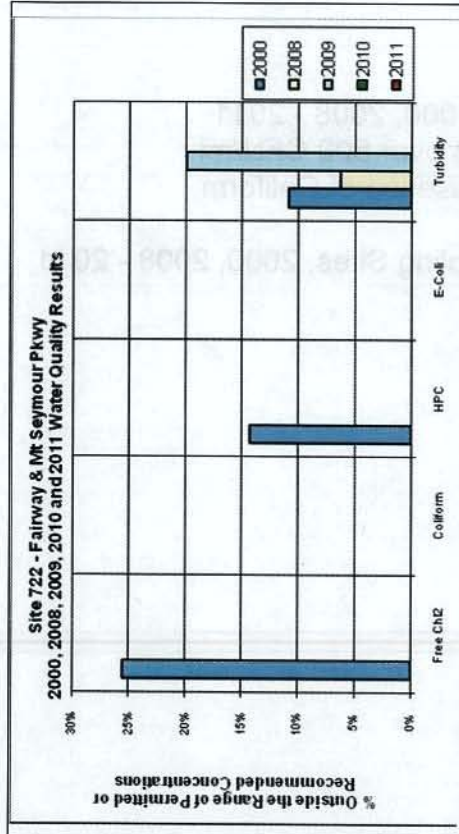
**DISTRICT OF NORTH VANCOUVER WATER QUALITY SAMPLING AND REPORTING CALENDAR - 2011**

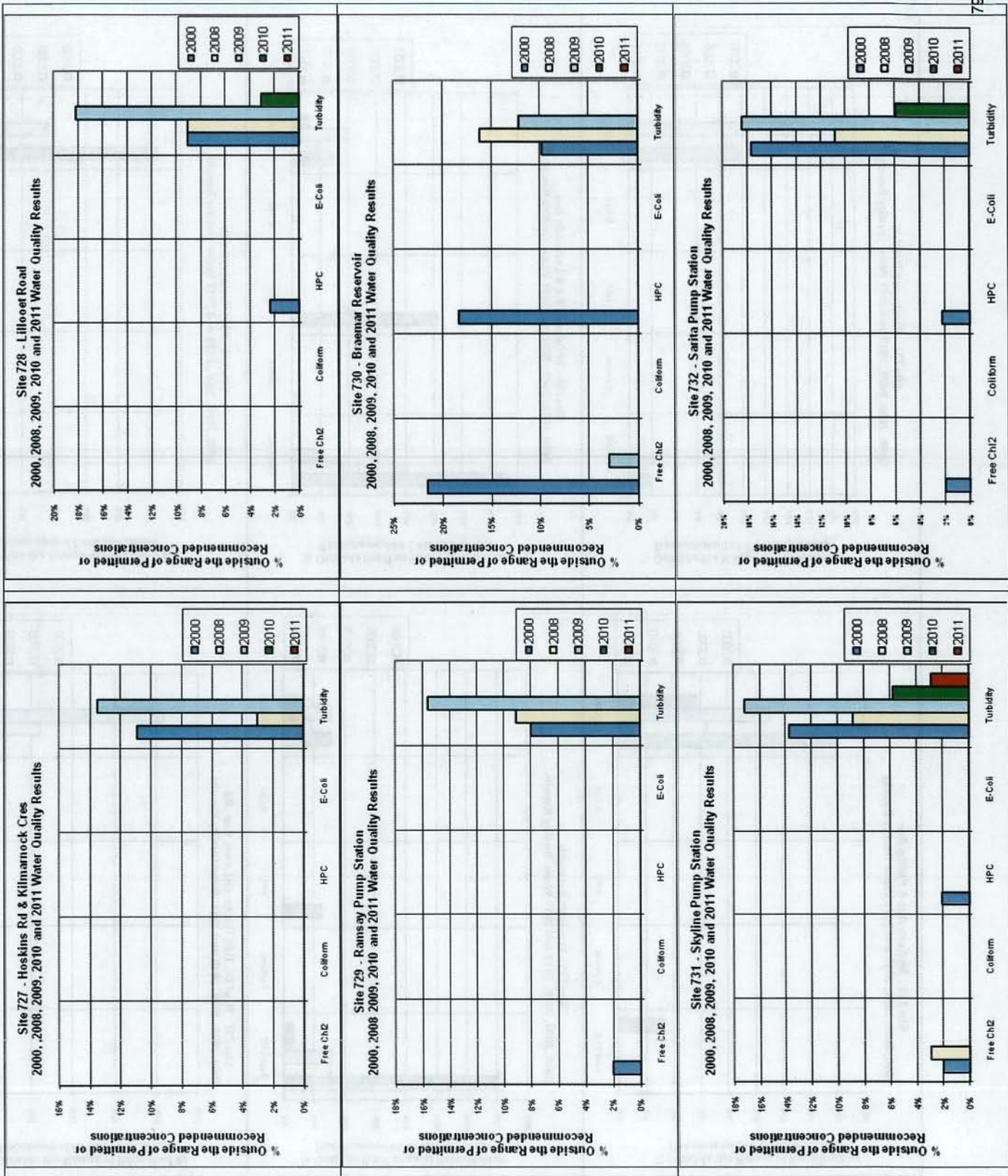
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b><u>DISTRIBUTION SYSTEM SAMPLING</u></b>												
bacteria, turbidity, chlorine, temperature (twice weekly)	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
HAA's, THMs, pH (quarterly)		x			x				x			x
metals - copper, lead, zinc (semi-annually)						x						x
<b><u>NOTIFICATION</u></b>												
<b>Annual Report:</b>												
Annual report sent to MHO				x								
MHO sends Council his response						x						
Staff report to Council							x					
Posted on Web								x				
<b>Public Advisories</b>												
Notice in Newspaper (Quarterly)		x					x			x		

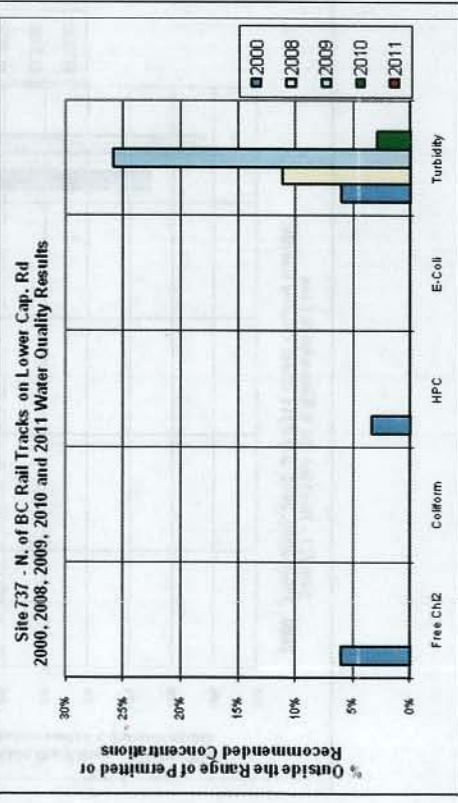
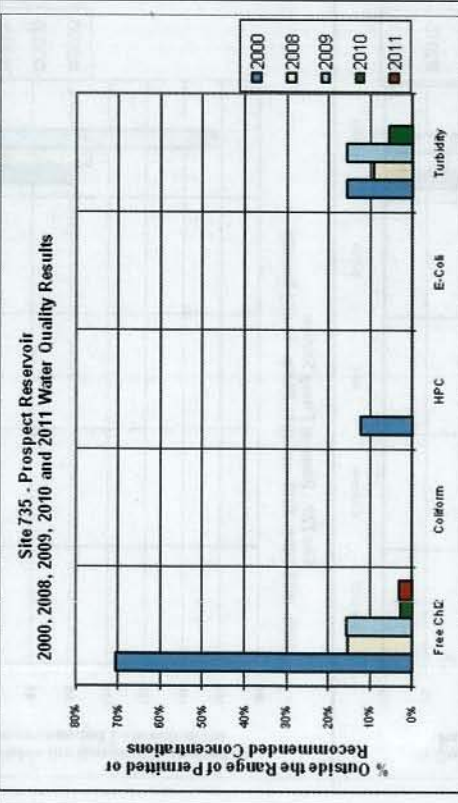
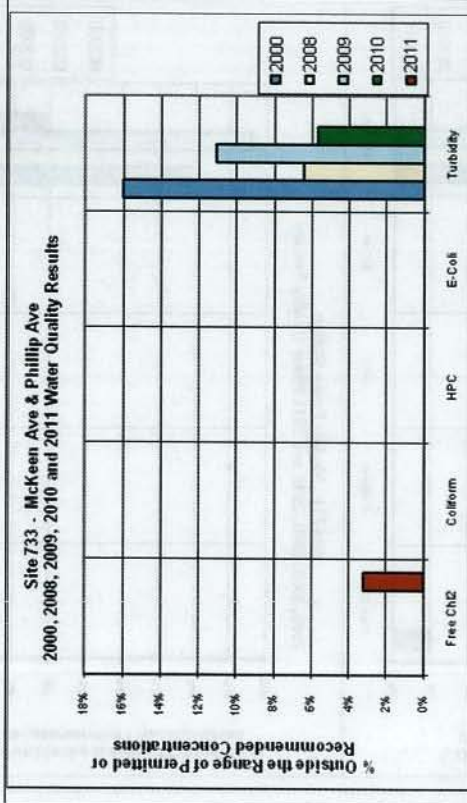
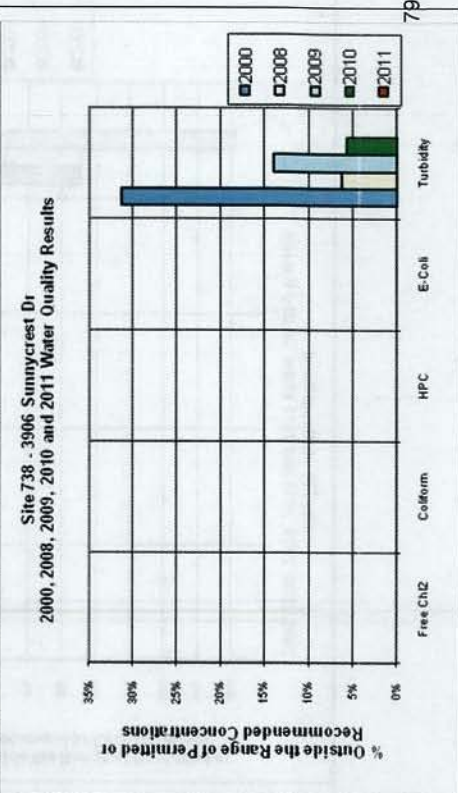
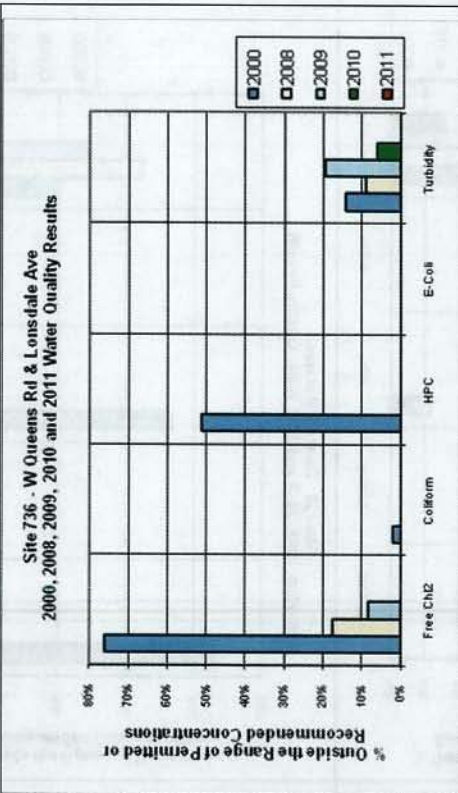
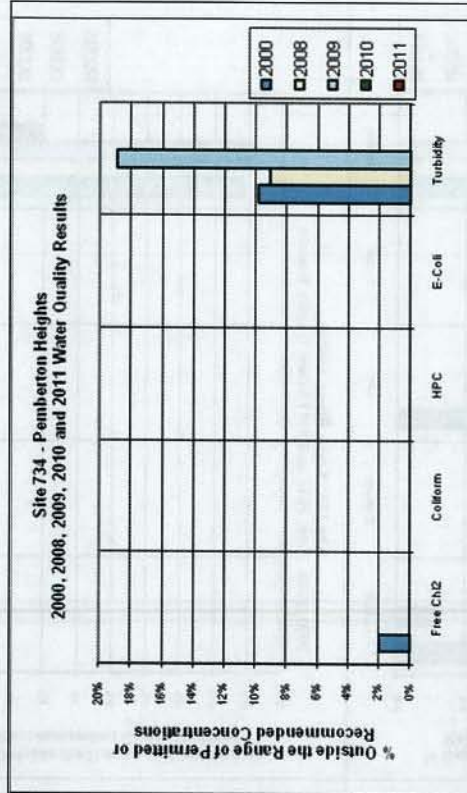
## APPENDIX B

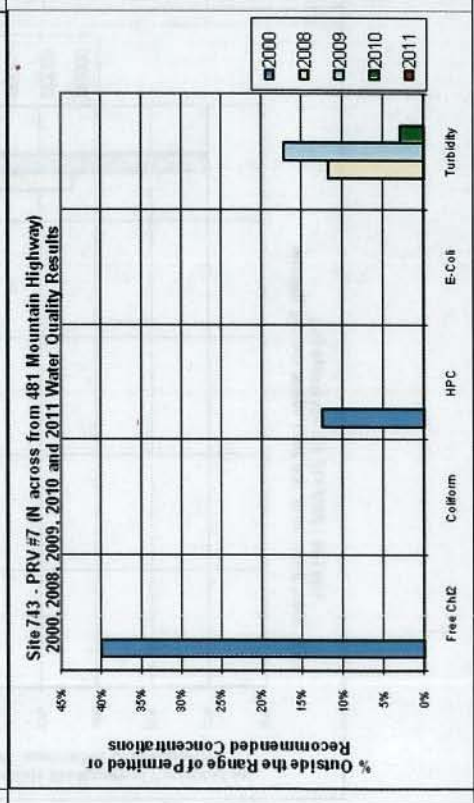
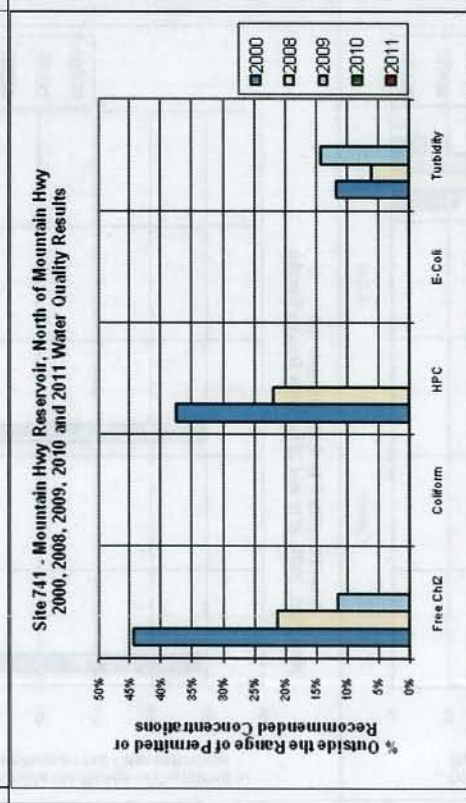
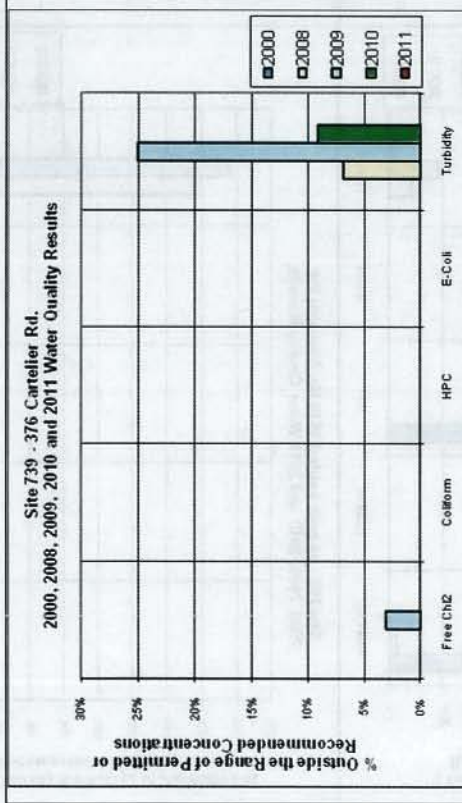
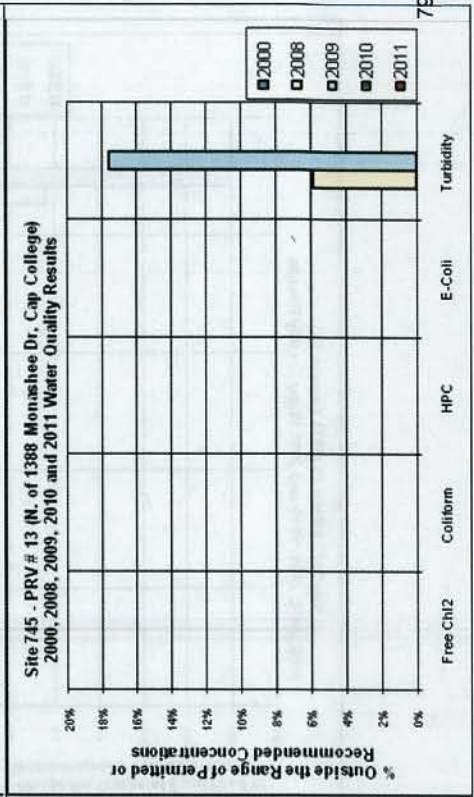
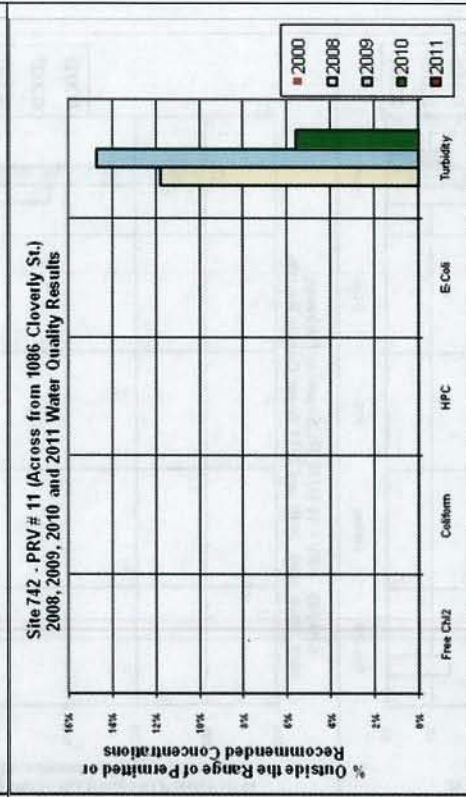
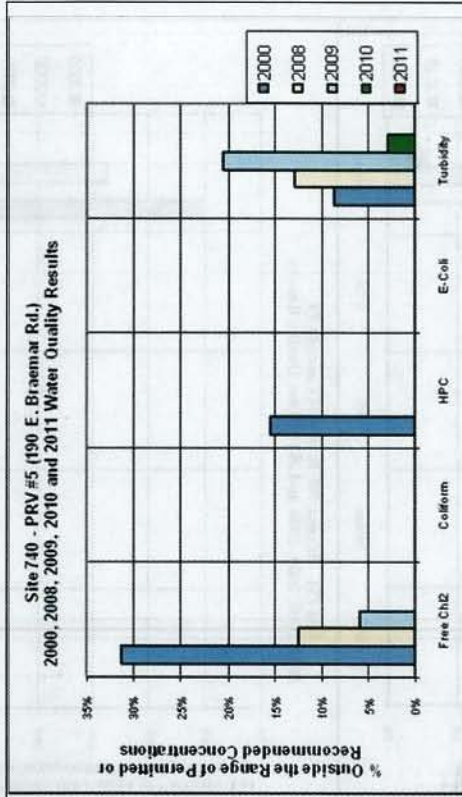
1. Graphs (39) - Water Quality Results by Sample Site, 2000, 2008 - 2011
2. Graph - 2011 Heterotrophic Plate Count (HPC) results over 500 CFU/ml
3. Graph - Number of Samples Analyzed Monthly for Presence of Coliform
4. Graph - Coliform and E. coli Test Results
5. Graph (2) - Average Chlorine Residuals for DNV Sampling Sites, 2000, 2008 - 2011



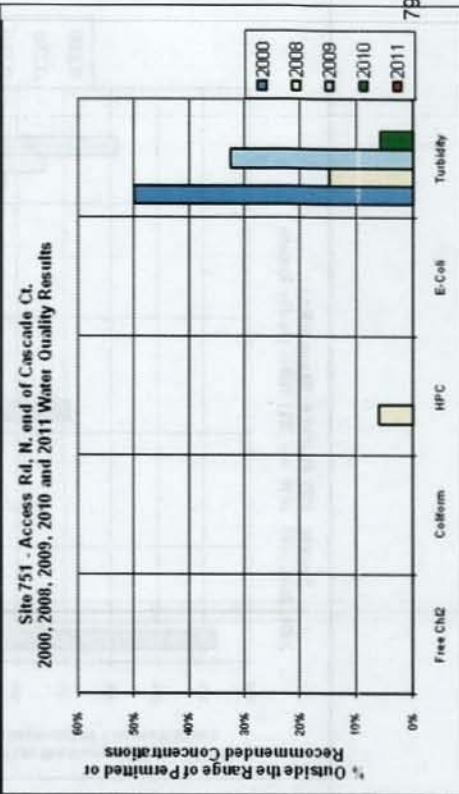
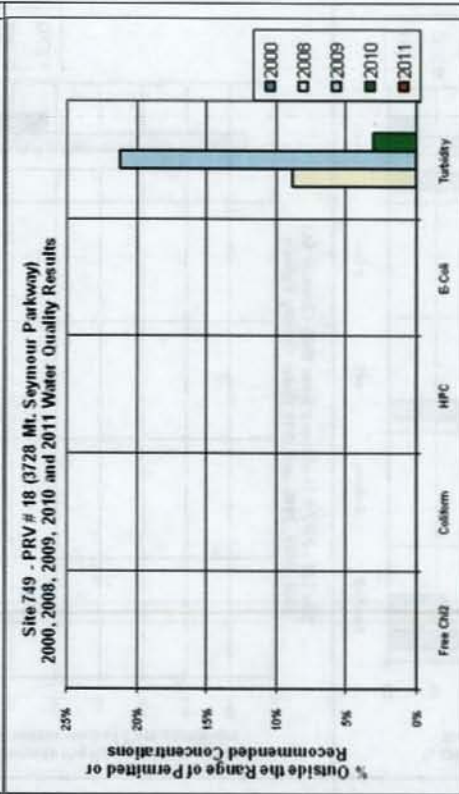
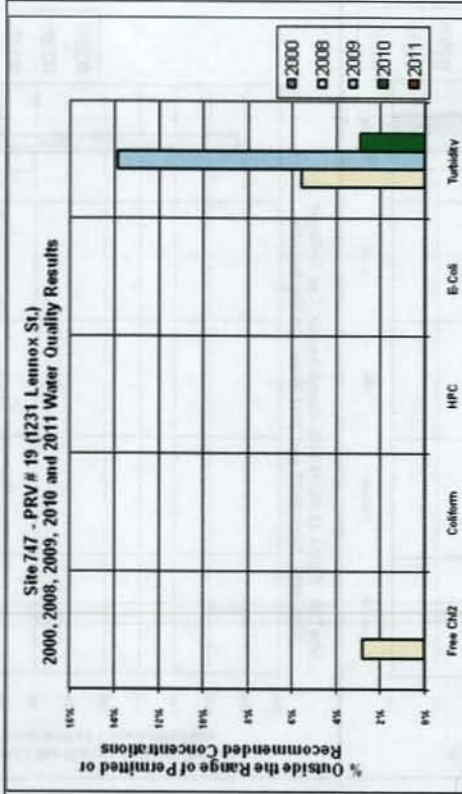
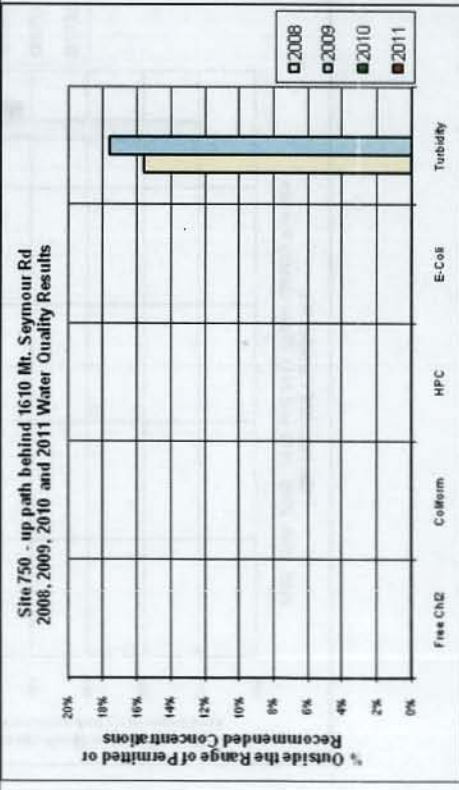
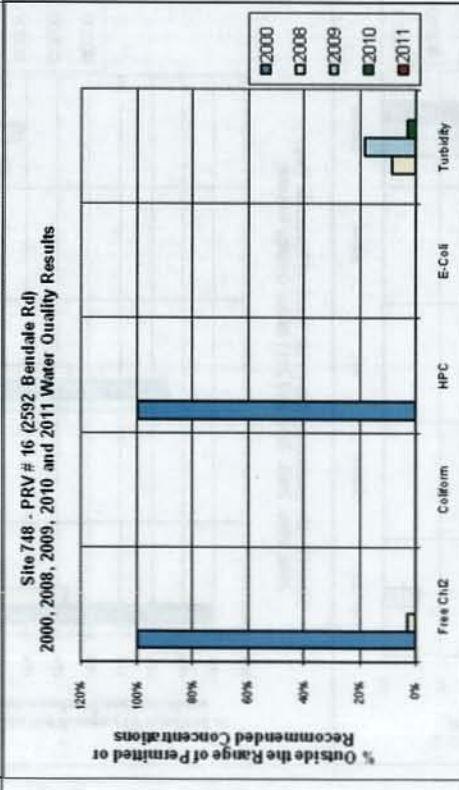
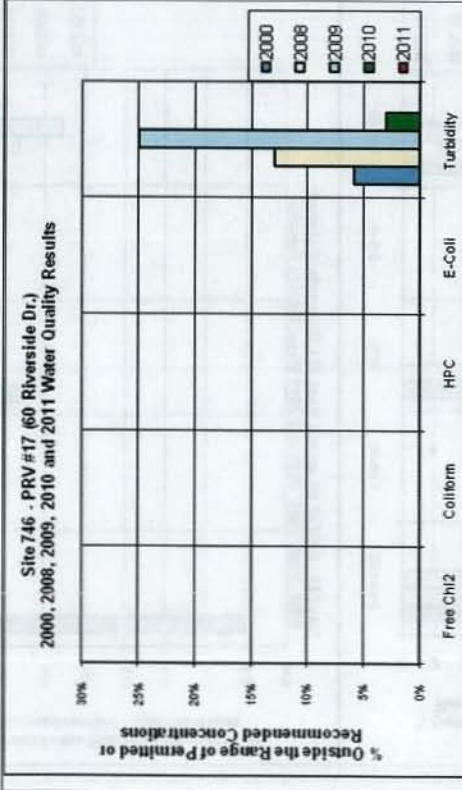


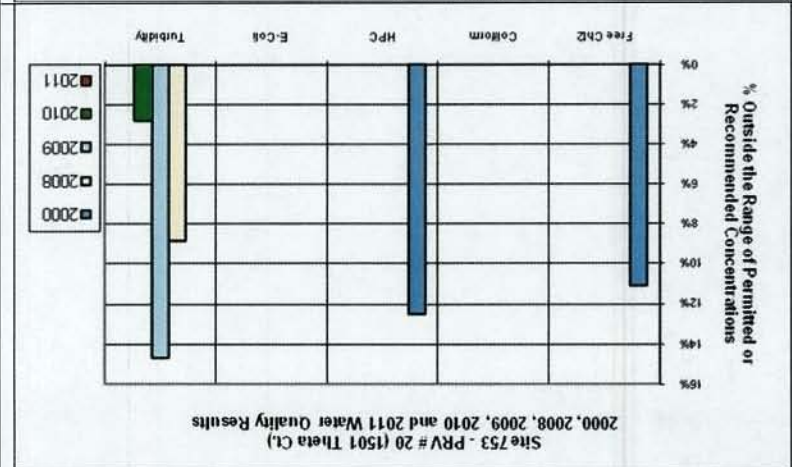
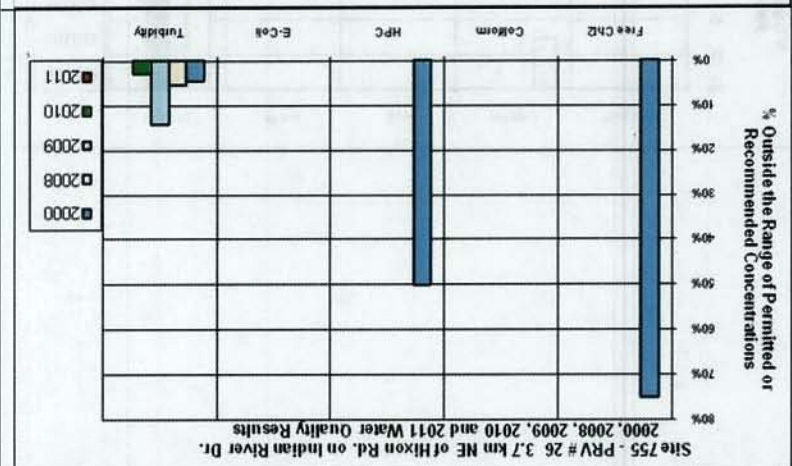
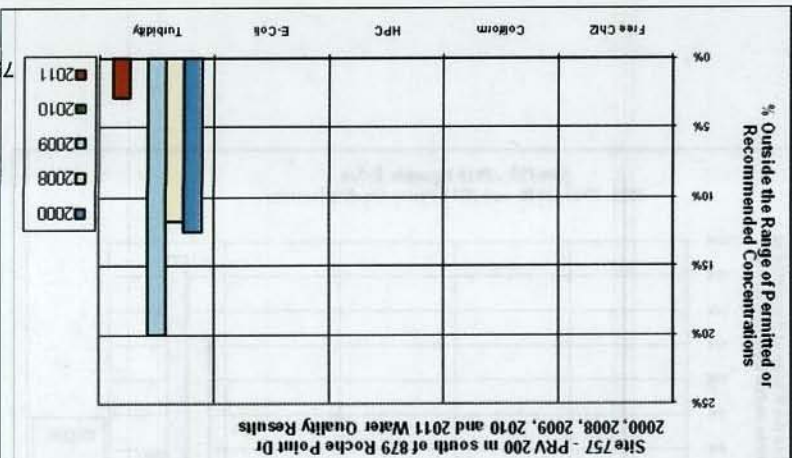
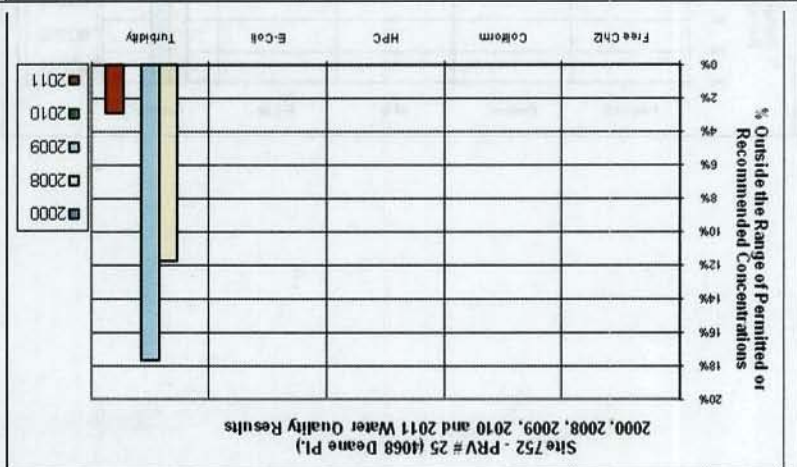
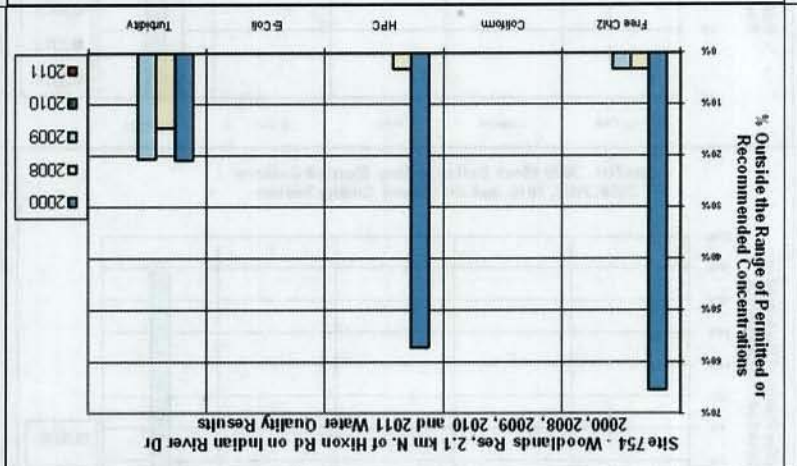
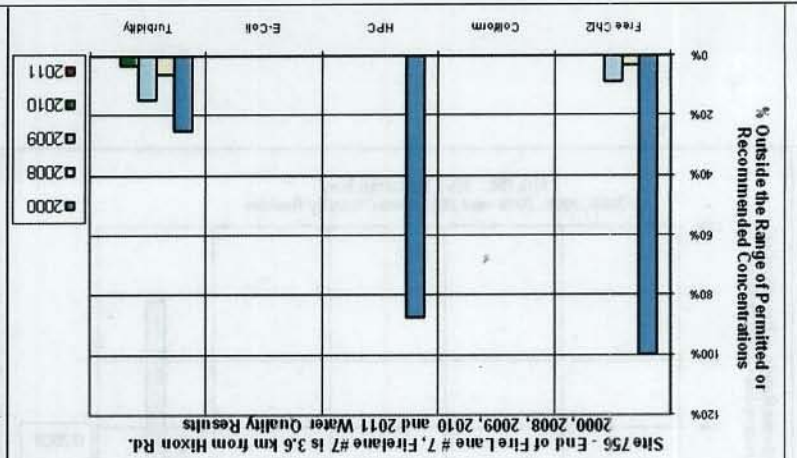




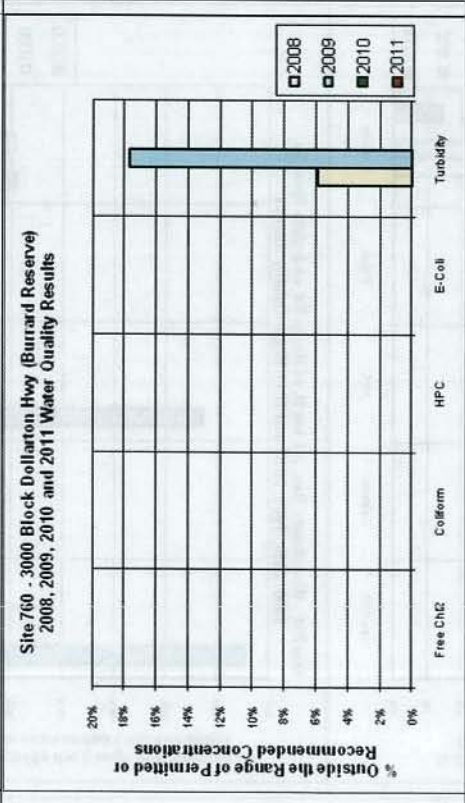
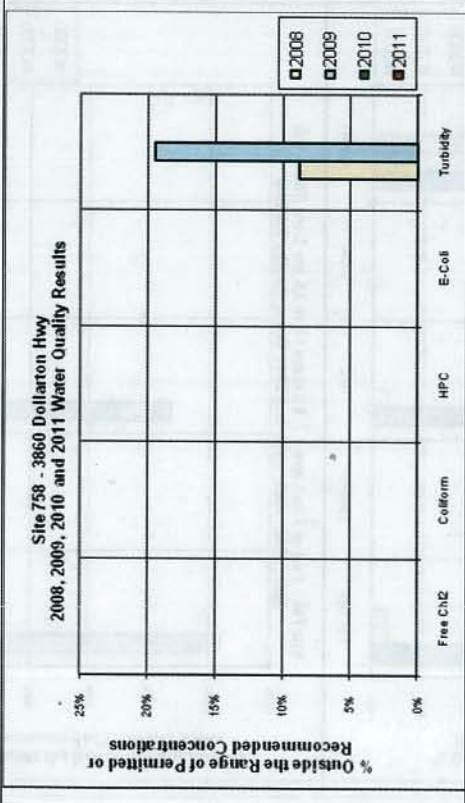
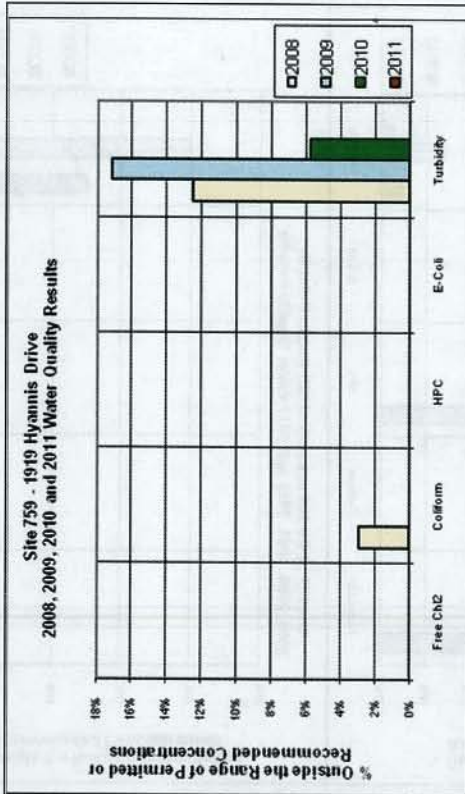






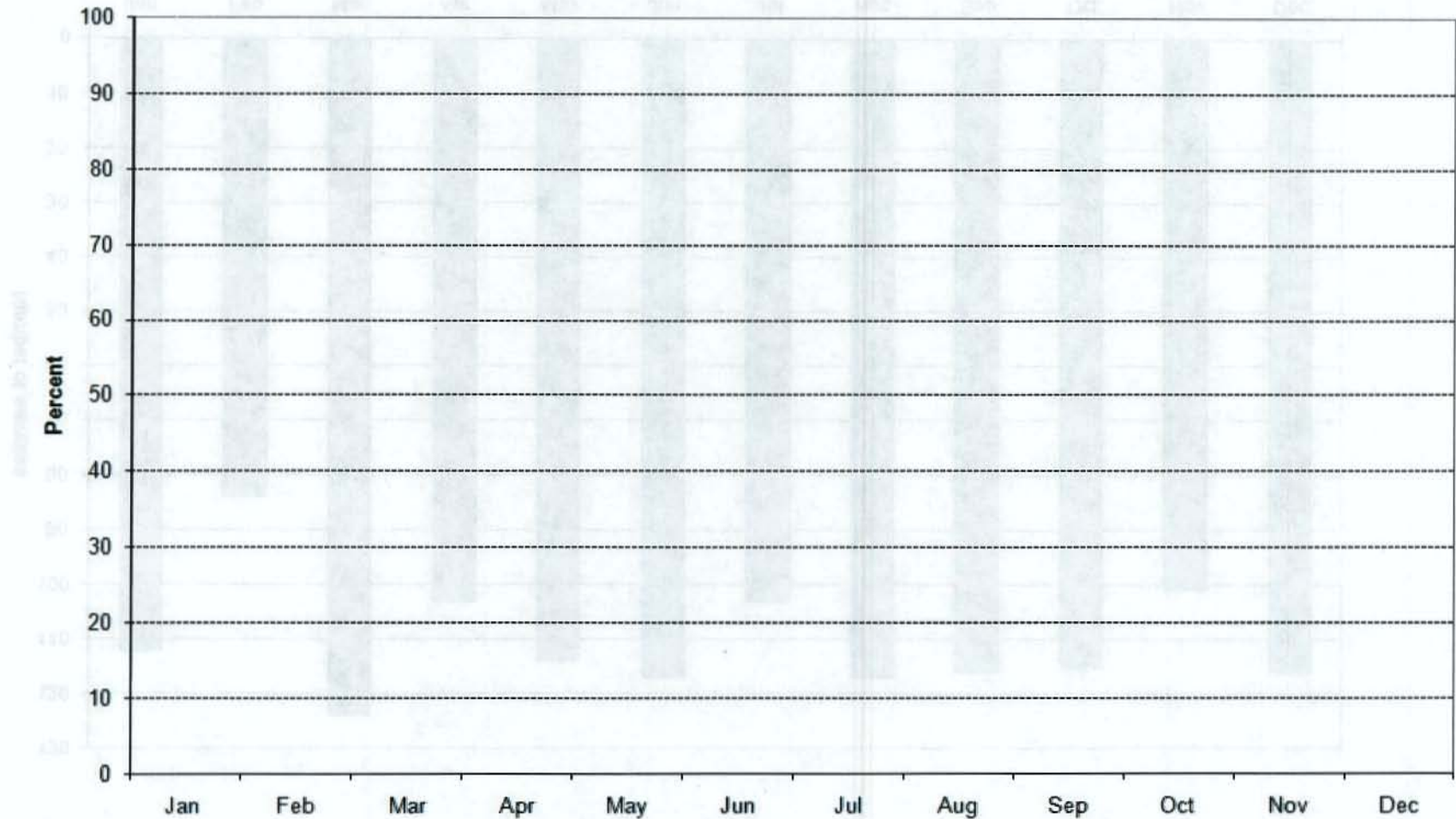


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## 2011 Heterotrophic Plate Count (HPC) results over 500 CFU/mL

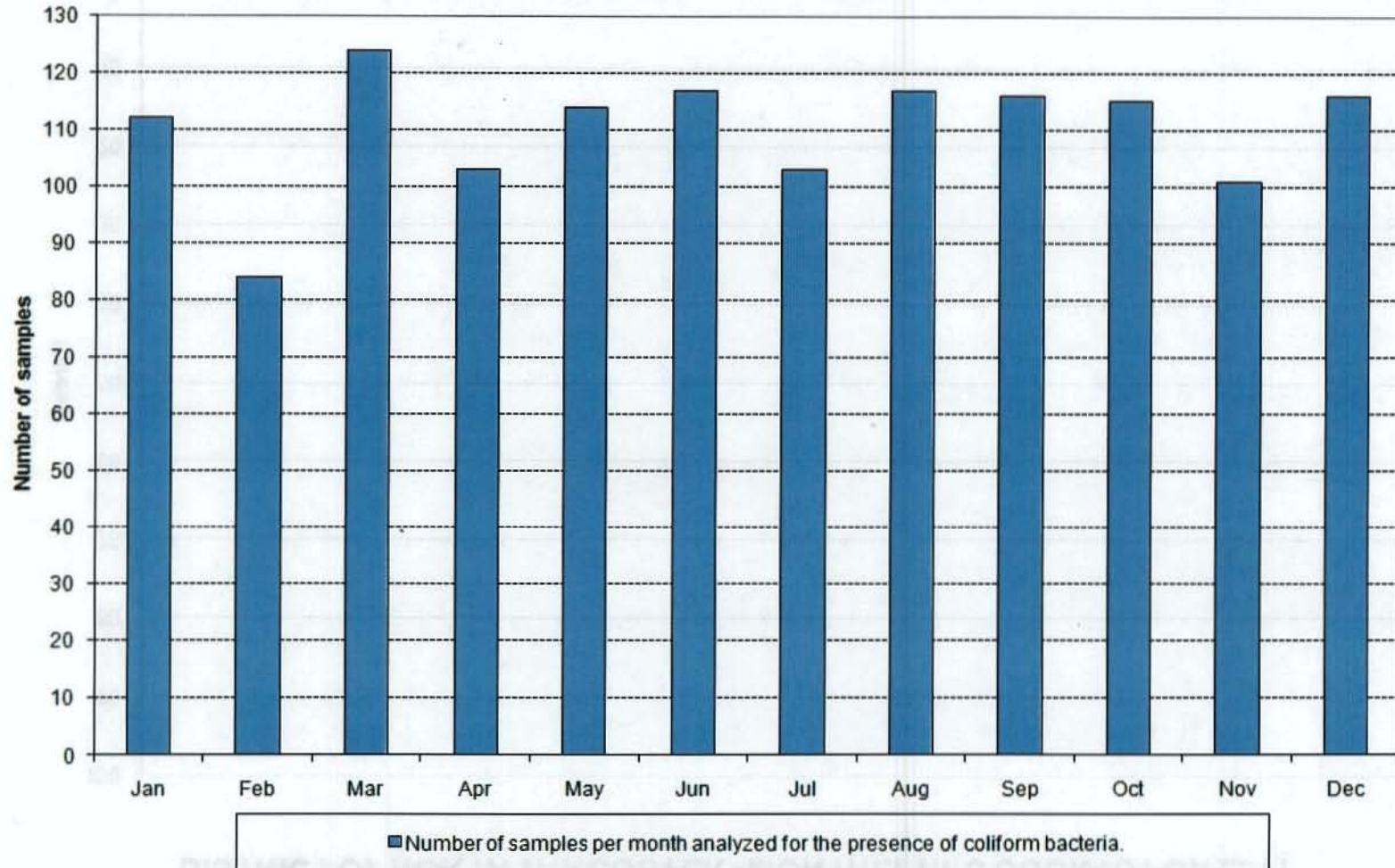
### DISTRICT OF NORTH VANCOUVER - MONTHLY HPC COUNTS FOR 2011



■ Percent of samples per month containing greater than 500 CFU/mL of heterotrophic plate count (HPC) bacteria. High HPC levels are an indication of bacterial regrowth.

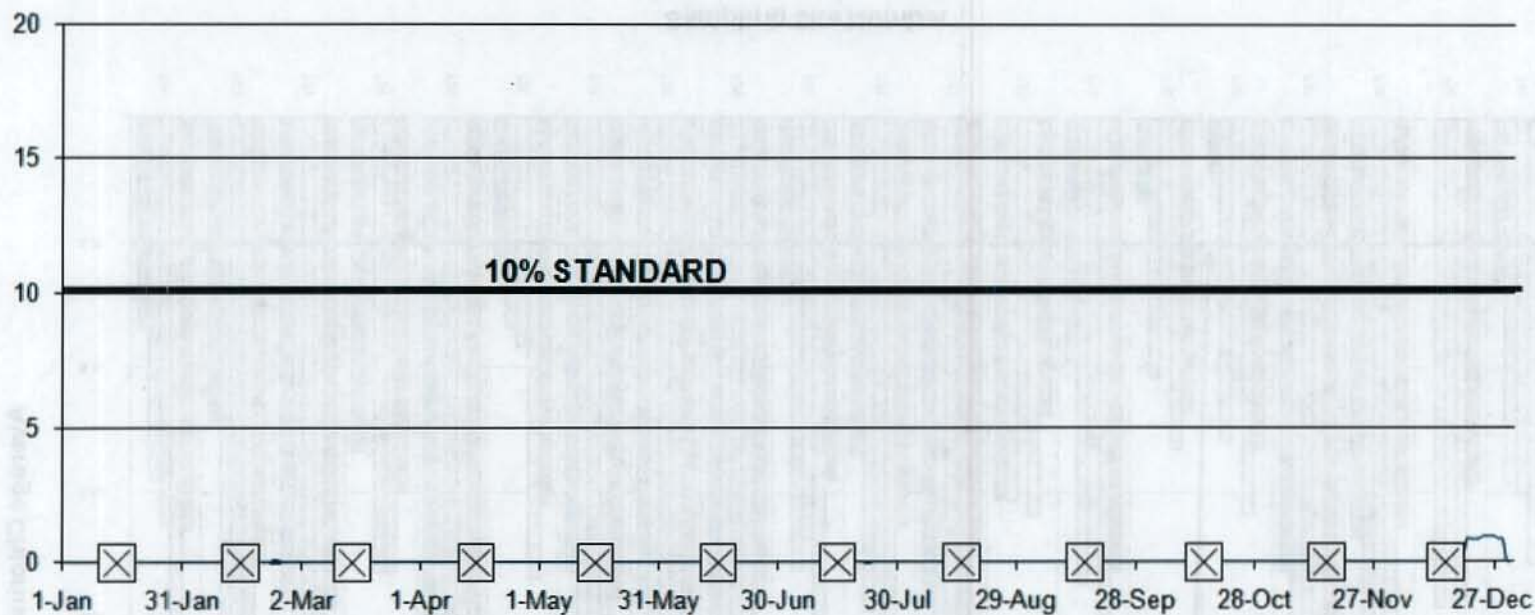
## Number of Samples Analyzed Monthly for Presence of Coliform

### DISTRICT OF NORTH VANCOUVER - 2011



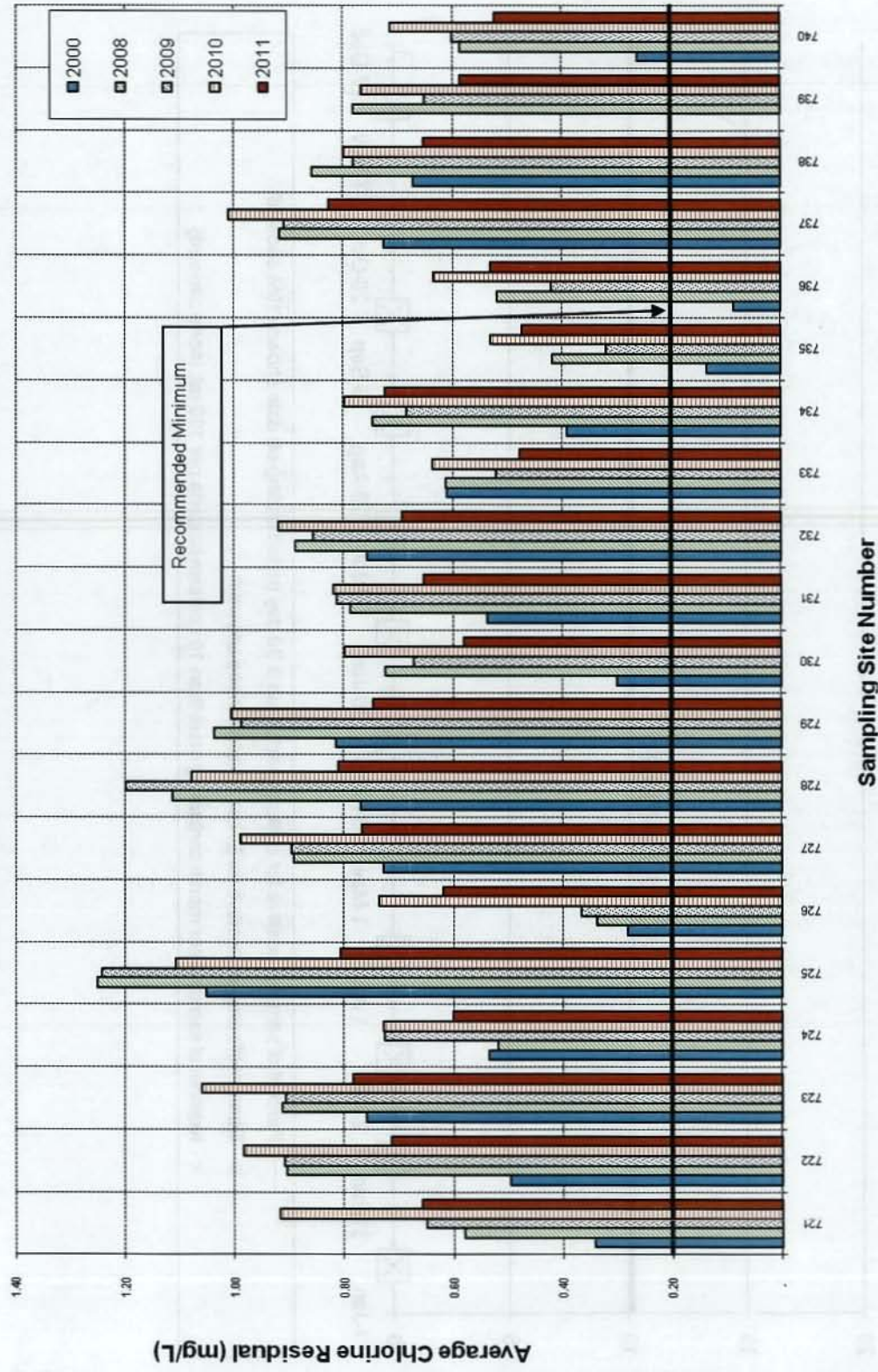
# DISTRICT OF NORTH VANCOUVER - 2011

## Results of Bacteriological Analyses of Potable Water Samples Compliance With BC Drinking Water Protection Regulation



— Percent of samples positive for coliform bacteria in a 30 day period ending on date shown (10% allowed)  
 □ Number of samples positive for E. coli bacteria (none allowed)  
 × Number of samples per month containing more than 10 coliform bacteria per 100 mL (none allowed)

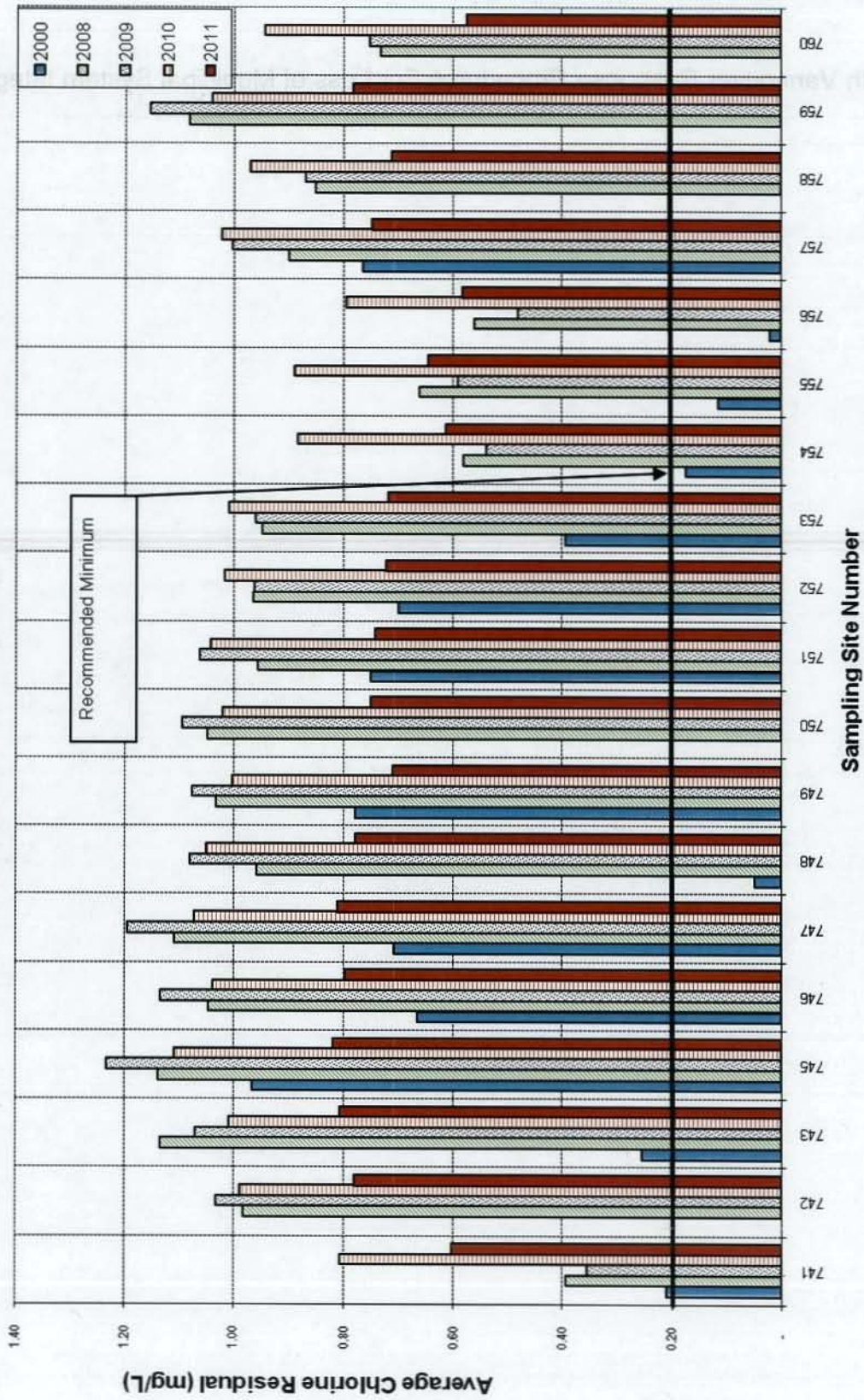
District of North Vancouver Drinking Water Quality  
 2000, 2008, 2009, 2010 and 2011 Chlorine Residuals for DNV Sampling Sites 721 - 740



Contributed by: BC Environmental Inspector (Ludwig)  
 Branch: Environmental Inspector (Ludwig)

DISTRICT OF NORTH VANCOUVER - 5014

District of North Vancouver Drinking Water Quality  
 2000, 2008, 2009, 2010 and 2011 Chlorine Residuals for DNV Sampling Sites 741 - 760

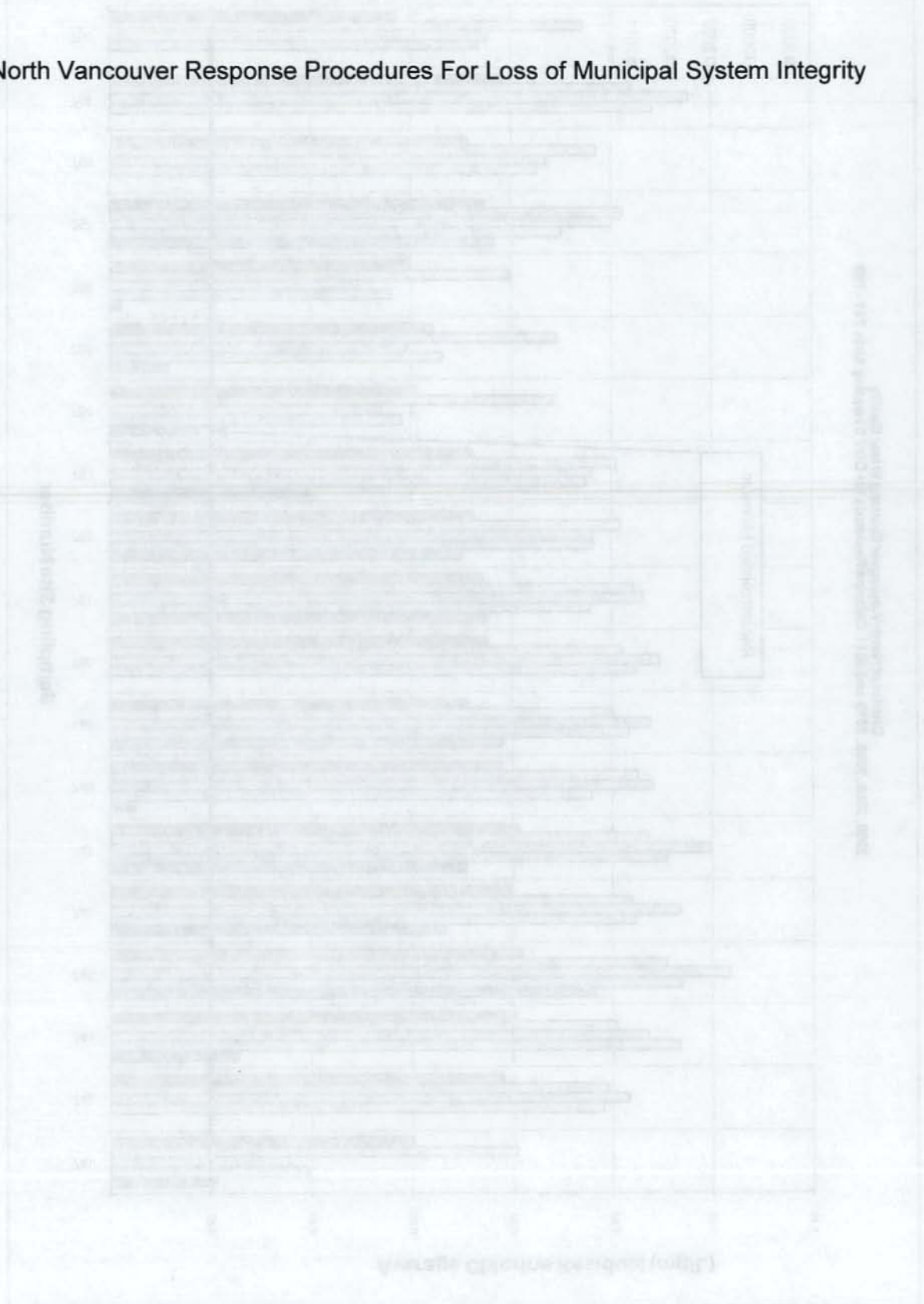


APPENDIX C

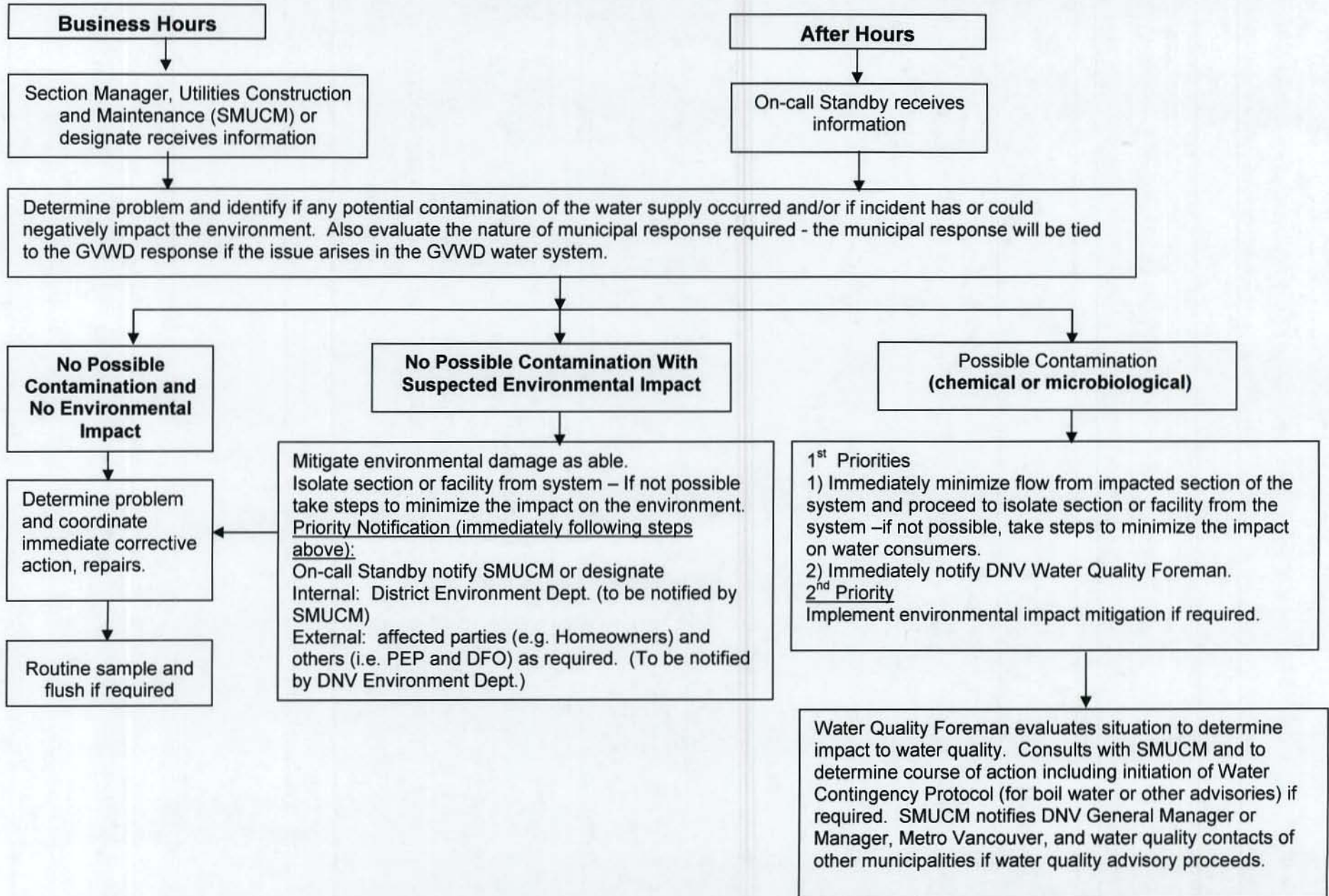


## APPENDIX C

### 1. District of North Vancouver Response Procedures For Loss of Municipal System Integrity



**District of North Vancouver Response Procedures For Loss of Municipal System Integrity  
(Line breaks, vandalism, loss of pressure, chemical or microbiological contamination)**



April 2, 2012

Mayor and Council  
District of North Vancouver  
355 West Queens Rd.  
North Vancouver, B.C.  
V7N 4N5

Dear Mayor and Council:

Re: Report of the Medical Health Officer  
District of North Vancouver - 2011 Annual Drinking Water Quality Report

The District of North Vancouver's 2011 annual drinking water quality report has been reviewed. The report highlights the continued progress made toward improving water quality for the residents of the District of North Vancouver. Measures, such as in-line chlorine residual monitoring, flow optimization, continued staff training and a distribution system cleaning program have all contributed to improving water quality. Combining the District of North Vancouver's efforts, with the Metro Vancouver filtration plant being on-line, ensures that District of North Vancouver residents are provided with drinking water of an extremely high quality.

In our continued effort to educate and highlight the presence of annual drinking water report, and to meet the Ombudsperson's expectations around public communication of drinking water system information, a comment regarding the location of your annual report on your website should be placed with other communications to residents (eg tax notices etc.).

Thank you, again, for the report and I look forward to our continued collaboration on improving drinking water quality in the District of North Vancouver.

Yours truly,



Brian A. O'Connor, MD, MHSc  
Medical Health Officer, North Shore  
Vancouver Coastal Health

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