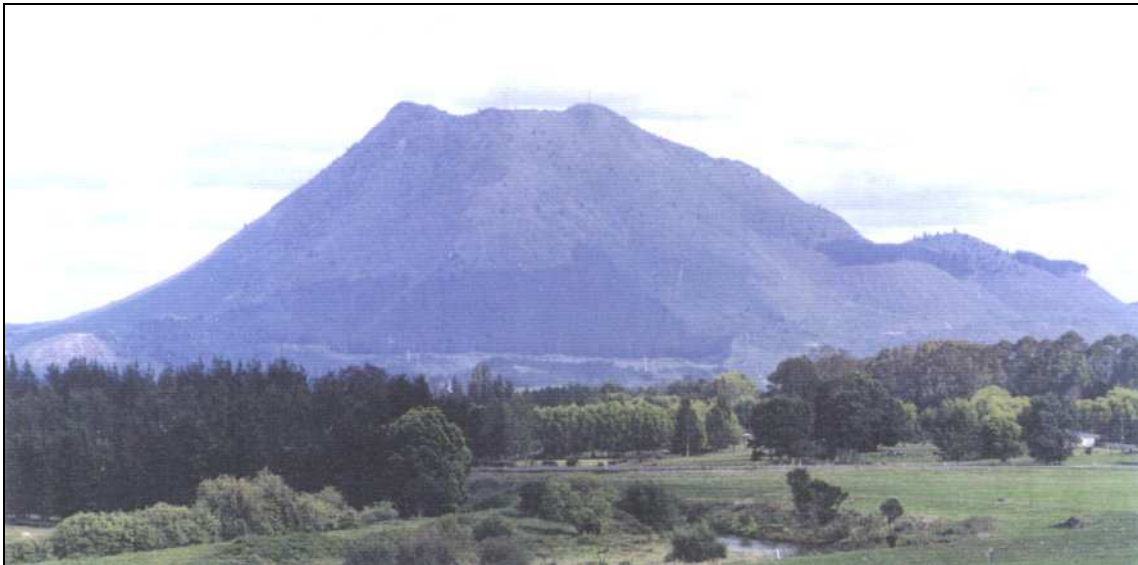




# **KAWERAU DISTRICT COUNCIL BUSINESS DISASTER RECOVERY PLAN 2010**



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**CONTENTS**

**PAGE NO.**

**1.0 INTRODUCTION .....3**

**DISASTERS .....3**

**SERVICES.....3**

**RESOURCES .....3**

**TIMING .....3**

**2.0 EARTHQUAKE .....4**

    2.1 ROADING .....4

    2.2 WATER SUPPLY .....4

    2.3 WASTE WATER.....5

    2.4 REFUSE COLLECTION AND DISPOSAL .....5

**3.0 FLOODING.....6**

    3.1 ROADING .....6

    3.2 WATER SUPPLY .....6

    3.3 WASTEWATER.....7

    3.4 REFUSE COLLECTION AND DISPOSAL .....8

**4.0 VOLCANIC ERUPTION .....8**

    4.1 ROADING .....8

    4.2 WATER SUPPLY .....8

    4.3 WASTEWATER.....9

    4.4 REFUSE COLLECTION AND DISPOSAL .....9

**5.0 CHEMICAL SPILL .....9**

**6.0 ORGANISATIONAL CHART..... 10**

## **1.0 INTRODUCTION**

The Kawerau District Council operates several core community services and in the event of a disaster a quick recovery of these services is essential to minimise disruption. This will result in minimal stress to the Community and quicker return to normal community life.

This Plan gives brief details of potentially serious areas for disaster threats and methods of minimising the delay in restoring the services for use.

### **Disasters**

The most likely disasters that will affect core community services to be encountered within Kawerau are:

- Earthquake
- Flooding
- Volcanic Eruption
- Chemical Spillages

### **Services**

- Rooding Network
- Water Supply
- Wastewater Disposal
- Refuse Collection and Disposal

The two most likely disasters to affect the above core services are earthquakes or chemical spills.

### **Resources**

The speedy restoration of these core services is absolutely essential if the Kawerau Community is to recover quickly from any disaster. Therefore, sufficient Council resources (personnel, plant and equipment and funds) must be dedicated to the recovery of those core services. These resources should not be diverted to other emergency activities such as the Civil Defence operation and the Community Recovery Programme, but should be left to concentrate on the recovery of the Council's core services. The Staff Organisational Chart included in this Plan has been prepared on this basis.

As the person directly responsible for the effective and efficient recovery of the Council's business operations, the Chief Executive Officer has been delegated authority from Council to use and employ whatever resources are necessary to achieve this.

### **Timing**

The recovery of the Council's business will commence immediately after any disaster. The core services operated by the Council are so essential to the Community that no time should be lost in the recovery of these services.

## **2.0 EARTHQUAKE**

### **2.1 ROADING**

- Problems
- Road severed due to earth movement.
  - Road closed due to falling debris.
- Actions
- Access roading infrastructure damage within the District by visual inspection.
  - Determine which are the most crucial areas.
  - Removal of surface debris to occur using earth moving equipment.
  - Road drop outs to be filled with loose material with earth moving equipment.
  - Once initial completion, contact New Zealand Transport Agency regarding emergency work.
  - Undertake permanent repairs by removing fill material and replacing with appropriate fill.
  - Storm water drains to be checked for integrity in areas of land movement.
  - Flow tests.
  - Video inspections.
  - Known breaks to be excavated out, repaired and backfilled.
  - Pipes are predominantly concrete and can be sourced from various outlets.
  - Street lights to be checked.
  - Isolate street lights if damaged.

### **2.2 WATER SUPPLY**

- Problems
- Land movement may break pipes including Pipe Bridge.
  - Land movement may damage Reservoirs.
  - Land movement may contaminate spring sources.
- Actions
- Shut down No.1 Pumphouse pumps.
  - Shut down Beattie Road pump.
  - Check No.1 Pumphouse pumps for soundness.
  - Check rising main for leak.
  - Repair rising main leaks.
  - Check springs gravity main line for earth movement.
  - Use pumps to keep Reservoirs full.
  - Access water infrastructure damage within the District by undertaking a visual inspection.
  - Where earth movement has occurred check plans for water mains in area.
  - Isolate section of pipe in areas of earth movement by shutting valves upstream and downstream.
  - Advise residents of reason for water shutdown if the period is expected to be longer than 10 minutes.
  - Excavate and expose pipe in area of earth movement and check for signs of stress.
  - If no stress, reopen valves.

- If stressed, determine seriousness and replace section if necessary.
- If not serious, leave uncovered so monitoring of stress can occur in the future.
- Undertake long term repairs of damaged sections of pipes as time permits.
- Restore water to town sections in consultation with the Local Civil Defence Controller depending on priority.
- Check reservoirs for signs of stress.
- If leaking, determine seriousness.
- If collapse appears imminent, empty reservoir.
- Arrange for specialist advice to advise on seriousness of damage.
- Request people to conserve water.
- Check springs for visual indications of contamination.
- Check Borefield for operability.
- If springs contaminated, use Borefield.
- Undertake chemical analysis of spring water for potential contamination.

### **2.3 WASTE WATER**

- |          |  |
|----------|--|
| Problems | <ul style="list-style-type: none"> <li>- Land movement may break pipes.</li> <li>- Land movement may change grades.</li> <li>- Land movement may damage treatment plant.</li> </ul>  |
| Actions  | <ul style="list-style-type: none"> <li>- Access wastewater infrastructure damage within the District by undertaking a visual inspection.</li> <li>- At ground movement locations, check if sewer lines in the area from block streets.</li> <li>- Look in manholes upstream of ground movement for signs of sewage blockages.</li> <li>- If no blockages, look for sewage appearing in fissure.</li> <li>- If sewage present then mark the area as contaminated.</li> <li>- If no surface sewerage present, leave the area intact.</li> <li>- If pipes are severed and sewage is making its way to a water course then mark water course as contaminated – no further immediate action.</li> <li>- If pipes severed and contamination of a house is likely, obtain pumps and pump sewage past break back in sewer line.</li> <li>- Undertake long term repairs of damaged sections of pipe as time permits.</li> <li>- Check sewerage plant for damage.</li> <li>- Check Blundell Avenue pump for damage.</li> <li>- If damaged, turn pumps off.</li> <li>- Advise Regional Council and Local Civil Defence Controller.</li> </ul> |

### **2.4 REFUSE COLLECTION AND DISPOSAL**

- |          |   |
|----------|---|
| Problems | <ul style="list-style-type: none"> <li>- Additional refuse may result.</li> <li>- Maintaining a tidy dump site may be difficult.</li> <li>- Land movement may result in dump being inaccessible.</li> </ul> |
|----------|---|

- Actions
- Ensure dump access road is open and that sufficient clear space is available for the disposal of large volumes of damaged property.
  - In consultation with the Local Civil Defence Controller supervise the dump to ensure dumped material is not being recycled for insurance claims.
  - Additional collections may be necessary to assist in the removal of damaged property from residential areas.
  - Additional hours of work will be required at the dump site to ensure that the site is accessible at all times.

### **3.0 FLOODING**

#### **3.1 ROADING**

- Problems
- Road severed due to flooding.
  - Road closed due to deposited debris.

- Actions
- Assess roading infrastructure for damage by visual inspection.
  - Determine which are the most crucial areas.
  - Removal of debris to occur using earth moving equipment.
  - Road scours to be filled with loose material once flow in scour controlled.
  - Once initial completing of filling completed contact New Zealand Transport Agency regarding emergency work.
  - Undertake permanent repairs by removing loose fill material and replacing with appropriate fill.
  - Storm water drains to be checked for integrity in areas of scouring and severe flooding by undertaking:
    - Flow tests
    - Video inspections
    - Known breaks to be excavated out, repaired and backfilled.
    - Pipes are predominately concrete and can be sourced from various outlets.

#### **3.2 WATER SUPPLY**

- Problems
- Slips around springs may disturb water supply.
  - Slips in vicinity of reservoirs may make reservoirs unsafe.
  - Scouring may affect gravity mains to No.1 Pumphouse.
  - Trees may interrupt power supply to pumps.

- Actions
- Shut down No.1 Pumphouse.
  - Check No.1 Pumphouse pumps for soundness.
  - Shut down Beattie Road pump.
  - Check springs for visual indications of contamination.
  - If water appears contaminated close off from reticulation.
  - Check Borefield operability.
  - Use Borefield water.
  - Check springs gravity main for scouring movement.
  - Check rising main for leaks.
  - Repair rising main leaks.

- Use pumps to keep Reservoirs full
- Check around Reservoirs for signs of land movement.
- If land movement located, determine seriousness in relation to reservoir.
- If movement appears imminent, empty reservoir.
- Arrange for specialist advice to advise on and stabilisation techniques.
- Request people to conserve water.
- Undertake stabilisation or other recommended remedial work.
- Access infrastructure for damage by visual inspection.
- Where scouring has occurred, check plans for water mains in area.
- Isolate sections of pipe in areas of scouring by shutting valves upstream and downstream of scour.
- Advise property owners of reason for water shutdown.
- Excavate and expose pipe in area of scouring and check for signs of stress.
- If no visible signs of stress, reopen valves.
- If stressed, determine seriousness and replace section if necessary.
- If not serious, leave uncovered so monitoring of stress can occur in the future.
- Undertake long term repairs of damaged sections of pipe as time permits.
- Restore water to town sections in consultation with the Local Civil Defence Controller depending on priority.
- Pipes sourced from various outlets.

### **3.3 WASTEWATER**

- Problems
- Scouring may expose pipe and may break pipes.
  - Surface flooding may cause storm water to enter the wastewater system.

- Actions
- Access wastewater infrastructure for damage by visual inspection.
  - At scour points check if sewer lines in the area from block streets.
  - Look in manholes upstream of scour points for signs of sewerage blockages.
  - If no blockages look for sewage appearing in scour.
  - If leakage occurring, mark area as contaminated.
  - If no surface sewage visible, leave area intact.
  - If pipes severed and contamination of houses likely, obtain pumps and pump sewage past break and back into sewer line.
  - Repair broken lines and fill in scours as time permits.
  - Check pipes in areas of flooding for siltation.
  - Water blast out any siltation.
  - Check sewerage plant for damage.
  - If damaged, turn pumps off.
  - Advise Regional Council and the Local Civil Defence Controller.
  - Check volume of inflows to sewerage plant.
  - If larger than normal, monitor and advise Effluent Treatment Services.
  - If buffer tank overflow imminent, advise the Local Civil Defence Controller.

### **3.4 REFUSE-COLLECTION AND DISPOSAL**

- Problems
- Additional refuse may result.
  - Maintaining a tidy dump site may be difficult.
- Actions
- Additional collections may be necessary if houses flooded.
  - Additional hours of work will be required at the dump site to ensure that the site is accessible at all times.

## **4.0 VOLCANIC ERUPTION**

### **4.1 ROADING**

- Problems
- Build up of ash on roadways.
  - Storm water pipes blocked with ash.
- Actions
- Monitor build up of ash on roadways.
  - Use earth removing machinery (graders rubber tyred loaders) to keep a travelling path open for vehicles.
  - Material to be swept to edges of roadway.
  - As build up exceeds clearing capacity then only main arterials to be worked on (Onslow, River, Valley, Tamarangi, Islington, Plunket, and Fenton).
  - Wind-rowed ash to be loaded and carted away using loaders and trucks.
  - Inspect storm water pipes for build up of ash.
  - Water blast ash out of pipes.
  - Keep ash out of cesspit covers.

### **4.2 WATER SUPPLY**

- Problems
- Power failure to pumps.
  - Build up of ash on reservoirs and Pumphouse.
  - Contamination of supply.
- Actions
- Monitor springs for change of colour.
  - If springs change colour, switch to Tarawera Borefield for water source until chemical analysis of water undertaken.
  - Check chemical composition of spring water.
  - Check Pumphouse for accumulation of ash and remove.
  - Monitor power lines for accumulation of ash.
  - Check reservoir roofs for accumulation of ash.
  - Sweep ash off reservoir roof.

### **4.3 WASTEWATER**

Problems - Build up of ash.

Actions - Monitor the roof of the sewerage plant for build up of ash.  
- Monitor sewage plant for build up of ash in balancing basins  
- Check Blundell Avenue pumping station for build up of ash.

### **4.4 REFUSE COLLECTION AND DISPOSAL**

Problems - Build up of ash.  
- Fire.

Actions - Access to dump site to be kept open for main arterials.  
- Uncovered refuse at dump to be covered to minimise risk of fire.

### **5.0 CHEMICAL SPILL**

A large chemical spill will not affect the essential services supplied to the Community by Council; therefore these services will not require restoration.

Monitor the water supply for contamination.

**6.0 ORGANISATIONAL CHART**

**KAWERAU DISTRICT COUNCIL**  
**BUSINESS DISASTER RECOVERY PLAN**  
**ORGANISATIONAL CHART**

