S.C.W.I.D.

Sutherland Creek Waterworks Improvement District

EMERGENCY PLAN

As per the British Columbia Drinking Water Quality Programme the following guidelines outline the Emergency Response Plan for the Sutherland Creek Waterworks Improvement District

S.C.W.D.

Revised Edition Spring 2021

Sutherland Creek Waterworks District

AKNOWLEDGMENTS

On behalf of the Board of Trustees of Sutherland Creek Waterworks District I would like to acknowledge the fact that the layout and setup and format of this document were copied from the on-line Emergency Plan for Clearwater. It was edited to make sure the applications and solutions were compatible with Sutherland Creek Waterworks District objectives.

I would also like to thank Peter Darbyshire, our Senior Operator, The Board of Trustees for Sutherland Creek Waterworks District and many past trustees and volunteers who have made our Water District what it is Today.

Respectfully submitted
The Board of Trustees

Circulation List

The following are to receive copies of this Plan and all amendments:

Department/Agency	**Name/Position**
Board of Trustees	Mike DeGirolamo, Chairperson Ken Sookero, Trustee Jennifer Horahan, Trustee Brian Hoodikoff, Trustee Neil Campbell, Trustee
Maintenance Operators	Peter Darbyshire, Maintenance Contractor/Senior Operator Wayne Peterson, Maintenance Contractor/Back-up Operator Darren Burroughs, Maintenance Contractor/Back-up Operator
Interior Health	Pouria Mojtahedi - Interior Health Environmental Health Officer
Christina Lake Fire Dept.	Joe Greary, Fire Chief
Kootenay Boundary Regional District	Nora Hannon, Regional Fire Chief Dan Derber – Regional Director – Emergency Manager

Amendments

Date	Section # Page #	Revision #	Reason for Amendment	Amended By [initial]	Circulation Date
April 26/16	[ii]	1	Circulation List Change of Trustees	Jcb	May 2016
" "	7.	1	Emergency Contact Lists	Jcb	May 2016
" "	12	1	4. Procedure Overview	Jcb	May 2016
Note: All changes above were due to change in trustees and Interior Health Representatives					
July 2017	[ii]	2	Circulation List Change of Trustees	Jcb	April 2017
July 2017	7.	2	Emergency Contact List	Jcb	April 2017
July 2017	12	2	4. Procedure Overview	Jcb	April 2017
July 2017	Section E	1	Addition of Tank #2 and operator duties	Jcb	April 2017
July 2017	Section G	1	Additional Valve Placements and updated map from Regional District	Jcb	April 2017

1. Introduction:

1.1 ERP Purpose

Operating and maintaining the water system is a responsibility that involves consideration and planning for routine functions, as well as planning for and responding to emergency situations. Furthermore, the *Drinking Water Protection Act* and the *Drinking Water Protection Regulations* require all suppliers of small water systems to have an emergency response plan.

The purpose of this plan is to assist the Sutherland Creek Waterworks District to prepare for and respond to emergency situations related to their water system. For the purposes of this plan, an emergency is defined as the occurrence of any event that causes the water system to pose a threat to public health and safety or to the environment.

This plan contains contact, procedures, a system map, and other information required to effectively respond to a set of pre-identified emergencies. The contacts have been grouped into common categories. All questions or comments on this plan should be directed to the Chairperson of the Board of Trustees of Sutherland Creek Waterworks District.

Emergency procedures have been prepared to potential situations that could arise. These situations cover most emergencies that could be encountered. In situations where other emergencies arise, the general approach and principles illustrated should be adapted to address the situation. It is important to debrief after an emergency has occurred and amend or add new situation to the plan as required.

The District's operating permit with Interior Health requires that this plan be updated on an annual basis. Amendments should be circulated to the list noted at the beginning of this report. The contact lists should be kept current and amended as required.

1.2 Water System Background Information

History

Sutherland Creek Waterworks District is a non-profit society operating under Letters Patent that were issued on August 22, 1974 by Lieutenant Governor, Walter S. Owen, and Provincial Secretary, E. Hall. The improvement district must abide by the regulations of the Provincial Water Act and the Municipal Act. Sutherland Creek Waterworks District is responsible to the Ministry of Community, Sport and Cultural Development, Local Government Infrastructure and Finance Branch and must report annually with a copy of the Audit, Budget, Five Year Plan, Trustees Sheet, General Statistics Form and minutes of the Annual General Meeting. We operate under Bylaws that are also overseen and approved by the same ministry.

To quote the Letter Patent: "***The objects of the improvement district shall be the acquisition, maintenance and operation of works for water works purpose and all matters incidental thereto*.**"

Appendix "B" contains a map of the area known as Lavalley Point at Christina Lake which encompasses the area serviced by Sutherland Creek Waterworks District. The district consists of 290 lots and supplies potable water to single family residences and commercial properties.

The owner/users are the people who benefit from the district's service.

Source

Sutherland Creek Waterworks District has two groundwater wells and a surface water source. The wells are located east of Christina Lake, BC and are accessed from Highway 3. The wells are located on *"Right of Way Plan of Part of Lot 3, District Lot 970, and District Lot 750 SDYD Plan 29323."* The 6" well was drilled by Thorman Drilling on September 13, 2003.

Kala Groundwater Consulting Ltd.'s January 30, 2006 Report, R05697, on the 6" well states that all parameters tested for met the Summary of Guidelines for Canadian Drinking Water Quality - 2004. Soluble nutrient concentrations were low to negligible suggesting no agricultural or sewage effluent based pollution proximate to the well location. Total and fecal coliform counts were non detectable. A microbiologic profile did not indicate the presence of harmful or nuisance bacteria. The report concluded that a larger diameter well could be installed adjacent to the 6" well based on aquifer observations.

A New Well Source Construction Permit No. KO-81W {Well} was issued to Sutherland Creek Waterworks District by John Brittain, P. E., Public Health Engineer for the Kootenay Region of Interior Health on December 8, 2005. The 10" well was drilled by Owen's Drilling on March 14, 2006. Kala Groundwater Consulting Ltd.'s June 20, 2006 Report R06730 stated that all water parameters tested for met the Summary of Guidelines for Canadian Drinking Water Quality 2006. There was no evidence of bacteriological contamination of the groundwater at the site nor was there evidence of agricultural borne contaminants such as soluble nutrients.

Interior Health Waterworks Construction Permit No. K0-118W was issued by John Brittain, P.Eng., Regional Public Health Engineer, on June 19, 2006, to connect the wells to the reservoir by 250 m of 200 mm diameter C900 DR 18 PVC watermain material. This part of the project was done by Pine View Contracting - contract let October 2006.

On September 27, 2007, Sutherland Creek Waterworks District went onto pumped deep well water.

In November 2012 a new automated chlorine injection system was installed whereby the well water is chlorinated almost directly as it comes out of the wells and it now has more contact time as it goes up to the reservoirs and is held there. Daily readings of residual chlorine, water temperature and number of gallons pumped from each well are kept in the building that holds the new chlorine injection system.

The District holds four water licences for the diversion of water for irrigation and drinking water:

Licence Number C108743 - Purpose - Irrigation [Stream Name - Sutherland Creek
Licence Number C108744 - Purpose - Irrigation [Stream Name - Sutherland Creek
Licence Number 8000326 - Purpose - Waterworks Local Authority [Stream - Sutherland Creek]
Licence Number 0328158 - Purpose - Waterworks Local Authority [Stream - Sutherland Creek]

The creek water intake is located in a weir above the reservoirs. Since the commissioning of the deep groundwater wells the creek water flows through the valve house and back into the creek - it is to be used in case of emergency only - such as a large fire. If the creek water were to be used in an emergency situation a Boil Advisory would have to be posted and the system entirely disinfected before the system could go back on deep groundwater wells.

Appendix “B” contains a water system schematic which displays the location of various water systems sources and other infrastructure.

Pumping & Distribution

The distribution system is comprised of over ten km of water main, constructed mainly of asbestos cement and polyvinyl chloride with some ductile iron.

Storage

Sutherland Creek Waterworks District has two 40,000 US Gallon concrete reservoirs located on Fife Road at Christina Lake, B.C. The original reservoir was built in the 1970's and the second reservoir was completed in November 1997 by Grand Forks Construction Services Ltd.

As part of the Five Year Plan submitted annually to the Province of B.C. the Board of Trustees have been proactive in noting that doubling the reservoir size would decrease the issue of having to use Sutherland Creek as the emergency backup water supply. A grant application to explore costs and suitability for doubling the reservoir capacity was submitted to the Regional District for their approval before being sent off to the Provincial Government for acceptance in 2012. To date there has been no response.

The Board of Trustees have also discussed drilling another 10" well in proximity to the two existing wells. Trustee Mike Burroughs has been delegated to contact Interior Health's Engineer to see what the procedure would be.

2. Communications:

Communication plays a key role in effectively responding to an emergency. Depending on the type and magnitude of an emergency, various communications will be required. Quickly alerting all water users on the system is crucial when there is a potential health risk. There are several methods of notifying the community of a water issue. Sutherland Creek Waterworks District will employ the following:

Public Notices:

Appendix "C" provides a procedure which should be followed for issuing water quality or quantity advisories/notices, and also provides sample notices, signs and forms.

Phone Trees:

A phone tree is a pre-arranged plan which allows certain users to be contacted by telephone.

Each person who has been phoned has their own list of people to phone and so on. This should be used to notify high-risk users such as campgrounds, restaurants, shops and bakeries but is not useful to SCWD as the majority of our users are summer only.

Media:

Local media can be used to notify the community in an emergency situation. Depending on the severity of the situation, Interior Health may provide guidance when media is being contacted.

Signs:

All public water taps should be documented so that signs can be distributed to all locations in the case of an emergency.

Volunteers:

Volunteers can be used to delivery door-to-door notices to ensure all users are notified. As approximately 50% of SCWDs users are only here periodically a notice at/on the door is the most efficient was of being sure that everyone has been notified.

Not only should all water system users be notified in the case of an emergency, but the communication should be documented to ensure that notification took place and to facilitate removal of signs and public notices once the system is returned to operation

A sample record form for notifying commercial and public buildings is included in Appendix "C". Appendix "C" also provides instructions for notifying users as well as sample forms and notices which can be used to communication information to various parties.

For each emergency situation the required contacts and appropriate method of contact is included in the Emergency Action Plan.

2.1 Emergency Response Lead

The Emergency Response Lead (ER Lead) will be the main port of contact and decision-maker during a major event. This person will have responsibility for evaluation incoming information, managing resources and staff, and deciding on appropriate response actions. This person will also have the responsibility of co-ordinating emergency response efforts with first responders. The Alternate ER Lead would step in should the ER Lead be unavailable.

The ER Lead and the Alternate ER Lead need to be reachable 24 hours a day, seven days a week.

The ER Lead is Peter Darbyshire and Alternate ER Lead is Wayne Peterson for the Sutherland Creek Waterworks District and their contact information is on the following pages. An ER Lead can be reached 24/7 by calling 250-442-7691.

2.2 Emergency Contact List

The Emergency Contact List for Sutherland Creek Waterworks District provides emergency contact information for the Board of Trustees, Maintenance Operators, Administrator, emergency personnel, regulatory agencies, media contacts, utilities, consultants, contractors, and supplies.

Sutherland Creek Waterworks District

2021 Emergency Contact List

	Name and Address	Phone Number(s)	Email Address
1.	Mike DeGirolamo (chair) 1956 Fife Road Christina Lake BC V0H 1E2	Residence: Cell: 250-584-5052	mikede1950@gmail.com Trustee
2.	Brian Hoodikoff 26 Wilson Road Christina Lake, BC V0H 1E2	Residence: Cell: 250-442-6754	brian.hoodikoff@gmail.com Trustee
3.	Jennifer Horahan 38 Wilson Road Christina Lake, BC V0h 1E2	Residence: 250-447-7638 Cell: 250-442-7246	horahan@shaw.ca Trustee
4.	Ken Sookero 2150 Dunn Road Christina Lake, BC V0H 1E2	Residence: 250-448-1917 Cell: 250-509-1224	sookero@gmail.com Trustee
5.	Neil Campbell 1865 Bakery Frontage Rd. Christina Lake BC V0H 1E2	Residence: 250-447-9269 Cell: 250-979-8895	nwcampbell13@gmail.com Trustee
6.	Peter Darbyshire 2308 Fife Rd. Christina Lake BC V0H 1E3	Residence: 250-447-6382 Cell 250-442-7691	darby44@shaw.ca Senior Operator
7.	Wayne Peterson 1938 Fife Rd. Christina Lake BC V0H 1E2	Residence: Cell: 250-443-1844	P2ethan@gmail.com Operator
8.	Darren Burroughs 2227 North Massie Road Christina Lake, BC V0H 1E2	Residence: 250-447-9767 Cell: 250-666-0442	nyburg_2000@yahoo.ca Operator in training
9.	Nyla Burroughs 2227 North Massie Road Christina Lake, BC V0H 1E2	Residence: 250-447-9767 Cell: 250-666-0442	nyburg_2000@yahoo.ca Administrator

File: Emergency Plan/2021 Emergency Contact List

System Mechanical - WSA Engineering - Dan Sahlstrom P.Eng. - Gordon Malcolm	1-888-617-6927*2 www.wsaeng.ca
System Electrical and Computer - John Maxemenko	250-447-9344 250-443-1652 (cell)
Chlorination System [Westek Control] Denis Woodcox	1-250-365-9829 1-250-365-9829 (cell0 Email: denisw@westekcontrols.com
Plumbing: Chris Ellenton Esson Plumbing & Heating [Russell]	 250-447-6690 250-447-9235
Medical Health Officer for Emergencies after 4:30 PM.	1-866-457-5648
Large Water System Specialist Dan Byron, Team Leader Large water Systems Program Interior Health - Health Protection	1-250-420-2240 F. W. Green Home [Cranbrook] 1-250-364-6218 (fax) Email: Dan.Byron@interiorhealth.ca
Interior Health – Environmental Health Officer: Pouria Mojtahedi	1-250-505-7234 Nelson Health Centre 333 Victoria St. Nelson BC Email: pouria.jojtahedi@interiorhealth.ca
Interior Health Engineer: Wayne Radomske	1-250-770-5540 1-250-770-5541 {fax} 1-250-488-2445 {cell} Email: Wayne.Radomske@interiorhealth.ca
Provincial Emergency Preparedness Office:	1-800-663-3456
Police [RCMP] RCMP Emergency	250-442-8288 911
Ministry of the Environment	1-250-354-6333
Boundary Hospital	250-443-2100

Insurance – Capri Insurance	1-250-492-5821 Phone

Wayne Fiddler - 396 Ellis St, Penticton BC V2A 4L7	1-250-492-6115 Fax 1-877-633-2774 Toll Free Email: wfiddler@capri.ca
Fortis BC – Electrical Natural Gas	1-866-436-7847 1-888-224-2710
Christina Lake Fire Department Joe Greary – Fire Chief Fire Emergency	250-447-6611 250-444-0553 (cell) 911
Shaw Cable	250-442-5844
Mountain PM	1-800-665-1178 250-442-2191
Grand Forks Gazette	Email: editor@grandforksgazette.ca
Christina Lake News Sandra Martin	250-447-9170 Email: cinews@shaw.ca
Precision Service & Pumps Inc. Shane Closson	1-604-850-7010 Phone 1-604-850-9666 Fax Email: shane@precision-pumps.com
Emergency Excavation Services – Bartlett Exc. Dave Bartlett	250-447-9727
Telus: Local Contact: Jessie Head Office: Victor	 250-443-1546 1-855-432-5154
Emergency Drinking Water Supply Water Pure & Simple	1-888-442-5528
Regional District – Emergency Manager Dan Derby	1-800-355-7352 or 1-250-364-1737 [this number is monitored 24/7]

3. Potential Emergency Situations

Developing and reviewing action plans in advance of the situations will allow the Emergency Response Leaders and the members of the Board of Trustees to respond to situations more quickly and efficiently. Actions plans for potential emergency situations are included below and will be edited, added to or removed as required.

POTENTIAL EMERGENCY SITUATIONS:

1. Backflow or Cross Connection
2. Broken Watermain
3. Chlorinator Failure
4. Contamination of Creek Source
5. Contamination of Well Source
6. Flood Condition
7. Forest Fire within SCWD Boundaries
8. Loss of Source – Wells
9. Loss of Source – Drought
10. Loss of Source – Dry Weather Conditions to Extremely Dry Weather Conditions
11. Low Reservoir Level
12. Power Failure
13. Pressure Reducing Valve Failure
14. Pump Failure
15. Reservoir Structural Failure
16. Slope/Bank Failure in Watershed
16. System Controls Failure
17. Water System Vandalism

Interior Health Contact List

4. Procedure Overview

When an emergency occurs, the following are guidelines for action.
Please note that all initial emergency response actions will take place at the Command Centre located at the Christina Lake Community Hall Office – Christina Lake, B.C.

Emergency Response Lead will be:
Peter Darbyshire Maintenance Contractor/Senior Operator

Alternate Response Lead will be:
Wayne Peterson Maintenance Contractor/Back-up Operator

Alternate Response Lead will be:
Darren Burroughs Maintenance Contractor/Back-up Operator

Trustees:

Chair	Mike DeGirolamo	250-584-5052
Trustee	Ken Sookero	250-448-1917
Trustee	Jennifer Horahan	250-442-7246
Trustee	Brian Hoodikoff	250-442-6754
Trustee	Neil Campbell	250-979-8895

All Emergencies will be responded to as follows:

a) Identify the emergency
b) Evaluate action to be taken
c) Take action required
d) Contact appropriate resource[s]
e) Always refer to contact list in Emergency Response Plan
f) Utilize all possible means of communicating to owner/users the nature of the emergency and precautions to be taken.
g) Radio-Television
h) Newspaper [Grand Forks] [Christina Lake News]
i) Welcome Centre Community Board
j) Hand delivered notices
k) Telephone
l) Email

Note: All tools, maps and technical information required to respond to an emergency will be available through the Lead Responder or the Alternate Lead Responder.

SUTHERLAND CREEK WATERWORKS DISTRICT EMERGENCY EVENTS

Emergency Event:	Backflow or Cross Connection
Risk:	Contamination/Health Service Interruption

Emergency Trigger:

- Backflow conditions or potential backflow conditions as a result of loss of pressure in system.

Action Required:

- Determine the area and extent of the loss of pressure in order to determine areas of potential backflow.
- Identify and isolate backflow source if possible.
- Operate the system at an elevated rate of chlorination.
- Advise/consult mandatory and optional contacts as required.
  - determine whether a water quality Advisory/Notice should be issued. Contact Interior Health and if so follow notification procedure.
- Determine if sufficient capacity is available to supply the water system. Arrange alternate source if necessary (bottled water, bulk water hauler).
- Take samples for chemical and bacterial analysis
- Call for repair from contractors should they be required.
- Determine if Christina Lake Fire Dept. needs to be notified in case a fire occurs.

Mandatory Contacts:

- Maintenance Operators
- Board of Trustees
- Interior Health
- Fire Department
- Affected users if applicable

Optional Contacts

- Provincial Emergency Program
- Required Contractors

Follow-up Actions Required

- Flush and disinfect the repaired watermains in accordance with proper regulations when creek is no longer in use.
- Increase water quality testing in area if needed depending on results of previous testing. Test for residual chlorine, total coliforms and E.Coli. Also test for other chemicals if chemical cross-connection suspected.
- Operate the system at an elevated rate of chlorination until tests indicate an adequate chlorine residual throughout the distribution system and water samples are satisfactory.
- If chlorine readings are below 0.2 mg/L, flush until residual exceeds 0.2 mg/L and is representative of chlorine in system.
- Remove water quality Advisory/Notice when directed to do so using proper procedure
- Investigate source of backflow and take action to prevent reoccurrence.
- Update maintenance records with details of backflow or cross connection conditions for Board of Trustees.
- Complete Emergency Action Record Forms (Appendix “C”) and written report to external agencies, if necessary.

Emergency Event:	Broken Watermain
Risk:	Contamination/Health Inadequate fire flow supply Service Interruption Damage to Properties Impacts to Nearby Stream

Emergency Trigger:

- Any watermain break

Action Required:

- Close valves to isolate watermain break
- Reduce pressure as much as possible but keep line charged (reduces chances of a cross connection problem)
- Shut off pump
- Notify affected users of service interruption
- Call for repair - contact contractor (Bartlett Excavating if possible)
- Advise Interior Health Representative
- Contact appropriate regulatory agency if a significant amount of chlorinated water discharges into creeks or streams (PEP, DFO)
- Determine if sufficient capacity is available to supply the water system. Arrange alternate source of water if necessary: temporary connections, bottled water, etc. Determine whether a water conservation notice should be issued, increasing the severity of the notice to maintain adequate supply of water for domestic purposes.
- Determine if First Responders/Christina Lake Fire Dept. needs to be notified should a fire occur.
- Make necessary repairs.

Mandatory Contacts:

- Maintenance Operators
- Board of Trustees
- Affected Users
- Interior Health
- Fire Department

Optional Contacts

Provincial Emergency Program

Department of Fisheries and Oceans Canada

Required Contractors

Follow-up Actions Required

Flush and disinfect the repaired watermain.

Take water sample downstream of break after repairs have been completed. Test for residual chlorine, total coliforms and E.Coli. Also test for other chemicals if chemical spills suspected at site of break.

Operate the system at an elevated rate of chlorination until tests indicate an adequate chlorine residual throughout the distribution system and water samples are satisfactory.

If chlorine readings are below 0.2 mg/L, flush until residual exceeds 0.2 mg/L and is representative of chlorine in system.

Remove water quality Advisory/Notice when directed to do so using procedure.

Remove water conservation notice when appropriate

Update maintenance records with details of watermain break for Board of Trustees.

Complete Emergency Action Record Forms (Appendix “A”) and written report to external agencies, if necessary.

Emergency Event:	Chlorinator Failure
Risk:	Contamination/Health Service Interruption

Emergency Trigger:

- Operator indicates that a chlorinator is not functioning.

Action Required:

- Turn off pumps/isolate source with failed chlorinator and use functional sources.
- Check chlorination at reservoir outlet. Activate standby chlorination system. If required add chlorine at inlet to reservoirs.
- Advise/consult mandatory and optional contacts as required.
  - determine whether a water quality Advisory/Notice should be issued. Contact Interior Health and if so follow notification procedure.
  - determine whether a water conservation notice should be issued, increasing the severity of the notice to maintain adequate supply of water for domestic purposes.
- Review chlorine results in on-line chlorine analyser (at reservoir) and from distribution system (handheld monitoring). Add chlorine bleach to reservoir as extra precaution if chlorine residual below acceptable/normal levels (e.g. 4 mL of 12% chlorine bleach to every 4,500 L (1,000 Imperial gallons) of water will increase residual by approximately 1 mg/L)
- Repair Chlorination System [***Contractor is Denis Woodcox, Controls Specialist @ Westek Controls Ltd. Phone 250-365-5666/Cell 250-365-9829 Email - denisw@westekcontrols.com]***
- Determine if sufficient capacity is available to supply the water system. Arrange alternate source if necessary (bottled water, bulk water hauler)

Mandatory Contacts:

- Maintenance Operators
- Board of Trustees
- Interior Health
- Affected users if applicable

Optional Contacts

- Required Contractors [see name/phone number noted above]

Follow-up Actions Required

- Flush and disinfect all affected water mains in accordance with proper standards.
- Increase water quality testing in area if contaminated water entered the system. Test for residual chlorine, total coliforms and E.Coli.
- Operate the system at an elevated rate of chlorination until tests indicate an adequate chlorine residual throughout the distribution system and water samples are satisfactory.
- If chlorine readings are below 0.2 mg/L, flush until residual exceeds 0.2 /L and is representative of chlorine in the system.
- Remove water quality Advisory/Notice when directed to do so using procedure in Appendix "C".
- Remove water conservation notice when appropriate.
- Update maintenance records with details of Chlorinator failure and repairs done for Board of Trustees.
- Complete Emergency Action Record Forms (Appendix "C") and written report to external agencies, if necessary.

Emergency Event:	Contamination of Creek Source
Risk:	Contamination/Health Service Interruption Inadequate fire flow supply Damage to Property Impacts to Nearby Streams

Emergency Trigger:

- Known or suspected contamination of creek source
- Sutherland Creek is used as source of water because of ***Reservoir Structural Failure or Loss of Source, i.e. wells***

Action Required:

- Isolate reservoir from remainder of system (shut down pump and close valves)
- Contain and dechlorinate water discharge in accordance with proper regulations
- Notify nearby property owners if there is any risk of water damage
- Notify Emcon if there is a risk of flooding Fife or Ferraro Rds.
- Notify all users of service interruption.
- Turn off well pumps and booster pump and operate from system using gravity feed from Sutherland Creek source.
- Contact appropriate regulatory agency (PEP, DFO) if chlorinated water discharges into creeks or stream
- Arrange emergency water supply:
  - Current plan is to obtain emergency water from Sutherland Creek using gravity feed until normal operations is possible.
  - Arrange for potable drinking water (either bottled or via tanker centrally located.
- Determine if First Responders/Christina Lake Fire Dept. needs to be notified should a fire occur.
- When Sutherland Creek water is used, a Boil Order will be issued and the entire system would have to be flushed and decontaminated before potable water would be possible.
- Take samples for chemical and bacterial analysis.
- Make necessary repairs.

Mandatory Contacts:

- Maintenance Operators
- Board of Trustees
- Affected Users (Commercial Users immediately by phone)
- Interior Health
- Fire Department
- Post notices on Postal Boxes and community bulletin boards
- Deliver notices to each household by hand
- Applicable Government Agencies

Optional Contacts

- Provincial Emergency Program
- Required Contractors

Follow-up Actions Required

- Flush and disinfect the repaired reservoir/s and affected watermains taken out of service in accordance with property regulations.
- Increase water quality testing in area if needed depending on results of previous testing. Test for residual chlorine, total coliforms and E.Coli. Also test for other chemicals if chemical cross-connection suspected.
- Operate the system at an elevated rate of chlorination until tests indicate an adequate chlorine residual throughout the distribution system and water samples are satisfactory.
- If chlorine readings are below 0.2 mg/L, flush until residual exceeds 0.2 mg/L and is representative of chlorine in system.
- Remove water quality Advisory/Notice when directed to do so using proper procedure.
- Remove water conservation notice when appropriate.
- Update maintenance records with details of watermain break for Board of Trustees.
- Complete Emergency Action Record Forms (Appendix “C”) and written report to external agencies, if necessary.

Emergency Event:	Contamination of Well Source
Risk:	Contamination/Health Service Interruption

Emergency Trigger:

- Known or suspected contamination of well source

Action Required:

- Isolate source from remainder of system (shut down pump, close valves)
- Advise/consult mandatory and optional contacts as required
  - determine whether a water quality Advisory/Notice should be issued (contact Interior Health), and if so, follow notification procedure:
  - determine whether a water conservation notice should be issued, increasing the severity of the notice to maintain adequate supply of water for domestic purposes.
- Take samples for chemical and bacterial analysis
- Determine if both wells are contaminated or only one:
  - if only one well is contaminated - turn that well pump off and use water from the other well only.
  - if both wells are contaminated use Sutherland Creek as alternate supply.
- Notify affected users of Boil Order. Restrict use of creek water to domestic use and advise it is not potable.
- Determine whether source protection/mediation measures are required. Engage assistance as required to assess. Apply for necessary permits and implement.
- Call for repair from contractors should they be required.
- Arrange emergency water supply:
  - Arrange for potable drinking water (either bottled or via tanker centrally located.)
- Determine if Christina Lake Fire Dept. needs to be notified in case a fire occurs.
- Make necessary repairs or change operation of water system to favour alternate source (Sutherland Creek) until normal operation is possible. (Sutherland Creek would be used as a last resort.)

Mandatory Contacts:

- Maintenance Operators
- Board of Trustees
- Affected Users (Commercial Users immediately by phone)
- Interior Health

- Fire Department
- Post notices on Postal Boxes and community bulletin boards
- Deliver notices to each household by hand
- Applicable Government Agencies

Optional Contacts

- Provincial Emergency Program
- Required Contractors

Follow-up Actions Required

- Flush and disinfect the repaired watermains taken out of service in accordance with proper regulations when creek is no longer in use.
- Increase water quality testing in area if needed depending on results of previous testing. Test for residual chlorine, total coliforms and E.Coli. Also test for other chemicals if chemical cross-connection suspected.
- Operate the system at an elevated rate of chlorination until tests indicate an adequate chlorine residual throughout the distribution system and water samples are satisfactory.
- If chlorine readings are below 0.2 mg/L, flush until residual exceeds 0.2 mg/L and is representative of chlorine in system.
- When water quality satisfactory, put source back in service
  Remove water quality Advisory/Notice when directed to do so after returning to deep well water supply using proper procedure.
- Update maintenance records with details of well contamination for Board of Trustees.
- Complete Emergency Action Record Forms (Appendix “C”) and written report to external agencies, if necessary.

Emergency Event:	Flood Condition
Risk:	Contamination/Health Service Interruption

Emergency Trigger:

- Sutherland Creek flood conditions affect or may affect water system infrastructure

Action Required:

- If the water level should approach any electrical infrastructure, shut down the main electrical service for that location.
- Increase the level of disinfection to approximately 1 mg/L throughout distribution system, and maintain until flood water level decreases.
- Take samples for chemical and bacterial analysis
- If flooding continues to rise, advice/consult mandatory and optional contacts as required:
  - determine whether a water quality Advisory/Notice should be issued (Contact Interior Health), and if so, follow notification procedure.
  - determine whether a water conservation notice should be issued, increasing the severity of the notice to maintain adequate supply of water for domestic purposes.
- If either well source needs to be shut down, determine if sufficient capacity is available to supply the water system. Arrange an alternate source if the remaining sources in service are insufficient (bottled water, bulk water)
- Call for repair from contractors should they be required.
- Determine if Christina Lake Fire Dept. needs to be notified in case a fire occurs.

Mandatory Contacts:

- Maintenance Operators
- Board of Trustees
- Interior Health
- Fire Department
- Post notices on Postal Boxes and community bulletin boards
- Deliver notices to each household by hand
- Applicable Government Agencies

Optional Contacts

- Provincial Emergency Program
- Required Contractors

Follow-up Actions Required

- Flush and disinfect the repaired watermains taken out of service in accordance with proper regulations when creek is no longer in use.
- When flood conditions are over, complete water quality testing in area. Test for residual chlorine, total coliforms and E.Coli. Also test for other chemicals if chemical cross-connection suspected.
- Operate the system at an elevated rate of chlorination until tests indicate an adequate chlorine residual throughout the distribution system and water samples are satisfactory.
- If chlorine readings are below 0.2 mg/L, flush until residual exceeds 0.2 mg/L and is representative of chlorine in system.
- If flood waters contacted any electrical components, contact a qualified electrician to inspect and repair any components prior to putting back in service.
- Remove water quality Advisory/Notice when directed to do so using proper procedure
- Remove water conservation notice when appropriate.
- Update maintenance records with details of flood conditions for Board of Trustees.
- Complete Emergency Action Record Forms (Appendix “C”) and written report to external agencies, if necessary.

Emergency Event:	Forest Fire Within Sutherland Creek Waterworks District Boundaries
Risk:	Contamination/Health Service Interruption

Emergency Trigger:

- Notification of forest fire in district.

Action Required:

- Identify location and extent of forest fire.
- Determine if fire has any affect on wells.
- Advise/consult mandatory and optional contacts as required.
  - determine whether a water quality Advisory/Notice should be issued. Contact Interior Health and if so follow notification procedure.
  - determine whether a water conservation notice should be issued, increasing the severity of the notice to maintain adequate supply of water for domestic purposes.
- Request regular status updates on the situation.
- Determine if sufficient capacity is available to supply the water system. Arrange alternate source if necessary (bottled water, bulk water hauler).

Mandatory Contacts:

- Maintenance Operators
- Board of Trustees
- Interior Health
- Fire Department
- Ministry of Forests
- Ministry of Environment
- Affected users if applicable

Optional Contacts

- Required Contractors

Follow-up Actions Required

- Flush and disinfect all affected watermains in accordance with proper standards.
- Increase water quality testing in area if contaminated water entered the system. Test for residual chlorine, total coliforms and E.Coli. Also test for other chemicals if chemical contamination suspected.
- Operate the system at an elevated rate of chlorination until tests indicate an adequate chlorine residual throughout the distribution system and water samples are satisfactory.
- If chlorine readings are below 0.2 mg/L, flush until residual exceeds 0.2 mg/L, flush until residuals exceeds 0.2 mg/L and is representative of chlorine in the system.
- Put wells back in service once water samples are satisfactory.
- Remove Water Quality Advisory/Notice when directed to do so using procedure in Appendix “C”.
- Remove water conservation notice when appropriate.
- Determine whether source protection/mediation measures are required. Engage assistance as required to assess. Apply for necessary permits and implement.
- Determine whether enhanced sampling will be required if there are potential post-fire impacts to water quality.
- Update maintenance records with details of fire conditions for Board of Trustees.
- Complete Emergency Action Record Forms (Appendix “C”) and written report to external agencies, if necessary.

Emergency Event:	Loss of Source - Wells
Risk:	Contamination/Health (Cross Connection) Service Interruption Inadequate fire flow supply

Emergency Trigger:

- Physical/mechanical conditions that prevent operation at any source, such as:
  - Well water level insufficient for Operation

Action Required:

- Isolate source from remainder of system (shut down pump, close valves)
- Advise/consult mandatory and optional contacts as required
  - determine whether a water quality Advisory/Notice should be issued (contact Interior Health), and if so, follow notification procedure
  - determine whether a water conservation notice should be issued, increasing the severity of the notice to maintain adequate supply of water for domestic purposes.
- Take samples for chemical and bacterial analysis
- Notify affected users of service interruption
- Determine cause of loss of source:
  - Call for repair (If well pumps are the problem contact Precision Pumps as we have well pump heads on site and they will send new pumps within 24 hours for installation. Shane Closson - Phone: 604-850-7010)
  - Call for repair from other contractors should they be required.
- Arrange emergency water supply:
  - Current plan is to obtain rental draft pump to draw water from Christina Lake via a draft line running along the property on Ritchie Rd. tying this draft line to the hydrant so that non-potable water for fire protection and domestic use would be provided
  - Arrange for potable drinking water (either bottled or via tanker centrally located.)
- Determine if Christina Lake Fire Dept. needs to be notified in case a fire occurs.
- Make necessary repairs or change operation of water system to favour alternate source (Sutherland Creek) until normal operation is possible. (Sutherland Creek would be used as a last resort.)
- If the draft line or Sutherland Creek are used a Boil Order would have to be issued and the system would have to be fully decontaminated before it could be used potable water.

(Follow procedures as laid out in Contamination of Creek Source)

Mandatory Contacts:

- Maintenance Operators
- Board of Trustees
- Affected Users (Commercial Users immediately by phone)
- Interior Health
- Fire Department
- Post notices on Postal Boxes and community bulletin boards
- Deliver notices to each household by hand
- Applicable Government Agencies

Optional Contacts

- Provincial Emergency Program
- Required Contractors

Follow-up Actions Required

- Flush and disinfect the repaired watermains taken out of service in accordance with property regulations.
- Increase water quality testing in area if needed depending on results of previous testing. Test for residual chlorine, total coliforms and E.Coli. Also test for other chemicals if chemical cross-connection suspected.
- Operate the system at an elevated rate of chlorination until tests indicate an adequate chlorine residual throughout the distribution system and water samples are satisfactory.
- If chlorine readings are below 0.2 mg/L, flush until residual exceeds 0.2 mg/L and is representative of chlorine in system.
- Remove water quality Advisory/Notice when directed to do so using proper procedure.
- Remove water conservation notice when appropriate
- Update maintenance records with details of loss of source for Board of Trustees.
- Complete Emergency Action Record Forms (Appendix “C”) and written report to external agencies, if necessary.

Emergency Event:	Loss of Source – Drought
Risk:	Contamination/Health (Cross Connection) Service Interruption Inadequate fire flow supply

Emergency Trigger:

- Physical conditions caused by weather condition that prevent operation at any source, such as:
  - Well water level insufficient for Operation

Action Required:

- Shut down pumps
- Advise/consult mandatory and optional contacts as required
  - determine whether a water quality Advisory/Notice should be issued (contact Interior Health), and if so, follow notification procedure
  - determine whether a water conservation notice should be issued, increasing the severity of the notice to maintain adequate supply of water for domestic purposes.
- Notify affected users of service interruption.
- Arrange emergency water supply:
  - Current plan is to obtain rental draft pump to draw water from Christina Lake via a draft line running along the property on Ritchie Rd. tying this draft line to the hydrant so that non-potable water for fire protection and domestic use would be provided
  - Arrange for potable drinking water (either bottled or via tanker centrally located.)
- Determine if Christina Lake Fire Dept. needs to be notified in case a fire occurs.
- If the draft line is used a Boil Order would have to be issued and the system would have to be fully decontaminated before it could be used as potable water.

Mandatory Contacts:

- Maintenance Operators
- Board of Trustees
- Affected Users (Commercial Users immediately by phone)
- Interior Health

- Fire Department
- Post notices on Postal Boxes, community bulletin boards and Christina Lake News and on Channel 10 of the Shaw Cable TV Station
- Deliver notices to each household by hand
- Applicable Government Agencies

Optional Contacts

- Provincial Emergency Program
- Required Contractors

Follow-up Actions Required

- Flush and disinfect the repaired watermains taken out of service in accordance with property regulations.
- Increase water quality testing in area if needed depending on results of previous testing. Test for residual chlorine, total coliforms and E.Coli. Also test for other chemicals if chemical cross-connection suspected.
- Operate the system at an elevated rate of chlorination until tests indicate an adequate chlorine residual throughout the distribution system and water samples are satisfactory.
- If chlorine readings are below 0.2 mg/L, flush until residual exceeds 0.2 mg/L and is representative of chlorine in system.
- Remove water quality Advisory/Notice when directed to do so using proper procedure.
- Remove water conservation notice when appropriate
- Update maintenance records with details of drought for Board of Trustees.
- Complete Emergency Action Record Forms (Appendix “C”) and written report to external agencies, if necessary.

Emergency Event:	Loss of Source - Dry Weather Conditions to Extremely Dry Weather Conditions
Risk:	Contamination/Health (Cross Connection) Service Interruption Inadequate fire flow supply

Emergency Trigger:

- Physical conditions caused by weather condition that prevent operation at any source, such as:
  - Well water level insufficient for Operation

Action Required:

- If it is deemed to be ***Dry Weather Conditions***:
  - Implement Stage 2 of the ***"Outdoor Water Use Regulation Bylaw***" whereby users may sprinkle two days a week for a total of six hours per day
- If it is deemed to be ***Very Dry Weather Conditions***
  - Implement Stage 3 of the "***Outdoor Water Use Regulation Bylaw"*** whereby users may sprinkle only one day per week. New connections and users would be limited. Pools and fountains could not be filled.
- If it deemed to be ***Extremely Dry Weather Conditions/Low Water Supply***:
  - Implement Stage 4 of the "***Outdoor Water Use Regulation Bylaw***' advising users that no one is allowed to sprinkle. Restrictions are to be monitored and enforced.
- Advise/consult mandatory and optional contacts as required
  - determine whether a water quality Advisory/Notice should be issued (contact Interior Health), and if so, follow notification procedure
  - determine whether a water conservation notice should be issued, increasing the severity of the notice to maintain adequate supply of water for domestic purposes.
- Determine if Christina Lake Fire Dept. needs to be notified in case a fire occurs.

Mandatory Contacts:

- Maintenance Operators
- Board of Trustees
- Affected Users (Commercial Users immediately by phone)
- Interior Health

- Fire Department
- Post notices on Postal Boxes, community bulletin boards and Christina Lake News and on S.C.W.D Website.
- Deliver notices to each household by hand
- Applicable Government Agencies

Optional Contacts

- Provincial Emergency Program
- Required Contractors

Follow-up Actions Required

- Increase water quality testing in area if needed depending on results of previous testing. Test for residual chlorine, total coliforms and E.Coli.
- Operate the system at an elevated rate of chlorination until tests indicate an adequate chlorine residual throughout the distribution system and water samples are satisfactory.
- If chlorine readings are below 0.2 mg/L, flush until residual exceeds 0.2 mg/L and is representative of chlorine in system.
- Remove water conservation notices when appropriate
- Update maintenance records with details of water supply as dictated by the weather for Board of Trustees.
- Complete Emergency Action Record Forms (Appendix “C”) and written report to external agencies, if necessary.

Emergency Event:	**Low Reservoir Level**
Risk:	**Contamination/Health** **Service Interruption**

Emergency Trigger:

- System alarm or personnel indicate low reservoir level.

Action Required:

- Check that both well pumps are working properly. Identify any other issues that could cause the water levels to go so low.
- If it is the height of the tourist season July and August and usage is above 700,000 US Gallons per day institute second level of Sprinkler Bylaw increasing the severity of the notice to maintain adequate supply of water for domestic purposes.
- Advise/consult mandatory and optional contacts as required.
  - determine whether a water quality Advisory/Notice should be issued.
- If pressure in the system dropped below minimum operating pressure, test water quality for contamination.
- Make necessary repairs if other issues have been identified.

Mandatory Contacts:

- Maintenance Operators
- Board of Trustees
- Fire Department
- Affected users if applicable

Optional Contacts

- Interior Health
- Any required operator

Follow-up Actions Required

- Increase water quality testing in area if needed depending on results of previous testing. Test for residual chlorine, total coliforms and E.Coli. Also test for other chemicals if chemical contamination suspected.

- Operate the system of an elevated rate of chlorination until tests indicate an adequate chlorine residual throughout the distribution system and water samples are satisfactory.
- If chlorine readings are below 0.2 mg/L flush until residual exceeds 0.2 mg/L and is representative of chlorine in system
- Remove water conservation notice when appropriate.
- Update maintenance records with details of Low Reservoir readings and repairs done for Board of Trustees.
- Complete Emergency Action Record Forms (Appendix “C”) and written report to external agencies, if necessary.

Emergency Event:	Power Failure
Risk:	**Service Interruption**

Emergency Trigger:

- Power outage affecting some or the entire water system infrastructure.

Action Required:

- Contact Fortis BC [1-866-436-7847] to determine how long the outage will be and call Telus locally if the alarm system wires are also involved [Jessie @ 250-443-1545].
- Advise/consult mandatory and optional contacts as required.
  - determine whether a water conservation notice should be issued, increasing the severity of the notice to maintain adequate supply of water for domestic purposes.
- Generator will kick in automatically - to be monitored over the duration of the power outage to ensure it is functioning correctly and doesn't get too hot and kick out.
  If the generator doesn't kick and the outage could extend beyond 24 hours arrange for alternate water source [bottled water, bulk water hauler] if necessary.

Mandatory Contacts:

- Maintenance Operators
- Board of Trustees
- Fortis BC
- Fire Department
- Affected users if applicable

Optional Contacts

- Fortis and Telus [see name/phone number noted above]

Follow-up Actions Required

- Remove water conservation notice when appropriate.
- Update maintenance records with details of power failure and repairs done for Board of Trustees.
- Complete Emergency Action Record Forms (Appendix “C”) and written report to external agencies, if necessary.

Emergency Event:	Pressure Reducing Valve Failure
Risk:	**Contamination/Health** **Loss of Service** **Damage to Property**

Emergency Trigger:

- System alarm or personnel indicates failure of Pressure Reducing Valve.

Action Required:

- Assess nature and cause of problem.
- If system pressures are high enough to risk damage to the distribution system, take following action:
  - Isolate the failed pressure reducing valve be it either the one on the 6" well or the 10" well. Remove valve and take to be fixed or order a new one. Run on one well until the valve can be replaced.
- Advise/consult mandatory and optional contacts as required.
  - Determine whether a water quality Advisory/Notice should be issued contact Interior Health, and if so, follow notification procedure in Appendix “C”.
  - Determine whether a water conservation notice should be issued, increasing the severity of the notice to maintain adequate supply of water for domestic purposes.
- Notify affected users.
- Make necessary repairs. Contact: Peter Darbyshire (250) 4422-7691

Mandatory Contacts:

- Maintenance Operators
- Board of Trustees
- Fire Department
- Affected users if applicable

Optional Contacts

- Interior Health
- Required Contractor

Follow-up Actions Required

- If necessary, flush and disinfect all affected water mains.
- Increase water quality testing in area if needed. Test for residual chlorine, total coliforms, and E.Coli. Also test for other chemicals if chemical contamination suspected.
- Operate the system of an elevated rate of chlorination until tests indicate an adequate chlorine residual throughout the distribution system and water samples are satisfactory.
- If chlorine readings are below 0.2 mg/L flush until residual exceeds 0.2 mg/L and is representative of chlorine in system
- Remove water quality Advisory/Notice when directed to do so using proper procedure.
- Update maintenance records with details of pressure reducing valve failure and repairs done for Board of Trustees.
- Complete Emergency Action Record Forms (Appendix “C”) and written report to external agencies, if necessary.

Emergency Event:	Pump Failure
Risk:	Contamination/Health Service Interruption

Emergency Trigger:

- Personnel indicate that all pumps at the wells are not functioning.

Action Required:

- Determine if sufficient capacity is available to supply the water system. If it is determined there is insufficient reserve to supply the system proceed to next step.
- Advise/consult mandatory and optional contacts as required.
  - determine whether a water quality Advisory/Notice should be issued. Contact Interior Health and if so follow notification procedure.
  - determine whether a water conservation notice should be issued, increasing the severity of the notice to maintain adequate supply of water for domestic purposes.
- If loss of pumping ability could extend beyond 24 hours, arrange alternate pump, install spare pump, or arrange for alternate source (bottled water, bulk water hauler) if necessary.
- Repair system. ***Contact Shane Closson, Precision Pipes - Phone 604-850-9666 Fax 604-850-7010 and email shaneclosson@precisionpump.com***

Mandatory Contacts when pump stoppage is more than 50% of reservoir capacity:

- Maintenance Operators
- Board of Trustees
- Interior Health
- Fire Department
- Affected users if applicable

Optional Contacts

- Required Contractors [see name/phone number noted above]:
  [Bartlett Excavating; John Maxemenko]

Follow-up Actions Required

- Remove water quality Advisory/Notice when directed to do so using procedure in Appendix “C”.
- Remove water conservation notice when appropriate.
- Update maintenance records with details of pump failure and repairs done for Board of Trustees.
- Complete Emergency Action Record Forms (Appendix “C”) and written report to external agencies, if necessary.

Emergency Event:	Reservoir Structural Failure
Risk:	Contamination/Health Service Interruption Inadequate fire flow supply Damage to Property Impacts to Nearby Streams

Emergency Trigger:

- Structural damage/Failure at reservoirs located on Fife Rd., Christina Lake, B.C"

Action Required:

- Isolate reservoir from remainder of system (close valves)
- Contain and dechlorinate water discharge in accordance with proper regulations
- Notify nearby property owners if there is any risk of water damage
- Notify Emcon if there is a risk of flooding Fife or Ferraro Roads.
- Notify all users of service interruption.
- Turn off well pumps and booster pump and operate from system using gravity feed from Sutherland Creek source.
- Advise/consult mandatory and operation contacts as required:
  - determine whether a water quality Advisory/Notice should be used (contact Interior Health), and if so, following property notification procedure.
  - determine whether a water conservation notice should be issued, increasing the severity of the notice to maintain adequate supply of water for domestic purposes.
- Contact appropriate regulatory agency (PEP, DFO) if chlorinated water discharges into creeks or stream
- Arrange emergency water supply:
  - Current plan is to obtain emergency water from Sutherland Creek using gravity feed until normal operations is possible.
  - Arrange for potable drinking water (either bottled or via tanker centrally located.
- Determine if First Responders/Christina Lake Fire Dept. needs to be notified should a fire occur.
- Should Sutherland Creek water be used, a Boil Order will be issued and the entire system would have to be flushed and decontaminated before potable water would be possible.

- Take samples for chemical and bacterial analysis.
- Make necessary repairs.

Mandatory Contacts:

- Maintenance Operators
- Board of Trustees
- Affected Users (Commercial Users immediately by phone)
- Interior Health
- Fire Department
- Post notices on Postal Boxes and community bulletin boards
- Deliver notices to each household by hand
- Applicable Government Agencies

Optional Contacts

- Provincial Emergency Program
- Required Contractors

Follow-up Actions Required

- Flush and disinfect the repaired reservoir/s and affected watermains taken out of service in accordance with property regulations.
- Increase water quality testing in area if needed depending on results of previous testing. Test for residual chlorine, total coliforms and E.Coli. Also test for other chemicals if chemical cross-connection suspected.
- Operate the system at an elevated rate of chlorination until tests indicate an adequate chlorine residual throughout the distribution system and water samples are satisfactory.
- If chlorine readings are below 0.2 mg/L, flush until residual exceeds 0.2 mg/L and is representative of chlorine in system.
- Remove water quality Advisory/Notice when directed to do so using proper procedure.
- Remove water conservation notice when appropriate.
- Update maintenance records with details of watermain break for Board of Trustees.
- Complete Emergency Action Record Forms (Appendix “C”) and written report to external agencies, if necessary.

Emergency Event:	Slope/Bank Failure in Watershed
Risk:	Contamination/Health Service Interruption

Emergency Trigger:

- Notification of slope or bank failure in creek watershed

Action Required:

- Identify location and extent of slope failure.
- Determine if slope/bank failure has any affect on wells.
- Advise/consult mandatory and optional contacts as required.
  - determine whether a water quality Advisory/Notice should be issued. Contact Interior Health and if so follow notification procedure.
  - determine whether a water conservation notice should be issued, increasing the severity of the notice to maintain adequate supply of water for domestic purposes.
- Determine if sufficient capacity is available to supply the water system. Arrange alternate source if necessary (bottled water, bulk water hauler).
- Call for repair from contractors should they be required.

Mandatory Contacts:

- Maintenance Operators
- Board of Trustees
- Interior Health
- Fire Department
- Regional District Emergency Planner
- Provincial Emergency Program
- Ministry of Forests
- Ministry of Environment
- Affected users if applicable

Optional Contacts

- Required Contractors

Follow-up Actions Required

- Update maintenance records with details of backflow or cross connection conditions for Board of Trustees.
- Complete Emergency Action Record Forms (Appendix “C”) and written report to external agencies, if necessary.

Emergency Event:	System Controls Failure
Risk:	Contamination/Health Loss of Service

Emergency Trigger:

- System alarm or personnel indicates system controls failure

Action Required:

- Assess nature and cause of problem.
- Consider using Sutherland Creek water with gravity feed and old chlorine system.
- Ensure that all equipment is running properly, including chlorine system
- Advise/consult mandatory and optional contacts as required.
  - Determine whether a Water Quality Advisory/Notice should be issued contact Interior Health, and if so, follow notification procedure in Appendix "C."
  - Determine whether a water conservation notice should be issued, increasing the severity of the notice to maintain adequate supply of water for domestic purposes.
- Notify all users
- Make necessary repairs. **Contact Sr. Operator (250) 442-7691**

Mandatory Contacts:

- Maintenance Operators
- Board of Trustees
- Fire Department
- Affected users if applicable

Optional Contacts

- Interior Health

Follow-up Actions Required

- If necessary, flush and disinfect all affected water mains.
- Increase water quality testing in area if needed. Test for residual chlorine, total coliforms, and E.Coli. Also test for other chemicals if chemical contamination suspected.

- Operate the system of an elevated rate of chlorination until tests indicate an adequate chlorine residual throughout the distribution system and water samples are satisfactory.
- If chlorine readings are below 0.2 mg/L flush until residual exceeds 0.2 mg/L and is representative of chlorine in system
- Remove water conservation notice if one has been issued.
- Update maintenance records with details of System failure and repairs done for Board of Trustees.
- Complete Emergency Action Record Forms (Appendix “C”) and written report to external agencies, if necessary.

Emergency Event:	Water System Vandalism
Risk:	Contamination/Health Service Interruption Damage to Property

Emergency Trigger:

- Vandalism to water system affecting system operation and/or quality

Action Required:

- Identify location and extent of damage
- Identify and isolate area if there is potential for contamination (close valves, turn off pumps)
- Take water samples of suspected contamination areas.
- Advise/consult mandatory and optional contacts as required.
  - determine whether a water quality Advisory/Notice should be issued. Contact Interior Health and if so follow notification procedure.
- Determine if sufficient capacity is available to supply the water system. Arrange alternate source if necessary (bottled water, bulk water hauler).
- Call for repair from contractors should they be required.

Mandatory Contacts:

- Maintenance Operators
- Board of Trustees
- Interior Health
- Fire Department
- Affected users if applicable

Optional Contacts

- RCMP and/or Fire Dept.
- Required Contractors

Follow-up Actions Required

- Flush and disinfect the repaired watermains in accordance with proper regulations when creek is no longer in use.

- Increase water quality testing in area if needed depending on results of previous testing. Test for residual chlorine, total coliforms and E.Coli. Also test for other chemicals if chemical cross-connection suspected.
- Operate the system at an elevated rate of chlorination until tests indicate an adequate chlorine residual throughout the distribution system and water samples are satisfactory.
- If chlorine readings are below 0.2 mg/L, flush until residual exceeds 0.2 mg/L and is representative of chlorine in system.
- Remove water quality Advisory/Notice when directed to do so using proper procedure. and remove water conservation notice when appropriate.
- Take action to prevent future acts of vandalism
- Update maintenance records with details of backflow or cross connection conditions for Board of Trustees.
- Complete Emergency Action Record Forms (Appendix “C”) and written report to external agencies, if necessary.