

Coal Harbour Water System

Emergency Response Plan

(December 2018)

Regional District of Mount Waddington

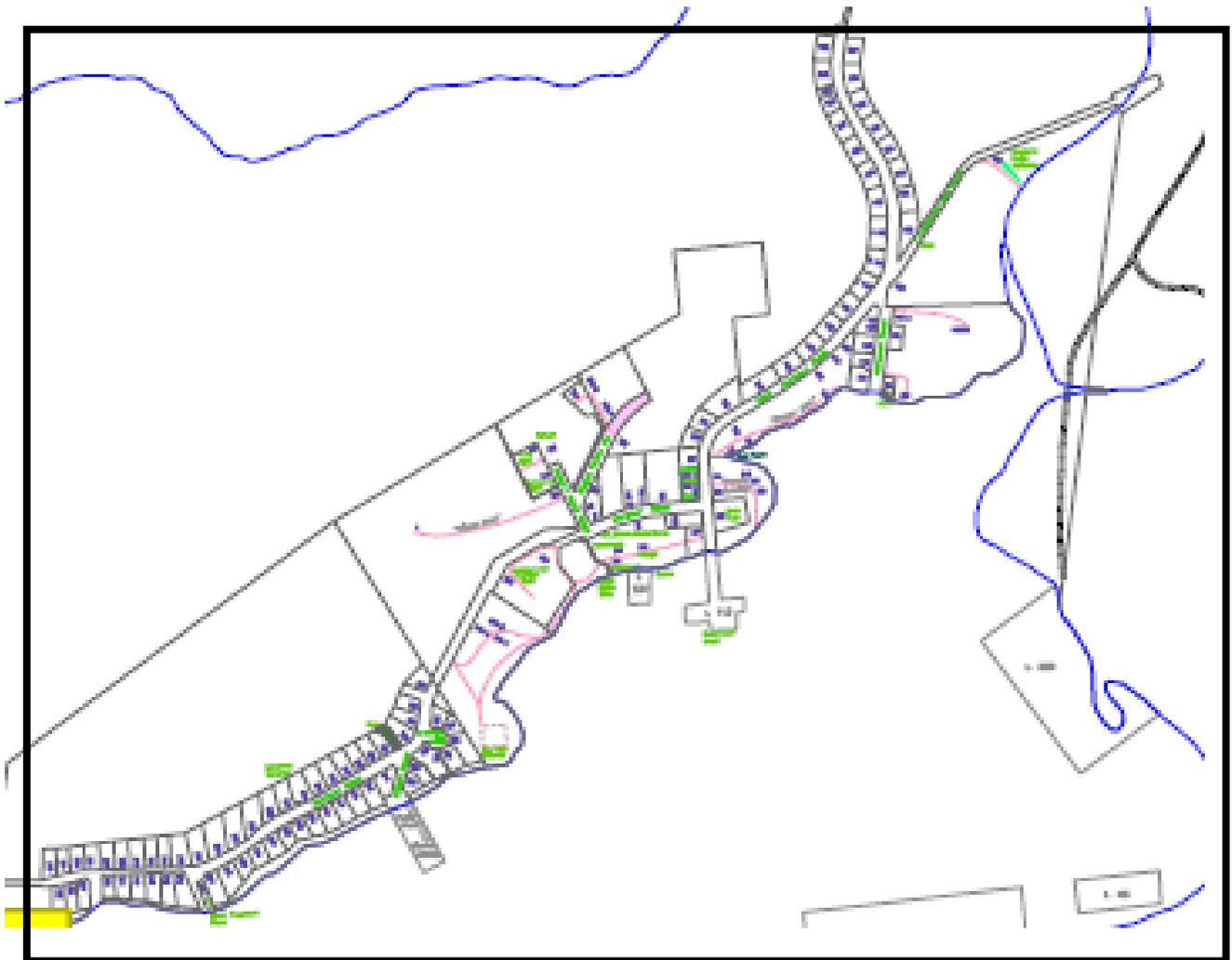


Table of Contents

Table of Contents	1
1. This Plan.....	3
1.1 What is the Water System Emergency Response Plan?.....	3
1.2 How to Use This Plan.....	4
1.3 Updates to this Guide	5
1.3.1 Registration	5
1.3.2 Updates.....	5
2. Emergency Response Plan Holders.....	6
2.1 Internal Emergency Response Plan Holders	6
3. Communication and Command.....	8
3.1 Communication and Command.....	8
3.1.1 Why is Communication Important?	8
3.1.2 What is the line of communication?.....	8
3.2 Initial Emergency Meeting.....	10
3.3 Internal Communications	11
3.4 External Emergency Message	12
4. Emergency Response Plan – Action List	13
4.1 Extended Loss of BC Hydro Power Supply	13
4.2 Failure of Programmable Logic Controllers	14
4.3 Chlorine Leak– Main Chlorine Station	15
4.4 Failure of the Chlorination System – Main Chlorine Station.....	16
4.5 Distribution Main Failure.....	17
4.6 Bacteriological Contamination of the Distribution System	18
4.7 Backflow / Backpressure Incident.....	19
4.8 Reservoir Intrusion.....	20
4.10 Quatse Lake Extreme Turbidity Readings	22
4.11 Plane Crash/Automobile Accident in Watershed.....	23
4.12 Watershed Fire	24
4.13 Major Earthquake.....	25
APPENDIX A	27
Master Contact List	27
APPENDIX B	29
ISSUING A WATER ADVISORY	29
BOIL WATER ADVISORY.....	31
CANCEL BOIL WATER ADVISORY.....	32
WATER USE RESTRICTION ADVISORY	33
CANCEL WATER USE RESTRICTION ADVISORY	34
APPENDIX C	36
Post-Incident Report.....	36
Incident Form	38
APPENDIX D	40
Letter of Understanding	40
Acknowledgement Form.....	41
Amendment Form	42

Coal Harbour Water System Emergency Response Plan December 2018

APPENDIX E.....	43
Safety (MSDS) data for sodium hypochlorite solution.....	44
Chemical Risk Phrases.....	46
Safety Phrases/EC Safety Phrases.....	48
Toxicity Abbreviations.....	50
APPENDIX F.....	52
Map of Community of Coal Harbour.....	52
House Number Map of Harbour Road (Catalina Estates).....	53
House Number Map of Harbour Road (Harbourview Trailer Park).....	53
House Number Map of Harbour Rd, Eagle Point Rd, Albert Hole Rd and Coal Harbour.....	54
House Number Map of Coal Harbour Rd and Harpoon Rd.....	54
House Number Map of Coal Harbour Rd and Stephens bay Rd.....	55
House Number Map of Coal Harbour Road leading out of Coal Harbour.....	55
Overview Map of Quatse Lake Pumphouse.....	56
Overview Map of Water Treatment Plant.....	56
Detailed Map of Quatse River Pumphouse.....	57
Detailed map of Water Treatment Plant Facility.....	57
APPENDIX G.....	58
Emergency Communication/Action Log.....	58

1. This Plan

1.1 What is the Water System Emergency Response Plan?

The Regional District of Mount Waddington is responsible for providing adequate supplies of clean potable water to the citizens of Coal Harbour/Quatsino Reserve, even in the event of an emergency or disaster. Disruptions in water quality and delivery may result from emergencies such as natural disasters, accidents, or intentional acts. If prepared in advanced, the Regional District will be more effective at responding to and recovering from such emergencies and disasters. The goal of the Regional District of Mount Waddington is to minimize all adverse impacts resulting from disruptions in the water system - this can be achieved *only* through sound emergency planning and thorough communication coordination.

In 1986, the Regional District of Mount Waddington took ownership of the Coal Harbour Water System which draws water through a submerged intake located along the south shore of Quatse Lake. This water is pumped through a 6 inch diameter line to the Coal Harbour water treatment plant that serves the community of Coal Harbour and the neighbouring Quatsino Reserve which have 136 and 78 connections respectively. Water in this system is chlorinated at the water treatment plant which was newly constructed in 2006. Continuous digital monitoring for temperature, flow, turbidity, and chlorine occurs at the treatment plant.

This plan has been prepared to guide the Regional District in responding to an emergency in the Coal Harbour Water System including:

- the Quatse Lake Watershed,
- Quatse Lake intake,
- the distribution network from source to client,
- the reservoirs,
- the pump station, and
- the chlorination station.

The purpose of ERP is to guide the Regional District and response agencies in the event of an emergency in order to:

- Provide the earliest response to an emergency condition;
- Ensure that water quality and public health are not compromised;
- Ensure that water for fire fighting is available;
- Restore normal water system operation; and
- Protect the natural environment from impacts associated with the system operation in the event of an emergency.

This plan is intended for the use of the Regional District staff and agents in responding to emergency scenarios related to the Regional District's water system serving the unincorporated community of Coal Harbour and the Quatsino Reserve. This plan is an internal document for Regional District staff and its agents implementation and use only. *This document serves as informational purposes only to the external plan holders.*

Coal Harbour Water System Emergency Response Plan December 2018

1.2 How to Use This Plan

The Coal Harbour Water System Emergency Response Plan (CHWSERP) is meant to act as a guide in the event of a water system emergency with in the areas that the Regional District of Mount Waddington is responsible for providing an adequate supply of potable water. In order for this plan to be effective in its use, it is imperative that each plan holder read the plan in advance. This is important because the plan is written in such a way as to act as a reference rather than an explicit set of instructions. The more familiar everyone is with the format and information with in the plan the more helpful it will be in the event of a real emergency.

Within the section labelled Action Lists many potential water system emergencies have already been anticipated and are listed. Each potential emergency contains a guide for the persons involved to reference in an attempt to avert further damage. It is essential that this section be reviewed in advanced because the lists are intended to act as *only* a reference for guiding one through the respective emergency. It is crucial to have a predetermined plan for how your department, company or organization will react when faced with such emergencies and not rely solely on these sets of recommendations. You will notice that at the end of each Action List there are a set of suggested contacts. All contacts for people or organizations that are referenced and located in other sections throughout the document are to be found in the Master Contact List (Appendix A).

Another vital component of the ERP is the post emergency response. We ask that an internal document referred to as the post incident report (Appendix C) be filled out after each water system emergency. This will typically be prepared by the Regional District's Operations Manager. However, to allow this process to be as straightforward as possible we ask that those who carry out the actions in the Action Lists, for example the technicians involved, please fill out an Incident Form at the time they execute their actions (Appendix C). This form asks the individual to list out each of the actions taken along with the time and date the action was executed. The form also provides space for post-incident comments. After the incident has been alleviated, it is asked that the form be sent to the Regional District's Operations Manager. This requirement allows participants the chance to provide comments and recommendations about the emergency Action List in which they followed while allowing the Regional District to retain a detailed account of the actions taken to alleviate the water system emergency. Filling out the incident form and finally the post incident report thereby marks the first steps in improving emergency response for the following year. Incorporating techniques that worked better and eliminating those that did not work, allows the Regional District to improve the water system emergency action strategy every year.

In addition, tabletop exercises and regular updates will be conducted each year. We ask all plan holders to attend meetings and participate in regards to offering input and recommendations so that the CHWSERP will become more effective and thorough in the upcoming years. It is important to note that an emergency response plan such as this is of little or no value if individuals do not review it, know how to use it, or participate in its creation and evolution. Thank you for your participation as we enjoy working closely with you on this project.

1.3 Updates to this Guide

1.3.1 Registration

The Regional District of Mount Waddington will distribute the CHWSERP to agencies and companies, and after each has signed and returned to the Regional District of Mount Waddington the Letter of Understanding regarding this Plan (see Appendix D), those agencies will be registered as CHWSERP Holders. Registration will ensure that you receive updates to this Guide. You should ensure that your agency is registered with the Regional District of Mount Waddington as a holder of an CHWSERP.

1.3.2 Updates

The Regional District of Mount Waddington intends to review and, if necessary update, the CHWSERP every year. A revision will usually consist of one or more pages to be added to or replaced in the CHWSERP. Revisions will be distributed by the Regional District of Mount Waddington to the registered holders of the CHWSERP with instructions on inserting the revisions.

An emergency plan is of little or no value if it contains out-dated information. Please ensure this Emergency Response Plan contains the latest updates.

Internet

The Regional District of Mount Waddington should post information on any emergencies covered in this document on the Regional District website at www.rdmw.bc.ca as they arise.

Coal Harbour Water System Emergency Response Plan December 2018

2. Emergency Response Plan Holders

2.1 Internal Emergency Response Plan Holders

Designated Use	Binder #	Name	Mailing Address
Administrator	1	Greg Fletcher	Regional District of Mount Waddington Box 729, 2044 McNeill Rd. Port McNeill, BC, V0N 2R0
Operations Manager	2	Patrick Donaghy	Regional District of Mount Waddington Box 729, 2044 McNeill Rd. Port McNeill, BC, V0N 2R0
Treasurer	3	Theresa Flynn	Regional District of Mount Waddington Box 729, 2044 McNeill Rd. Port McNeill, BC, V0N 2R0
Administrative Support	4	Liette Patterson Belinda Sinclair Jamie Hamilton Nadine Weldon	Regional District of Mount Waddington Box 729, 2044 McNeill Rd. Port McNeill, BC, V0N 2R0
Contract Operator	5	Paul Getman	Box 528 Coal Harbour, BC, V0N 2P0
Emergency Coordinator	6	Courtney Bransfield	Box 729, Port McNeill, BC, V0N 2R0
Elected Electoral Director Area "B"	7	Andrew Hory	297 Harbour Rd, Coal Harbour, BC, V0N 1K0
Coal Harbour Local Community Commission	8	Dave Schmidt	316 Harbour Rd, Coal Harbour, BC, V0N 1K0
Coal Harbour Fire Department	9	Andrew Hory	Fire Department 361 Albert Hole Rd Coal Harbour, BC, V0N 1K0
Environmental Health Officer	10	Eric Bergsma	Vancouver Island Health Authority 7070 Market Street Port Hardy, BC 250 949-2388
Medical Health Officer	11	Dr. Charmaine Enns	Vancouver Island Health Authority 355-11th Street Courtenay, BC 250 334-5461 1 800 204-6166
Public Health Engineer	12	Murray Sexton	Vancouver Island Health Authority 3rd Floor 6475 Metral Drive Nanaimo, BC V9T 2L9 250 755-6215 250 616-6713 cell
Ministry of Transportation	13	Michael Goodhelpsen (Area Roads Manager)	550 Comox Road Courtenay, BC, V9N 3P6
Ministry of Water, Lands and Air Protection	14	Alex Grant (Environmental Emergency Response Officer)	2080-A Labieux Road Nanaimo, BC, V9T 6J9

Coal Harbour Water System Emergency Response Plan December 2018

Designated Use	Binder #	Name	Mailing Address
Ministry of Forests	15	Kathy DesRochers (Resource Manager)	2217 Mine Rd Port McNeill, BC, V0N 2R0
Department of Fisheries and Oceans	16	Pieter VanWill (Stock Assessment Biologist)	8585 Wollason St. Port Hardy, BC, V0N 2P0
RCMP – Port Hardy	17	Sgt. Wesley Olsen	Port Hardy Detachment 7355 Columbia Port Hardy, BC, V0N 2P0
Quatsino First Nation	18	Jody Boyd	305 Quattishe Road Coal Harbour, BC V0N 1K0
BC Hydro	19	Ted Olynyk	Nanaimo, BC
Mainroad North Island (Highway Maintenance)	20	Tony Platen (Operations Manager)	3190 Royston Road Box 1300 Cumberland, BC, V0R 1S0

3. Communication and Command

3.1 Communication and Command

3.1.1 Why is Communication Important?

Direct and open lines of communication will help ensure that the health and safety of consumers are preserved throughout water emergency incidents, that effective action is taken to resolve problems and that there is quick response, minimizing any harm resulting from the emergency. This includes not only resource and internal communication but also informative and timely communication with the public.

The Incident Command System (ICS) was developed in the 1970's after a series of fires struck California's urban interface leaving many injured or dead. When retrospect analysis was conducted in regards to the incident, it was found that incident failures during the fires were due to a lack of adequate management and communication rather than a lack of resources or failure of tactics. In response ICS was created as a standardized, on-scene, all-risk incident management concept that would confer considerable internal flexibility and could grow or shrink to meet different needs. ICS is now a proven managerial system based on successful cost effective business practices that can be applied to incidents of any magnitude.

On the advice of several local emergency coordinators and because the Provincial Emergency Program (PEP) has adopted the standardized emergency response structure known as the Incident Command System (ICS), the Regional District of Mount Waddington thought it important to adopt ICS as its emergency structure as well. Therefore, the communication flow and titles of those delegated authority during water related incidents in the current document will be referred to as those proposed in ICS planning and practice.

3.1.2 What is the line of communication?

Incident Commander

Upon notification of the emergency, the Administrator or Operations Manager will assume position of Incident Commander. This individual will be responsible for contacting and assembling the Command Staff and General Staff as required. The primary responsibility of the Incident Commander is to ensure effective overall management of the incident. This involves ensuring incident safety for all of those involved, providing information services to external and internal stakeholders and maintaining liaison with other agencies involved with the incident. Until authority has been delegated to positions within General and Command Staff, the Incident Commander has direct control over all aspects of the emergency. It is also likely that with small emergencies the Incident Commander will feel it unnecessary to give out all or any of the subsequent positions and may solve the incident independently.

Command Staff

Upon notification of the emergency, the acting Incident Commander will assign positions of Command Staff. The role of the Command Staff is to provide information, safety, and liaison

Coal Harbour Water System Emergency Response Plan December 2018

services for the entire organization. There are three such positions to be delegated as required, the Public Information Officer, Safety Officer, and Liaison Officer. Fortunately, for the Regional District, the magnitude of any single water related emergency will most likely not require all three positions but instead focus primarily on the Public Information Officer who will serve as a conduit for information to the internal and external stakeholders, including the media and/or any other organizations seeking information. The structure of the Command Staff is outlined in the Communication Flow Chart more thoroughly.

The Public Information Officer is the only line of communication between the Incident Commander and all other agencies and/or media outlets requiring information on the emergency. This individual is expected to supply updates at regular intervals regarding the emergency situation that will be provided to all of the inquiring agencies. It is the responsibility of the Public Information Officer to intercept and provide direction to non-critical parties as to ensure that the 'Emergency Action Teams' set up under various Sections can concentrate on the incident at hand.

In addition, it is the responsibility of the Incident Commander to contact all coordinating and governmental agencies as required unless this task has been delegated to the Public Information Officer. It is the priority of the individual in charge to work with the Health Authority to mitigate any dangers to public health. Under the guidance of the Health Authority, the Incident Commander (or Public Information Officer) will issue any boil water or water restriction notices necessary. It should be noted that depending on the size of the emergency such actions may be delegated out otherwise if not such actions remain the responsibility of the Incident Commander.

Call Centers

The Public Information Officer will be updating the call centers at regular intervals on the current emergency situation. It is important that these centers deal directly with concerned individuals and not transfer these calls unless warranted, enabling Section Chiefs to work on resolving the emergency without interference. The public should be assured that all possible resources are being allocated to restore normal operations and be advised where to access situation updates.

Should the situation allow for an unmanned response, recorded messages providing an update may be used. If the emergency is severe, 24-hour emergency access lines will be set in place. In addition, it is important that the Public Information Officer send out an emergency information email to all Regional District Employees that informs them of the situation and enables them to deal with any public inquiries.

General Staff

Upon notification of the emergency, the acting Incident Commander will also assign the positions of General Staff. The General Staff will consist of one or more Sections; Operations, Planning, Logistics and/or Finance/Administration as required. The scope of the majority of water related emergencies occurring within the Regional District would likely only require an Operations Section. The Operations Section Chief will likely be the Operations Manager in the majority of water system emergencies, but in situations deemed more severe or requiring special training such as with a fire, an agency like the Fire Department would be of the best service. The Operations Section function is to provide all the tactile fieldwork necessary to

Coal Harbour Water System Emergency Response Plan December 2018

help alleviate the incident. This means that most of the incident resources are ultimately assigned to the Operations Section. The Operations Section will be divided into groups that will be segregated and labelled based on functionality.

3.2 Initial Emergency Meeting

Once an emergency has been identified, the Incident Commander must meet with whomever they feel will be the most relevant individuals and agencies to discuss the situation and assign responsibility. At this meeting, the Incident Commander is responsible for delegating out authority while adhering to the structure and planning initiatives outlined by ICS. Immediate action may have already gone underway prior to this meeting but it is *imperative* that duties and responsibilities be formally assigned to manage the emergency as effectively as possible. This meeting does not have to be held in person and can be facilitated by telephone conference if the situation is warranted. If authority is not assigned the Incident Commander will remain the primary body in charge of all aspects related to emergency situation.

Objectives

1. Identify who will be taking the following responsibilities
 - a) Incident Commander
 - b) Public Information Officer and Operations Section Chief
 - c) Additional Section Chiefs (Operations, Planning, Logistics and Finance/Administration Chiefs) assigned *as required*
2. Discuss the emergency response strategy including
 - a) The level of emergency
 - b) Extent of affected area
 - c) Need for external resources
 - d) Response strategy and action plan
 - e) Communications/media relations strategy
 - f) Communications update schedule/frequency
 - g) When the next emergency meeting will be held.

IMPORTANT RECOMMENDATION!

During the course of an emergency, it is vital that actions taken and communications sent be accurately documented both for future continuous improvement and to provide liability protection. All participants responding to an emergency should attempt to accurately document their actions and communications. An Emergency Action/Communication Log template has been included in the plan in Appendix G for the convenience of plan holders. If you have a log that you are already comfortable with, use it but please document accurately!

3.3 Internal Communications

Protocol

1. The Public Information Officer will be responsible for sending an internal email or telephone call to all call centers that identifies:

- a) What the emergency is.
- b) When it began.
- c) Where it is.
- d) Who is affected by the emergency?
- e) What is being done to correct the situation?
- f) How long it is expected to last if known.
- g) What information to provide to the public.
- h) Where they can direct calls that require more information.
- i) When they will be receiving the next update.

2. The call centers that require this email/phone call are:

- a) Administration Front Counter/Main Switchboard
- b) Fire Department/ After Hours Emergency Line
- c) RCMP
- d) Community Center

3. Emergency updates must be provided to these call centers;

- a) as soon as new information becomes available or
- b) at the frequency decided in the initial emergency meeting or
- c) at least twice a day

4. If the emergency is expected to continue after regular business hours have concluded then an example telephone message should be provided to all call centers a half hour before the end of the business day; however, if the emergency is deemed severe call centers may be accessed 24 hours. See the attached example for external greeting.

5. It may also be warranted to provide an email to all domains to help facilitate accurate dissemination of information. This will be decided by key management during an emergency meeting.

3.4 External Emergency Message

Example

You have reached the (call center name) after hours message system on (current date).

Description of emergency and area affected.

Instructions for affected residents.

The Regional District is working to resolve the problem and will be providing further information on the situation as it becomes available. Further information can be obtained from our website at www.rdmw.bc.ca.

If you require immediate assistance, please dial (250) 956-3301 for the after hours emergency line. If you would like to leave a message, please do so after the tone and we will return your call as soon as possible. Thank you for patience and cooperation.

4. Emergency Response Plan – Action List

4.1 Extended Loss of BC Hydro Power Supply

Type of Emergency: Alert Condition

The loss of BC Hydro power will require that the Coal Harbour Water Treatment Plant be taken offline and that a diesel powered genset provide power to the Quatse Lake pumphouse. Chlorination of potable water can be accomplished by utilizing the procedures that existed previous to the treatment plants construction.

Component	Type of Generator	Full fuel tank Run-time @ 100% load	Full fuel tank Capacity
Quatse Lake Pumphouse	Diesel	~12 Hours	100 litres

Potential Actions:

- 1. Initiate emergency meeting with critical management team.**
- 2. Notify Quatsino First Nation regarding the situation.**
- 3. Notify Electoral Area C Director regarding the situation.**
- 4. Notify Coal Harbour Local Community Commission regarding the situation.**
- 5. Notify BC Hydro regarding the situation.**
- 6. Bypass Coal Harbour Water Treatment Plant and chlorinate water using procedures used prior to plant construction.**
- 7. Ensure that the pumphouse generator is running properly.**
- 8. Request status information from BC Hydro.**
- 9. Re-fuel stand-by generator if the power loss is expected to last for an extended period.**
- 10. Check the generator’s oil pressure, water temperature and verify that there are no fuel or coolant leaks.**
- 11. Once hydropower is regained:**
 - a. Reconnect Coal Harbour Water Treatment Plant**
 - b. Take the generator off line and refuel.**

Contacts (See Appendix A):

BC Hydro Service
Area C Director

Quatsino First Nation
Coal Harbour Local Community Commission

WARNING: KEEP 10 METRES AWAY FROM ANY DOWNED POWER LINES

4.2 Failure of Programmable Logic Controllers

Type of Emergency: Alert Condition

The Programmable Logic Controllers provide automatic control to the chlorination and pump stations. The severity and cause of a loss of either of these systems will need to be assessed in each situation.

Potential Actions:

- 1. Contact an Electrician/Corix to assess the situation.**
- 2. Notify Quatsino First Nation regarding the situation.**
- 3. Notify Electoral Area C Director regarding the situation.**
- 4. Notify Coal Harbour Local Community Commission regarding the situation.**
- 5. Switch the system to manual operation where possible. If manual operation of the Water Treatment Plant (WTP) is not possible, bypass WTP and implement chlorination treatment utilized prior to the plants construction.**
- 6. Ensure that all equipment is running properly.**
- 7. Ensure chlorine dosage is adequate to provide a minimum of 0.20 mg/L free chlorine throughout the distribution system. If assurance is not possible, implement boil water measures.**
- 8. Operate the system manually until PLCs are operational again. If WTP was bypassed, put plant back online.**

Contacts (See Appendix A):

Electrician
Quatsino First Nation
Coal Harbour Local Community Commission

Corix
Area C Director

4.3 Chlorine Leak– Main Chlorine Station

Type of Emergency: Emergency Condition

The water treatment plant uses sodium hypochlorite to chlorinate the raw water making it potable. Sodium hypochlorite (commonly called household liquid bleach) can release poisonous chlorine gas if in contact with an acid which is very unlikely at the water treatment plant and hence poses a low risk. Should the sodium hypochlorite be spilled and need to be cleaned up, those in close contact are at risk of burns/irritation if contact is made with skin and/or eyes. Those in close proximity should also avoid inhalation as it can irritate the respiratory tract. Appropriate personal safety equipment must be used (respirator, gloves and goggles) when in potential contact.

Potential Actions:

- 1. Upon discovery of the release of sodium hypochlorite, appropriate personal safety equipment (respirator, gloves and goggles) must be used before clean up can begin.**
- 2. Wash sodium hypochlorite into on site holding tanks and report incident to Regional District Operations Manager.**
- 3. Complete post-incident report (See Appendix C).**

Emergency Equipment Location:

Respirator – Located at water treatment plant

Contacts (See Appendix A):

4.4 Failure of the Chlorination System – Main Chlorine Station

Type of Emergency: Emergency Condition

There should always be a minimum of 0.2 mg/L of free chlorine throughout the distribution system. Dosing rates vary due to the flow rate.

Potential Actions:

- 1. Initiate emergency meeting with critical management team.**
- 2. Notify Quatsino First Nation regarding the situation.**
- 3. Notify Electoral Area C Director regarding the situation.**
- 4. Notify Coal Harbour Local Community Commission regarding the situation.**
- 5. Adjust the chlorine dosage accordingly.**
- 6. Contact the Island Health Authority.**
- 7. Issue a “Boil Water Advisory” (See Appendix B)**
- 8. Identify, assess and correct the problem.**
- 9. Ensure chlorine dosage is adequate to provide a minimum of 0.20 mg/L free chlorine throughout the distribution system.**
- 10. Take water samples throughout the main distribution system for bacterial analysis.**
- 11. Once total and fecal coliform results are acceptable to the Health Authority, remove the “Boil Water Advisory.”**
- 12. Complete post-incident report (See Appendix C).**

Contacts:

Vancouver Island Health Authority
Print Media
Area C Director

Radio Station
Quatsino First Nation
Coal Harbour Local Community Commission

4.5 Distribution Main Failure

Type of Emergency: Emergency Condition

In the event of a transmission main failure there will be the potential for loss of water to residents, backflow in the system and flooding of properties.

Potential Actions:

- 1. Initiate emergency meeting with critical management team.**
- 2. Notify Quatsino First Nation regarding the situation.**
- 3. Notify Electoral Area C Director regarding the situation.**
- 4. Notify Coal Harbour Local Community Commission regarding the situation.**
- 5. Isolate one reservoir to act as a reserve.**
- 6. Stop the flow of water by closing valves on all sides of the problem area.**
- 7. Make the site safe by implementing traffic control.**
- 8. Provide a temporary bypass or alternative supply line, if possible.**
- 9. If there is the potential that the system has been contaminated, contact the Health Authority and issue a “Boil Water Advisory” (See Appendix B).**
- 10. Make a damage assessment and prepare a plan to begin repairs and identify a schedule to resume normal operations.**
- 11. Place sediment control measures in place and dechlorinate the water released, if possible.**
- 12. Contact the Environmental Coordinator and/or PEP if there will be significant erosion and sediment effect on streams. Please note that if any chlorinated water (5 kg +) is released in a fish bearing stream or body of water PEP must be notified immediately.**
- 13. Assess downstream damage and prepare a plan and schedule to remediate the situation.**
- 14. Contact the local media to advise them of the condition and provide regular updates of the situation.**
- 15. If the failure results in limited water supply, issue a “Water Use Advisory” (See Appendix B). Note if a Boil Water Advisory is issued after making repairs and disinfection of the main monitoring of free chlorine residuals, turbidity and bacteriological water quality to facilitate rescinding BWA should occur.**
- 16. Arrange for a bulk water supplier to haul water in.**
- 17. Contact the Fire Department to set up an alternative water intake.**
- 18. Repair the damage and disinfect the affected main section.**
- 19. Complete post-incident report (See Appendix C).**

Contacts (See Appendix A):

Health Authority
Fire Department
Area C Director

Media
Quatsino First Nation
Coal Harbour Local Community Commission

4.6 Bacteriological Contamination of the Distribution System

Type of Emergency: Emergency Condition

This emergency would arise in the event of a positive bacteria result from distribution sampling. The Health Authority receives all test results from regular distribution sampling and will contact the utility in the event of a positive result. Sub-divisions or construction projects may not know to contact the health authority and may contact the utility directly.

Potential Actions:

A total coliform count over 10 MPN/100ml once or
A positive total coliform on consecutive sampling dates:

- 1. Notify Quatsino First Nation regarding the situation.**
- 2. Notify Electoral Area C Director regarding the situation.**
- 3. Notify Coal Harbour Local Community Commission regarding the situation.**
- 4. Cooperate with Health Authority in meeting its requests.**
- 5. Flush the distribution system in the area.**
- 6. Resample the area for bacterial analysis.**

A confirmed fecal or e.coli count:

- 1. Initiate emergency meeting with critical management team.**
- 2. Notify Quatsino First Nation regarding the situation.**
- 3. Notify Electoral Area C Director regarding the situation.**
- 4. Notify Coal Harbour Local Community Commission regarding the situation.**
- 5. Issue a “Boil Water Advisory” (See Appendix B).**
- 6. Cooperate with Health Authority in meeting its requests.**
- 7. Flush the distribution system in the area.**
- 8. Take water samples for bacterial analysis.**
- 9. Once total and fecal coliform results are acceptable to the Health Authority,**
 - i. Only then can the “Boil Water Advisory” be removed (See Appendix B).**
 - ii. Complete post-incident report (See Appendix C).**

Contacts (See Appendix A):

Vancouver Island Health Authority
Print Media
Area C Director

Radio Station
Quatsino First Nation
Coal Harbour Local Community Commission

4.7 Backflow / Backpressure Incident

Type of Emergency: Emergency Condition

Backflow or back-siphonage can cause contamination of the water distribution system and results when there is a negative pressure in the system. Negative pressure forces water backwards into the water system and any contaminant located at the opening to a faucet tap or hose bib, irrigation system or fire suppression system.

Potential Actions:

- 1. Initiate emergency meeting with critical management team.**
- 2. Notify Quatsino First Nation regarding the situation.**
- 3. Notify Electoral Area C Director regarding the situation.**
- 4. Notify Coal Harbour Local Community Commission regarding the situation.**
- 5. Isolate the source of backflow if possible.**
- 6. Isolate area downstream of backflow source.**
- 7. Take samples for chemical and bacterial analysis.**
- 8. Contact the Island Health Authority.**
- 9. Issue a “Boil Water Advisory” if there was the potential for bacterial contamination (See Appendix B).**
- 10. Issue a “Water Use Restriction” if there was the potential for chemical contamination (See Appendix B).**
- 11. Flush the distribution system in the area.**
- 12. Identify, assess and correct the problem.**
- 13. Once the chemical analysis results are acceptable to the Health Authority and there is no threat to human health, remove the “Water Restriction” (See Appendix B).**
- 14. Once total and fecal coliform results are acceptable to the Health Authority, remove the “Boil Water Advisory” (See Appendix B).**
- 15. Complete post-incident report (See Appendix C).**

Contacts (See Appendix A):

Vancouver Island Health Authority
Print Media
Area C Director

Radio Station
Quatsino First Nation
Coal Harbour Local Community Commission

4.8 Reservoir Intrusion

Type of Emergency: **Emergency Condition**

This condition results in the event of unauthorized access to the site, the control building or the reservoir. A reservoir intrusion could be the result of intended or unintended contamination of the storage facility and distribution system.

Potential Actions:

- 1. Initiate emergency meeting with critical management team.**
- 2. Notify Quatsino First Nation regarding the situation.**
- 3. Notify Electoral Area C Director regarding the situation.**
- 4. Notify Coal Harbour Local Community Commission regarding the situation.**
- 5. Isolate the reservoir by shutting valves.**
- 6. If criminal activity is suspected, secure the site and protect any evidence.**
- 7. Contact the RCMP.**
- 8. Contact the Health Authority.**
- 9. Isolate the down stream system.**
- 10. Issue a “Boil Water Advisory” if the reservoir potentially contains a bacterial contaminant and water has entered the distribution system (See Appendix B).**
- 11. Issue a “Water Use Advisory” if the reservoir potentially contains a chemical contaminant and water has entered the distribution system (See Appendix B).**
- 12. Take samples from the reservoir and down stream system.**
- 13. Keep reservoir off-line until samples are deemed safe to drink.**
- 14. If samples are not safe to drink, drain and repair any damage to the reservoir.**
- 15. Rinse and disinfect the reservoir.**
- 16. Once bacterial and chemical results from the distribution system are acceptable to the Health Authority, remove the “Boil Water Advisory” (See Appendix B).**
- 17. Once bacterial and chemical results from the reservoir are acceptable to the Health Authority, put the reservoir back on line.**
- 18. Complete post-incident report (See Appendix C).**

Contacts (See Appendix A):

RCMP
Print Media
Quatsino First Nation
Coal Harbour Local Community Commission

Vancouver Island Health Authority
Radio Station
Area C Director

Coal Harbour Water System Emergency Response Plan December 2018

4.9 Building Fire

Type of Emergency: Emergency Condition

This emergency would arise in the event of an internal or external fire in any of the chlorination stations, pump stations or utility buildings.

Potential Actions:

- 1. Contact the Fire Department.**
- 2. Initiate emergency meeting with critical management team.**
- 3. Notify Quatsino First Nation regarding the situation.**
- 4. Notify Electoral Area C Director regarding the situation.**
- 5. Notify Coal Harbour Local Community Commission regarding the situation.**
- 6. Advise them if there is chlorine or other chemicals are stored at the location.**
- 7. Ensure that all personnel are clear of the building and area.**
- 8. When operator safety is not in jeopardy, establish a bypass of the water treatment plant if necessary.**
- 9. Complete post-incident report.**

Contacts (See Appendix A):

Fire Department
Area C Director

Quatsino First Nation
Coal Harbour Local Community Commission

DO NOT TRY TO PUT OUT A FIRE:

- If the fire is spreading beyond the spot where it started
- If there is a potential for explosion.
- If the fire can block your escape
- If the extinguisher proves to be ineffective

4.10 Quatse Lake Extreme Turbidity Readings

Type of Emergency: Emergency Condition

This event could be the result of a number of situations in Quatse Lake. Each situation will vary in severity and will need to be dealt with appropriately. High turbidity readings are 10 NTU or greater. The potential actions are listed in order of response from least severe to most severe. The Canadian Drinking Water Guidelines require turbidity levels less than 1 NTU in the distribution system.

Potential Actions:

- 1. Initiate emergency meeting with critical management team.**
- 2. Shut down the water treatment plant and pump house. Establish a bypass that circumvents the water treatment plant. Keeping the pumphouse idle, set-up the chlorination system that existed previous to the treatment plant's construction. Supply distribution system from the reservoirs.**
- 3. Notify Quatsino First Nation regarding the situation.**
- 4. Notify Electoral Area C Director regarding the situation.**
- 5. Notify Coal Harbour Local Community Commission regarding the situation.**
- 6. Contact the Health Authority.**
- 7. Investigate and resolve the problem if possible.**
- 8. Take water samples from the lake for analysis until conditions improve sufficiently to allow resumption of water treatment plant's operation.**
- 9. Should the reservoir's reserves drop to dangerous levels, resume pump house operations and chlorinate the raw water with the same methodology used previous to the water treatment plant's construction.**
- 10. If the system cannot supply adequate flows, issue a "Water Use Restriction" (See Appendix B).**
- 11. If warranted, issue a "Boil Water Advisory" (See Appendix B).**
- 12. If warranted, issue a "Water Use Restriction" (See Appendix B).**
- 13. Arrange for a bulk water supplier to haul water in.**
- 14. Contact the Fire Department to set up an alternative water intake.**
- 15. Complete post-incident report (See Appendix C).**

Contacts (See Appendix A):

Vancouver Island Health Authority
Print Media
Quatsino First Nation
Coal Harbour Local Community Commission

Radio Station
Fire Department
Area C Director

4.11 Plane Crash/Automobile Accident in Watershed

Type of Emergency: Emergency Condition

Plane Crash or Marine Accident in the watershed could result in the contamination of the water supply from the release of hydrocarbons or other material in transport.

Potential Actions:

- 1. Initiate emergency meeting with critical management team.**
- 2. Notify Quatsino First Nation regarding the situation.**
- 3. Notify Electoral Area C Director regarding the situation.**
- 4. Notify Coal Harbour Local Community Commission regarding the situation.**
- 5. Contact RCMP and Transport Safety Canada.**
- 6. Request regular status information on the situation and possible water contamination.**
- 7. Contact the Health Authority to determine whether there is a potential health hazard.**
- 8. Contact the RCMP and Transport Safety Canada to discuss removal of the vehicle/aircraft.**
- 9. Contact the MWLAP for assistance with contaminant clean-up.**
- 10. Take water samples between crash site and intake to confirm contaminant travel and dispersion.**
- 11. Issue a “Water Use Advisory” or “Boil Water Advisory” (See Appendix B).**
- 12. Arrange for a bulk water supplier to haul water in if minimum water quality standards cannot be maintained.**
- 13. Contact the Fire Department to set up an alternative water intake.**
- 14. Complete post-incident report (See Appendix C).**

Contacts (See Appendix A):

RCMP
Health Authority
Area C Director
MWLAP
Radio Station
BC Hydro

Fire Department
Quatsino First Nation
Coal Harbour Local Community Commission
Transport Safety Canada
Print Media

4.12 Watershed Fire

Type of Emergency: Emergency Condition

This event will vary in severity depending on the location and size of the fire. Access roads for fire fighting, chemical fire retardants, debris and increased run-off entering the water can all effect water quality. Long-term effects may include excessive algal growth and increased turbidity. Immediate risks are potential structural fire and/or prolonged loss of hydro.

Potential Actions:

- 1. If the watershed fire damages or destroys the water treatment plant, refer to scenario 4.10 Building Fire**
- 2. If the watershed fire causes a prolonged loss of hydro, refer to scenario 4.1 Extended Loss of BC Hydro Power Supply**
- 3. If during or following the watershed fire, Quatse Lakes turbidity should exceed 10 NTU, refer to scenario 4.11 Quatse Lake Extreme Turbidity Readings**

Contacts (See Appendix A):

Fire Department
Island Health Authority
Area C Director

Ministry of Forests
Quatsino First Nation
Coal Harbour Local Community Commission

4.13 Major Earthquake

Type of Emergency: Disaster Condition

In the event of an earthquake, damage to the chlorination stations, storage reservoirs, pump stations and water mains are possible. Because many other agencies will be involved it will be essential to coordinate all efforts to most effectively deal with the situation.

Potential Actions:

- 1. Isolate one reservoir to secure a reserve.**
- 2. Initiate emergency meeting with critical management team.**
- 3. Contact the Fire Department and Emergency Operations Center.**
- 4. Notify Quatsino First Nation regarding the situation.**
- 5. Notify Electoral Area C Director regarding the situation.**
- 6. Notify Coal Harbour Local Community Commission regarding the situation.**
- 7. Hook up diesel genset to pump house and re-establish chlorination system existent prior to the construction of the water treatment plant.**
- 8. If distribution system has been compromised sufficiently that breakages can not be isolated, cut off access from reserves to distribution network.**
- 9. If the system cannot supply adequate flows, issue a “Water Use Restriction” (See Appendix B).**
- 10. If there was potential for backflow into the system, issue a “Boil Water Advisory” (See Appendix B).**
- 11. Check the flows at the Main Chlorination Station and compare with historical values to determine if there is major water main damage.**
- 12. Visit all facilities including:**
 - a. Quatse Lake Pumphouse**
 - b. Water Treatment Plant**
- 13. Coal Harbour and Quasino Distribution Systems**
- 14. Conduct a thorough inspection which includes:**
 - 15. An interior review of all facilities looking for spraying water indicating damaged pipes, cracked concrete floors, structural damage to the block walls and roof.**
 - 16. A review of all equipment and instrumentation to evaluate the status of the system.**
 - 17. A walk around the exterior of all buildings looking for structural damage.**
 - 18. When Hydro and repairs have been completed, bring water treatment plant back online.**
 - 19. Assess the extent of each damaged section and record findings.**
 - 20. Make a damage assessment, prepare a plan to begin repairs and identify a schedule to resumption of normal operation.**
 - 21. Once adequate flow is restored, remove the “Water Use Restriction” (See Appendix B).**

Coal Harbour Water System Emergency Response Plan December 2018

22. Once total and fecal coliform results are acceptable to the Health Authority, remove the “Boil Water Advisory” (See Appendix B).

23. Complete post-incident report(See Appendix C).

Contacts (See Appendix A):

Fire Department

Quatsino First Nation

Coal Harbour Local Community Commission

Vancouver Island Health Authority

Area C Director

Coal Harbour Water System Emergency Response Plan December 2018

APPENDIX A

Master Contact List

Designated Use	Phone #	Name	Mailing Address
Administrator	(250) 956-3301	Greg Fletcher	Regional District of Mount Waddington Box 729, 2044 McNeill Rd. Port McNeill, BC, V0N 2R0
Operations Manager	(250) 956-3301 Cell (250) 230-1505 Home (250)956-2621	Patrick Donaghy	Regional District of Mount Waddington Box 729, 2044 McNeill Rd. Port McNeill, BC, V0N 2R0
Treasurer	(250) 956-3301	Theresa Flynn	Regional District of Mount Waddington Box 729, 2044 McNeill Rd. Port McNeill, BC, V0N 2R0
Administrative Support	(250) 956-3301 Barb Home 956-4335	Liette Patterson Belinda Sinclair Jamie Hamilton Nadine Weldon	Regional District of Mount Waddington Box 729, 2044 McNeill Rd. Port McNeill, BC, V0N 2R0
Contract Operator	(250) 949-7075 Cell (250) 230-0404	Paul Getman	Box 528 Coal Harbour, BC, V0N 2P0
Alternate Contract Operator	(250) 949-7577	Frank Hory	297 Harbour Rd Coal Harbour, BC, V0N 1K0
Emergency Coordinator	(250) 230-1519	Courtney Bransfield	Box 729 2293 Camosun Cres. Port McNeill, BC, V0N 2R0
Elected Electoral Director Area "B"	(250) 949-7577	Andrew Hory	297 Harbour Rd Coal Harbour, BC, V0N 1K0
Coal Harbour Local Community Commission	(250) 949-7535	Dave Schmidt	216 Harbour Rd, Coal Harbour, BC, V0N 1K0
Coal Harbour Fire Department	(250) 949-6175	Andrew Hory	Fire Department 361 Albert Hole Rd Coal Harbour, BC, V0N 1K0
Environmental Health Officer	(250) 949-2388	Eric Bergsma	Vancouver Island Health Authority 7070 Market Street Port Hardy, BC
Medical Health Officer	250 334-5461 1 800 204-6166	Dr. Charmaine Enns	Vancouver Island Health Authority 355-11th Street Courtenay, BC
Public Health Engineer	250 755-6215 250 616-6713 cell	Murray Sexton	Vancouver Island Health Authority 3rd Floor 6475 Metral Drive Nanaimo, BC V9T 2L9
Ministry of Transportation	(250)339-6951 (250)949-1514 cell	Michael Goodhelpsen (Area Roads Manager)	550 Comox Road Courtenay, BC, V9N 3P6
Ministry of Water, Lands and Air Protection	(250) 751-3191	Alex Grant (Environmental Emergency Response Officer)	2080-A Labieux Road Nanaimo, BC, V9T 6J9
Ministry of Forests	(250)956-5000	Kathy DesRochers (Resource Manager)	2217 Mine Rd Port McNeill, BC, V0N 2R0

Coal Harbour Water System Emergency Response Plan December 2018

Department of Fisheries and Oceans	(250) 949-6422	Pieter VanWill (Stock Assessment Biologist)	8585 Wollason St. Port Hardy, BC, V0N 2P0
RCMP – Port Hardy	911 (250) 956-4441	Sgt. Wesley Olsen	Port Hardy Detachment 7355 Columbia Port Hardy, BC, V0N 2P0
Quatsino First Nation	(250) 949-6245	Jody Boyd	305 Quattishe Road Coal Harbour, BC V0N 1K0
BC Hydro	(250) 949-5005 Cell (250) 902-9075	Ted Olynyk	B0x 940 Byng Rd Port Hardy, BC V0N 2P0
Mainroad North Island (Highway Maintenance)	(250)282-3417 Cell (250) 203-7294	Tony Platen	Port McNeill, BC
K & K Electric Ltd	(250) 949-8133		6025 Bronze Port Hardy, BC, V0N 2P0
Tex Electric	(250) 994-3009		9250 Trustee Road Port Hardy, BC V0N 2P0
Corix	Tell: 604-539-9399 Fax: 604-539-9309 Toll Free: 1-800-500-8855		100-20329 Logan Avenue Langley BC V3A 4L8
Motherwell and Associates	(250) 475-3535 (250) 475-3536	John Motherwell	35 Cadillac Ave. Victoria, BC, V8Z 1T3
Columbia Ice Ltd	(250) 286-1671		810 13 th Ave., Campbell River, BC

APPENDIX B

ISSUING A WATER ADVISORY

It is the responsibility of the Regional District of Mount Waddington to contact the Vancouver Island Health Authority whenever there is a possibility that consumer health may be at risk due to compromised water system conditions.

Situations where consumer health may be at risk include but is not limited to situations where:

- a) Bacteriological tests indicate the Fecal Coliform bacteria are present in the RDMW water system, **or**
- b) Equipment failure results in no chlorine being injected into the distribution system resulting in a quantity of raw water of unknown quality entering the system in such a volume that it cannot be flushed from the system before reaching the consumer, **or**
- c) A major line failure in the RDMW or other backflow event permits the entry of soil or other contaminants into the distribution system which cannot be isolated and flushed from the system, **or**
- d) Any other situation that may pose a risk to the users from contamination of the system due to high Total Coliforms, Giardia, Cryptosporidium, toxic algae, chemicals, excessive levels of turbidity or other agents.
- e) Epidemiological evidence that the drinking water is responsible for a disease outbreak.

Protocol

1. Once it has been determined that a risk to human health may be present, identify the extent of the affected area with the critical management team, and collect all pertinent information.
2. Contact the Vancouver Island Health Authority and inform them of the situation.
3. The Vancouver Island Health Authority will assess the situation and determine whether a water advisory is required. Upon direction of the Vancouver Island Health Authority, the Regional District of Mount Waddington will issue a water advisory.
4. A public advisory should be issued in such a manner to ensure the broadest notification of the water users. It is recommended the following media be contacted:

Radio Stations	Newspapers	Cable TV	Internet
CFNI (1240 AM)	North Island Gazette	Keta Cable	RDMW Website
CBC (95.5 FM)		CHEK	
		CTV 2 (CIVI)	
		CBC	

The media contact information can be located in Appendix A – Master Contact List.

Coal Harbour Water System Emergency Response Plan December 2018

Where it has been determined, by the RDMW and VIHA that the problem is localized to a specific portion of the system, then the method of public notification may be appropriately modified to the specific circumstances. Instructions for hand delivering notices are included on page 7 of this section. If the Quatsino First Nation is affected ensure that you communicate with them.

5. Specific information may need to be provided for high risk groups and facilities in the community such as hospitals, care facilities, schools etc.

Maps and Lists of vulnerable sites are located in Appendix F.

6. Signs for public washrooms may need to be posted informing users of the risk.

7. Once the water system has returned to normal operations, three consecutive (three days in a row) bacteria tests must be taken and sent to the VIHA. Please note that these tests take two-three days for results, so it is imperative that sampling begin as soon as possible.

8. Only when the Vancouver Island Health Authority is satisfied that the risk to consumer health has been eliminated can the City cancel the water advisory.

9. Complete post incident report.

Coal Harbour Water System Emergency Response Plan December 2018

BOIL WATER ADVISORY

From: Regional District of Mount Waddington Press Release

Date:

To: CFNI (1240 AM) Phone: 250-949-6500 Fax: 250-949-6580
CBC (95.5 FM) Phone: 250-360-2227 Fax: 250-360-2600

North Island Gazette Phone: 250-949-6225 Fax: 250-949-7655

Keta Cable Phone: 250-949-6109 Fax: 250-949-6566 ketacable@cablerocket.com
CHEK Phone: 250-480-3700 Fax: 250-384-7766 tips@checknews.ca
CTV 2 Phone: 250-381-2484 Fax: 250-381-2485 islandcontactus@ctv.ca
CBC Phone: 604-662-6801 Fax: 604-662-6878 cbcnewsvancouver@bc.ca

Locations Where Bulletin Should Be Posted:

- Coal Harbour Fire Hall
- Coal Harbour Post Boxes
- Coal Harbour Warf
- Coal Harbour Water Treatment Plant
- Coal Harbour Red and White Store
- Regional District of Mount Waddington Office

BOIL WATER ADVISORY

The Regional District of Mount Waddington in consultation with the Vancouver Island Health Authority jointly issue a 'Boil Water Advisory' for all customers on the community of Coal Harbour's water system including the adjacent Quatsino First Nation Reserve.

(Briefly describe the reason for the advisory)

A Boil Water Advisory is being issued while authorities act to follow-up on water quality issues. The Regional District of Mount Waddington and the Vancouver Island Health Authority are working together to resolve this situation. As a precaution, customers who wish to disinfect water for drinking purposes should bring the water to a rolling (heavy) boil for two (2) minutes.

The Regional District of Mount Waddington is working to resolve the problem and will be providing further information on the situation through local media and on our website at www.rdmw.bc.ca.

Thank you for your patience and cooperation.

For further information the Media should contact _____, (*designation*). at the Regional District of Mount Waddington, Phone: 250-956-3301, Fax: 250-956-3232.

Coal Harbour Water System Emergency Response Plan December 2018

CANCEL BOIL WATER ADVISORY

From: Regional District of Mount Waddington Press Release

Date:

To: CFNI (1240 AM) Phone: 250-949-6500 Fax: 250-949-6580
CBC (95.5 FM) Phone: 250-360-2227 Fax: 250-360-2600

North Island Gazette Phone: 250-949-6225 Fax: 250-949-7655

Keta Cable Phone: 250-949-6109 Fax: 250-949-6566 ketacable@cablerocket.com
CHEK Phone: 250-480-3700 Fax: 250-384-7766 tips@checknews.ca
CTV 2 Phone: 250-381-2484 Fax: 250-381-2485 islandcontactus@ctv.ca
CBC Phone: 604-662-6801 Fax: 604-662-6878 cbcnewsvancouver@bc.ca

Locations Where Bulletin Should Be Posted:

- Coal Harbour Fire Hall
- Coal Harbour Post Boxes
- Coal Harbour Warf
- Coal Harbour Water Treatment Plant
- Coal Harbour Red and White Store
- Regional District of Mount Waddington Office

REMOVAL OF BOIL WATER ADVISORY

Effective _____, 2004 _____ p.m., the Regional District of Mount Waddington in consultation with the Vancouver Island Health Authority (VIHA) jointly **lift** the 'Boil Water Advisory' for all customers on the Coal Harbour water system issued _____, 2004. This includes all customers on the Coal Harbour's water system including the adjacent Quatsino First Nation Reserve.

(Briefly describe the reason for lifting the advisory)

Thank you for your patience and cooperation.

For further information the Media and others should contact _____, (*designation*) at the Regional District of Mount Waddington, Phone: 250-956-3301, Fax: 250-956-3232.

Coal Harbour Water System Emergency Response Plan December 2018

WATER USE RESTRICTION ADVISORY

From: Regional District of Mount Waddington Press Release

Date:

To: CFNI (1240 AM) Phone: 250-949-6500 Fax: 250-949-6580
CBC (95.5 FM) Phone: 250-360-2227 Fax: 250-360-2600

North Island Gazette Phone: 250-949-6225 Fax: 250-949-7655

Keta Cable Phone: 250-949-6109 Fax: 250-949-6566 ketacable@cablerocket.com
CHEK Phone: 250-480-3700 Fax: 250-384-7766 tips@checknews.ca
CTV 2 Phone: 250-381-2484 Fax: 250-381-2485 islandcontactus@ctv.ca
CBC Phone: 604-662-6801 Fax: 604-662-6878 cbcnewsvancouver@bc.ca

Locations Where Bulletin Should Be Posted:

- Coal Harbour Fire Hall
- Coal Harbour Post Boxes
- Coal Harbour Warf
- Coal Harbour Water Treatment Plant
- Coal Harbour Red and White Store
- Regional District of Mount Waddington Office

The Regional District of Mount Waddington is experiencing problems supplying adequate volumes of quality drinking water from its source to meet the water demands in the Community of Coal Harbour and the adjacent Quatsino First Nation Reserve. To ensure enough water for firefighting and basic needs of customers is available, the Regional District is requesting that all non-essential water uses stop immediately.

(Briefly describe reason for the advisory)

The Regional District of Mount Waddington is working to resolve the problem and will be providing further information on the situation through local media and on our website at www.rdmw.bc.ca.

Thank you for your patience and cooperation.

For further information the media should contact _____, (*designation*), at the Regional District of Mount Waddington, Phone: 250-956-3301, Fax: 250-956-3232.

Coal Harbour Water System Emergency Response Plan December 2018

CANCEL WATER USE RESTRICTION ADVISORY

From: Regional District of Mount Waddington Press Release

Date:

To: CFNI (1240 AM) Phone: 250-949-6500 Fax: 250-949-6580
CBC (95.5 FM) Phone: 250-360-2227 Fax: 250-360-2600

North Island Gazette Phone: 250-949-6225 Fax: 250-949-7655

Keta Cable Phone: 250-949-6109 Fax: 250-949-6566 ketacable@cablerocket.com
CHEK Phone: 250-480-3700 Fax: 250-384-7766 tips@checknews.ca
CTV 2 Phone: 250-381-2484 Fax: 250-381-2485 islandcontactus@ctv.ca
CBC Phone: 604-662-6801 Fax: 604-662-6878 cbcnewsvancouver@bc.ca

Locations Where Bulletin Should Be Posted:

- Coal Harbour Fire Hall
- Coal Harbour Post Boxes
- Coal Harbour Warf
- Coal Harbour Water Treatment Plant
- Coal Harbour Red and White Store
- Regional District of Mount Waddington Office

REMOVAL OF WATER USE RESRICTION ADVISORY

Effective _____, 2004 _____ p.m., the Regional District of Mount Waddington has **lifted** the precautionary 'Water Use Restriction Advisory' for all customers on the Community of Coal Harbour's water system issued _____, 2004. This includes all customers on the Community of Coal Harbour's water system including Quatsino First Nation's Reserve.

(Briefly describe the reason for lifting the advisory)

Thank you for your patience and cooperation.

For further information the Media and others should contact _____, (*designation*) at the Regional District of Mount Waddington, Phone: 250-956-3301, Fax: 250-956-3232.

Instructions for hand delivery of Water Advisory Notices

Supplies:

- Pen and notepad
- Map of affected area
- List of addresses in the area
- Required number of "Boil Water Advisory" notices – plus ~ 10 extras
- Highlighter

Coal Harbour Water System Emergency Response Plan December 2018
Scotch Tape

Delivery:

At each address attempt to personally give the notice to the resident.

Inform residents that:

- The Regional District of Mount Waddington in consultation with the Vancouver Island Health Authority have issued a Boil Water Advisory
- The Regional District is working to resolve the situation as soon as possible
- They will be notified when the advisory is lifted.
- Updates on the situation will be provided as they become available, and further questions can be answered by dialing the number given on the notice.

If there is no one at home, tape the notice to the door. If access to the property is restricted, tape the notice in an obvious location on the gate. Make note of these addresses.

Do not evoke questions and comments, however do try to reassure residents, and record comments made by residents. Continue to next address as quickly as possible.

Cross-reference the addresses on the list of affected addresses with those on the map. Some addresses have no building and do not require a notice, while some buildings are located on double lots, etc.

Provide notices to any concerned passers-by.

Upon completion:

Attempt to contact the highlighted addresses on the list of affected addresses via phone.

Deliver pertinent comments made by residents to the Regional District Operations Manager.

APPENDIX C

Post-Incident Report

TO: Operations Manager

FROM:

DATE:

DETAILS

Type of Emergency:

Location of Emergency:

Duration of Equipment Failure:

EMERGENCY INFORMATION

Description of Emergency:

Procedures/Actions Taken during Emergency:

Coal Harbour Water System Emergency Response Plan December 2018

EMERGENCY EVALUATION

(Include areas of strength and recommendations for improvement)

Emergency Action Team Response Evaluation:

Communications Response Evaluation:

Recommendations:

Suggested Amendments to the Emergency Response Plan:

Coal Harbour Water System Emergency Response Plan December 2018

Incident Form

This form was created so that technicians and persons responsible for executing Action Lists during water system emergencies can create a detailed account of their actions along with the respective date and time each action was taken out. In addition, there is a section labelled Post Incident Comments in which statements concerning the protocol followed in the respective Action List can be commented upon. The information provided by this form will aid in improving the Regional District's water system emergency response in the upcoming years. After the form is completed the Regional District asks you to please make a copy for yourself and send the original to the Operations Manager, Box 729, 2044 McNeill Road, Port McNeill, BC, V0N 2R0 or fax it to 250.956-3232 Attn: Operation Manager. Thank you for your cooperation.

Action List Reference: _____

Date: _____ **Time:** _____

Action Taken:

Date: _____ **Time:** _____

Action Taken:

Date: _____ **Time:** _____

Action Taken:

APPENDIX D

Letter of Understanding

Mr. Patrick Donaghy, P. Eng. RFT
Regional District of Mount Waddington
Box 729, 2044 McNeill Road
Port McNeill, B.C.
V0N 2R0

Dear Mr. Patrick Donaghy:

**RE: Regional District of Mount Waddington
Emergency Response Plan**

We acknowledge:

- Receipt of copy No. _____ of the Community of Coal Harbour Emergency Response Plan prepared by the Regional District of Mount Waddington.
- The Regional District will, from time to time, update the ERP and will distribute any revisions for the ERP.

We ask that this letter constitute our request for registration as holder of copy No. _____ of the Community of Coal Harbour Emergency Response Plan.

Yours truly,

Per: _____

Acknowledgement Form

FROM: [*Holders of the City of Campbell River Emergency Response Plan*]

Mr. Patrick Donaghy, P. Eng. RFT
Regional District of Mount Waddington
Box 729, 2044 McNeill Road
Port McNeill, B.C.
V0N 2R0

Office Phone: (250) 956-3301
Fax: (250) 956-3232

**We acknowledge receipt of Revision #_____ of the Community of Coal Harbour
Emergency Response Plan and we have updated our manual(s) accordingly.**

Please print: Name of ERP holder (Date)

Binder # _____

Amendment Form

FROM: *[Holders of the Community of Coal Harbour Emergency Response Plan]*

Mr. Patrick Donaghy, P. Eng. RFT
Regional District of Mount Waddington
Box 729, 2044 McNeill Road
Port McNeill, B.C.
V0N 2R0

Office Phone: (250) 286-5748
Fax: (250) 286-5762

We request that future updates reflect the following revisions:

Description of Revision:

Please print: Name of ERP holder (Date)

Binder # _____

APPENDIX E

- References -

Sodium Hypochlorite

Coal Harbour Water System Emergency Response Plan December 2018 Safety (MSDS) data for sodium hypochlorite solution

General

Synonyms: Hypochlorous acid sodium salt, sodium hydrochlorite, clorox [also sold as a solution under a variety of trade names for use as liquid bleach]
Use: Liquid bleach
Molecular formula: ClONa
CAS No: 7681-52-9
EC No: 231-668-3

Physical data

Appearance: Colourless liquid with strong odour
Boiling point: Typically 40 C (decomposes)
Vapour density:
Vapour pressure:
Specific gravity: ca. 1.21
Flash point: n/a
Explosion limits: n/a
Autoignition temperature: n/a

Stability

Stable. Contact with acids releases poisonous gas (chlorine). Light sensitive. Incompatible with strong acids, amines, ammonia, ammonium salts, reducing agents, metals, aziridine, methanol, formic acid, phenylacetonitrile.

Toxicology

Corrosive, causes burns to skin and eyes. Harmful by ingestion, inhalation and through skin contact. Skin irritant.

Toxicity data

(The meaning of any abbreviations which appear in this section is given here.)

ORL-MUS LD50 5800 mg kg-1
ORL-WMN TDLO 1000 mg kg-1
IVN-MAN TDLO 45 mg kg-1

Risk phrases

(The meaning of any risk phrases which appear in this section is given here.)
R20 R21 R22 R34 R41.

Transport information

(The meaning of any UN hazard codes which appear in this section is given here.)

Hazard class 8. Packing group III

Personal protection

Use in well-ventilated areas only. Protect eyes. Do not mix with acids.

Safety phrases

(The meaning of any safety phrases which appear in this section is given here.)

S1 S2 S28 S45 S50.

This information was last updated on August 30, 2005. We have tried to make it as accurate and useful as possible, but can take no responsibility for its use, misuse, or accuracy. We have not verified this information, and cannot guarantee that it is up-to-date. Note also that the information on the PTCL

Coal Harbour Water System Emergency Response Plan December 2018

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Coal Harbour Water System Emergency Response Plan December 2018

Chemical Risk Phrases

Risk Phrases

Chemical data sheets available in many countries now contain codes for certain "risk phrases", shown as R23, R45 etc. These risk phrase codes have the following meanings:

- R1 Explosive when dry.
- R2 Risk of explosion by shock, friction, fire or other source of ignition.
- R3 Extreme risk of explosion by shock, friction, fire or other sources of ignition.
- R4 Forms very sensitive explosive metallic compounds.
- R5 Heating may cause an explosion.
- R6 Explosive with or without contact with air.
- R7 May cause fire.
- R8 Contact with combustible material may cause fire.
- R9 Explosive when mixed with combustible material.
- R10 Flammable.
- R11 Highly flammable.
- R12 Extremely flammable.
- R13 Extremely flammable liquefied gas
- R14 Reacts violently with water.
- R15 Contact with water liberates extremely flammable gases.
- R16 Explosive when mixed with oxidizing substances.
- R17 Spontaneously flammable in air.
- R18 In use, may form inflammable/explosive vapour-air mixture.
- R19 May form explosive peroxides.
- R20 Harmful by inhalation.
- R21 Harmful in contact with skin.
- R22 Harmful if swallowed.
- R23 Toxic by inhalation.
- R24 Toxic in contact with skin.
- R25 Toxic if swallowed.
- R26 Very toxic by inhalation.
- R27 Very toxic in contact with skin.
- R28 Very toxic if swallowed.
- R29 Contact with water liberates toxic gas.
- R30 Can become highly flammable in use.
- R31 Contact with acids liberates toxic gas.
- R32 Contact with acid liberates very toxic gas.
- R33 Danger of cumulative effects.
- R34 Causes burns.
- R35 Causes severe burns.
- R36 Irritating to eyes.
- R37 Irritating to respiratory system.
- R38 Irritating to skin.
- R39 Danger of very serious irreversible effects.
- R40 Limited evidence of a carcinogenic effect.
- R41 Risk of serious damage to the eyes.
- R42 May cause sensitization by inhalation.
- R43 May cause sensitization by skin contact.
- R44 Risk of explosion if heated under confinement.
- R45 May cause cancer.
- R46 May cause heritable genetic damage.
- R47 May cause birth defects
- R48 Danger of serious damage to health by prolonged exposure.
- R49 May cause cancer by inhalation.
- R50 Very toxic to aquatic organisms.
- R51 Toxic to aquatic organisms.
- R52 Harmful to aquatic organisms.
- R53 May cause long-term adverse effects in the aquatic environment.
- R54 Toxic to flora.
- R55 Toxic to fauna.
- R56 Toxic to soil organisms.
- R57 Toxic to bees.
- R58 May cause long-term adverse effects in the environment.
- R59 Dangerous to the ozone layer.
- R60 May impair fertility.
- R61 May cause harm to the unborn child.
- R62 Risk of impaired fertility.
- R63 Possible risk of harm to the unborn child.
- R64 May cause harm to breastfed babies.
- R65 Harmful: may cause lung damage if swallowed.
- R66 Repeated exposure may cause skin dryness or cracking.
- R67 Vapours may cause drowsiness and dizziness.
- R68 Possible risk of irreversible effects.

It is current safety policy at Oxford University that a written COSHH assessment must be provided when a substance to be used has been assigned any of the risk phrases R42, R43, R45, R46, R48, R49, R60 or R61. Other hazards may also dictate the preparation of a suitable COSHH assessment.

This information was last updated on February 17, 2006. We have tried to make it

Coal Harbour Water System Emergency Response Plan December 2018

as accurate and useful as possible, but can take no responsibility for its use, misuse, or accuracy. We have not verified this information, and cannot guarantee that it is up-to-date.

Coal Harbour Water System Emergency Response Plan December 2018

Safety Phrases EC Safety Phrases

Under EC legislation, data sheets available in the UK now contain codes for certain "safety phrases", shown as S1, S17 etc. These phrases are also extensively used elsewhere in the world. Safety phrase codes have the following meanings:

- S1 Keep locked up.
- S2 Keep out of the reach of children.
- S3 Keep in a cool place.
- S4 Keep away from living quarters.
- S5 Keep contents under ... (there follows the name of a liquid).
- S6 Keep under ... (there follows the name of an inert gas).
- S7 Keep container tightly closed.
- S8 Keep container dry.
- S9 Keep container in a well-ventilated place.
- S12 Do not keep the container sealed.
- S13 Keep away from food, drink and animal foodstuffs.
- S14 Keep away from ... (a list of incompatible materials will follow).
- S15 Keep away from heat.
- S16 Keep away from sources of ignition.
- S17 Keep away from combustible material.
- S18 Handle and open container with care.
- S20 When using, do not eat or drink.
- S21 When using do not smoke.
- S22 Do not breathe dust.
- S23 Do not breathe vapour.
- S24 Avoid contact with skin.
- S25 Avoid contact with eyes.
- S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S27 Take off immediately all contaminated clothing.
- S28 After contact with skin, wash immediately with plenty of soap-suds.
- S29 Do not empty into drains.
- S30 Never add water to this product.
- S33 Take precautionary measures against static discharges.
- S35 This material and its container must be disposed of in a safe way.
- S36 Wear suitable protective clothing.
- S37 Wear suitable gloves.
- S38 In case of insufficient ventilation, wear suitable respiratory equipment.
- S39 Wear eye / face protection.
- S40 To clean the floor and all objects contaminated by this material, use.... (there follows suitable cleaning material).
- S41 In case of fire and / or explosion do not breathe fumes.
- S42 During fumigation / spraying wear suitable respiratory equipment.
- S43 In case of fire use ... (there follows the type of fire-fighting equipment to be used.)
- S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible.)
- S46 If swallowed, seek medical advice immediately and show this container or label.
- S47 Keep at temperature not exceeding...
- S48 To be kept wet with (there follows a material name).
- S49 Keep only in the original container.
- S50 Do not mix with ...
- S51 Use only in well ventilated areas.
- S52 Not recommended for interior use on large surface areas.
- S53 Avoid exposure - obtain special instructions before use.
- S56 Dispose of this material and its container at hazardous or special waste collection point.
- S57 Use appropriate container to avoid environmental contamination.
- S59 Refer to manufacturer / supplier for information on recovery / recycling.
- S60 This material and its container must be disposed of as hazardous waste.
- S61 Avoid release to the environment. Refer to special instructions / safety data sheets.
- S62 If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

This information was last updated on December 16, 2003. We have tried to make it as accurate and useful as possible, but can take no responsibility for its use, misuse, or accuracy. We have not verified this information, and cannot guarantee that it is up-to-date.

Coal Harbour Water System Emergency Response Plan December 2018 Toxicity Abbreviations

Abbreviations used in Toxicity data

The table below gives the main abbreviations which will be found in the toxicity data for chemicals listed on these (and many other) web pages.

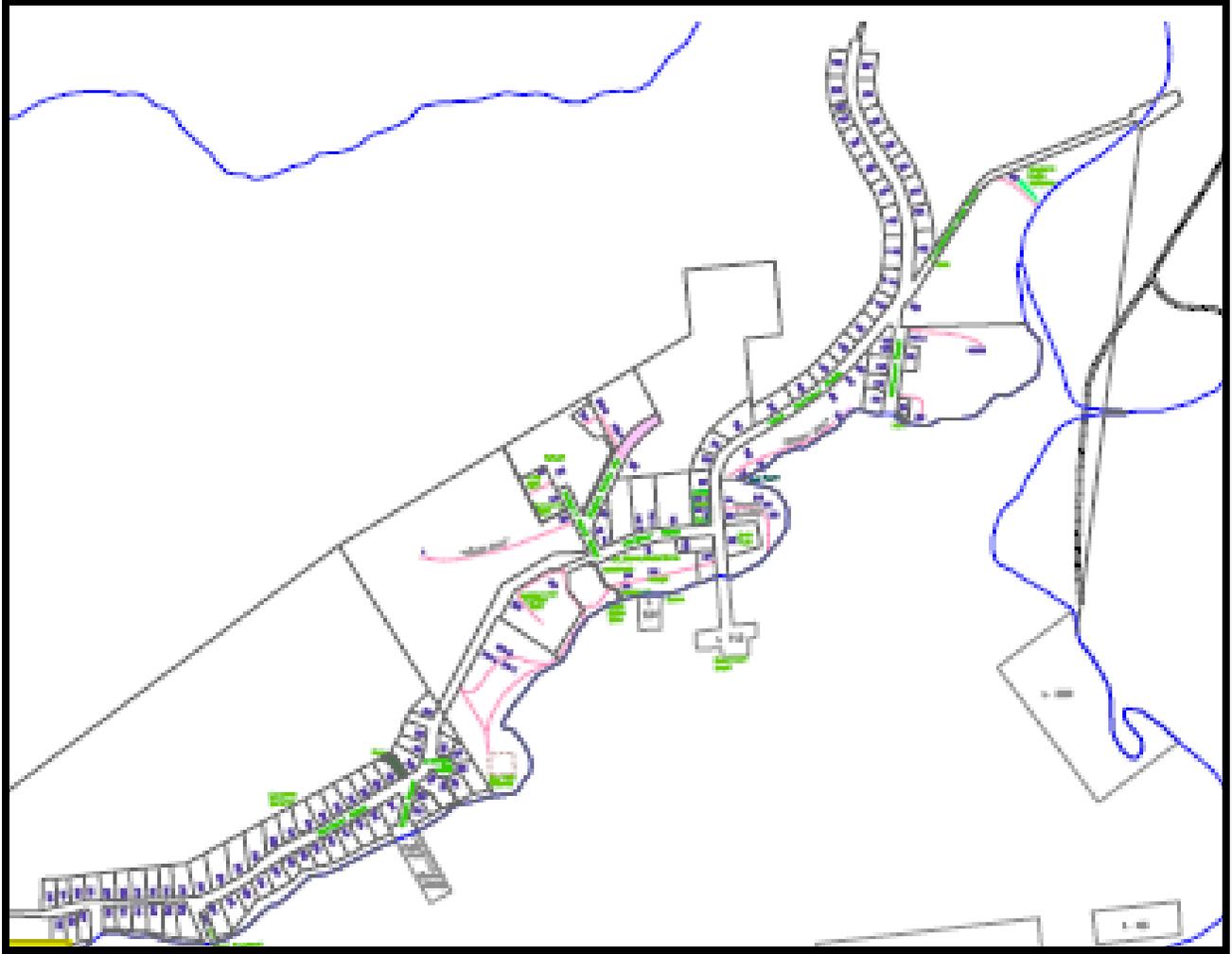
asn	Aspergillus nidulans	imm	immersion
ast	Ascites tumor	imp	implant
bcs	Bacillus subtilis	ims	intramuscular
bfa	body fluid assay	inf	infant
bmr	bone marrow	ipc	intraplacental
brd	bird (domestic or lab)	ipl	intrapleural
bwd	wild bird species	ipr	intraperitoneal
chd	child	irn	intrarenal
ckn	chicken	isp	intraspinal
CL	ceiling concentration	itr	intratracheal
clr	Chlamydomonas reinhardi	itt	intratesticular
ctl	cattle	iu	international unit
cyt	cytogenetic analysis	iut	intrauterine
D	day	ivg	intravaginal
dck	duck	ivn	intravenous
dlt	cominant lethal test	kdy	kidney
dmg	Drosophila melanogaster	kg	kilogram
dnd	DNA damage	klp	Klebsiella pneumoniae
dni	DNA inhibition	L	liter
dnrn	DNA repair	LC50	lethal concentration 50 percent kill
dns	unscheduled DNA synthesis	LCLo	lowest published lethal concentration
dom	domestic animal (goat, sheep)	LD50	lethal dose 50 percent kill
dpo	Drcsophila pseudo-obscura	LDlo	lowest published lethal dose
emb	embryo	leu	leukocyte
esc	Escherichia cold	Liq	liquid
eug	Euglena gracilis	lng	lung
eye	administration into eye (irritant)	lvr	liver
fb	fiber	lym	lymphocyte
fbr	fibroblast	M	minute
frg	frog	m3	cubic meter
gm	gram	mam	mammal (species unspecified)
gpg	guinea pig	man	man
grb	gerbil	ug	microgram
grh	grasshopper	umol	micromole
H hour		mg	milligram
ham	hamster	mky	monkey
hla	Hela cell	mL	milliliter
hma	host-mediated assay	MLD	mild irritation effects
hmi	Haemophilus influenzae	mma	microsomal mutagenicity assay
hmn	human	mmo	mutation in microorganisms
hor	horse, donkey	mmol	millimole
I intermittent		mmr	mammary gland
ial	intraaural	mnt	micronucleus test
IARC	International Agency for Research on Cancer	MOD	moderate irritation effects
iat	intraarterial	mol	mole
ice	intracerebral	mp	pcf million particles per cubic foot
icv	intracervical	mrc	gene conversion and mitotic recombination
idr	intradermal		
idu	intraduodenal	msc	mutation in mammalian somatic cells
ihl	inhalation		

Coal Harbour Water System Emergency Response Plan December 2018

mul	multiple routes	rns	rinsed with water
mus	mouse	S	second
n/a	not available	sal	salmon
ng	nanogram	sat	Salmonella typhimurium
nml	non-mammalian species	sce	sister chromatic exchange
nmol	nanomole	scu	subcutaneous
NOAEL	No Observed Adverse Effect Level	SEV	severe irritation effects
Nsc	Neurospora crassa	skn	administration onto skin
ocu	ocular	sln	sex chromosome loss and nondisjunction
ofs	other fish	slt	specific locus test
omi	other microorganisms	slw	silkworm
oms	other mutation test systems	smc	Saccharomyces cerevisiae
oin	other insects	spm	sperm morphology
open	open irritation test	spr	sperm
orl	oral	sql	squirrel
ORM	Other Regulated Material (DoT)	srm	Serratia marcescens
oth	other cell types	ssp	Schizosaccharomyces pombe
otr	oncogenic transformation	STEL	short term exposure limit
ovr	ovary	TC	toxic concentration (other than lowest concentration)
par	parenteral	TCLo	lowest published toxic concentration
pg	picogram	TD	toxic dose (other than lowest toxic dose)
pgn	pigeon	TDLo	lowest published toxic dose
pic	phage inhibition capacity	tes	testis
pig	pig	TLV	Threshold Limit Value
Pk	peak concentration	Tod	toad
pmol	picomole	trk	turkey
post	after birth	trn	heritable translocation test
ppb	parts per billion (v/v)	TWA	time weighted average
pph	parts per hundred (v/v) (percent)	unr	unreported
ppm	parts per million (v/v)	W	week
ppt	parts per trillion (v/v)	wmn	woman
preg	pregnant	Y	year
qal	quail		
rat	rat		
rbt	rabbit		
rec	rectal		

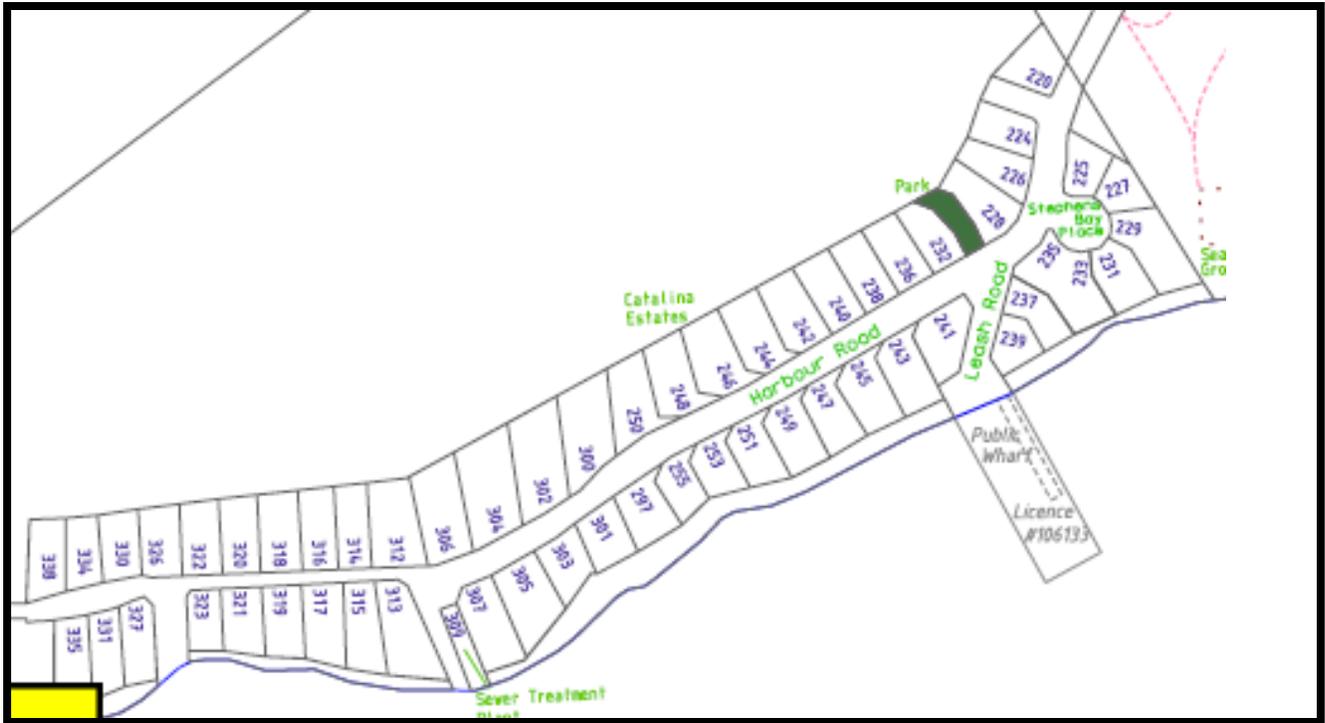
APPENDIX F

- Maps -

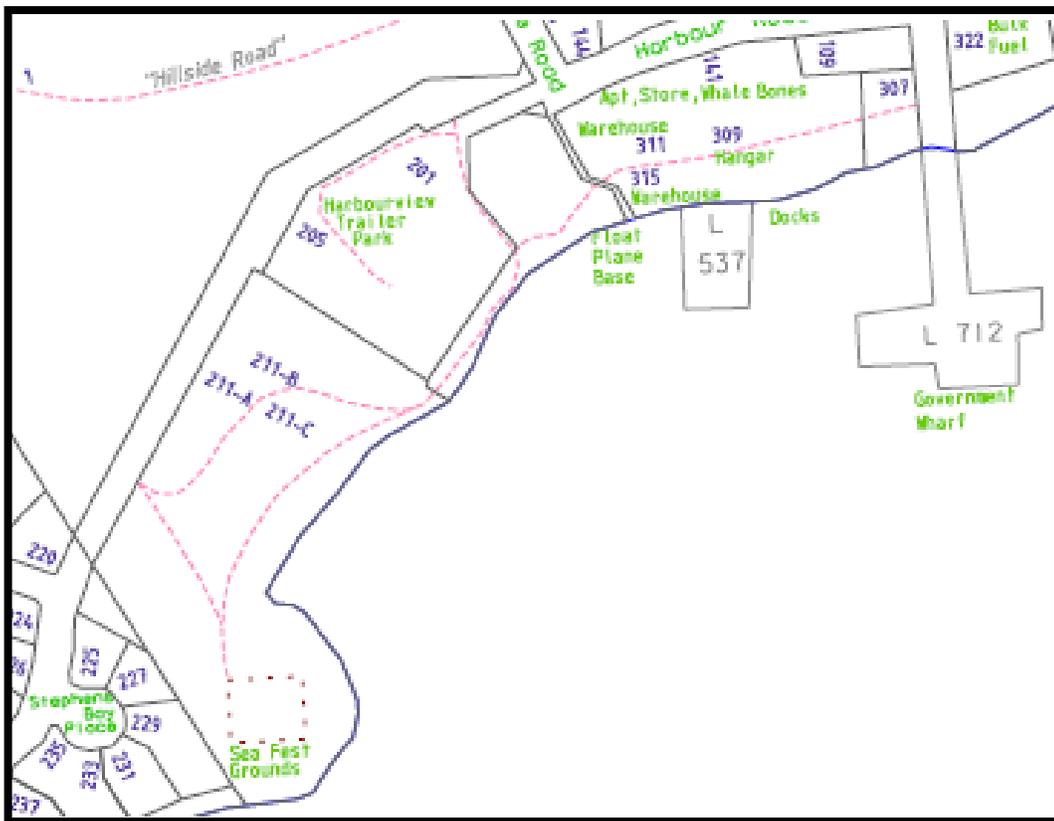


Map of Community of Coal Harbour

Coal Harbour Water System Emergency Response Plan December 2018

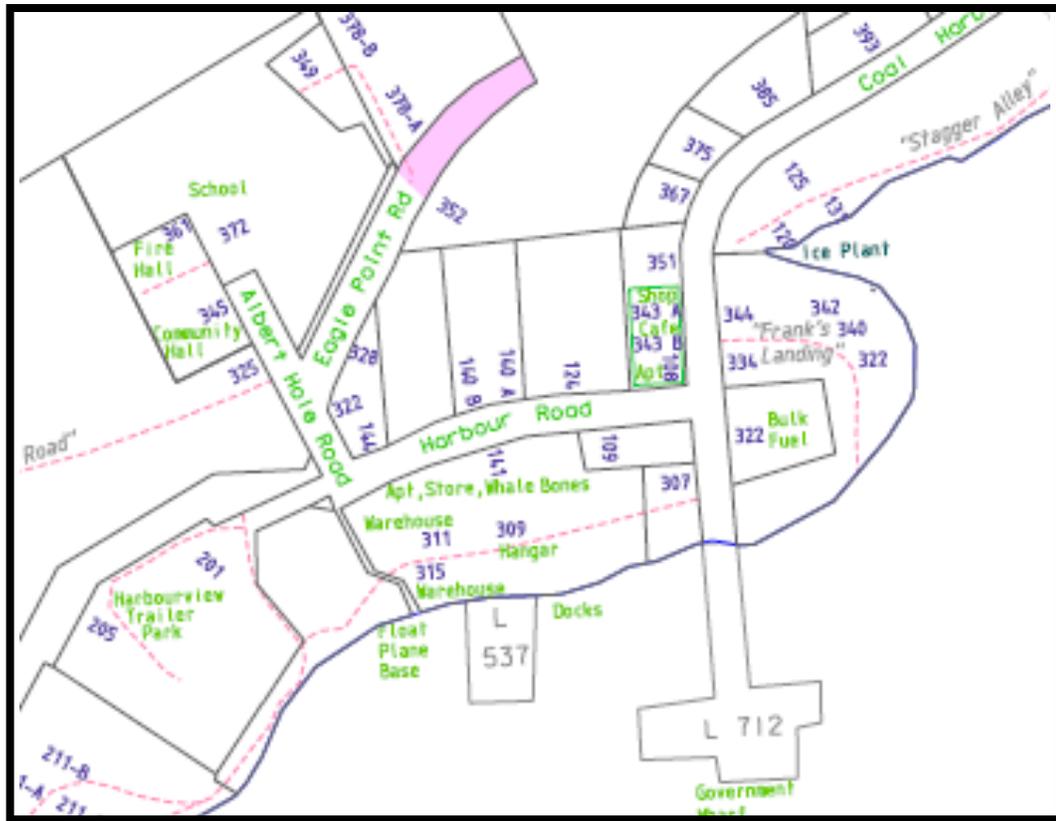


House Number Map of Harbour Road (Catalina Estates)

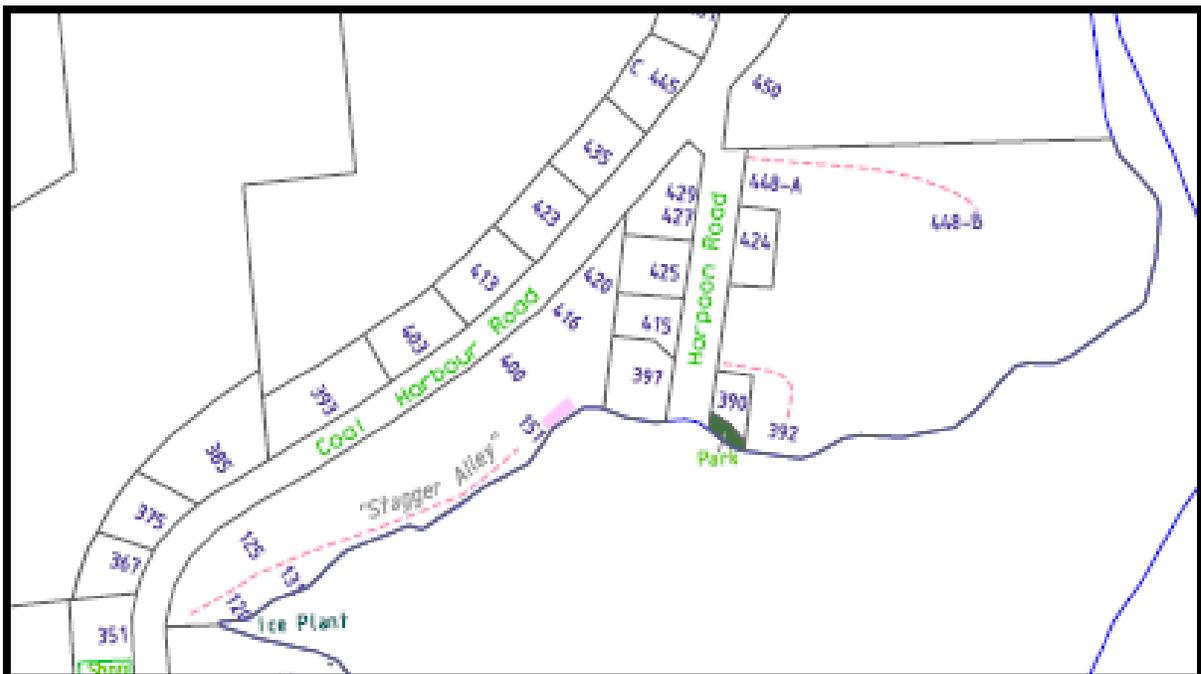


House Number Map of Harbour Road (Harbourview Trailer Park)

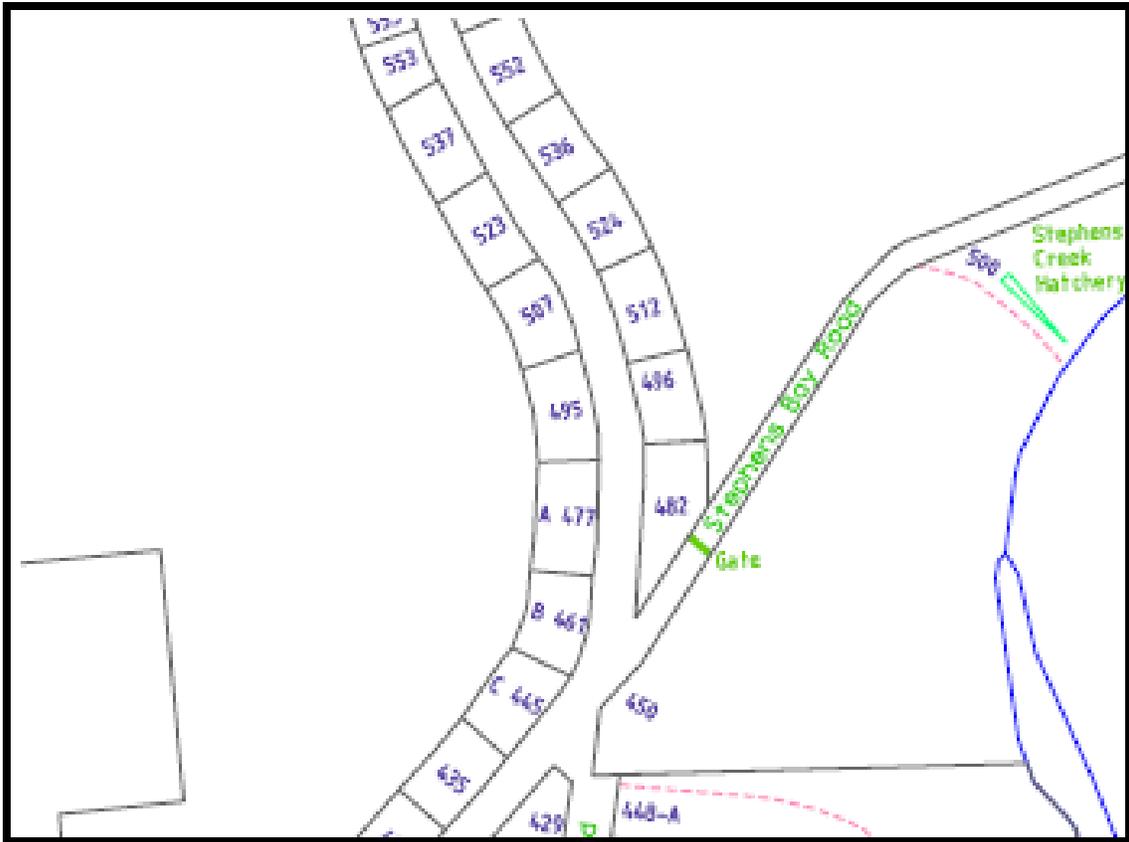
Coal Harbour Water System Emergency Response Plan December 2018



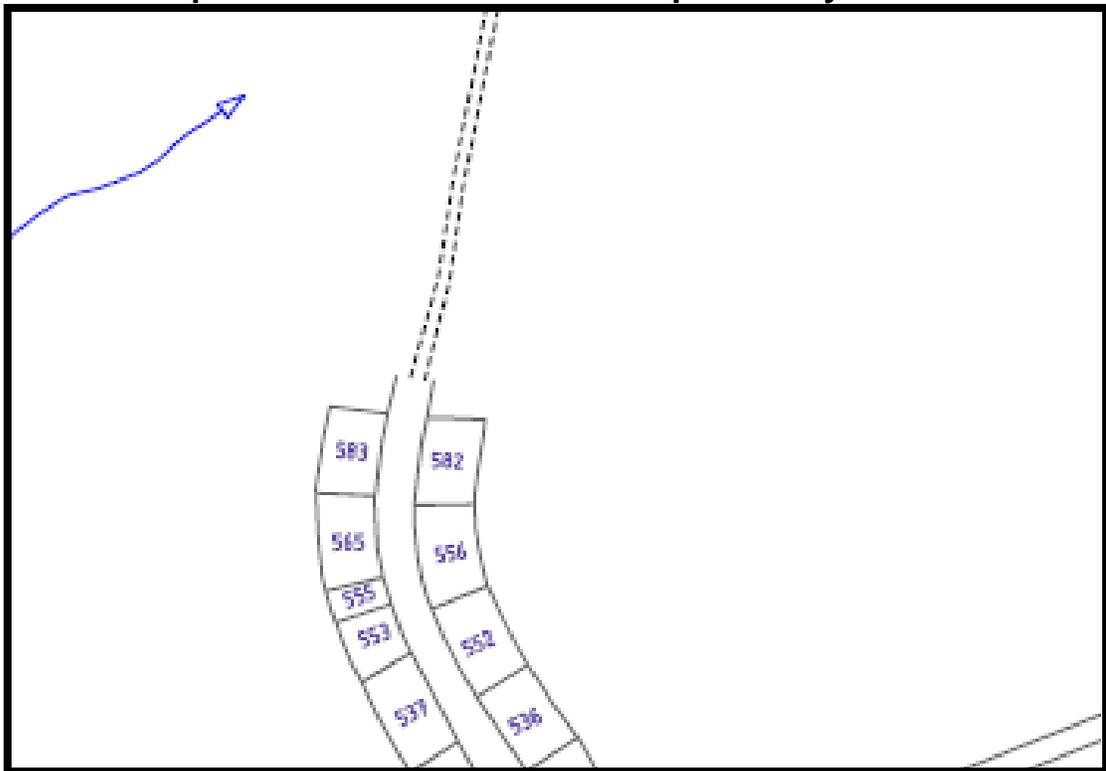
House Number Map of Harbour Rd, Eagle Point Rd, Albert Hole Rd and Coal Harbour



House Number Map of Coal Harbour Rd and Harpoon Rd

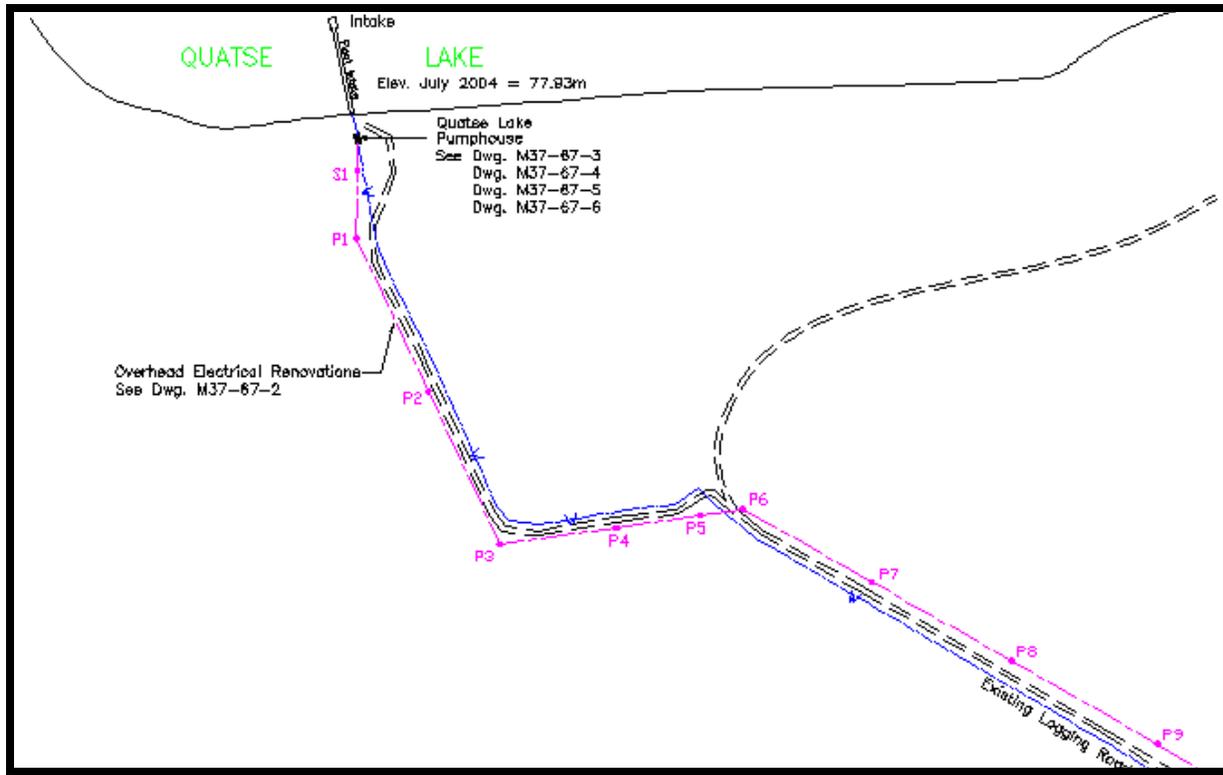


House Number Map of Coal Harbour Rd and Stephens bay Rd.

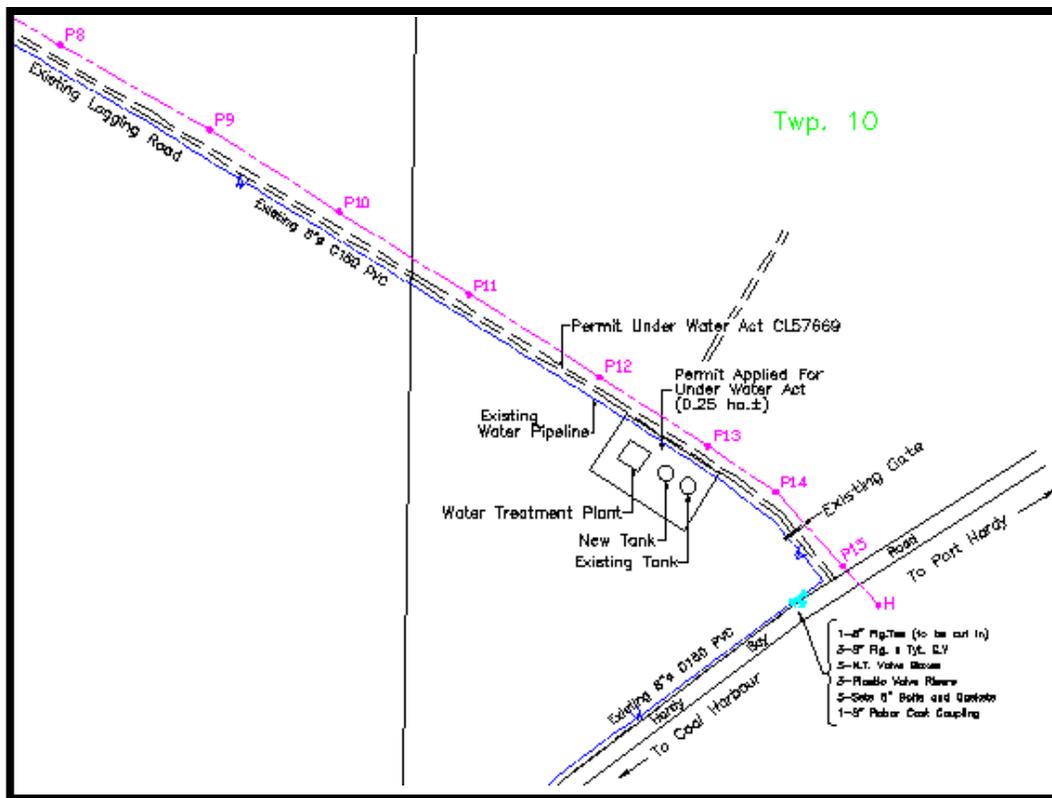


House Number Map of Coal Harbour Road leading out of Coal Harbour

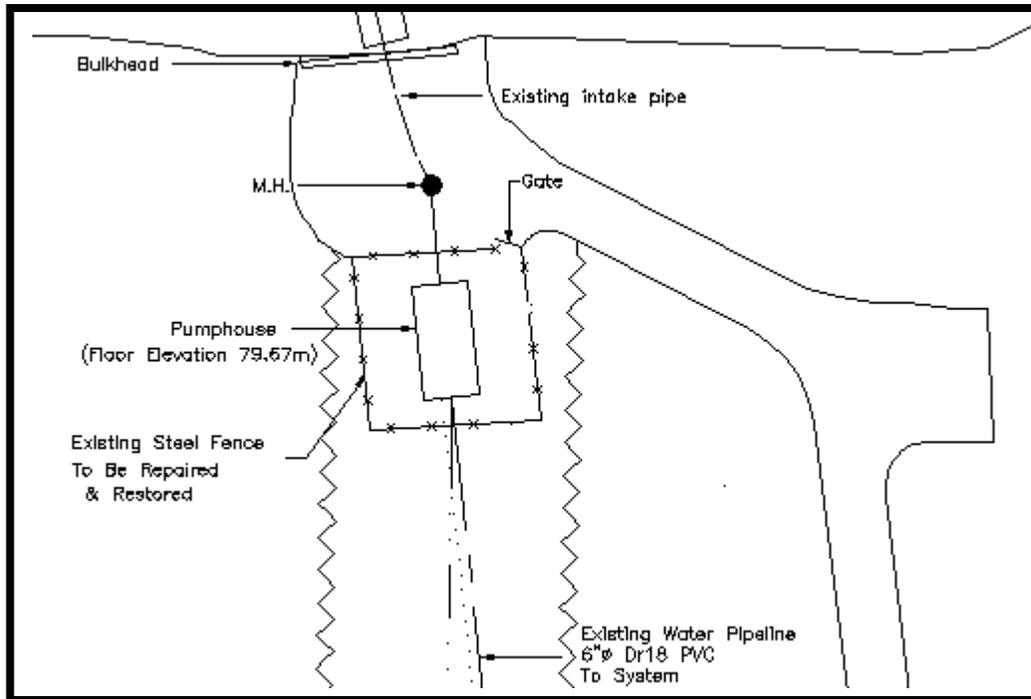
Coal Harbour Water System Emergency Response Plan December 2018



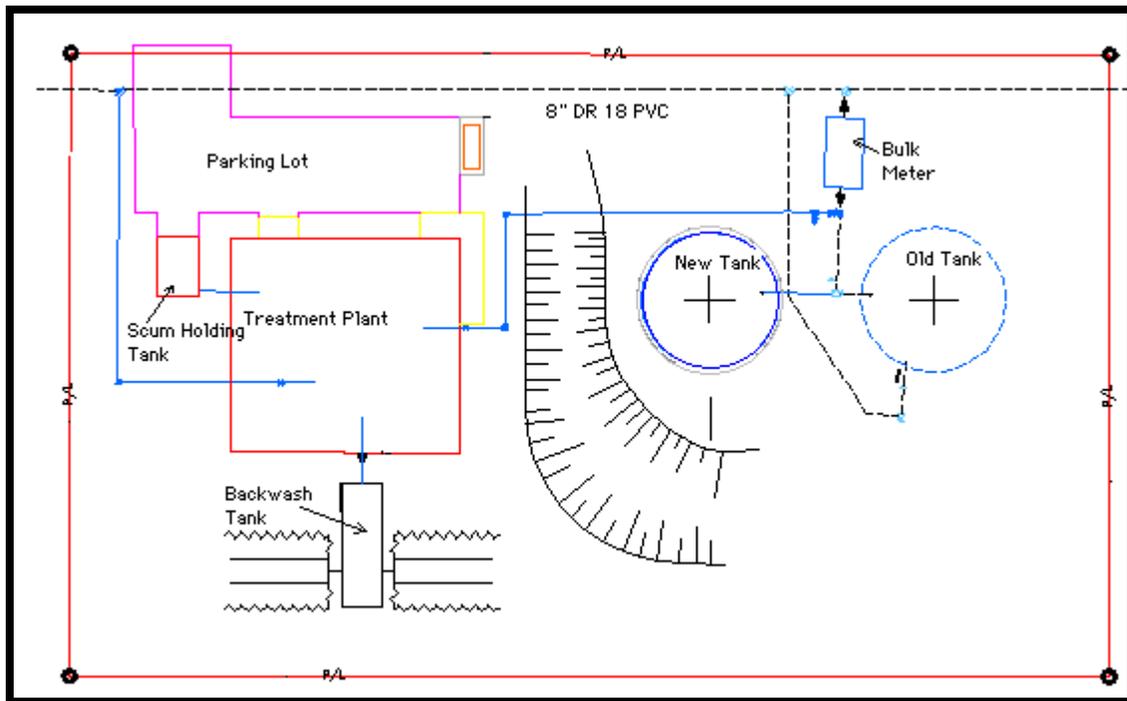
Overview Map of Quatse Lake Pumphouse



Overview Map of Water Treatment Plant



Detailed Map of Quatse River Pump House



Detailed map of Water Treatment Plant Facility

