

THE CORPORATION OF THE CITY OF PORT COQUITLAM  
ENVIRONMENTAL PROTECTION COMMITTEE

Wednesday, April 13, 1994

Meeting Room No. 2  
2580 Shaughnessy Street, Port Coquitlam, BC

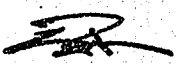
5:00 p.m.

AGENDA

PERSONNEL IN ATTENDANCE:

CONFIRMATION OF MINUTES OF PREVIOUS MEETING

- ITEM I: TELEPHONE BOOK RECYCLING - B.C. TEL
- ITEM II: SEABOARD ADVERTISING/GVRD - TRANSIT SHELTER COMPANY
- ITEM III: PROTECTED AREAS STRATEGY - AREAS OF INTEREST
- ITEM IV: PINECONE LAKE - BURKE MOUNTAIN STUDY AREA - LOGGED AREA
- ITEM V: WASTE MANAGEMENT AMENDMENT ACT 1993 (BILL 26)
- ITEM VI: PROPOSED ADVERTISEMENT - RECEPTACLE LIMIT
- ITEM VII: B.F.I. DONATION OF EARTH DAY - PROPOSED TREE PLANTING
- ITEM VIII: OTHER BUSINESS

  
APR 13 1994

Susan Rauh

**THE CORPORATION OF THE CITY OF PORT COQUITLAM**  
**ENVIRONMENTAL PROTECTION COMMITTEE**  
**MINUTES**

A meeting of the Environmental Protection Committee was held at City Hall, 2580 Shaughnessy Street, Port Coquitlam, on Wednesday, April 13, 1994 at 5:00 p.m. in Meeting Room #2.

In attendance were:

Councillor M. Gates, Chairman  
Councillor R. Talbot, Co-Chairman  
J.E. Yip, P. Eng., Deputy City Engineer  
F. Cheung, P. Eng., Project Engineer  
C. Deakin, Engineering Secretary

The minutes for the March 30, 1994 Committee meeting were considered, read and adopted.  
Carried

**ITEM I: TELEPHONE BOOK RECYCLING**

Committee reviewed a memorandum from the Project Technician informing Committee that B.C. Tel is offering to set up bins at three locations in Port Coquitlam so residents can drop-off white and yellow pages. Committee agreed to have the City Engineer coordinate the three locations with B.C. Tel and then have a report brought forward to Council identifying the three locations for information.

**ITEM II: SEABOARD ADVERTISING**

Committee agreed with recommendation from the Project Technician to support, through donation of municipal ad space, all Transit Shelter Campaigns except phone book recycling (B.C. Tel is taking care of it).

**ITEM III: PROTECTED AREAS STRATEGY - AREAS OF INTEREST**

Committee received this package for information. Engineering Department to forward information package to other members of Council for their comments, if any.

**ITEM IV: PINECONE LAKE - BURKE MOUNTAIN STUDY - LOGGED AREAS**

This information was brought to Committee as requested. Deputy Engineer to bring back original three options plus colored map to Committee so they can determine the correct borders. Check with City Clerk for original Council resolution.

**ITEM V: WASTE MANAGEMENT AMENDMENT ACT - BILL 26**

Committee received this item for information. Committee will review all parts in the future when last part is received.

Cont'd .../2

APR 13 1994

**ITEM VI: PROPOSED ADVERTISEMENT - RECEPTACLE LIMIT**

Committee reviewed the draft ideas for the advertisement on Receptacle Limits in Port Coquitlam. Committee suggested that the current bylaw and the 3 R's be added to the advertisement.

**ITEM VII: B.F.I. DONATION FOR EARTH DAY - TREE PLANTING**

Councillor Gates would like a re-inspection of the tree planting ideas for the industrial park. He feels there are not enough trees and would like to see more Evergreen trees planted. Project Engineer to re-investigate.

**ITEM VIII: OTHER BUSINESS**

a) Coquitlam River Dyke - Status of Dyke Closure

Deputy Engineer gave an update on the Coquitlam River Dyke. The plan is to proceed within the next two weeks and it is anticipated that the construction of the dyke will take six to eight months to complete. Committee received this report for information.

b) Recycling Problems at 2446 Wilson Ave.

Committee reviewed a report from the Project Technician regarding the issue of using grocery-type bags for recycling. A letter was written to ETL from the Project Technician asking them to inform the residents as to why the grocery-type bags are not acceptable.

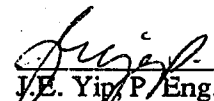
c) Waste Management Act - Imperial Oil Ltd.

Committee received information on the site at McAllister and Shaughnessy as to the soil remediation as requested.


d) Paint Collection - GVRD

Committee reviewed a response form filled out by the Project Engineer in regards to GVRD's Paint Collection via Curbside Program. Committee was in agreement that the Province should submit a proposal for disposal rather than having municipal crews putting it into the landfill. Response form should be forwarded to the Fire Department for comments.

There being no further business the meeting adjourned at 6:00 pm.

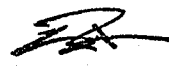
  
J.E. Yip, P. Eng.  
Deputy City Engineer

JEY/cd

  
Councillor M. Gates  
Committee Chairman

**NOTE** Minutes not read and adopted by the Committee until certified correct by the Chairman's signature.

cc: Mayor and Councillors  
City Administrator  
City Engineer  
Project Engineer  
Project Technician

  
APR 13 1994

THE CORPORATION OF THE  
CITY OF PORT COQUITLAM

MEMORANDUM

TO: Environmental Protection Committee      DATE: April 06, 1994  
FROM: Anne T. Pynenburg  
Project Technician  
SUBJECT: TELEPHONE BOOK RECYCLING - BC TEL

BACKGROUND & COMMENTS:

Pamela Nel, of the G.V.R.D. Waste Reduction Dept., has passed on some information regarding the collection of telephone books in the Lower Mainland.

BC Tel is offering to set up bins at 3 locations in Port Coquitlam. The bins will be drop-off locations of white and yellow pages for residents and businesses. The target areas this year are the IC&I sectors.

The bins will be 6 yd. containers with a lockable lid and slot entry. BC Tel will pay for all advertising (including flyer distribution to businesses), bin drop-off, signage on the bins and hauling charges. They will be offering the bins for a one month period. Pick-ups will be made once per week. Bins will be available in all municipalities at the same time.

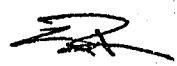
If the City is interested in participating, the contact person is Tom Wishlow at BC Tel.

  
Anne T. Pynenburg  
Project Technician

- locations.

- when would they be in place.

Approved

  
APR 13 1994



THE CORPORATION OF THE  
CITY OF PORT COQUITLAM

MEMORANDUM

Item 2  
2005 to Council  
for approval

TO: Environmental Protection Committee

DATE: April 06, 1994

FROM: Anne T. Pynenburg  
Project Technician

SUBJECT: SEABOARD ADVERTISING/G.V.R.D. TRANSIT SHELTER CAMPAIGN

RECOMMENDATION:

That the Environmental Protection Committee support, through donation of municipal advertising space, all Transit Shelter Campaigns EXCEPT Phone Book recycling campaign.

BACKGROUND & COMMENTS:

Attached is a letter from the G.V.R.D. Communications and Education Dept. requesting that the City send a letter to Seaboard Advertising giving permission to use our municipal ad space on bus shelters.

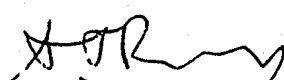
All municipalities are given 10% free advertising space from Seaboard Advertising to be used by the municipality for their own purposes. In the past, most municipalities have not taken advantage of this space.

The G.V.R.D. would like to use this space in 1994 for several advertising campaigns aimed at environmental issues and waste reduction. The five campaigns are:

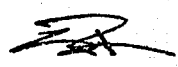
Air Quality  
~~Phone Books~~ -- delete  
Water Conservation  
Composting  
Christmas Wrapping

I support four of the campaigns with the exception of the Phone Book Recycling Campaign. My reasons for taking a second look at this are:

BC Tel is a private company with their own resources to fund their own advertising, phone books only make up from 0.6 to 1.2% of Port Coquitlam's solid waste stream, a better campaign would be to target newspapers which make up approx. 60% of our waste stream, and the question is not necessarily one of monetary value but of political value; ie. Port Coquitlam singling out one producer of waste and offering them our advertising space albeit free space.

  
Anne T. Pynenburg  
Project Technician

attach

  
APR 13 1994



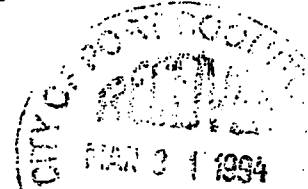
Greater Vancouver Regional District  
4330 Kingsway, Burnaby, British Columbia, Canada V5H 4G8

Communications and Education  
Telephone (604) 432-6339  
Fax (604) 432-6399

To: W.C. Sinclair, City of Burnaby  
Bill Mortensen, City of Richmond  
Mike Mah, Surrey (c/o Bill Stillwell)  
Roger Emanuels, New Westminster  
Don Cook, Port Moody  
Jeff Yip, Port Coquitlam (c/o Ann Pynenburg)  
Gary O'Rourke, Maple Ridge (c/o Tom Gardner)  
Len Mierau, City of North Vancouver  
Ed Trottier, Langley  
Ted Klassen, Coquitlam  
Ken Sheaves, Delta  
Norm Nikkel, District of North Vancouver  
Don Bowins, Abbotsford  
Fred Gledhill, Matsqui  
Alix Sales, Vancouver (c/o Julie Gordon)

From: Shari Graydon, GVRD Communications and Education Department  
Date: 28 March 1994

FILE COPY



187	A.5
FC.	A.5
AP.	

As discussed in our phone conversations earlier this month, David Cadman and I met with Seaboard Advertising to discuss alternatives to the current system requiring individual letters from each municipality each month. Due to the unpredictability of space availability (as experienced in the first month, requiring a change in posting date), this system would have necessitated monthly phone calls to and possibly additional letters from each municipality every month. To avoid this, and at the same time accommodate Seaboard's contract requirements, we have agreed to the following:

Each municipality interested in participating in one or more of the GVRD's proposed transit shelter campaigns will send a general letter (see sample attached) to Seaboard, allocating their free space to be used on the dates and campaigns being requested by the GVRD. The letter should specify, however, that this blanket allocation can be superseded at any time by the municipality, which may inform Seaboard in writing 30 to 60 days in advance of the requested time, as noted in the standard existing agreements.

# GVRD Transit Shelter Campaign Schedule 1994

	Air Quality	Phone Books	Water Conserv.	Composting	Christmas
Mall letters	February 24	February 24	April 20	July 12	September 7
Start date	April 24	April 24	June 19	September 11	November 6
Duration	8 weeks	8 weeks	12 weeks	8 weeks	12 weeks
Finish date	June 18	June 18	September 10	November 5	January 28
Paid dates	Apr 24 - May 21	Apr 24 - June 18	Jun 19 - Jul 16	Sept 11 - Oct 8	Nov 6 - Dec 3
Donated	Apr 24 - June 18	-	Jun 19 - Sept 10	Sept 11 - Nov 5	Nov 6 - Jan 28

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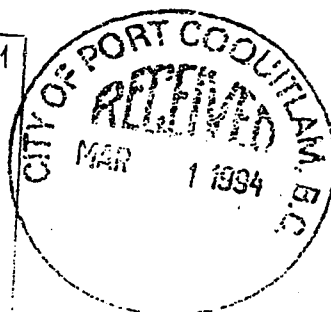


## ETL Environmental Technology Ltd.

A Member of the VITRAN Group of Companies

12345 - 104 Avenue, Surrey, B.C. V3V 3H2  
Telephone: (604) 589-4385 Fax: (604) 589-7833

CITY OF PORT COQUITLAM ENGINEERING DEPT.		
MAR - 1 1994		
FILE # 503,14R		
TO	FROM	DATE
	JHP	M01
FC		M01
JY	Juy	M1



February 23, 1994

Anne Pynenburg  
Recycling Coordinator  
City of Port Coquitlam  
2580 Shaughnessy St  
Port Coquitlam, B.C.  
V3C 2A8

**Re: Telephone Book Recycling**

Dear Anne,

I found the following information regarding the percentage of telephone books recycled through our facility. Be aware that the percentage of phone books will vary during the year with a high from May to October when the directories are renewed.

- From a municipal phone book collection event during October 1993, phone books represented 1.2 % of the recyclable material collected from the households.
- A sort of blue bag material in November 1993 showed that phone books represented 0.9% of all the recyclable material.
- An analysis of Mixed Waste Paper in Nov. 1993 indicated that phone books represent an average of 2.4 % of the MWP stream. MWP makes up about 25 % of the composition of the materials recycled through ETL municipal programs, therefore phone books are about 0.6 % of the total stream of materials recycled.

Therefore, our data shows that the composition of phone books in the stream of recycled materials can vary from 0.6 to 1.2%. You could compare these statistics for telephone books recycled to telephone books distributed and found in the waste stream (Pamela Nel may have these statistics) to determine how much of this material is collected for recycling. Although telephone books are a highly recognizable item in the waste stream, they are a fairly minor component compared to other paper products (eg. ONP, mixed household paper). I hope this information is helpful for your decision; if I can be of further assistance, please give me a call.

Yours sincerely,

L. Jane Robertson  
ETL Environmental Technology Ltd.

**THE RECYCLING COMPANY**

Printed on Recycled Paper





Province of  
British Columbia

Ministry of  
Forests

Vancouver Forest Region  
4595 Canada Way  
Burnaby, B.C.  
V5G 4L9



February 24, 1994

CITY OF PORT COQUITLAM ENGINEERING DEPT.		
MAR 23 1994		
FILE #		
TO	FROM	DATE

*"Protected Areas are a major component of British Columbia's commitment to protecting the quality and integrity of the environment, and to securing a sound and prosperous economy for present and future generations. British Columbia will designate and manage a system of protected areas for the purpose of protecting a diversity of biological, natural and cultural heritage resources, and providing a variety of outdoor recreation opportunities."*

A Protected Areas Strategy for British Columbia,  
June 10, 1993

Re: A Solicitation For Public Input to "Areas of Interest": Lower Mainland Region  
Protected Areas Strategy for British Columbia (PAS)

In the statement quoted above, government introduced the Protected Areas Strategy and presented its aim to deliver an expanded and integrated system of Protected Areas that will conserve 12% of the province by the year 2000. At present, British Columbia has protected slightly more than half of this target within the current system of Ecological Reserves, Provincial and National Parks.

Within the Lower Mainland Region, a Regional Protected Areas Team has been given responsibility to assess the degree to which existing protected areas meet the Strategy's goals, and to solicit submissions for other areas that may meet unfulfilled goals. As part of previous land use planning initiatives - *Parks and Wilderness for the 90's* and the *Old Growth Strategy* - public groups and interested individuals contributed largely to the list of PAS Study Areas and of Areas of Interest now being assessed under the Protected Areas Strategy. More recently, other groups have specifically been asked to identify their interest areas within the vicinity of southwestern British Columbia. These areas will also be evaluated by the Regional Protected Areas Team.

To provide a greater opportunity for those not yet involved in the process, the Regional Protected Areas Team invites your participation in identifying *provincially important areas* which may contribute to goals of the Protected Areas Strategy. Until April 15, 1994 the Team will be accepting submissions for Areas of Interest within the Lower Mainland PAS Region that you consider to be of significant conservation, outdoor recreation or cultural heritage value.

2

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Enclosed with this letter you will find:

- i) an InfoSheet which outlines the Protected Areas Strategy within the Lower Mainland Region;
- ii) a map which illustrates *Existing Protected Areas*, *P.A.S. Study Areas* (cabinet-approved) and *Areas of Interest* for evaluation within the Lower Mainland Region;
- iv) the format for submitting your candidate area(s) that will provide information essential to its evaluation;
- v) a contact person for more information.

In addition to this direct contact with groups and individuals such as yourself, the Regional Protected Areas Team will also be hosting public Open Houses in several Lower Mainland communities (Powell River, Whistler, Sechelt, Vancouver, Chilliwack).

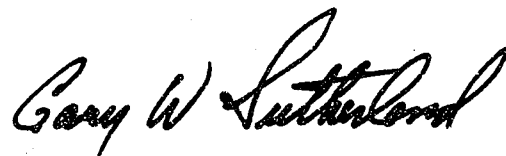
*The purpose of these drop-in meetings will be to provide information about the Protected Areas Strategy, to provide information about Areas of Interest identified to date, and to collect information about your candidate areas.*

Watch for specific dates, times and locations to be advertised in local newspapers; Open Houses will take place within the first two weeks of March.

For more information regarding the public process, you may contact our Lower Mainland R.P.A.T. Facilitator, Mr. Doug Leavers. He is responsible for collecting all public information during this critical phase of the Protected Areas Strategy.

I hope that this information is useful to you and I look forward to your participation at the Open Houses in March.

Yours truly,



Gary W. Sutherland, R.P.F.  
Chair, Lower Mainland  
Regional Protected Areas Team

enclosures

## LOWER MAINLAND REGION PROTECTED AREAS TEAM SEEKS PUBLIC SUBMISSIONS FOR ADDITIONAL AREAS OF INTEREST

In British Columbia, one of the world's most ecologically rich and diverse jurisdictions, approximately 6% of the land base falls within Protected Areas which include National Parks, Class A Provincial Parks and Ecological Reserves. Public demand to expand this percentage of protected areas has grown over the last decade as society's values have changed and concern has mounted over maintaining British

Columbia's natural legacy for future generations. In response, the government initiated the Protected Areas Strategy which will form an important component of its commitment to balance a sustainable environment with a sustainable economy. The Protected Areas Strategy will be used in land planning processes to recommend land allocations to Cabinet.

***British Columbia is committed to developing and expanding a protected areas system that will protect 12% of the province by the year 2000. The 12% target will be made up of representative and special examples of land, freshwater and marine areas that are set aside to protect the province's diverse natural, cultural heritage and recreational values.***

Public participation is key to achieving a comprehensive system of protected areas. Extensive public input received during earlier initiatives (including Parks and Wilderness for the 90's and the Old Growth Strategy), significantly shaped the Protected Areas Strategy. Continuing formal and informal public involvement is essential to meet the Strategy objectives for the Lower Mainland Region. The first step will be to revise the current list of Study Areas that has resulted from earlier initiatives.

**First Nations** The Protected Areas Strategy will respect the treaty rights and interest that exist for land and resource use in the province. As a matter of policy, the government will

consult with First Nations where activities under the Strategy could affect the exercise of these rights and interests.

### ***Implementing the Strategy in the Lower Mainland***

- Government is responsible for defining the Strategy and Cabinet for approving Study Areas and Protected Areas.
- The Lower Mainland Interagency Management Committee (L.A.M.C.), comprised of senior managers of many Ministries, is responsible for the review, approval and forwarding of Study Areas to Cabinet.

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- **The Lower Mainland Regional Protected Areas Team (R.P.A.T.),** is responsible for conducting the technical inventories and analyses required to identify gaps in the current protected areas system, recommend revisions to the currently approved Study Areas, identify additional areas of interest and consult with the public.
- **The Lower Mainland Joint Steering Committee,** comprising a broad section of interested parties and stakeholders will consult with and assist the RPAT in the selection of candidate areas for protection.

*During March, 1994 Open Houses will be held to seek further input and to review the Protected Areas Strategy progress.*

*In keeping with the Strategy within the Lower Mainland Region, the RPAT is extending an invitation for the public to review current Study Areas and Areas of Interest and to submit any additional Areas of Interest. In order to facilitate this process, the RPAT requires information for each of the areas proposed and also requests their submission before April 15, 1994.*



## AREA OF INTEREST EVALUATION FORM

**USE THIS PAGE TO RECORD IMPORTANT INFORMATION ABOUT YOUR  
PROPOSED AREA OF INTEREST**

Assign a value ranging from  
1 (High/Adequate/Imminent) to 5 (Low/Inadequate/Minimal)

### NATURALNESS

- How much of the area has evidence of human development and/or disturbance?
- How long would it take for this area to recover to a natural state?

### VIABILITY

- Does the size of this area adequately protect and maintain its important values?
- How compatible is use of this area with land uses adjacent to the area?
- How well do the proposed boundaries of the area follow natural boundaries?
- Is the quality of water resources in the area influenced by human activity outside the area?
- How many other areas within the vicinity have similar features/opportunities within the region?

### DIVERSITY

- For what portion of the year does this area provide good opportunities for use and appreciation?
- How many different appreciation opportunities are presented in this area?

### ABILITY TO ADDRESS PUBLIC PERCEPTIONS AND DEMANDS

- To what degree does the public demand protection of this area?
- How distant are population centres of notable size?
- How is the popularity of outdoor recreation activities in this area growing?
- To what degree would this area enhance appreciation opportunities along a travel corridor?
- To what degree would this area enhance appreciation opportunities in a travel destination region?
- To what degree would this area enhance appreciation opportunities in a backcountry setting?
- To what degree would this area enhance appreciation opportunities for local users?

1	2	3	4	5

- To what degree would this area provide appreciation opportunities for groups that do not normally visit protected areas?

#### OPPORTUNITY FOR PUBLIC USE

- To what degree could this area advance people's appreciation for/understanding of BC's system of protected areas?
- To what degree can a sense of solitude/contact with nature be achieved within the area?
- To what degree could this area provide scientific research opportunities?
- What importance does this area have to those that may never visit here?
- What ability do the features/opportunities presented in the area have to remain of high quality experience for many years to come?
- Compared to similar areas within the vicinity, how highly suited is this area to represent typical biophysical and/or recreational features?
- How high is the area's aesthetic appeal?

#### VULNERABILITY

- How threatened are the area's resources due to recreation use?
- How threatened are the area's resources due to nearby industrial activity?

#### RARITY, SCARCITY AND UNIQUENESS

- How many rare, scarce or unique natural features are contained in the area?
- What significance does the most important of these have?

1	2	3	4	5

#### ADDITIONAL COMMENTS

## SUBMISSION FORM for P.A.S. AREAS OF INTEREST

The Regional Protected Areas Team (R.P.A.T.) requires the following information for the submission of "Areas of Interest":

1. One or more maps at a scale of 1:50,000 which accurately identify the boundary of the proposed Area. If an Area cannot be properly shown at 1:50,000, then a larger scale (such as 1:20,000), or a smaller scale (such as 1:250,000) should be used;
2. A Name for the Area should be suggested; one which relates to major features or characteristics of the locale;
3. Typed description of the Area which utilizes the "Use and Appreciation Evaluation" criteria included in this Information Package. Areas of Interest selected for the P.A.S. evaluation process will contribute to Goal 1 and/or Goal 2 of the Protected Areas Strategy.

### GOAL 1:

*To protect examples of major terrestrial, marine and freshwater ecosystems, characteristic habitats, hydrology and landforms, characteristic "backcountry" recreation and cultural heritage values.*

### GOAL 2:

*To protect examples of special natural, cultural heritage and "backcountry" recreation features including rare and endangered species, critical habitats, outstanding or unique botanical, zoological, geological and paleontological features, outstanding or fragile cultural heritage features and outstanding backcountry outdoor recreation features.*

PROPOSER:

CONTACT PERSON:

PHONE:

ADDRESS:

ADDRESS PROPOSALS AND COMMENTS TO:

Gary W. Sutherland, R.P.F.  
Chair, Lower Mainland R.P.A.T.,  
c/o Ministry of Forests  
4595 Canada Way,  
BURNABY, B.C. V5G 4L9

FOR MORE INFORMATION CONTACT:

Doug Leavers,  
Facilitator, Lower Mainland R.P.A.T.  
Doug Leavers Consulting,  
904-1625 Hornby St.  
Vancouver, B.C. V6Z 2M2  
687-8609 FAX 687-8612

APR 13 1994

THE CORPORATION OF THE  
CITY OF PORT COQUITLAM

MEMORANDUM

TO: Environmental Protection Committee      DATE: April 11, 1994  
FROM: J.E. Yip, P. Eng.,      FILE: EPC  
Deputy City Engineer  
SUBJECT: PINECONE LAKE - BURKE MTN. STUDY AREA - OLD LOGGING AREAS

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**BACKGROUND & COMMENTS:**

The Engineering Department has been in contact with Mr. Frank Ullman of the Pinecone Lake - Burke Mountain Study team to review the question of where logging has taken place in the Pitt Lake area. The study team does not have an overlay of the areas previously logged. However, they have provided a map showing the age classes of timber within the study area. As indicated in Mr. Ullman's letter, the areas most likely harvested are the areas classed as 1-60 and 60-120.

As indicated previously, there is a moratorium on logging within this area pending a final resolution on the study.

The Committee may wish to recommend that they are supportive of Option C, however, the study team should consider introducing "special management practices" provision for areas suitable for commercial logging.

*J. E. Yip*  
\_\_\_\_\_  
for J. E. Yip, P. Eng.  
Deputy City Engineer

JEY:cd

*[Signature]*  
APR 13 1994





Province of  
British Columbia

Ministry of  
Forests

Chilliwack Forest District  
Box 159  
Rosedale, British Columbia  
VOX 1X0  
Tel: 794-2100 Fax: 794-2111

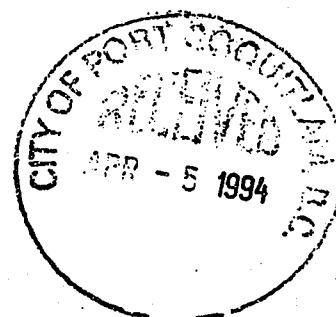


File: 16300-40/PBCORR

March 30, 1994

Jeff Yip  
Deputy Engineer  
City of Port Coquitlam  
2580 Shaughnessy Street  
Port Coquitlam, British Columbia  
V3C 2A8

CITY OF PORT COQUITLAM		
ENGINEERING DEPT.		
APR - 5 1994		
FILE #		
TO	FROM	DATE



Dear Jeff:

Attached is a map showing the lower portion of the Pinecone - Burke study area with the age classes coloured. Age classes 1 - 60 and 60 - 120 are likely mostly due to harvesting. Age class 120 - 250 is probably not, and of course, age class 250 plus is definitely not.

I hope this helps you.

Yours truly,

*F. Ullmann*

Frank Ullmann  
Resource Officer, Recreation  
Chilliwack Forest District

Attachment: two maps

GARIBALDI PROVINCIAL PARK

Map 7

4  
N  
1

Pinecone  
Lake

Boise Creek

PITT

RIVER

GOLDEN EARS  
PROVINCIAL  
PARK

COQUITLAM  
WATERSHED

COQUITLAM  
LAKE

Drake Creek

Widgeon  
Lake

Widgeon Creek

PITT

LAKE

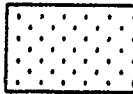
Option C  
Full Protection

Coquitlam  
River

SURKE MTN

PITT  
POLDER

UBC  
RESEARCH  
FOREST



Area to be  
Protected

0 5 km  
Scale

APR 13 1994



Province of  
British Columbia  
Ministry of  
Environment  
Lands and Parks

BC  
Environment  
Environmental Protection Division  
Industrial Waste and Hazardous  
Contaminants Branch

MAILING ADDRESSES:

Director and  
Contaminated Sites and Toxicology Section  
777 Broughton Street  
Victoria, B.C. V8Y 1X4  
Technical Services and Special Wastes Section  
1106, 1175 Douglas Street  
Victoria, B.C. V8V 1X4

Telephone: (604) 387-9992  
Facsimile: (604) 356-9836

File: 26000-03/Bill 26

March 16, 1994

CITY OF PORT COQUITLAM		
ENGINEERING DEPT.		
MAR 21 1994		
FILE #		
TO	FROM	DATE
JY	FZ	MZL
	ERC	

J.E. Yip, P.Eng.  
Deputy City Engineer  
City of Port Coquitlam  
2580 Shaughnessy Street  
Port Coquitlam, B.C. V3C 2A8

Dear J.E. Yip:

Thank you for your letter of February 22, 1994 regarding the *Waste Management Amendment Act, 1993* (Bill 26) and its requirements for determining levels of contamination.

Bill 26 is expected to come into effect this fall, after a regulation has been drafted, subjected to thorough consultation, and then formally passed. The Ministry has been drafting the regulation in three parts. Draft Part 1 was sent to your city last January, under the cover of a memo from Richard Taylor, Executive Director of the Union of BC Municipalities (UBCM). Part 2 will also be distributed by the UBCM and should be coming in several weeks. An additional copy is enclosed for your information.

Draft Part 2 of the regulation proposes a set of standards which can be used to define a contaminated site. This draft regulation elaborates the definition in Section 20.1 of the *Waste Management Amendment Act, 1993* which defines "contaminated site" as "an area of land in which the soil or any groundwater lying beneath it, or the water or the underlying sediment, contains

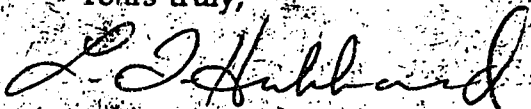
- (a) special waste, or
- (b) another prescribed substance in quantities or concentrations exceeding prescribed criteria, standards, or conditions".

At this time the Ministry is not proposing to change the way in which it defines special waste. Regarding (b), prescribed quantities or concentrations, we are considering making certain changes. I refer you to page 4 of "Notes to Reviewers" in the attached package for a discussion of our proposal.

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Please contact me if you require any further clarification or assistance.

Yours truly,



L.T. Hubbard, P.Eng.

Director

Industrial Waste & Hazardous Contaminants Branch  
Environmental Protection Department

Attachment





### HELP US MEET THE GOAL !!!

Since 1990 we have been legislated to meet a goal of 30 % reduction by the year 1995 and a 50% reduction by the year 2000 of solid wastes.

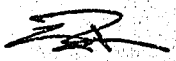
You can do your part by making use of our recycling system.

*Help Yourself and your Community*  
**YOUR COMMUNITY NEEDS YOUR HELP !!!**

Reducing the amount of waste going to landfill is not entirely about the diminishing available space in our landfills. It's about conserving our natural resources and reducing pollution.

**So Don't Trash It  
Blue Bag It.**

*Includes - reference to existing Bylaw.*  
*- potential savings.*  
*- ER's - Recycle*  
*- Reuse*  
*- Reduce*

  
APR 13 1994

THE CORPORATION OF THE  
CITY OF PORT COQUITLAM

**MEMORANDUM**

TO: Environmental Protection Committee

DATE: April 08, 1994

FROM: Francis K.K. Cheung, P. Eng.  
Project Engineer

FILE No: EPC

SUBJECT: **PROPOSED TREE PLANTING LOCATIONS - BFI DONATION**

**RECOMMENDATION:**

1. That Committee authorize the Engineering Department to use the \$5,000 donation from BFI Ltd. to plant approximately 15 to 20 trees along the dyke at Kebet Way. (See Figure 3).
2. That Committee request the Parks and Recreation Committee to contribute \$7,500 from the Parks Department annual tree planting budget to complete the section of dyke on Kebet way from Kingsway Avenue to Peace Park. The section of dyke along Peace Park was planted with trees last year.
3. That Committee participate in a public appreciation ceremony to thank BFI Ltd. for contributing towards environmental enhancement project in the City once the tree planting is completed.

**BACKGROUND & COMMENTS:**

At the regular EPC meeting on March 16, 1994, Mr. Ian Jennings of BFI Ltd. agreed to donate \$5,000 toward environmental enhancement project in the City. The Committee instructed the Engineering Department to investigate the option of tree planting at strategic locations in the City.

Ms. Anne Pynenburg, Project Technician and Mr. Bill Herbst, City Gardener investigated the three most suitable locations for tree planting in the City:

1. Boulevard at Connaught Drive along Thompson Park (See Figure 1 and 2).
2. South side of Kingsway Avenue between Coast Meridian Road and Konnings Ltd. (See Figure 3).
3. Along the dyke at Kebet Way (See Figure 3).

The boulevard at Connaught Drive along Thompson Park already have sufficient trees planted; therefore, this location does not require additional trees.


The south side of Kingsway Avenue between Coast Meridian Road and Konnings Ltd. is a suitable location for tree planting. Konnings Ltd. already have planted a strip of trees along the front of their property; therefore, tree planting along the remaining section will complete the entire block. Mr. Herbst recommended that 15 to 20 Silver Maple trees, at 30 feet spacing, will complete this section of boulevard. Mr. Herbst estimated that the cost for the trees will be approximately \$2,000 and cost for labour and preparation work will be approximately \$3,000.

Along the dyke at Kebet Way is the most suitable location for tree planting since the trees will provide an aesthetically pleasing environment for people walking along the dyke. The entire section of dyke from Kingsway Avenue to Peace Park will then have a strip of tree buffer once this section of dyke is planted with trees. However, Mr. Herbst estimated that approximately 50 trees, at an estimated cost of \$12,500, will be

Cont'd .../2

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required to complete this section of dyke. The \$5,000 donation from BFI Ltd. is only adequate to complete 40% of the tree planting; therefore, an extra \$7,500 is required to complete tree planting the entire section of the dyke from Kingsway Avenue to Peace Park. It is recommended that the EPC request the Parks and Recreation Committee to contribute \$7,500 from the Parks Department annual tree planting budget to complete the section of dyke on Kebet way from Kingsway Avenue to Peace Park.

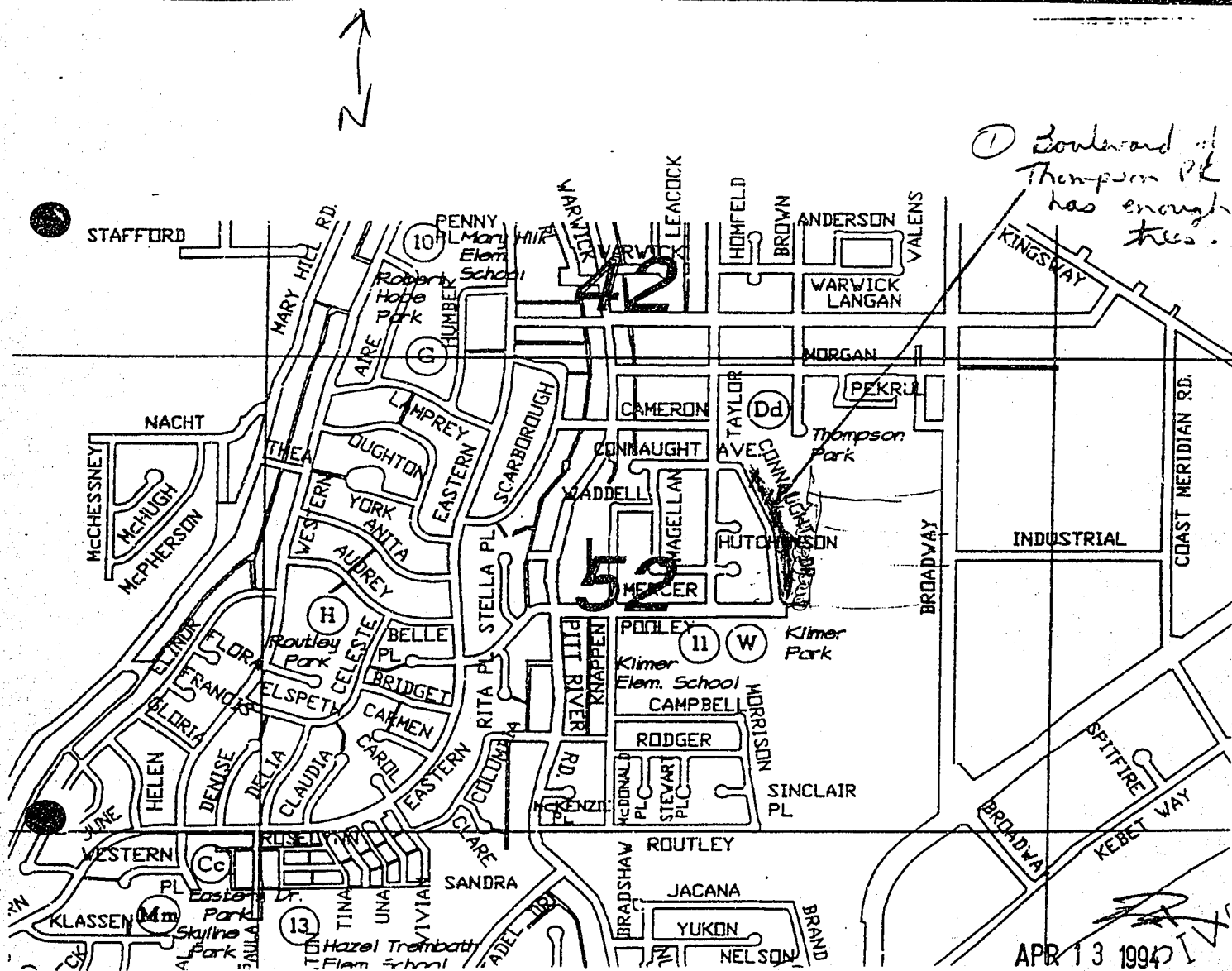


Francis K.K. Cheung, P. Eng.  
Project Engineer

FKKC/  
attachment

FIG. 4  
EXISTING TREE  
LOCATION AT BOULEVARD  
OF THOMPSON PARK

\$ 5,000 will allow  
for 15-20 trees to  
be planted

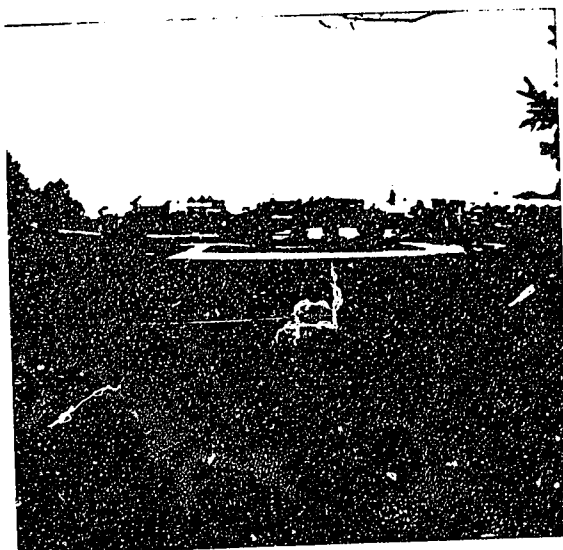






Bealmead at Connaught  
Thompson PC

Apr 7/94



East side of Thompson PC

Apr 7/94

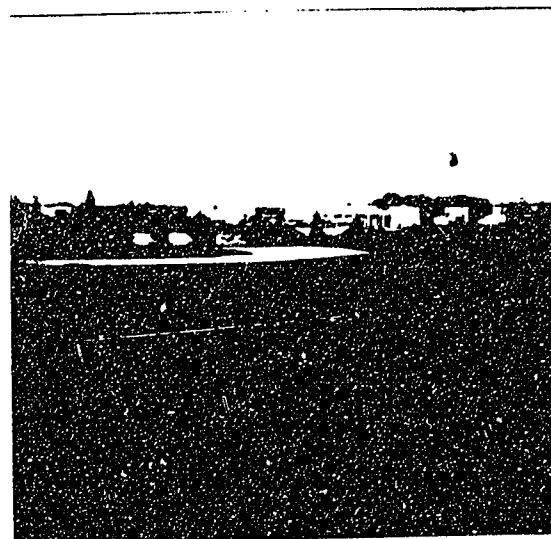
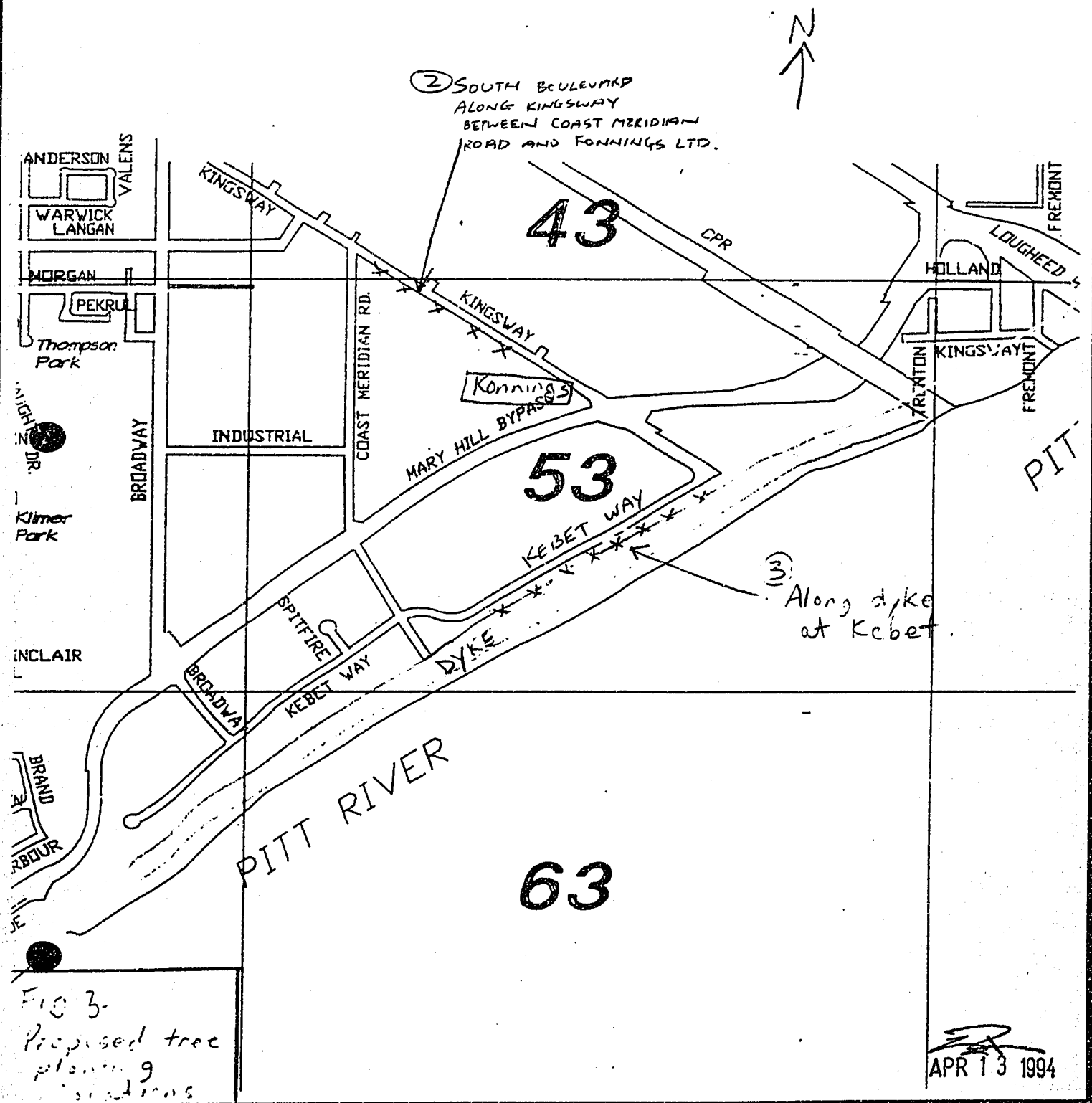


FIGURE 2.

Apr. 7/94





Province of  
British Columbia

Ministry of  
Environment,  
Lands and Parks

BC  
Environment

Environmental Protection Division  
Industrial Waste and Hazardous  
Contaminants Branch

MAILING ADDRESSES:

Director and  
Contaminated Sites and Toxicology Section  
777 Broughton Street  
Victoria, B.C. V8V 1X4  
Technical Services and Special Wastes Section  
1106, 1175 Douglas Street  
Victoria, B.C. V8V 1X4

Telephone: (604) 387-9992  
Facsimile: (604) 356-9836

File: 26000-03/Plan

March 15, 1994

Dear Madam/Sir:

A copy of the DRAFT Part 2 Contaminated Sites Regulation under the *Waste Management Amendment Act, 1993* (Bill 26) is enclosed for your review.

My previous general correspondence on the regulation under Bill 26 is as follows:

- November 15, 1993 letter conveying the document "*Communications and Consultation Plan for the Contaminated Sites Regulation under the Waste Management Act.*"

That letter described how the DRAFT regulation is to be prepared and distributed in three (3) parts. The release of each part will be staggered to permit adequate time for review, comment, discussion, and revision. Consultation on Parts 1 and 2 will continue and overlap with the review of Part 3.

- December 16, 1993 correspondence conveying DRAFT Part 1 of the regulation, including notes to reviewers.
- February 16, 1994 correspondence notifying stakeholders of a delay in preparing DRAFT Part 2 of the Regulation.

I am pleased to enclose a copy of DRAFT Part 2 of the regulation under Bill 26. As was the case for DRAFT Part 1, we will be holding two identical presentations on DRAFT Part 2, as follows:

Wednesday, March 30, 1994  
1:00 - 4:30 pm  
Vancouver SFU Downtown Campus  
Harbour Centre  
515 W. Hastings Street  
Fletcher Challenge Theatre

Thursday, March 31, 1994  
1:30 - 4:30 pm  
Victoria Laurel Point Inn  
680 Montreal Street  
Breakout Room ABC

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The objective will be to provide an overview and answer questions, but will not be to revisit policy decisions inherent in Bill 26. Participants will not be expected to provide detailed comments or views at these meetings but will be welcome to provide preliminary comments if they wish.

Written comments on DRAFT Part 2, or submissions on any portion of the proposed regulation will be welcome at any time, before or after the information meetings. As well, every effort will be made, as time allows, to schedule meetings on request to discuss comments, suggestions or implications to specific industry/interest sectors or types of site. To facilitate such meetings we prefer to meet with groups of representatives with similar concerns. Grouping arrangements you can make would be appreciated.

Regarding future consultations, the Ministry intends to prepare the final part of the regulation, part 3, within the next 4-6 weeks. Once part 3 has been sent to stakeholders, the three parts will be consolidated. At that time the comments we have received on part 1 and 2 will be incorporated into the consolidated regulation. This process should begin in early May.

To ensure your views are taken into account in revising the consolidated regulation, please send your written comments on DRAFTS part 1 and 2 to me by the first week in May.

We have also established a mechanism for responding to stakeholders on the comments they have made on the regulation. Rather than respond by letter to each comment from each stakeholder, remarks will be provided in the text of the revised draft regulation explaining how and why comments were addressed in the revised draft.

Thank you for your continued interest and the time you will take to review the draft regulation.

Yours sincerely,



L.T. Hubbard, P. Eng.  
Director  
Industrial Waste & Hazardous Contaminants Branch

Attachments

cc: D.A. Fast



March 15, 1994

## NOTES TO REVIEWERS

### DRAFT Part 2 of the Contaminated Sites Regulation

#### 1.0 General

The *Waste Management Amendment Act, 1993* (Bill 26) was passed on June 15, 1993. Before the legislation will be proclaimed, regulations are required to provide necessary technical and administrative detail.

The Ministry of Environment, Lands and Parks is planning a single contaminated sites regulation document, which will contain many sections. For purposes of preparation and consultation, the regulation has been divided into three parts. These separate parts will be consolidated in the final regulation.

A consultation plan distributed on November 15, 1993 indicated the anticipated timing for the distribution of these three parts. DRAFT part 1 was sent to stakeholders on December 16, 1993, and information meetings and numerous discussions have been held with stakeholders since then. The consultation plan called for distribution of DRAFT part 2 of the regulation in January, 1994. This date was overly optimistic and has been missed by approximately six weeks. The Ministry intends to continue preparing and consulting on the draft parts of the regulation as quickly as feasible.

Our target date to have the legislation and regulation proclaimed continues to be October 1, 1994.

#### 2.0 Important Reminder About DRAFT Part 2

*This DRAFT part 2 regulation is being distributed to seek commentary on the policy and administrating methods reflected in the regulation. Representations to BC Environment will be considered in the preparation of subsequent drafts. A final draft of the regulation will be prepared by Legislative Counsel at the Ministry of the Attorney General. Thus this DRAFT is also subject to organizational amendments and other changes to be made by Legislative Counsel.*

#### 3.0 General Contents of DRAFT Part 2

The provisions in DRAFT part 2 have been organized into seven different divisions. Most divisions contain a number of sections. DRAFT part 2 also refers to six schedules. Schedules 6 and 7 are included. *The remaining schedules, which are application forms, will appear with DRAFT part 3.* Where possible, comments received from reviewers of Bill 26 have been addressed in this DRAFT. Topics broadly covered by the seven divisions and 30 sections are listed below:

  
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Summary of Divisions, Sections and Content of DRAFT Part 2

<u>Division</u>	<u>Sections</u>	<u>Content</u>
I	1	Interpretation (definitions)
II	2 - 3	Contaminated site definition and determination
III	4 - 5	Remediation standards
IV	6 - 16	Liability
V	17 - 23	Contaminated soil relocation
VI	24 - 29	Remediation approval and completion
VII	30	Methods, protocols and procedures

Division I defines key concepts and phrases including various land and water uses, 'remediation plan,' and a number of toxicological terms.

Division II describes the criteria under which a site would be considered a contaminated site, and the applicable time deadlines for comment relating to the formal determination of a contaminated site under Section 20.3 of the *Waste Management Act*.

Division III presents two approaches for determining standards for remediation of contaminated sites. Either may be used. The first approach, using substance concentrations, consists of numerical standards for remediation, which are concentrations of substances in soil, surface water and groundwater for various land and water uses. The second approach, using risk based standards, consists of requirements which must be met at a contaminated site for exposure to substances which may cause cancer or have other human health effects. This approach also requires the preparation of a report documenting the environmental impacts of contaminants at the site. Schedules 6 and 7 list the numerical standards which have been adopted from the Canadian Council of Ministers of the Environment. In large part, the soil standards in Schedule 6 are those used by the Government of BC since the late 1980's.

Division IV clarifies certain provisions of Bill 26 concerning liability for contamination and remediation. Provisions in DRAFT part 2 address persons who may be considered not responsible because of diligence they exercised in requiring compliance with environmental laws; owners of easements and rights of way; secured creditors; receivers, and trustees; and persons innocently acquiring or leasing property. This division also addresses timing requirements and clarifies the meaning of the diminishment or reduction of assets, both relating to the issuance of remediation orders. Requirements for application for minor contributor status and voluntary remediation agreements are also provided.

Division V addresses contaminated soil relocation. Provisions address the relocation of uncontaminated soil; circumstances where contaminated soil may be deposited without a soil relocation agreement; conditions applicable for application for a soil relocation agreement; and standards for contaminated soil relocation.

Division VI deals with steps required to receive approval for remediation and completion of remediation of contaminated sites. Provisions address approvals in principle; restrictive covenants under the *Land Titles Act*; certificates of compliance for remediation of a site; and security requirements as a condition of a certificate.

Division VII lists various areas for which the Director of Waste Management may approve protocols, methods, and procedures used to characterize and assess sites. This division also includes security requirements for various administrative functions and agreements.

#### 4.0 Division by Division Commentary

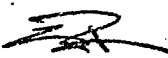
#### 4.1 Division I: Application

##### Section 1. Interpretation

Section 1 (1) lists 20 terms and phrases which are of key importance to DRAFT part 2. Five land uses, including 'agricultural' (AL), 'urban park' (PL), 'residential' (RL), 'commercial' (CL) and 'industrial' (IL) lands are defined, as well as four groundwater and surface water uses: 'drinking' (DW), 'freshwater aquatic life' (FW), 'irrigation' (IW), and 'livestock' (LW) water.

Toxicological terms used to define a contaminated site and set remediation and soil relocation standards are also provided, including 'cancer risk', 'carcinogenic substance', 'hazard index' and 'hazard quotient', 'risk assessment' and 'risk management' and 'environmental impact requirements'. The section also defines 'soil', 'background concentration' and 'trustee' as well as itemizing the possible contents of a 'remediation plan', which include:

- site location and contaminant distribution information
- remediation alternatives
- selected remediation methods
- classification of soil for relocation
- risk assessment documentation where risk based standards used
- remediation schedule
- discussion of regulatory requirements
- proposed worker health and safety plan
- proposed post remediation monitoring plan
- proposed controls where on-site management used
- proposed public consultation or remediation review

  
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#### 4.2 Division II: Contaminated Site Definition and Determination

##### Section 2. Definition of Contaminated Site

Subsection 2 (1) of the DRAFT part 2 sets out the scientific criteria by which a site is considered a contaminated site, pursuant to section 20.1 (1) of the *Waste Management Act*. Bill 26 indicates that a site where the land or water contains special waste, or another prescribed substance exceeding prescribed standards, is a contaminated site. The purpose of this section is to prescribe these standards.

Over the last five years, the Ministry of Environment, Lands and Parks has defined a contaminated site through application of its policy entitled 'Criteria for Managing Contaminated Sites in British Columbia' (Draft 6) (CMCS) dated November 1989. This policy contains lists of concentrations of chemical substances relating to different land and water uses.

In September 1991, the Canadian Council of Ministers of the Environment (CCME) published its 'Interim Canadian Environmental Quality Criteria for Contaminated Sites' under the National Contaminated Sites Remediation Program. The interim Canadian criteria draw heavily upon the substance concentrations for soil contained in the British Columbia CMCS document. As well, they generally reflect water quality guidelines which have been adopted by British Columbia.

DRAFT part 2 of this regulation adopts all the CCME interim environmental quality criteria for soil, and with a few exceptions, all those from the CCME for groundwater and surface water. Since publication of the CCME document in 1991, a few of the water quality criteria have been revised, and the most up to date criteria have been used in this DRAFT of part 2. In addition, the Ministry has received advice from the CCME that the general parameters pH, conductivity, and sodium adsorption ratio were intended only to be used to assess the potential for contamination of a site, and not to define when a site is contaminated or requires remediation. Thus the criteria for these parameters have not been included in this DRAFT.

For a detailed description of the origins and application of the CCME interim criteria the reader is referred to the following reports:

- 1) Canadian Council of Ministers of the Environment. Interim Canadian Environmental Quality Criteria for Contaminated Sites (CCME EPC-CS34), Winnipeg, Manitoba, September 1991.
- 2) Canadian Council of Ministers of the Environment and Energy Pathways Inc. Report on the Contaminated Sites Consultation Workshop, April 23-24, 1990, Ottawa, Ontario, May 30, 1990.



- 3) Canadian Council of Ministers of the Environment and Energy Pathways Inc. Report on the Contaminated Sites Consultation Workshop II, November 14-15, 1990, Toronto, Ontario, February 14, 1991.
- 4) Canada. Environment Canada. Inland Waters Directorate. Water Quality Branch. Review and Recommendations for Canadian Interim Environmental Quality Criteria for Contaminated Sites, Scientific Series No 197, Ottawa, Ontario, 1991.

Schedule 6 of the DRAFT regulation adopts as British Columbia standards the CCME interim environmental quality criteria for soil. Three columns of substance concentrations appear in the CCME document, for agricultural, residential/parkland and commercial/industrial use. Schedule 6 uses the identical substance concentrations, but splits each of the paired land uses into two columns, with the result that Schedule 6 has five rather than three columns. This format has been adopted for Schedule 6, in anticipation of planned revisions to the CCME criteria.


Subsection 2(1)(a) and Schedule 6 provide that for any of the five land uses above, where the concentration of any substance in the soil of a site is greater than or equal to the concentration of that substance in Schedule 6, the site is defined as a contaminated site.

Subsection 2(1)(b) and Schedule 7 provide the numerical standards for substances in surface water and groundwater, for irrigation, freshwater aquatic life, livestock and drinking water use. For any of these four water uses, where the concentration of any substance in the water in, on, or from a site is greater than or equal to the concentration of that substance in Schedule 7, the site is defined as a contaminated site.

The situation where a substance is not contained in Schedules 6 or 7 is addressed by subsection 2(1)(c). It indicates that the Director of Waste Management may establish a standard for such a substance which may be used to define when a site is a contaminated site.

### Section 3. Determination of Contaminated Site -- Procedure

In some cases a person may wish to clarify whether a site is a contaminated site or to seek formal recognition that a site is a contaminated site. Section 20.3 of the Act establishes the power of a Manager to formally determine whether a site is a contaminated site. It also provides two stages of the determination procedure - preliminary and final determination. The purpose of section 3 of DRAFT part 2 of the regulation is to set out a 10 to 60 day time period for comment on a manager's preliminary determination. Once a final determination has been made, a manager has 15 days to notify persons described in section 20.3(e) of the Act.

  
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#### **4.3 Division III: Remediation Standards**

DRAFT Part 2 of the Contaminated Sites Regulation provides two approaches for satisfying remediation requirements contained in Bill 26. The first approach uses concentrations of substances in environmental media for specific land and water uses as standards. This is called the numerical standards approach. The second approach uses standards for acceptable risk for substances which can cause cancer and other health impacts. These are termed risk based standards for remediation. This approach calculates estimated risk levels, and also requires an assessment of the environmental effects of contamination.

#### **Section 4. Application of Numerical Standards for Remediation**

Subsection 4(1)(a) identifies the substances and standards in Schedule 6 as the numerical standards for remediation of soil. Using this approach, once appropriate land uses for the site has been selected, soil must be remediated so that the concentration of any substance is less than the concentration of that substance for those land uses in Schedule 6.

Subsection 4(1)(b) applies a parallel process for surface water and groundwater at contaminated sites. Schedule 7 contains the numerical standards. Once the appropriate water uses have been identified, water must be remediated so that the concentration of any substance is less than the concentration of that substance for those water uses in Schedule 7.

Subsection 4(1)(c) enables the Director of Waste Management to establish a numerical standard in circumstances where a standard is not provided in Schedules 6 or 7.

Subsection 4(2) recognises that in some rare circumstances, the background levels of contaminants at a site may exceed the numerical standards for remediation in Schedules 6 or 7. In this case, the DRAFT regulation proposes that the remediation standard be set at the background level of contamination. Subsequent sections of DRAFT part 2 provide powers for the Director to issue guidance on methods and procedures for determining background concentrations of substances.

Subsection 4(3) addresses the situation where a site has multiple land or water uses, such as mixed residential and commercial property. The section indicates that the land use or water use with the lowest concentration for each substance among all the applicable uses will be chosen in determining the remediation standards for that site.

### Section 5. Application of Risk Based Standards for Remediation

Subsection 5(1)(a) presents the risk based standard for remediation of environmental media containing substances which cause cancer. For any carcinogenic substance, the maximum additional lifetime cancer risk due to exposure to that substance at a site is seven in one million. The substances which cause cancer are those clearly identified by the World Health Organization and the United States Environmental Protection Agency as posing a threat of cancer to humans.

The limit of seven in one million has been applied to contaminated sites in British Columbia since the late 1980's. This value was adopted by Cabinet as the maximum acceptable cancer risk for the remediation of the Pacific Place site, as recommended by a committee of independent public health experts. It is based on the cancer risk implicit in the Canadian drinking water guidelines for radionuclides. It also falls within the one in one million to one in ten thousand risk range currently in use in the United States for remediating contaminated sites.

Subsection 5(1)(b) indicates that exposures to substances at or from contaminated sites which have noncarcinogenic effects are also limited. The scientific term used to compare these exposures is called the hazard index. When exposures to substances with noncancer effects exceed acceptable levels, the hazard index will be greater than one. Conversely, when exposures are within the acceptable range, the hazard index will be calculated as less than one. Further detail on the meaning of these terms is provided in Section 1(1).

Subsection 5(1)(c) sets the risk based remediation standard at the background risk level rare in cases where the level of risk from background concentrations of any substance exceed the standards in sections 5(1)(a) and (b). Again, procedures for determining the background levels of substances will be specified by the Director.

Subsections 5(2) and 5(3) address environmental impacts, where the previous section addresses human health effects. Subsection 5(2) requires that an environmental impact report be prepared which identifies the potential impacts of any contaminating substances before or after remediation, including procedures to mitigate these impacts. The latter provides authority to a manager to require implementation of these and other procedures to prevent or mitigate the impacts.

#### 4.4 Division IV: Liability

### Section 6. Persons Not Responsible – General

Section 6 pertains to transporters and generators. It clarifies that liability will not be triggered merely on account of a transporter or generator requiring a person at a

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contaminated site to adopt 'green' standards or operations, or to comply with environmental laws or government policies.

#### Section 7. Exemption for Certain Ownership Interests

Section 7 exempts certain owners of 'minor' interests at a contaminated site, particularly those who own an easement or a right of way. To take advantage of this exemption, the owner must establish that he or she has not used the easement or right of way in a manner that caused contamination.

#### Section 8. Secured Creditors

This exemption relates to section 20.31(3)(b) of the Act. The exemption clarifies that a secured creditor will not attract 'responsible person' liability on taking fee simple title (eg. on foreclosure) where it:

- has complied with all applicable requirements of the Act,
- has not contributed to the contamination at the site, and
- attends to "any imminent human health or environmental hazard" at the contaminated site.

#### Section 9. Receivers, Receiver Managers and Trustees

Section 9 provides the principles governing when receivers, receiver managers and trustees become liable at a contaminated site. Subsection (1) provides that receivers, receiver managers and trustees will not attract personal liability where they

- do not exercise control which contributes to contamination at the site, and
- apply reasonably necessary steps to undertake remediation and conduct certain types of reporting and investigation.

Subsection (2) states that a receiver, receiver manager or trustee must comply with any remediation requirements of the Ministry when acting as an "agent, officer, representative or fiduciary of another person" at the contaminated site. Taken together with subsection (1), this provision means that the receiver, receiver manager or trustee must carry out remediation to the extent permitted by the realizable value of the assets of the estate or property being administered.

Subsection (3) is a safeguard against receivers, receiver managers, and trustees abandoning a site without making reasonable efforts to protect human health and the environment. Where such abandonment occurs, the receiver, receiver manager or trustee may become personally liable.



**Section 10. Persons Not Responsible – Clarification of Innocent Acquisition Exemption**

Section 20.4(1)(d)(i)(C) of the Act provides immunity to persons who "undertook all appropriate inquiries into the previous ownership and uses of the site...". Section 10 provides five factors which should be considered when determining whether a person undertook appropriate inquiries when acquiring a site:

- whether the person claiming the exemption had "any specialized knowledge or experience" respecting contamination,
- the relationship of the actual purchase price to the value of the property in the event that it were uncontaminated,
- reasonably ascertainable information about the property,
- any obvious presence of contamination, and
- industry and government standards of practice applicable at the time of acquisition of property."

**Section 11. Persons Not Responsible – Clarification of Section 20.4(1)(e)**

Section 11, taken together with section 20.4(1)(e) of the Act, clarifies that an owner of property who leases or rents that property will not be liable for contamination caused by tenants and lessees where the owner had no "reasonable basis" for knowing about the contaminating activity.

**Section 12. Persons Not Responsible – Clarification of Municipal Exemption**

Section 12 clarifies that the term "government restructuring" of section 20.4(1)(g) of the Act includes a "municipal boundary extension or municipal amalgamation".

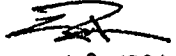
**Section 13. Remediation Order – Timing for Consent and Notice**

Subsection (1) imposes a 10 day deadline on a manager who receives a request from a receiver, receiver manager or trustee as to whether the manager will issue a remediation order.

Subsection (2) imposes a 10 day deadline on a manager who receives a request as to whether, pursuant to section 20.5(7) of the Act, assets may be diminished or reduced at a site.

Subsection (3) provides that the manager may, in certain circumstances, extend the 10 day deadlines of subsection (1) and (2).

Subsection (4) sets an upper limit of 30 days to review a person's request for consent for the disposition of assets pursuant to section 20.5(7).



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#### Section 14. Remediation Orders – Diminishing or Reducing Assets

Subsection (1) describes three types of transactions where it is deemed that the assets of a site are not diminished or reduced.

It should be noted that the Act implies that a manager may provide 'blanket consent'. That is, there is no need to establish in regulation that the manager may provide consent for all transactions at a contaminated site which is the subject of a remediation order.

#### Section 15. Minor Contributors

Section 15 in paragraphs (a) to (f) prescribes the information which an applicant for minor contributor status must provide to a manager.

#### Section 16. Voluntary Remediation Agreements

Section 16 in paragraphs (a) to (g) prescribes the information which an applicant for a voluntary remediation agreement must provide to a manager.

### 4.5 Division V: Contaminated Soil Relocation

#### Section 17. Definitions

Section 17 defines "contaminated site" and "contaminated soil" for purposes of this Division. These terms require definition specifically for this section because the wording in Section 20.81 of the Act indicate that provisions for soil relocation pertain only to contaminated sites.

All sites with concentrations of substances in soil greater than or equal to concentrations in any of Columns II to VI of Schedule 6 are contaminated sites. Even if soil were suitable to remain on an industrial use site, for example, this soil would be considered contaminated soil for purposes of this Division, and when removed from the site could be subject to a contaminated soil relocation agreement.

#### Section 18. Non-contaminated Soil Not "Waste"

Section 18 clarifies that soil which does not meet the definition of "contaminated soil" is not subject to requirements for authorizations (e.g. permits) under the *Waste Management Act*. In the absence of this provision, any excavated soil from a contaminated site whether or not it is contaminated could be considered "refuse" under the Act, and therefore could be considered "waste" and subject to a permit or approval.

### Section 19. Clarification for Soil Deposited at Landfills

Section 19 addresses soil deposit in existing landfills. Currently, many permits for landfills do not explicitly address soil, excavated soil, and contaminated soil. Questions arise as to whether soil deposit is authorized, and what quality of soils may be deposited.

Subsections (1)(a) to (1)(d) specify that the use-related standards of Schedule 6 apply for soil deposit in the same way as for the source site.

Subsection (1)(e) clarifies that if a landfill site will be used only for waste disposal, then soil exceeding the concentrations in Schedule 6 may be deposited. Special waste soil must not be deposited except as allowed for under the *Special Waste Regulation*, as described in Section 41.1 of that regulation.

Subsection (2) clarifies that another authorization (e.g. permit) which may have been given is not set aside or overridden by section 19.

Subsection (3) provides that a landfill owner may still refuse to accept any or all soil for deposit.

### Section 20. Application Procedures for Contaminated Soil Relocation Agreements

Section 20 contains procedures which pertain when applying for a contaminated soil relocation agreement. A Schedule will set out the multi-copy application form to be completed. The applicant will complete Part I of the form, while the owner or operator of a site proposed to receive contaminated soil will complete Part II. The original will be forwarded to a manager while copies must be retained by the applicant and by the owner or operator of the proposed site of deposit.

### Section 21. Preconditions for Contaminated Soil Relocation Agreements

Section 21 states preconditions to issuance of a contaminated soil relocation agreement, and to the start of relocation pursuant to such an agreement.

An approval in principle pursuant to section 20.71(1) of the Act is required prior to or concurrent with issuance of a contaminated soil relocation agreement. This will ensure that delineation and classification of soils at a contaminated source site has been done, and that remediation options have been considered pursuant to section 20.9 of the Act.



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Municipalities are entitled to receive notice of a contaminated soil relocation agreement before movement of contaminated soil starts. Section 20.81(9) of the Act requires such notification and this section of the regulation requires that the applicant ensure notification has been received before relocation starts.

**Section 22. Numerical Standards for Contaminated Soil Relocation Agreements**

Section 22 states that the Schedule 6 numerical standards for soil, which apply to remediation at a contaminated site, also apply at a receiving site. If the applicable land use of Schedule 6 is not obvious, a question may arise as to the applicable standards. In this case a manager may designate which standards pertain.

**Section 23. Risk Based Standards for Contaminated Soil Relocation Agreements**

Section 23 confirms that the risk based standards which this regulation provides for remediation of a contaminated site also may be used as a basis for a contaminated soil relocation agreement. Various requirements appropriate to the deposit site are allowed for in a soil relocation agreement. Example conditions are indicated.

**4.6 Division VI: Remediation Approval and Completion**

The new contaminated sites legislation provides the opportunity to apply for an approval in principle, a certificate of compliance, or a conditional certificate of compliance. These documents will provide written confirmation of the acceptability of a planned course of remediation and a remediation plan (approval in principle), and of satisfactory completion of remediation in accordance with a plan and the applicable standards (certificate of compliance; conditional certificate of compliance). Division VI of the regulation sets out the authority and certain procedures to be followed by both an applicant and BC Environment.

**Section 24. Approval in Principle**

Section 24 provides that application for an approval in principle can be made by a responsible person, provided that the necessary information has been, or is concurrently submitted to a manager. The application form will be provided in a Schedule to be included in part 3 of the DRAFT regulation. A manager may request additional information as deemed necessary to assess whether remediation when completed, is likely to meet the remediation standards.

Where an approval in principle is sought for remediation of a site using numerical standards or risk based standards, subsections 24(3) and 24(4), respectively, authorize a manager to attach conditions which may relate, but are not limited to:

- matters covered in a remediation plan as defined in section 1, the interpretation section of the regulation; and
- items specifically listed, including notification of adjoining property owners, interim risk assessment for phases not remediated immediately, restrictive covenants, confirmatory sampling, testing and measuring performance of risk management measures and financial security.

#### Section 25. Restrictive Covenants

Section 25 clarifies the intent and content of restrictive covenants under Section 215 of the *Land Titles Act*, where such covenants are deemed necessary by a manager. Subparagraphs (vii) and (viii) specifically note that a restrictive covenant should be considered where the purposes indicated are unlikely to be satisfactorily met by:

- notations in the site registry, or
- conditions in a conditional certificate of compliance.

#### Sections 26 and 27. Certificates of Compliance and Conditional Certificates of Compliance


Sections 26 and 27 provide that application can be made by a responsible person for a certificate of compliance or conditional certificate of compliance, provided that the indicated necessary information has been, or is concurrently submitted to a manager. The application forms will be provided in a Schedule, included with part 3 of the DRAFT regulation. The sections indicate that compliance with the conditions set out in an approval in principle will provide important criteria for a manager when assessing whether to issue a certificate of compliance.

#### Section 28. Financial Security

Section 28 clarifies that terms and conditions of any required financial security must be met before a certificate of compliance or a conditional certificate of compliance is issued.

#### Section 29. Remediation Approval and Completion for Part of a Site

Section 29 recognizes that section 20.71(6) of the Act provides for an approval in principle, a certificate of compliance, or a conditional certificate of compliance to be issued for a part of a site. Paragraph (a) requires that a manager provide to the registrar information about the part of a site for which such a document is issued. Paragraph (b) requires that a manager consider whether a restrictive covenant is required for the part or parts not being remediated.

  
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**4.7 Division VII: Methods, Protocols and Procedures Approved by the Director**

It is recognized that methods, procedures and protocols would be helpful as guidance, or are required for consistent and effective application of Bill 26 and the contaminated sites regulation. Many of these procedures are technically and scientifically involved, and their inclusion would make the regulation lengthy. Inclusion in the regulation would also result in reduced flexibility.

Subsection 30(1) authorizes development and approval of various technical and scientific methods, procedures and protocols including those covering matters and topics listed in paragraphs (a) through (h).

Subsection 30(2) authorizes development and approval of methods, procedures and protocols for determining forms and amounts of financial security which may be required.

DRAFT REGULATION - PART 2  
Waste Management Amendment Act, 1993 (Bill 26)  
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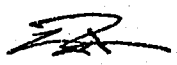
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## DIVISION I -- APPLICATION

## Interpretation

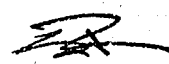
1. (1) In this regulation,

"agricultural land use" means the use of land for the primary purpose of producing agricultural products;

"background concentration" means the concentration of a substance in an environmental medium in the environment in the absence of the influence of direct human-made point sources of contamination determined following methods, procedures or protocols approved by the director;

"cancer risk" means the probability of the occurrence of cancer in a human from exposure to a carcinogenic substance;

"carcinogenic substance" means any chemical classified by the International Agency for Research on Cancer as a group 1 or group 2A carcinogen, or by the United States Environmental Protection Agency as a group A or group B2 carcinogen;

  
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"commercial land use" means the use of land for the primary purpose of buying, selling, or trading of merchandise or services;

"drinking water use" means the use of water for the primary purpose of consumption by humans;

"environmental impact requirements" means the requirements specified by the director for the assessment of environmental impacts and for the protection of non-human biota from the impacts resulting or expected to result from exposure to substances at sites;

"freshwater aquatic life water use" means the use of freshwater for the primary purpose of habitat for any component of the freshwater aquatic ecosystem, including phytoplankton, zooplankton, benthos, macrophytes, and fish;

"hazard index" means the sum of hazard quotients for any substance over all exposure pathways;

"hazard quotient" is defined by the equation

$$HQ = \frac{EDI}{RfD}$$

where



"EDI" is the estimated daily intake (in milligrams per kilogram of body weight per day) for a non-carcinogenic substance, and

"RfD" is an estimate of the daily exposure level (in milligrams per kilogram of body weight per day) that is unlikely to produce an appreciable risk of deleterious effects during a lifetime of exposure to that substance;

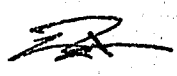
"industrial land use" means the use of land for the primary purpose of conducting industrial processes, including manufacturing and assembling and their ancillary uses;

"irrigation water use" means the use, distribution and application of water for the primary purpose of producing hay, forage crops, pasture, cereal crops, vegetables and fruit;

"livestock water use" means the use of water for the primary purpose of consumption by livestock;

"remediation plan" means a written document which includes but is not necessarily limited to plans and other information on

- (a) overall site location and delineated horizontal and vertical locations of contamination presented in maps, cross-sections and other graphic representations,

  
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- (b) remediation alternatives which were considered for managing contamination from or at a site, and evaluation methods used to assess the factors under section 20.9 (1) of the Act and any regulation,
- (c) remediation methods selected to ensure compliance with standards in sections 4 and 5,
- (d) identification and classification in accordance with Schedule 6 of any soil to remain in place or to be relocated,
- (e) risk assessment calculations and methodology where risk based standards will be or are being used,
- (f) a schedule with estimated dates for implementing remediation,
- (g) identification and discussion of implications to remediation of known regulatory requirements, including authorizations which will be required to implement remediation,
- (h) proposed worker health and safety provisions which are appropriate for the site and will be implemented during remediation in addition to requirements under the


*Industrial Health and Safety Regulations of the  
Workers' Compensation Board of British Columbia,*

- (i) proposed confirmatory sampling and analysis after treatment or removal of contamination, or testing and monitoring to evaluate the quality and performance of risk management measures on completion of remediation,
- (j) proposed measures and controls to be put in place to ensure security and ongoing management of contamination where it will be managed onsite, and
- (k) any public consultation or review of remediation which has occurred or which is proposed during remediation;

"residential land use" means the use of land for

- (a) the primary purpose of residence by persons on a permanent, temporary, or seasonal basis, or
- (b) institutions, schools, and daycare facilities;

"risk assessment" means the systematic process of identifying and evaluating substances, persons potentially affected, and exposures to the substances in order to estimate cancer risks or hazard indices;

  
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"risk management" means actions, including monitoring, designed to prevent or mitigate human health or environmental impacts of any contamination left onsite;

"soil" includes unconsolidated mineral or organic material, rock, fill, and sediment deposited on land;

"trustee" means a person who acts for the exclusive benefit of another person in a fiduciary capacity at a site; and

"urban park land use" means the use of urban land for the primary purpose of recreation.

DIVISION II -- CONTAMINATED SITE DEFINITION AND  
DETERMINATION

Definition of Contaminated Site

2. The term "contaminated site" of section 20.1(1) of the Act, when defined in terms of paragraph (b) of that definition, means a site at which

(a) the land use is agricultural, commercial, industrial, urban park, or residential, and the concentration of any substance in the soil of the site is greater than or equal to the concentration of that substance specified for that use in Schedule 6,

(b) the surface water or groundwater which

(i) is located on the site, or

(ii) flows from the site

is used for freshwater aquatic life, irrigation, livestock or drinking water use, and the concentration of any substance in the surface water or groundwater is greater than or equal to the concentration of that substance specified for that use in Schedule 7, or



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- (c) the concentration of any substance, not specified in Schedule 6 or 7, in soil, sediment, surface water or groundwater is greater than or equal to the concentration established in a standard for that substance by the director.

#### **Determination of Contaminated Sites -- Procedure**

3.(1) A manager shall, pursuant to section 20.3(2)(c) of the Act, provide an opportunity to comment for a period which is no less than 10 days and no more than 60 days after delivering notice of a preliminary determination.

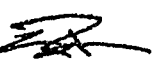
(2) A manager shall, upon making a final determination under section 20.3(1) or (3) of the Act, deliver notice of the final determination to persons described in section 20.3(2)(e) of the Act within 15 days of making the determination.

## DIVISION III -- REMEDIATION STANDARDS

## Application of Numerical Standards for Remediation

4. (1) Remediation requirements of the Act may be satisfied using the following numerical standards:

- (a) soil which is used for agricultural, commercial, industrial, urban park, or residential land use does not contain any substance with a concentration greater than or equal to the concentration specified for that substance and use in Schedule 6,
- (b) surface water or groundwater used for freshwater aquatic life, irrigation, livestock, or drinking water use does not contain any substance with a concentration greater than or equal to the concentration specified for that substance and use in Schedule 7, and
- (c) soil, sediment, surface water or groundwater does not contain any substance with a concentration greater than or equal to the concentration specified for that substance and use in a standard established by the director under section 2(1)(c).



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(2) Where a person demonstrates to the satisfaction of a manager that the background concentration of any substance at a site exceeds the applicable numerical standard of subsection (1) then the background concentration is deemed to be the maximum acceptable concentration of that substance for that site.

(3) For a site which has multiple types of land use or multiple types of water use, the maximum acceptable concentration for any substance shall be the lowest concentration for that substance for any of the applicable land uses or water uses in Schedules 6 or 7 or in a standard established by the director under section 2(1)(c).

#### **Application of Risk Based Standards for Remediation**

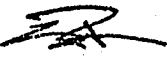
5.(1) Remediation requirements of the Act may be satisfied using the following risk based standards:

- (a) for any carcinogenic substance, the maximum acceptable additional lifetime cancer risk due to exposure to that substance at a site is seven in one million;

- (b) for any substance which poses a non-carcinogenic hazard, the maximum acceptable hazard index due to exposure to that substance at a site is one; and
- (c) where a person demonstrates to the satisfaction of a manager that the background concentration of any substance at a particular site results in the standards of paragraphs (a) or (b) being exceeded, the remediation standard for that substance shall be the calculated additional lifetime cancer risk or calculated hazard index which results from exposure to the background concentration of that substance at the site.

(2) A person who applies the risk based standards of subsection (1) shall also prepare an environmental impact report which identifies

- (a) the potential on-site and off-site environmental impacts of any substances causing contamination before and after remediation, and
- (b) procedures, including monitoring, designed to mitigate any significant potential impacts identified in paragraph (a).

  
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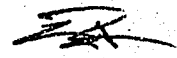
(3) A manager may impose requirements to prevent or mitigate impacts identified in the environmental impact report of subsection (2) or identified by the manager using other means.



**DIVISION IV -- LIABILITY****Persons Not Responsible -- General**

6. A person who produced or transported a substance or arranged for transport of a substance shall not be considered responsible for remediation at a contaminated site under sections 20.31(1)(c) or (d) and 20.31(2)(c) or (d) of the Act merely as a result of actions where the person has by contract, agreement or otherwise required

- (a) adoption of standards of design, construction, or operation of works at the site which were intended to prevent contamination, or
- (b) compliance with environmental laws, standards, policies or codes of practice of government.

  
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**Exemption for Certain Ownership Interests**

7. A person is not responsible for remediation where the person is a current or previous owner of

(a) an easement, or

(b) a right of way,

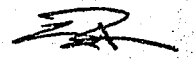
provided that the owner of the interest described in paragraph (a) or (b) can establish that the owner has not used or exercised any right of the interest in a manner that, in whole or in part, caused the site to become a contaminated site.

**Secured Creditors**

8. A secured creditor who becomes the registered owner in fee simple of real property at a contaminated site does not become responsible for remediation at the site, and is deemed to act

primarily to protect its security interest, only in circumstances where the secured creditor

- (a) has complied with all applicable requirements of the Act,
- (b) has not, either before or after becoming the registered owner in fee simple of real property at the contaminated site, exercised control over or imposed requirements on any person which, in whole or in part, caused the site to become a contaminated site, and
- (c) has, after becoming the registered owner in fee simple, undertaken measures to mitigate or control any imminent human health or environmental hazard at the site.



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**Receivers, Receiver Managers and Trustees**

9.(1) A receiver, receiver manager or trustee who is appointed with respect to property at a site which

- (a) is a contaminated site at the effective date of the appointment, or
- (b) became a contaminated site after the effective date of the appointment,

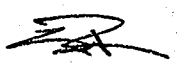
is not personally responsible for remediation as an owner or operator under section 20.31 of the Act if the receiver, receiver manager or trustee, after the appointment,

- (c) has not exercised control over or imposed requirements on any person which, in whole or in part, caused the site to become a contaminated site, and
- (d) applied reasonably necessary steps to undertake remediation and
  - (i) complied with all requirements respecting site profiles,
  - (ii) reviewed the records of the property and, if reasonably necessary, interviewed the

- management personnel of the estate to determine whether there are any contamination issues of concern to the estate,
- (iii) where there were any contamination issues of concern at the site, conducted a preliminary site investigation and provided it to a manager, and
- (iv) took such action as is reasonable in the circumstances to ensure compliance with all environmental laws.

(2) Nothing in subsection (1) removes the obligation of a receiver, receiver manager or trustee for carrying out applicable remediation requirements under Part 3.1 of the Act, including complying with a remediation order, when acting as an agent, officer, representative, or fiduciary of another person, including a secured creditor, at a contaminated site, but the liability of the obligation is limited to the realizable value of the property at the contaminated site, net of reasonable fees and expenses of the receiver, receiver manager or trustee.

(3) A receiver, receiver manager, or trustee is personally responsible for remediation at a contaminated site when it ceases to administer the property at a contaminated site without having made reasonable efforts, consistent with diligent commercial



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practice, to implement safeguards to adequately protect human health or the environment.

**Persons Not Responsible -- Clarification of Innocent Acquisition Exemption**

10. When judging whether an owner or operator has, under section 20.4(1)(d)(i)(C) of the Act, undertaken all appropriate inquiries into the previous ownership and uses of the site and undertaken other investigations, consistent with good commercial or customary practice, consideration shall be given to

- (a) any specialized knowledge or experience of the owner or operator respecting contamination,
- (b) the relationship of the actual purchase price to the value of the property if it was uncontaminated,
- (c) commonly known or reasonable ascertainable information about the property,
- (d) any obvious presence of contamination or indicators of contamination or the feasibility of detecting such contamination by appropriate inspection, and
- (e) industry and government standards of practice applicable to the owner or operator at the time of acquisition of property.

**Persons Not Responsible -- Clarification of Section 20.4(1)(e)**

11. Section 20.4(1)(e) of the Act does not apply to an owner of property who

- (a) leased or rented the property to another person, and
- (b) knew or had a reasonable basis for knowing that the person referred to in paragraph (a) disposed of, handled or treated a substance in a manner that, in whole or in part, caused the site to become a contaminated site.

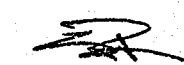
**Persons Not Responsible -- Clarification of Municipal Exemption**

12. The term "government restructuring" of section 20.4(1)(g) of the Act includes a municipal boundary extension or municipal amalgamation.

**Remediation Order -- Timing for Consent and Notice**

13.(1) Subject to subsection (3), a manager who receives

- (a) a site profile under section 20.11(8) of the Act, and



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- (b) a request under section 20.5(9) of the Act for notice respecting whether a remediation order will be issued,

shall provide the notice within 10 days.

(2) Subject to subsection (3), where requested by a person to give consent under section 20.5(7) of the Act, a manager shall consider and decide upon the request to do so within 10 days.

(3) Where a manager requires more than 10 days to obtain information, or to consider information already available, to enable a reasonable determination of whether a remediation order will be issued or whether the subject assets could be used to satisfy the terms and conditions of a remediation order, the manager shall

- (a) give notice to the person making the request under subsection 1(b) or (2) that more time is required, and

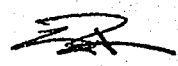
- (b) in the notice of paragraph (a), state how much more time is required.

(4) In no case shall the manager take more than 30 days to review a person's request for consent under section 20.5(7) of the Act.

**Remediation Orders -- Diminishing or Reducing Assets**

14. A person does not diminish or reduce assets under section 20.5(7) of the Act if that person

- (a) converts assets from one class to another class, including without limitation allowing the conversion of inventory to be sold and converted to a receivable or a receivable collected and turned into cash, provided the converted asset is readily available for meeting the terms of a remediation order, if required,
- (b) pays fair value for supplies, services or other benefits conferred upon the owner of the asset after the date of the order, provided always that such payment is required to allow a business to avoid insolvency and to allow business-like operations, and
- (c) after the date of the remediation order, makes or accepts payments on loans or advances, revolves an operating line of credit, reduces the maximum available under an operating line of credit, or refuses to advance further funds.

  
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**Minor Contributors**

15. A responsible person applying for minor contributor status pursuant to section 20.6 of the Act shall provide information respecting

- (a) the condition of the contaminated site at the time the applicant
  - (i) acquired an ownership interest at the site, and
  - (ii) disposed of the ownership interest,
- (b) any activities and land uses by the applicant while located at the site,
- (c) the nature and quantity of contamination at the site attributable to the applicant,
- (d) all measures taken by the applicant to prevent or remediate contamination,
- (e) contamination on the site or released from the site which is attributable to
  - (i) the applicant, and
  - (ii) other persons at the site, and

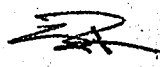


- (f) all measures taken by the applicant to exercise due diligence with respect to any substance that, in whole or in part, caused the site to become a contaminated site, including any measures taken to prevent foreseeable acts of third parties which may have contributed to the contamination at the site.

#### **Voluntary Remediation Agreements**

16. A responsible person requesting a voluntary remediation agreement under section 20.61 shall provide the following information to the manager:

- (a) a detailed site investigation;
- (b) a remediation plan;
- (c) a detailed description of the responsible person's historic and current activities on the site, including the amount and characteristics of contamination at the site attributable to that person's activities;

  
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- (d) an estimate of the total cost of remediation;
- (e) an estimate of the responsible person's share of the total cost of remediation and justification for the estimate, including how the estimate is based on the person's activities on the site;
- (f) names of other persons whom the responsible person has reason to believe may, with respect to the subject contaminated site, be responsible persons as described in section 20.31 of the Act; and
- (g) a statement describing the responsible person's ability to conduct or finance the remedial action.

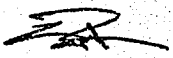
**Division V -- Contaminated Soil Relocation****Definitions**

17. In this Division,

"contaminated site" for purposes of section 20.81 of the Act and this Division means a site on which contaminated soil occurs; and

"contaminated soil" for the purposes of section 20.81 of the Act and this Division means any soil at or from a contaminated site that contains

- (a) any substance with a concentration greater than or equal to any of those concentrations of substances in Columns II to VI of Schedule 6, or
- (b) special waste.

  
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**Disposal of non-contaminated soil**

18. Sections 3(1.1) and (1.2) of the Act do not apply to soil which is not contaminated soil.

**Soil Relocation without a contaminated soil relocation agreement**

19.(1) Where a site is authorized for landfill waste disposal, in any of the ways referred to in section 20.81 (5)(a), (b) or (c) of the Act, but the authorization does not expressly indicate that contaminated soil is acceptable for deposit in the landfill, contaminated soil is authorized for deposit in the landfill without a contaminated soil relocation agreement, provided that

(a) if the site will be used for agricultural land use, the concentration of any substance in the contaminated soil must not be greater than or equal to the concentration of that substance specified in Column II of Schedule 6,

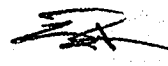
(b) if the site will be used for urban park land use, the concentration of any substance in the contaminated soil



must not be greater than or equal to the concentration of that substance specified in Column III of Schedule 6,

- (c) if the site will be used for commercial land use, the concentration of any substance in the contaminated soil must not be greater than or equal to the concentration of that substance specified in Column V of Schedule 6,
- (d) if the site will be used for industrial land use, the concentration of any substance in the contaminated soil must not be greater than or equal to the concentration of that substance specified in Column VI of Schedule 6, or
- (e) if the site will be used only for waste disposal, the concentration of any substance in the contaminated soil may be greater than or equal to the concentration of that substance specified in Column VI of Schedule 6, but the contaminated soil must not contain special waste other than in accordance with the Special Waste Regulation,

and provided that approval in principle has been issued for the contaminated site from which the soil is being relocated.



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(2) Subsection (1) does not authorize deposit of contaminated soil with the concentration of any substance greater than or equal to the concentration of that substance specifically prohibited in any authorization given under the Act.

(3) Subsection (1) does not prevent an owner of a site for which an authorization has been given under the Act from refusing to accept any type of contaminated soil.

**Application for a contaminated soil relocation agreement**

20.(1) An application for a contaminated soil relocation agreement shall be made using the form set out in Schedule 8.

(2) The applicant in subsection (1) shall

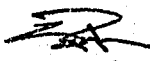
(a) complete and sign Part I of the form in Schedule 8,

- (b) ensure that Part II of the form in Schedule 8 is completed pursuant to subsection (3),
- (c) retain a copy of the form after Parts I and II are completed as required, and
- (d) provide to a manager the information required to issue an approval in principle for the contaminated site from which the soil is to be relocated as required under subsection 21(1).

(3) The owner or operator of a site proposed to receive contaminated soil shall complete and sign part II of the form in Schedule 8 and then retain a copy of the form after Parts I and II are completed as required.

**Conditions pertaining to a contaminated soil relocation agreement**

21.(1) An approval in principle for remediation pertaining to the site from which soil is to be relocated must be issued by a

  
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manager before or concurrent with issuance of the contaminated soil relocation agreement.

(2) Before soil relocation begins pursuant to a contaminated soil relocation agreement, the applicant under section 20 must ensure that notice from a manager as required under section 20.81(9) of the Act has been received by

- (a) the municipality from which the soil is removed, and
- (b) the municipality in which the receiving site is situated.

(3) Sections 3(1.1) and 3(1.2) of the Act do not apply to the deposit of contaminated soil made pursuant to a contaminated soil relocation agreement under section 20.81(2) of the Act, provided the contaminated soil does not contain any special waste, other than in accordance with the Special Waste Regulation.

**Numerical standards for contaminated soil relocation agreements**

22.(1) For the purpose of section 20.81(3)(a) of the Act, the numerical standards in Schedule 6 for the applicable land uses at the location of deposit apply.

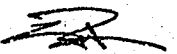
(2) Where the use of the site receiving the contaminated soil is not described by any of the land uses in Schedule 6, a manager may designate which standards in Schedule 6 apply.

**Risk based standards for contaminated soil relocation agreements**

23.(1) For the purpose of section 20.81(3)(b) of the Act, the risk based standards of section 5 of this regulation apply.

(2) A manager may include requirements as part of a contaminated soil relocation agreement where risk assessment has been used to evaluate site conditions, including those for

(a) a monitoring plan relative to impacts of the substances in the contaminated soil to be deposited,

  
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- (b) a plan for inspection and maintenance of any works considered necessary to secure the contamination at the receiving site and to protect the environment and human health,
- (c) security in an amount and form required by the manager in accordance with any methods, protocols or procedures established under Division VII,
- (d) site registry notations, or
- (e) preparation and registration of a restrictive covenant under section 215 of the *Land Title Act*.



**Division VI -- Remediation Approval and Completion****Approval in Principle**

24.(1) A responsible person may apply for an approval in principle under section 20.71(1) of the Act by completing and submitting to a manager the form set out in Schedule 9 and attaching or ensuring a manager already has

- (a) copies of all preliminary and detailed site investigation reports prepared under section 20.2(1) of the Act,
- (b) copies of any additional site investigation reports prepared under 20.2(3) of the Act, and
- (c) a remediation plan.

(2) Before issuing an approval in principle under section 20.71(1) of the Act, a manager may request any additional information and reporting the manager considers necessary to assess whether standards in sections 4 and 5 are likely to be complied with when a remediation plan has been implemented.

(3) When issuing an approval in principle for a site which is to be remediated according to prescribed numerical standards of

section 4, a manager may in accordance with section 20.71(1)(c) of the Act specify conditions which may include but need not be limited to matters in a remediation plan, or to

(a) notifying owners of adjoining properties,

(i) from or to whose property contamination may have migrated, and

(ii) who may be directly affected by remediation,

providing information about investigations which have occurred, contamination occurring on the site, and planned remediation procedures and schedules,

(b) interim risk assessment and risk management measures which may be required for portions of a site where remediation implementation will be delayed for a specified period for any reason,

(c) preparation, registration, and criteria for final discharge of a restrictive covenant under section 215 of the *Land Title Act* if required where risk assessment and risk management requirements have been set under subsection (3)(b),

- (d) carrying out confirmatory sampling and analysis after treatment or removal of contamination, and
  - (e) any security required by a manager relating to implementing the remediation plan or to managing the contamination at the site for the purpose of any or all of
    - (i) ensuring that a responsible person completes remediation or guarantees performance to the satisfaction of the manager,
    - (ii) providing funds to further treat, remove, or otherwise manage contamination, and
    - (iii) complying with applicable legislation and financial management and operating policies of the province.
- (4) When issuing an approval in principle for a site which is to be remediated according to prescribed risk based standards and prescribed environmental impact requirements of section 5, a manager may, in accordance with section 20.71(1)(c) of the Act, specify conditions which may include but need not be limited to

matters related to items in a remediation plan, or to

(a) notifying owners of adjoining properties

(i) from or to whose property contamination may have migrated, and

(ii) who may be directly affected by remediation

providing information about investigations which have occurred, contamination occurring on the site, and planned remediation procedures and schedules,

(b) registering a restrictive covenant under section 215 of the *Land Title Act* under section 25 of this regulation,

(c) testing and monitoring to evaluate the quality and performance of risk management measures, on completion of remediation in accordance with the remediation plan, and

(d) any security required by a manager relating to implementing the remediation plan or to managing the contamination at the site for the purpose of any or all of

- (i) ensuring that a responsible person completes remediation to the satisfaction of the manager,
- (ii) providing funds to further treat, remove, or otherwise manage contamination,
- (iii) complying with applicable legislation and financial management and operating policies of the province, and
- (iv) ensuring the required inspection, maintenance and monitoring is continued as considered necessary by a manager to protect the environment or human health if the responsible person implementing the remediation plan or others who may become responsible for the contamination ceases to carry it out.



**Restrictive Covenants**

25. A manager may require a restrictive covenant under section 215 of the *Land Title Act* for the purpose of any or all of

- (a) giving notice to any affected parties of the location and nature of contamination being managed at the site,
- (b) setting conditions regarding works and their inspection and maintenance at the site, considered necessary to secure the contamination at the site and to protect the environment and human health in the long term,
- (c) restricting disturbance of soils or sediments, or changing use of a site which would invalidate a risk assessment and potentially increase exposure of users of the site to contamination,
- (d) specifying monitoring requirements or an acceptable monitoring plan to allow determination of unacceptable movement or impacts of contamination,

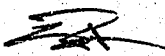
- (e) indemnifying the Crown or its agents or employees from losses, charges, actions or suits related to contamination remaining a site, and
- (f) providing procedures and criteria for final discharge of a covenant

if these purposes are unlikely to be satisfactorily met by

- (g) entry of notations in the site registry, and
- (h) specifications or conditions in a conditional certificate of compliance.

#### **Certificates of Compliance**

26. A person may request a certificate of compliance under section 20.71(2) of the Act by completing and submitting a application to an manager in the form set out in Schedule 10 and attaching or ensuring a manager already has

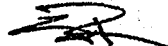
  
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- (a) information on confirmatory sampling and analyses carried out after treatment or removal of contamination including
  - (i) a description of sampling locations and methods used,
  - (ii) a schedule of sampling conducted,
  - (iii) results suitably summarized and evaluated, of field observations and of field and laboratory analyses carried on confirmatory samples, and
- (b) information on compliance with all conditions set by a manager under subsection 24(3) if an approval in principle was issued prior to remediation.

**Conditional Certificates of Compliance**

27. A person may request a conditional certificate of compliance under section 20.71(3) of the Act by completing and submitting an application to a manager on the form set out in Schedule 11 and attaching or ensuring a manager already has

- (a) information on confirmatory sampling and analyses, if any, carried out after remediation including
  - (i) a description of sampling locations and methods used,
  - (ii) a schedule of sampling conducted, and
  - (iii) results suitably summarized and evaluated, of field observations and of field and laboratory analyses carried on confirmatory samples,
- (b) information on testing and monitoring to evaluate the quality and performance of risk management measures, on completion of remediation in accordance with the remediation plan, and

  
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- (c) information on compliance with all conditions set by a manager under subsection 24(4) if an approval in principle was issued prior to remediation.

#### Security as a Condition of a Certificate

28.(1) If security is a condition of any approval in principle under subsection 24(4)(d), all terms of the security requirement shall be met before a manager may issue a certificate of compliance or a conditional certificate of compliance.

(2) If a manager requires security accordance with section 20.71(2)(b) of the Act, before a manager issues a certificate of compliance or a conditional certificate of compliance, a responsible person shall provide

- (a) satisfactory evidence of the availability to a manager of the required security, and

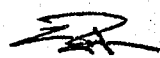


- (b) any required contractual agreement relating to terms and conditions of the security, signed by an authorized individual.

#### Certificate for Part of a Site

29. When a responsible person applies for and a manager issues an approval in principle, a certificate of compliance or a conditional certificate for a part of a contaminated site under section 20.71(6) of the Act, a manager shall

- (a) provide to the registrar information on the part of a site to which the approval in principle, certificate of compliance or conditional certificate of compliance applies, and
- (b) consider whether a restrictive covenant under section 215 of the *Land Title Act* is required to ensure that any part or parts not remediated will be remediated.

  
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**Division VII -- Methods, Protocols and Procedures****Methods, Protocols and Procedures Approved by the Director**

30.(1) The director may approve methods, protocols or procedures, including those for

- (a) choosing the substances for which field or laboratory analyses are required to describe classes of sites and contaminated soils,
- (b) sampling soil, water, and other media,
- (c) testing or analysing soil, water, and other media,
- (d) carrying out statistical designs, analyses, and evaluations of data,
- (e) carrying out risk assessment consisting of various steps and processes, including prevention and mitigation of environmental impacts,
- (f) modelling physical, chemical or biological processes,
- (g) evaluating, ranking or classifying site conditions under section 20.81 (3) of the Act at a location where

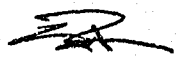
deposit of contaminated soil is being considered with a contaminated soil relocation agreement, and

- (h) setting requirements relating to assessment and control of environmental impacts, including monitoring, designed to mitigate any significant impacts.

(2) The director may approve methods, protocols or procedures for determining forms and amounts of security which may be required when entering agreements or issuing orders, approvals or certificates, including

- (a) remediation orders,
- (b) voluntary remediation agreements,
- (c) contaminated soil relocation agreements,
- (d) approvals in principle,
- (e) certificates of compliance, and
- (f) conditional certificates of compliance.

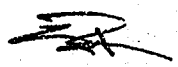
(3) Where methods, protocols or procedures have been approved by the director under subsection (1) or (2), only those methods,

  
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protocols or procedures, or alternate methods or protocols approved by the director may be used.

**Schedule 6**  
**Soil Numerical Standards<sup>1</sup>**  
**Maximum Acceptable Concentrations of Substances in Soil**

COLUMN I	COLUMN II	COLUMN III	COLUMN IV	COLUMN V	COLUMN VI
Substance	Agricultural (AL)	Urban Park (PL)	Residential (RL)	Commercial (CL)	Industrial (IL)
<b>Inorganic Substances</b>					
antimony	20	20	20	40	40
arsenic	20	30	30	50	50
barium	750	500	500	2000	2000
beryllium	4	4	4	8	8
boron (hot water soluble)	2				
cadmium	3	5	5	20	20
chromium (+6)	8	8	8		
chromium (total)	750	250	250	800	800
cobalt	40	50	50	300	300
copper	150	100	100	500	500
cyanide (free)	0.5	10	10	100	100
cyanide (total)	5	50	50	500	500
fluoride (total)	200	400	400	2000	2000
lead	375	500	500	1000	1000
mercury	0.8	2	2	10	10
molybdenum	5	10	10	40	40
nickel	150	100	100	500	500
selenium	2	3	3	10	10
silver	20	20	20	40	40
sulphur (elemental)	500				
thallium	1				
tin	5	50	50	300	300
vanadium	200	200	200		
zinc	600	500	500	1500	1500
<b>Monocyclic Aromatic Hydrocarbons</b>					
benzene	0.05	0.5	0.5	5	5
chlorobenzene	0.1	1	1	10	10
1,2-dichlorobenzene	0.1	1	1	10	10
1,3-dichlorobenzene	0.1	1	1	10	10
1,4-dichlorobenzene	0.1	1	1	10	10
ethylbenzene	0.1	5	5	50	50
styrene	0.1	5	5	50	50
toluene	0.1	3	3	30	30
xylene	0.1	5	5	50	50

  
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**Soil Numerical Standards<sup>1</sup>**  
Maximum Acceptable Concentrations of Substances in Soil

COLUMN I	COLUMN II	COLUMN III	COLUMN IV	COLUMN V	COLUMN VI
Substance	Agricultural (AL)	Urban Park (PL)	Residential (RL)	Commercial (CL)	Industrial (IL)
<b>Phenolic Substances</b>					
non-chlorinated <sup>2</sup> (each)	0.1	1	1	10	10
chlorophenols <sup>3</sup> (each)	0.05	0.5	0.5	5	5
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>					
benzo(a)anthracene	0.1	1	1	10	10
benzo(a)pyrene	0.1	1	1	10	10
benzo(b)fluoranthene	0.1	1	1	10	10
benzo(k)fluoranthene	0.1	1	1	10	10
dibenz(a,h)anthracene	0.1	1	1	10	10
indeno(1,2,3-c,d)pyrene	0.1	1	1	10	10
naphthalene	0.1	5	5	50	50
phenanthrene	0.1	5	5	50	50
pyrene	0.1	10	10	100	100
<b>Chlorinated Hydrocarbons</b>					
chlorinated aliphatics <sup>4</sup> (each)	0.1	5	5	50	50
chlorobenzenes <sup>5</sup> (each)	0.05	2	2	10	10
hexachlorobenzene	0.05	2	2	10	10
hexachlorocyclohexane	0.01				
PCBs <sup>6</sup>	0.5	5	5	50	50
PCDDs and PCDFs <sup>7</sup>	0.00001	0.001	0.001		
<b>Miscellaneous Organic Substances</b>					
non-chlorinated aliphatics (each)	0.3				
phthalic acid esters (each)	30				
quinoline	0.1				
thiophene	0.1				

# Soil Numerical Standards<sup>1</sup>

## Maximum Acceptable Concentrations of Substances in Soil

### Footnotes

<sup>1</sup>All values in µg/g unless otherwise stated

<sup>2</sup>Non-chlorinated phenolic substances include

2,4-dimethylphenol  
2,4-dinitrophenol  
2-methyl 4,6-dinitrophenol  
nitrophenol (2-, 4-)  
phenol  
cresol

<sup>3</sup>Chlorophenols include

chlorophenol isomers (ortho, meta, para)  
dichlorophenols (2,6-, 2,5-, 2,4-, 3,5-, 2,3-, 3,4-)  
trichlorophenols (2,4,6-, 2,3,6-, 2,4,5-, 2,3,5-, 2,3,4-, 3,4,5-)  
tetrachlorophenols (2,3,5,6-, 2,3,4,5-, 2,3,4,6-)  
pentachlorophenol

<sup>4</sup>Aliphatic chlorinated hydrocarbons include

chloroform  
dichloroethane (1,1-, 1,2-), dichloroethene (1,1-, 1,2-)  
dichloromethane  
1,2-dichloropropane, 1,3-dichloropropene (cis and trans)  
1,1,2,2-tetrachloroethane, tetrachloroethene  
carbon tetrachloride  
trichloroethane (1,1,1-, 1,1,2-) trichloroethene

<sup>5</sup>Chlorobenzenes include

all trichlorobenzene isomers  
all tetrachlorobenzene isomers  
pentachlorobenzene

<sup>6</sup>PCBs include mixtures 1242, 1248, 1254 and 1260.

<sup>7</sup>PCDDs and PCDFs expressed in 2,3,7,8-TCDD equivalents. NATO International Toxicity Equivalency Factors (I-TEFs) for congeners and isomers of PCDDs and PCDFs are as follows:

Congener	TEF	Congener	TEF
2,3,7,8-T <sub>4</sub> CDD	1.0	2,3,7,8-T <sub>4</sub> CDF	0.1
1,2,3,7,8-P <sub>5</sub> CDD	0.5	2,3,4,7,8-P <sub>5</sub> CDF	0.5
1,2,3,4,7,8-H <sub>6</sub> CDD	0.1	1,2,3,7,8-P <sub>5</sub> CDF	0.05
1,2,3,7,8,9-H <sub>6</sub> CDD	0.1	1,2,3,4,7,8-H <sub>6</sub> CDF	0.1
1,2,3,6,7,8-H <sub>6</sub> CDD	0.1	1,2,3,7,8,9-H <sub>6</sub> CDF	0.1
1,2,3,4,6,7,8-H <sub>7</sub> CDD	0.01	1,2,3,6,7,8-H <sub>6</sub> CDF	0.1
O <sub>8</sub> CDD	0.001	2,3,4,6,7,8-H <sub>6</sub> CDF	0.1
		1,2,3,4,6,7,8-H <sub>7</sub> CDF	0.01
		1,2,3,4,7,8,9-H <sub>7</sub> CDF	0.01
		O <sub>8</sub> CDF	0.001

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**Schedule 7**  
**Surface Water and Groundwater Numerical Standards<sup>1</sup>**  
**Maximum Acceptable Concentrations of Substances in Surface Water and Groundwater**

COLUMN I	COLUMN II	COLUMN III	COLUMN IV	COLUMN V
Substance	Freshwater Aquatic Life <sup>2</sup> (FW)	Irrigation <sup>2,3</sup> (IW)	Livestock <sup>2</sup> (LW)	Drinking Water <sup>4</sup> (DW)
<b>Inorganic Substances</b>				
aluminum	5-100 <sup>6</sup>	5000	5000	
ammonia	1370-2200 <sup>7</sup>			
arsenic	50	100	500 <sup>21</sup>	25
barium				1000
beryllium		100	100	
boron (total)		500-6000 <sup>9</sup>	5000	5000
cadmium	0.2-1.8 <sup>12</sup>	10	20	5
calcium			1000 mg/l	
chloride (total)		100-700 mg/l <sup>9</sup>		250 mg/l <sup>5</sup>
chloride (total residual)	2			
chromium	2-20	100	1000	50
cobalt		50	1000	
copper	2-4 <sup>8</sup>	200-1000 <sup>9</sup>	— <sup>22</sup>	1000 <sup>5</sup>
cyanide (free, CN)	5			200
cyanide (total)				1500
fluoride (total)		1000	1000 <sup>21</sup>	
iron	300	5000		300 <sup>5</sup>
lead	1-7 <sup>8</sup>	200	100	10
lithium		2500		
manganese		200		50 <sup>5</sup>
mercury	0.1		3	1
molybdenum		10 <sup>19</sup> , 50 <sup>20</sup>	500	
nickel	25-150 <sup>8</sup>	200	1000	
nitrate				45mg/l <sup>10</sup>
nitrate and nitrite			100mg/l	
nitrite	60		10mg/l	4.5mg/l <sup>10</sup>
selenium	1	20 <sup>19</sup> , 50 <sup>20</sup>	50	10
silver	0.1			
sodium		— <sup>11</sup>		200 mg/l <sup>5</sup>
sulphate			1000 mg/l	500 mg/l <sup>5</sup>
uranium		10	200	100
vanadium		100	100	
zinc	30	1000 <sup>12,19</sup> , 5000 <sup>12,20</sup>	50 000	5000 <sup>5</sup>
<b>Monocyclic Aromatic Hydrocarbons</b>				
benzene	300 <sup>11</sup>			5
ethylbenzene	700 <sup>11</sup>			2.4 <sup>5</sup>
toluene	300			24 <sup>5</sup>
xylene				300 <sup>5</sup>

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**Surface Water and Groundwater Numerical Standards<sup>1</sup>**  
**Maximum Acceptable Concentrations of Substances in Surface Water and Groundwater**

COLUMN I	COLUMN II	COLUMN III	COLUMN IV	COLUMN V
Substance	Freshwater Aquatic Life <sup>2</sup> (FW)	Irrigation <sup>2,3</sup> (IW)	Livestock <sup>2</sup> (LW)	Drinking Water <sup>4</sup> (DW)
<b>Phenolic Substances</b>				
phenols (total) <sup>13</sup>	1			
chlorinated phenols				
monochlorophenol	7			
dichlorophenols	0.2			900 <sup>14</sup> ; 0.3 <sup>5,14</sup>
trichlorophenols	18			5 <sup>15</sup> ; 2 <sup>5,15</sup>
tetrachlorophenols	1			100 <sup>16</sup> ; 1 <sup>5,16</sup>
pentachlorophenol	0.5			60; 30 <sup>5</sup>
<b>Polycyclic Aromatic Hydrocarbons</b>				
benzo(a)pyrene				0.01
<b>Chlorinated Hydrocarbons</b>				
chlorinated aliphatics				
dichloroethane, 1,2-	100			5
dichloromethane				50
hexachlorobutadiene	0.1			
hexachlorocyclohexane isomers	0.01			
tetrachloroethylene	260			
trichloroethylene	20			50
chlorinated benzenes				
monochlorobenzene	15			80; 30 <sup>5</sup>
dichlorobenzene, 1,2-	2.5			200; 3 <sup>5</sup>
dichlorobenzene 1,3-	2.5			
dichlorobenzene, 1,4-	4			5; 1 <sup>5</sup>
trichlorobenzene, 1,2,3-	0.9			
trichlorobenzene, 1,2,4-	0.5			
trichlorobenzene, 1,3,5-	0.65			
tetrachlorobenzene, 1,2,3,4	0.1			
tetrachlorobenzene, 1,2,3,5-	0.1			
tetrachlorobenzene, 1,2,4,5-	0.15			
pentachlorobenzene	0.03			
hexachlorobenzene	0.0065			
PCBs	0.001 <sup>17</sup>			
halogenated methanes				
carbon tetrachloride				5
trihalomethanes				350
<b>Phthalate Esters</b>				
DBP	4			
DEHP	0.6			
other phthalate esters	0.2			

**Surface Water and Groundwater Numerical Standards<sup>1</sup>**  
**Maximum Acceptable Concentrations of Substances in Surface Water and Groundwater**

COLUMN I	COLUMN II	COLUMN III	COLUMN IV	COLUMN V
Substance	Freshwater Aquatic Life <sup>2</sup> (FW)	Irrigation <sup>2,3</sup> (IW)	Livestock <sup>2</sup> (LW)	Drinking Water <sup>4</sup> (DW)
<b>Pesticides</b>				
aldicarb				9
aldrin and dieldrin	0.004			0.7
atrazine	2			60
azinphos-methyl				20
bendiocarb				40
bromoxynil				5
carbaryl				90
carbofuran	1.75			90
chlordan	0.006			7
chlorpyrifos				90
cyanazine	2			10
2,4-D	4			100
DDT	0.001			30 <sup>18</sup>
diazinon				20
dicamba				120
diclofop-methyl				9
dimethoate				20
diquat				70
diuron				150
endosulfan	0.02			
endrin	0.0023			
glyphosate	65			280
heptachlor & heptachlor epoxide	0.01			3
lindane				4
malathion				190
methoxychlor				900
metolachlor				50
metribuzin	1			80
paraquat				10
parathion				50
phorate				2
picloram	29			190
simazine				10
2,4,5-T				280; 20 <sup>5</sup>
temephos				280
terbufos				1
toxaphene	0.008			
trallate				230
trifluralin				45

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**Surface Water and Groundwater Numerical Standards<sup>1</sup>**  
**Maximum Acceptable Concentrations of Substances in Surface Water and Groundwater**

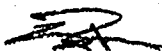
COLUMN I	COLUMN II	COLUMN III	COLUMN IV	COLUMN V
Substance	Freshwater Aquatic Life <sup>2</sup> (FW)	Irrigation <sup>3</sup> (IW)	Livestock <sup>2</sup> (LW)	Drinking Water <sup>4</sup> (DW)
<b>Radiological Substances</b>				
<sup>137</sup> cesium				50 Bq/ℓ
<sup>131</sup> iodine				10 Bq/ℓ
<sup>226</sup> radium				1 Bq/ℓ
<sup>90</sup> strontium				10 Bq/ℓ
<sup>3</sup> tritium				4000 Bq/ℓ

## Surface Water and Groundwater Numerical Standards<sup>1</sup>

Maximum Acceptable Concentrations of Substances in Surface Water and Groundwater

### Footnotes

- <sup>1</sup>All values in  $\mu\text{g}/\ell$  unless otherwise stated.
- <sup>2</sup>Standards for heavy metals and trace ions are for total concentrations in unfiltered samples. Groundwater monitoring samples must include both dissolved (field filtered and fixed) and total determinations.
- <sup>3</sup>Applies to irrigation of all soil types.
- <sup>4</sup>Drinking water standards are for unfiltered samples obtained at the point of consumption. Heavy metals, metalloids and inorganic ions are expressed as total concentrations (particulate and dissolved) unless otherwise indicated.
- <sup>5</sup>Standard is set on the basis of aesthetic considerations. Consult Director for further advice.
- <sup>6</sup>Standard varies with pH, calcium, and dissolved organic carbon concentrations. Consult Director for further advice.
- <sup>7</sup>Standard changes with temperature and pH. Consult Director for further advice.
- <sup>8</sup>Standard changes with hardness. Consult Director for further advice.
- <sup>9</sup>Standard varies depending on crop. Consult Director for further advice.
- <sup>10</sup>Equivalent to 10.0 mg/ $\ell$  nitrate as nitrogen. Where nitrate and nitrite are determined separately, levels of nitrite should not exceed 4.5 mg/ $\ell$  (1.0 mg/ $\ell$  as nitrogen).
- <sup>11</sup>Refer to Canadian Water Quality Guidelines.
- <sup>12</sup>Standard changes with pH. Consult Director for further advice.
- <sup>13</sup>Non-chlorinated phenolic substances include
- 2,4-dimethylphenol
  - 2,4-dinitrophenol
  - 2-methyl 4,6-dinitrophenol
  - nitrophenol (2-, 4-)
  - phenol
  - cresol
- <sup>14</sup>Determination of dichlorophenols to be reported as 2,4-dichlorophenol.
- <sup>15</sup>Determination of trichlorophenols to be reported as 2,4,6-trichlorophenol.
- <sup>16</sup>Determination of tetrachlorophenols to be reported as 2,3,4,6-tetrachlorophenol.
- <sup>17</sup>Standard for marine water is 0.01  $\mu\text{g}/\ell$
- <sup>18</sup>Includes DDT metabolites.
- <sup>19</sup>Standard for intermittent application on crops.
- <sup>20</sup>Standard for continuous application on crops.
- <sup>21</sup>Standard applies where dietary intakes or natural levels are high. Consult Director for further advice.
- <sup>22</sup>Standard varies with type of livestock. Consult Director for further advice.

  
APR 13 1994



*City of* **PORT COQUITLAM**

2580 SHAUGHNESSY STREET, PORT COQUITLAM, B.C. V3C 2A8 / PHONE: 944-5411 / FAX: 944-5402

EPC

February 22, 1994

L.T. Hubbard, Director  
Industrial Waste &  
Hazardous Contaminants Branch  
Environmental Protection Division  
B.C. Environment  
777 Broughton Street  
Victoria, B.C.  
V8V 1X5

Dear Mr. Hubbard:

**SUBJECT: CONTAMINATED SITES LEGISLATION AND REGULATIONS PURSUANT  
TO THE WASTE MANAGEMENT AMENDMENT ACT, 1993 (BILL 26)**

It has come to our attention that your department is currently reviewing the Ministry's legislation and regulations regarding contaminated sites.

As you are aware, the issue of contaminated soils affects local governments not only as owners of potential contaminated sites, but also as administrators of such sites within its boundaries.

Of particular interest to the City's Environmental Protection Committee is the issue of "contamination levels" currently being applied in determining hazardous waste materials.

It would be appreciated if you could advise if the Ministry proposes to amend any of the present B.C. Criteria concentration levels as part of this review.


Thank you in advance for taking the time to respond to our request.

Yours truly,

J. E. Yip, P. Eng.  
Deputy City Engineer

JEY:cd



  
APR 13 1994



Province of  
British Columbia

Ministry of  
Environment,  
Lands and Parks

**BC  
Environment**

Environmental Protection Division  
Industrial Waste and Hazardous  
Contaminants Branch

**MAILING ADDRESSES:**

Director and  
Contaminated Sites and Toxicology Section  
777 Broughton Street  
Victoria, B.C. V8V 1X5

Technical Services and Special Wastes Section  
1108, 1175 Douglas Street  
Victoria, B.C. V8V 1X5

Telephone: (604) 387-9992  
Facsimile: (604) 356-9836

File: 26000-03/PLAN

December 16, 1993

Dear Madam/Sir:

**Re: Contaminated Sites Regulation - DRAFT Part 1**

Attached please find a copy of the DRAFT Part 1 Contaminated Sites Regulation pursuant to the *Waste Management Amendment Act, 1993* (Bill 26).

My November 15, 1993 letter had the following document attached:

*Communications and Consultation Plan for the Contaminated Sites Regulation Under the Waste Management Act.* In accordance with the plan, the DRAFT Regulation is to be distributed in three (3) parts with the following targets:

- Part 1 - December 1993
- Part 2 - January 1994
- Part 3 - February 1994.

The purpose of distribution of the DRAFT Regulation in three parts is primarily to provide as much time as possible for review, comment, discussion, and revision as necessary. Review can therefore proceed concurrent with continued preparation of subsequent parts. We recognize the interaction between parts and the need for review of the regulation as a whole, so consultation on Parts 1 and 2 will continue and overlap with review of Part 3.

I indicated in my November 15, 1993 letter that meetings might be held to:

- introduce the content and intent of the DRAFT Regulation;
- provide additional background on the Regulation; and
- answer questions about the intent of the DRAFT parts.

For this purpose, two (2) identical presentations on DRAFT Part 1 are being planned for early January, 1994 as follows:

- January 13, 1994, 2:00-4:30pm, Vancouver - SFU Downtown Campus (Harbour Centre), 515 W. Hastings St., Fletcher Challenge Theatre.
- January 14, 1994, 9:30-12:00 noon, Victoria - Laurel Point Inn, 680 Montreal St., Salons A & B.

.../2

2  
The objective will be to provide an overview and answer questions, but will not be to revisit policy decisions inherent in Bill 26. Participants will not be expected to provide their detailed comments or views at these meetings but will be welcome to provide preliminary comments if they wish.

Written comments on DRAFT Part 1, or submissions on any portion of the proposed regulation will be welcome at any time, before or after the information meetings. As well, every effort will be made as time allows to schedule meetings on request to discuss specific comments, suggestions or implications to specific industry/interest sectors or types of site. To facilitate such meetings we prefer to meet with groups of representatives with similar concerns. Grouping arrangements you can make would be appreciated.

Thank you for your continued interest and the time you will take to review the draft regulation.

Yours sincerely,

*L. J. Hubbard*

L.T. Hubbard

Director

Industrial Waste & Hazardous Contaminants Branch

Attachments

cc Dr. J. O'Riordan  
D.A. Fast

*ER*  
APR 13 1994



THE CORPORATION OF THE  
CITY OF PORT COQUITLAM

MEMORANDUM

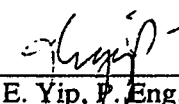
TO: Environmental Protection Committee      DATE: April 12, 1994  
FROM: J.E. Yip, P. Eng.,      FILE: 900-113  
Deputy City Engineer  
SUBJECT: COQUITLAM RIVER DYKE - STATUS OF DYKE CLOSURE PROJECT

---

This is a brief summary report on the status of the Coquitlam River Dyke Closure project.

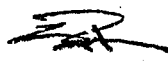
In discussion with Mr. Bob Cameron and Mr. Gunadasa of the Dyking Program, they have advised that the Minister has authorized the Construction Permit and plan to proceed within the next two weeks. Initial clearing is to start immediately along with a stock piling of material for the Dyke Construction. The Program will be accessing the existing dyke from Access #6 off the Mary Hill Road. The construction of the dyke will start from the south and progress north. Attached are plans showing the proposed dyke alignment. It is anticipated the construction of the dyke will take six to eight months to complete.

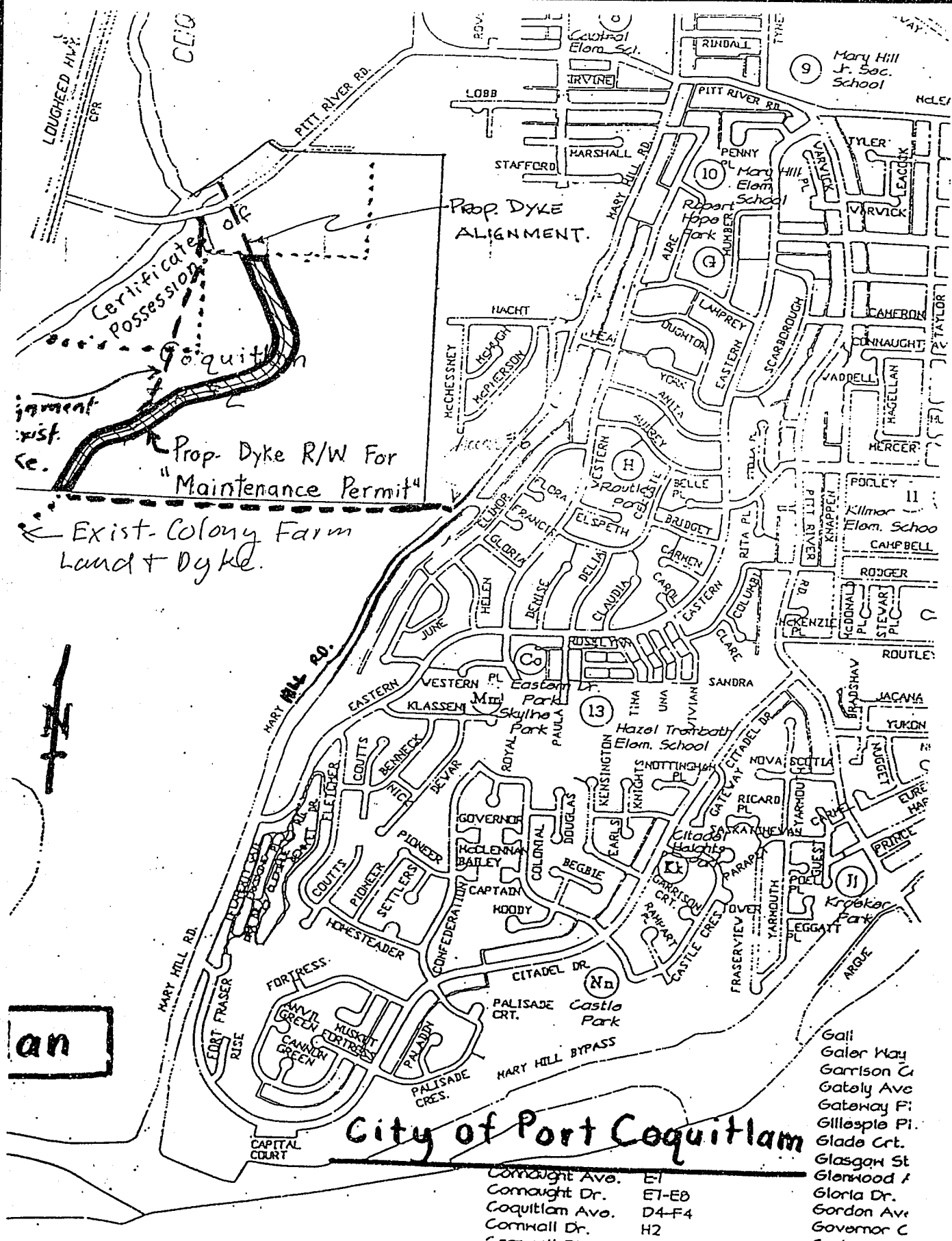
The City's solicitor is awaiting a revised schedule for the Maintenance Permit agreement. Once received the agreement will be forwarded to the City for signing.

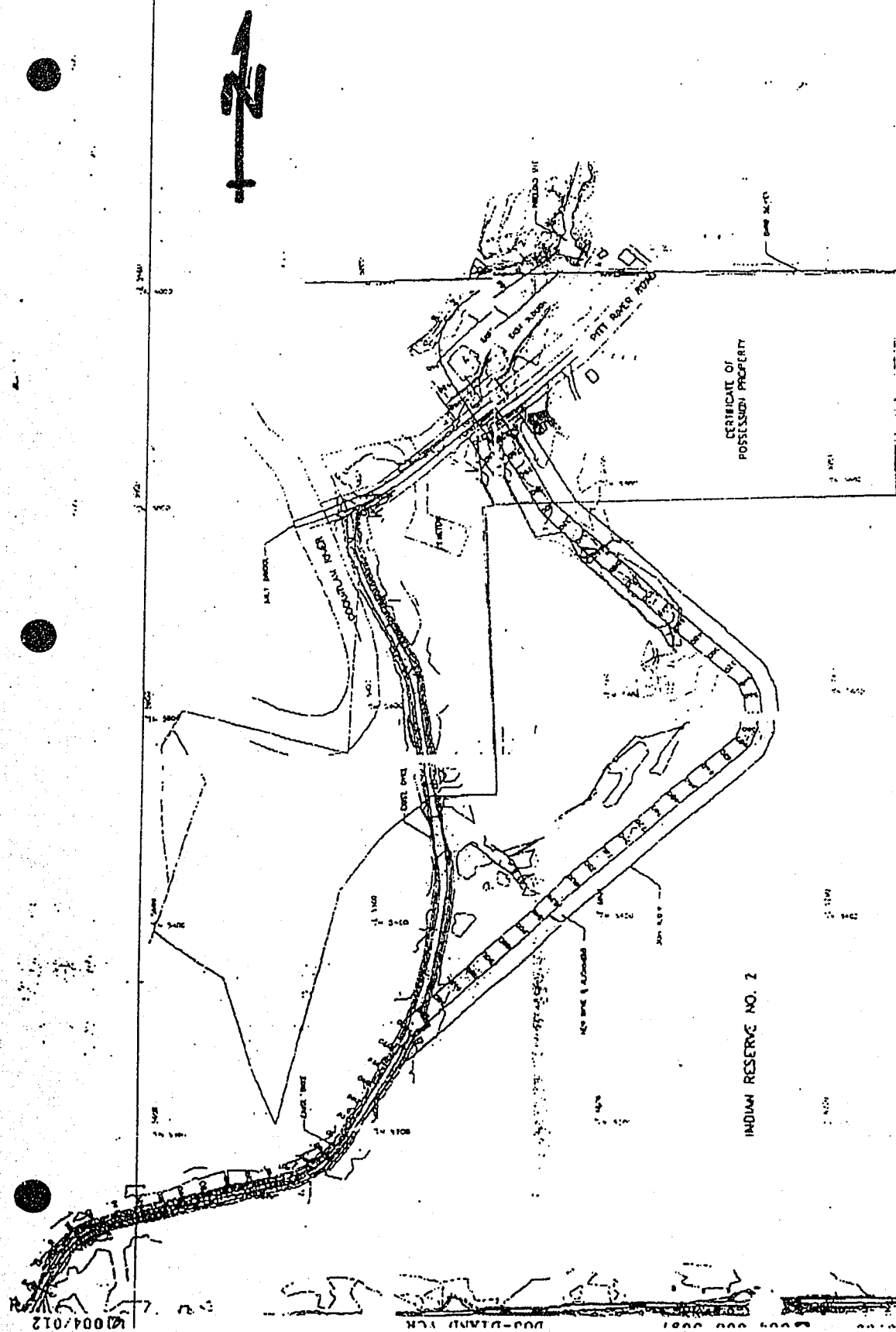
  
\_\_\_\_\_  
J. E. Yip, P. Eng.  
Deputy City Engineer

JEY:cd

Attachments (2)

  
APR 13 1994





PLAN  
DYE THROUGH I.R. NO. 2  
MADE 1993

INDIAN RESERVE NO. 2

APR 13 1994

THE CORPORATION OF THE  
CITY OF PORT COQUITLAM

MEMORANDUM

TO: Environmental Protection Committee      DATE: April 13, 1994  
FROM: Anne T. Pynenburg  
Project Technician  
SUBJECT: **RECYCLING PROBLEMS AT 2446 WILSON AVE.**

BACKGROUND & COMMENTS:

Attached is a letter sent to ETL, our recycling processor, asking that they address the issue of using grocery-type bags for recycling. The letter was prompted by complaints from the multi-unit complex at 2446 Wilson Ave. The complex has 180 units and straddles Wilson, Atkins and Kelly Ave. The residents of the complex prefer to use opaque or non-see-through type bags to put their recyclables in.

Resident Concerns

They have two reasons for wanting to use these type of bags:


- they find that a large percentage of seniors in the building prefer to use the smaller bags since they are easier to carry the recyclables to the location for pick-up,
- they prefer to use bags that they already have rather than purchasing bags (blue or clear bags) for recyclables.

While we sympathize with this complex and their particular concerns our main objective has been to provide a standard of service that all 11,000 single family units and 3,500 multi-family units can utilize. The program does not work from a maintenance, cost and practical perspective when isolated changes to the system are made to accommodate a particular house or unit(s).

Engineering Concerns

- if we allow the use of non-see-through bags at this location then other residents wishing to use another type of bag or container will have to be accommodated also,
- there will be confusion for the garbage collectors and the recycling collection staff if the materials at curbside are not clearly garbage OR recycling,

continued.....Pg.2

  
APR 13 1994



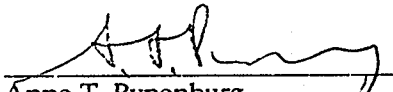
Recycling 2446 Wilson  
Page 2

-we have tried in the past to have our processor accept bags other than the see-through type with no positive results. Their concern is that if this is allowed the contamination level will increase and the end product will not be marketable. Also the City will have to pay a higher processing fee in order to retrieve the recyclable materials,

-for this particular site, 2446 Wilson, the issue of access is apparent. The complex has constructed a shelter-type container located at the end of Atkins Ave. where the residents can put their bags for pick-up. There is a large dumpster for refuse collection that is directly in front of the pick-up location. Accessing the pick-up location requires the trucks to pull-in and back out all the way to Shaughnessy St. in order to turn around. The alternative is to use a private driveway on Atkins to do this.

Francis, John Dundee, our Sanitation Foreman, and myself agree that only see-through bags should be used for curbside recycling.

NOTE: Councillor Keryluk has been notified by some of the residents and he will be monitoring the pick-up situation at this complex. Please send a copy of your response to him.

  
Anne T. Pynenburg  
Project Technician

attachment



Our File: 1500.20

Your File: AS-12863  
(TM)

To: Regional Waste Manager  
Ministry of Environment  
15326 - 103 A Avenue  
Surrey, British Columbia  
V3R 7A2

Re: Application for Approval  
Pursuant to Waste Management Act  
on behalf of Imperial Oil Ltd., Products Division  
Dated March 4, 1994

We have reviewed the subject application, and:

( ) We have no comments.

(X) We have concerns as follows:

See attached letter.

(X) The following would satisfy our concerns:

See attached letter.

(Date)

(604) 944-5411

(Telephone No.)

(Signature)

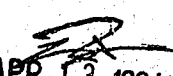
Francis K.K. Cheung, P. Eng.

(Name - please print)

CITY OF PORT COQUITLAM

(Agency)

cc: Councillor M. Gates, Chair, Environmental Protection Committee  
Councillor R. Talbot, Co-Chairman, Environmental Protection Committee  
J. Maitland, City Treasurer, Deputy City Administrator  
J.E. Yip, P. Eng., Deputy City Engineer

  
APR 13 1994



City of **PORT COQUITLAM**

2580 SHAUGHNESSY STREET, PORT COQUITLAM, B.C. V3C 2A8 / PHONE: 944-5411 / FAX: 944-5402

FILE: 1500.20

April 13, 1994

Regional Waste Manager  
Ministry of Environment  
15326 - 103 A Avenue  
Surrey, B.C.,  
V3R 7A2

Dear Sir and/or Madam,

**SUBJECT: APPLICATION FOR APPROVAL  
PURSUANT TO WASTE MANAGEMENT ACT ON BEHALF OF IMPERIAL  
OIL LTD., PROJECTS DIVISION  
DATED MARCH 4, 1994 (Your File: AS-12863)**

We are in receipt of your letter of March 31, 1994 regarding the above captioned application. We have reviewed the subject application and we have concerns as follows:

1. Public safety and health issue of local residents.
2. Odour problem resulted from bio-remediation, namely manure.
3. Noise and air emission problem caused by treatment facility.
4. Leachate problem from hydrocarbon contaminants.

The following would satisfy our concerns:

1. Fencing around the perimeter of the site must be maintained at all times.
2. An open letter notifying local residents of the scope of work, potential safety and health concerns caused resulted from bio-remediation, emergency contact person and phone number in the event of an emergency and hour of operations.
3. Erect proper signage on site notifying local residents of the scope of work, emergency contact person and phone number in the event of an emergency.
4. Odour from bio-remediation be filtered and ventilated.
5. Treatment facility operations hours must be restricted to normal business working hour and must be conform to City of Port Coquitlam Noise Bylaw.
6. Air emission quality from treatment facility must meet G.V.R.D. Air Emission Guideline.
7. Approved leachate collection system must be constructed for the treatment facility.

Should you have any further inquiries, please do not hesitate to contact me at 944-5411.

Yours very truly,

Francis K.K. Cheung, P. Eng.  
Project Engineer

FKKC/



APR 13 1994



**Greater Vancouver Regional District**  
4330 Kingsway, Burnaby, British Columbia, Canada V5H 4G8

**Solid Waste Department - Tel (604) 436-6800 Fax (604) 436-6811/436-6980**

General  
Telephone (604) 432-6200  
Fax (604) 432-6251

**TO: WASTE REDUCTION COORDINATORS**

**FROM: PAM NEL**  
**GVRD**  
**Solid Waste and Recycling Department**  
**Phone: 436-6801**  
**Fax: 436-6811**

**Please distribute appropriate person(s):**

Anmore	Hal Weinberg	Fax: 469-0537 #04
Belcarra	Janie Ross	Fax: 939-5034 #05
Burnaby	Ralph Bischoff	Fax: 294-7425 #07
Coquitlam	Debbie Moore	Fax: 664-1654 #09
Delta	Sharon Horsburgh	Fax: 946-7492 #40
Delta	Wayne MacEachern	Fax: 946-3823 #41
Langley	Ed Trottler	Fax: 530-4371 #13
Langley	Pete Scales	Fax: 533-0110 #15
Lions Bay	John Jordon	Fax: 921-6843 #16
Maple Ridge	Kelli Speirs	Fax: 467-6100 #42
Matsqui	Rick Bomhof	Fax: 853-2219 #20
Matsqui	John Richards	Fax: 850-7286 #43
New Westminster	Catalin Dobrescu	Fax: 521-3895 #21
North Vancouver	Allen Lynch	Fax: 984-3563 #44
Pitt Meadows	Greg Cross	Fax: 465-2405 #25
Port Coquitlam	Ann Pynenburg	Fax: 944-5407 #27
Port Moody	Ken Hanna	Fax: 936-9830 #28
Richmond	Suzanne Bycraft	Fax: 276-4197 #30
Surrey	Gerry McKinnon	Fax: 599-0956 #46
Vancouver	Julie Gordon	Fax: 871-0117 #45
White Rock	Ralman Howlett	Fax: 538-5049 #38
Electoral Areas	Sarah Pearson	Fax: 436-6970 #47

**Fax No. 438-6811 - One Touch #02**

**Fax No. 435-6890 - One Touch #02**

008-recy.fax

TO: [redacted] FROM: [redacted]  
 JY [redacted] A6  
 FC [redacted] A11  
 [redacted] A.C.



**Greater Vancouver Regional District**  
4330 Kingsway, Burnaby, British Columbia, Canada V5H 4G8

General  
Telephone (604) 432-6200  
Fax (604) 432-6251

Solid Waste Department - Tel (604) 436-6800 Fax (604) 436-6811/436-6980

TO: Municipal Waste Reduction Coordinators  
FROM: Pamela Nel  
DATE: April 5, 1994  
RE: Paint Collection via Curbside Programs

A Post-Consumer Paint Stewardship task force is jointly chaired by the MOE (Toxics Reduction Branch), the Canadian Paint and Coating Association and the BC Paint Manufacturers Association. This task force is currently studying options for the collection of used paint. Mike Stringer and Marian Kim of the GVRD Solid Waste department represent the District on the task force.

One of the options strongly supported by the Paint Associations is the collection of used paint through existing curbside recycling collection programs.

Your comments, please! The GVRD response to the option of using curbside programs must reflect your response.

Would you support such an initiative at this time? Yes \_\_\_\_\_ No ☒

What would it take for your municipality to consider adding used paint to your curbside collection program?

- person responsible for collection
- transportation approval
- proper storage & equipment for workers

What problems do you foresee resulting from such a program?

- WCB approval, regulations for handling & storage
- WHMIS
- container to collect material
- equipment to collect material
- (if) prohibition on collecting special paint and groups
- trucks containing
- fire dept. concerns
- violent reaction from spills etc.
- potential to collect contaminated paint on other items

**PLEASE RETURN YOUR RESPONSE BY FAX ( 436 6811) NO LATER THAN APRIL 18TH. Thanks.**

176FAX.DOC

\*\* TOTAL PAGE.002 \*\*  
P.002

APR-05-1994 15:30

604 436 6811

APR 13 1994