

Wellington Region Civil Defence Emergency Management Group

Reconnaissance Plan

Note: The Wellington Region CDEM Group Reconnaissance Plan should be read in conjunction with the Wellington Region Civil Defence Emergency Management (CDEM) Group Plan 2005



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7. Introduction

7.1 Purpose

The Wellington Region Civil Defence Emergency Management (CDEM) Group Reconnaissance Plan sets out the arrangements for reconnaissance of critical infrastructure in the Wellington Region following a major disaster, e.g. earthquake, tsunami, flooding event, etc.

7.2 Outcome statement

The Wellington Region CDEM Group Reconnaissance Plan provides for the following outcome:

That confidence in regional reconnaissance is achieved across the Wellington CDEM Group and emergency management agencies in the Wellington Region through clearly defined strategies, roles and responsibilities, including co-ordination and control arrangements.

7.3 Background

Reconnaissance provides vital information to aid decision making before, during and after an emergency. The results of the reconnaissance will give the Group Controller, territorial authorities and emergency services a prompt and clear picture on:

- location and extent of life threats
- location and extent of hazardous substance / situation threats
- damage to critical community services infrastructure
- what key access throughout the city can be used
- what emergency response facilities can be used
- what lifelines services may be used

Reconnaissance is required to be done promptly, safely and accurately by agencies / authorities / companies charged with public safety, medical treatment or critical services continuance.

7.4 Scope of this plan

The Wellington Region CDEM Group Reconnaissance Plan is for the initial sweeps of the region to find out and report the immediate consequences of a major emergency event.

The plan clarifies reconnaissance roles and responsibilities and defines, in an operational context, co-ordination and control arrangements to support the CDEM Group.

The following agencies / authorities / companies will activate their own reconnaissance plans when triggered by an event impacting on their areas of responsibility, as such they are not within the scope of this plan:

- Community services asset owners do reconnaissance of own buildings and infrastructure. They are accountable for immediate continuance of services even if contracted out. Councils, Transit New Zealand (Transit NZ), Rail Companies, Port Companies, Airport Companies, and Utilities Companies listed in Schedule 1 of the CDEM Act.
- Fire Service, Police, Ambulance and Councils establish hazards threats and define threat areas.
- Greater Wellington Harbourmaster is responsible for Wellington Harbour.
- Fire Service, Police and Councils do reconnaissance of impacted people areas for search & rescue and treating injured.
- Hospitals and Medical Centres do reconnaissance of own facilities and report status / problems to Councils. Councils do reconnaissance of routes to hospitals.

For further details on reconnaissance carried out by other agencies see Section 6: Reporting of reconnaissance results.

All agencies need to have arrangements in place at all times, for prompt safety survey of own bases. This first safety survey may not have a competent engineer on hand, but must be organised and safety oriented, with competent decisions on continuance in buildings, marking buildings safety status, cordoning off unsafe areas, and monitoring safety.

Note – Engineering inspections of buildings and infrastructure are not part of the Wellington Region CDEM Group Reconnaissance Plan.

7.5 Links with Cities / Districts Major Emergency Reconnaissance Plans

City and District Territorial Authorities have their own Emergency Reconnaissance Plans which focus on urban areas and are usually based on ground reconnaissance.

The Wellington Region CDEM Group Reconnaissance Plan focuses on key infrastructure sites primarily between cities and districts, and in specified cases, covers aerial survey of some rural areas for cities and districts.

Cities and Districts are able to request, through their Local Emergency Operations centre (EOC), extraordinary reconnaissance of additional areas by the Group EOC (GEOC) arranged aerial / ground reconnaissance.

7.6 Duration of plan and review

This Plan is effective from 1 July 2008 following approval from the Wellington Region CDEM Group and the Co-ordinating Executive Group (CEG).

The Wellington Region CDEM Group Reconnaissance Plan will be tested during Wellington CDEM Group exercises. The effectiveness of this Plan will be reported on as part of the assessment of exercises.

This Plan will be subject to a written review three years from commencement. However it can be amended at anytime.

This plan has been developed under the authority of the Wellington Region Civil Defence Emergency Management Group Plan.

8. Time Period for activation of the Wellington Region CDEM Group Reconnaissance Plan

The Wellington Region CDEM Group Reconnaissance Plan will cover the first two days of a regional emergency event. The GEOC will decide any extension.

9. Utilisation of Helicopters

Upon the Wellington Region CDEM Group Reconnaissance Plan being activated, helicopters will be deployed to carry out Group reconnaissance requirements.

For the purpose of aerial reconnaissance the Group have in place a Memorandum of Understanding (MOU) with Helipro to ensure the required resources are available when required (see **Appendix A**).

As part of the MOU between Helipro and the Wellington Region CDEM Group, the Wellington Region CDEM Group have agreed to pay a monthly retainer fee to Helipro to ensure that the specified levels of service can be provided at all times. The cost of the retainer will be split between the Wellington Region CDEM Group and Transit NZ, with the Wellington Region CDEM Group contributing two-thirds, and Transit NZ contributing the remaining one-third. For a breakdown of the costs per annum see **Appendix B**.

The contact details for Helipro are included in Appendix C.

10. Group Aerial Reconnaissance

10.1 Coverage

GEOC will carry out targeted aerial reconnaissance of key regional infrastructure as soon as practicable following a major emergency event.

Group Aerial Reconnaissance Sweeps

Sweep Number	Task	Additional Considerations
One: Wellington City	To identify and report on: Road status and major damage to key infrastructure in Wellington City.	Report: <ul style="list-style-type: none"> ○ Major slips; ○ Subsidence; ○ Bridge approaches; ○ Bridge structure damage; ○ Damage to main routes (key roads) ○ Commuter search & rescue locations along major routes; ○ Major fires, fume locations; ○ Fuel leaks ○ Debris in wharf areas. ○ Damage to key infrastructure (such as Wellington Stadium).
Two: Porirua and Kapiti Coast	To identify and report on: Road status and major damage to key infrastructure Porirua and the Kapiti Coast.	
Three: Hutt Valley	To identify and report on: Road status and major damage to key infrastructure in Hutt City and Upper Hutt City.	
Four: Wairarapa	To identify and report on: Road status and major damage to key infrastructure in the Wairarapa	

For detailed information of what key sites are included in the Wellington Region CDEM Group Reconnaissance Plan see Appendix D.

10.2 Not covered by Group Aerial Reconnaissance

- Central Business Districts and urban suburbs
- Rail network
- Airports (except Wellington International Airport runway)
- Hospitals and Medical Centres (except Wellington Hospital)
- Coastal waters

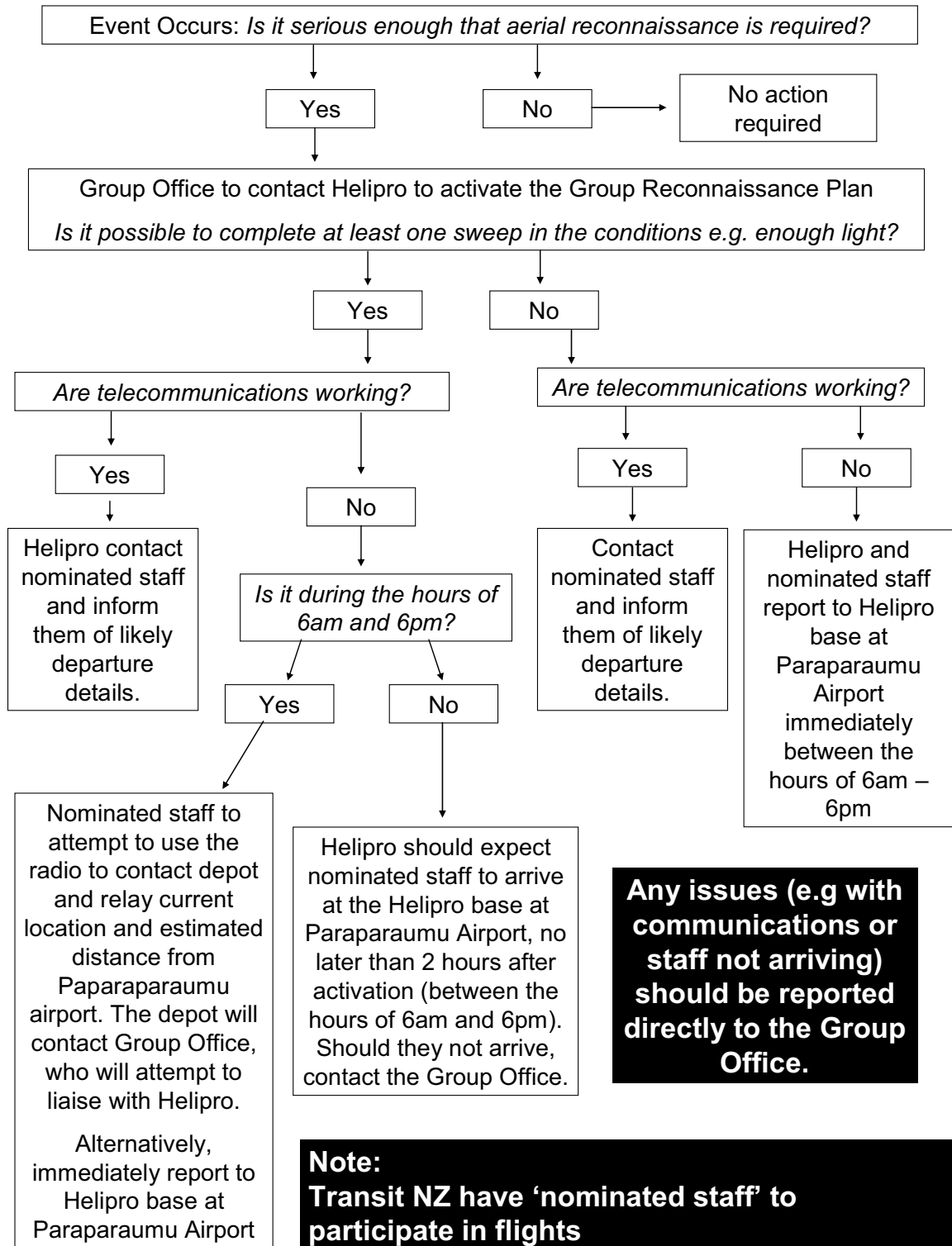
10.3 Arrangements for Group Aerial Reconnaissance

Under the arrangements outlined in the MOU with Helipro (see **Appendix A**), aerial reconnaissance flights will take place during the daylight hours (6am to 6pm).

10.3.1 Activation of Wellington Region CDEM Group Reconnaissance Plan.

The diagram below shows the activation process for an event that is of **regional significance** and the Group Controller has made the decision to activate the Wellington Region CDEM Group Reconnaissance Plan.

Activation of Wellington Region CDEM Group Reconnaissance Plan by Group Office



Specifically,

- The Group Office will contact Helipro to activate the Wellington Region CDEM Group Reconnaissance Plan.
- If telecommunications are operating, Helipro will contact the staff nominated by Transit NZ to identify what time they will need to report to the Helipro base at Paraparaumu Airport.
- Should Helipro be unable to contact the nominated staff due to outages, both Helipro staff and the nominated staff will immediately report to the Helipro base at Paraparaumu Airport during the hours of 6am and 6pm.
- The Group will contact CAA for the clearance of airspace.
- Reconnaissance maps, point co-ordinates for all sweeps together with notes are held at:
 - Helipro bases in Paraparaumu and Palmerston North, Wellington, Rotorua and Christchurch.
 - GEOC both in Wellington and Wairarapa.
- Fuelling will be available at Paraparaumu Airport and Masterton Aerodrome.

For further details on the activation process, see Appendix A.

10.3.2 Completion of reconnaissance flights

- Upon completion of each of the reconnaissance sweeps, helicopters will report to a predetermined drop off point. This is likely to be one of the following, and will be confirmed at the time of activation:
 1. **Wellington Region CDEM GEOC** – 142 Wakefield Street, Wellington. (41°17'25.40"S / 174°46'41.32"E)
 2. **Wellington Region CDEM Group Alternate EOC** – 34 Chapel Street, Masterton. (40°56'52.4852"S / 175°39'43.3365"E - *World Geodetic System 1984*)
 3. **Rian van Schalkwyk**, Manager, Emergency Management, Greater Wellington Regional Council – 279 Maungaraki Road, Maungaraki, Lower Hutt. (41°12'20.97"S / 174°52'17.09"E)
- GEOC will get the big picture as soon as possible, and try to assist Councils with concentrating reconnaissance on worst hit areas.
- GEOC will arrange distribution of marked maps and electronic data on CDs (if required) to Local EOCs. This may be by helicopter.
- GEOC will contact Transit NZ to confirm reconnaissance maps are available for pick up from the GEOC.

- GEOC will also distribute reconnaissance results to regional Police and Fire Service and lifeline organisations.
- GEOC will monitor coverage by aerial reconnaissance and arrange ground reconnaissance if flight conditions are not suitable.

10.4 Arrangements for Group Ground Reconnaissance.

GEOC will monitor coverage by aerial reconnaissance and arrange ground reconnaissance if flight conditions are not suitable. Greater Wellington Park Ranger staff will be deployed for ground reconnaissance although coverage will be less and slower. Greater Wellington has approximately 18 rangers with 4WD vehicles and radios. These rangers would conduct reconnaissance in their areas when possible and report this back to the GEOC.

In addition to the rangers, the Wellington CDEM Group has a MOU with Transit NZ for the completion of further ground reconnaissance following a significant event (see **Appendix E**).

This MOU identifies Transit NZ will provide the GEOC with regular Situation Reports on what is known about the status of the road network with estimates of time to restore access to stated levels.

11. Territorial Authority (TA) Reconnaissance

Aerial reconnaissance sweeps during CDEM Group declared emergency will not cover urban areas, unless requested by Local EOC. However, any observations of interest in urban areas during Group aerial sweeps will be reported to Local EOCs either specifically, or within Reconnaissance Reports.

11.1 Coverage

Territorial Authorities will carry out ground reconnaissance of:

- own buildings and civil defence buildings
- own roads including State Highways within urban areas
- critical services infrastructure
- medical centres and hospitals
- hazardous substances sites
- operational fuel sites
- access to each suburb.

The results of this ground reconnaissance are to be reported back to the GEOC either specifically or in Situation Reports (see the Wellington Region CDEM Group Plan s25).

11.2 Not covered by TA Reconnaissance

- Utility companies' infrastructure and their networks within council area
- Harbours
- Airstrips within TA areas.

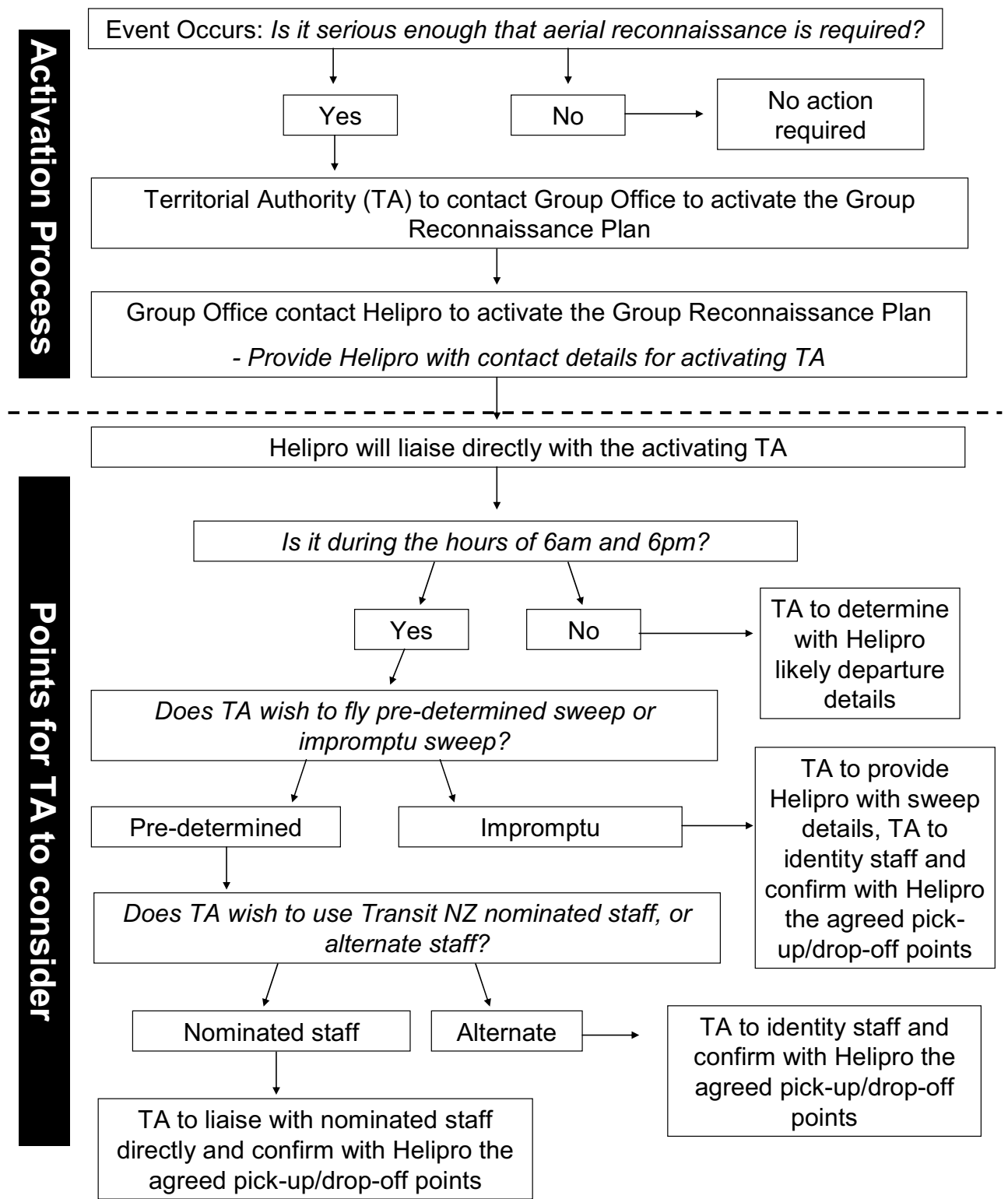
For further details on reconnaissance carried out by other agencies see Section 6: Reporting of reconnaissance results.

11.3 Activation of Wellington Region CDEM Group Reconnaissance Plan on behalf of Territorial Authorities.

As members of the Wellington Region CDEM Group, all Territorial Authorities are able to activate the Wellington Region CDEM Group Reconnaissance Plan and utilise the service provisions outlined in the MOU with Helipro (see **Appendix A**) for an event that is of **local significance**.

The diagram overleaf shows the activation process for Territorial Authorities.

Activation of Wellington Region CDEM Group Reconnaissance Plan by Territorial Authorities.



Activation Process

Points for TA to consider

- Assumptions:**
- Communications are operating.
 - Transit NZ will participate in flights for TAs when requested at their discretion.

Specifically,

- To activate the Wellington Region CDEM Group Reconnaissance Plan, the Territorial Authority must contact the Wellington Region CDEM Group Office who will contact Helipro.
- The Wellington Region CDEM Group office will provide Helipro with the contact details of the Territorial Authority who wished to activate the Wellington Region CDEM Group Reconnaissance Plan.
- The Territorial Authority will identify whether they wish to fly the pre-determined aerial reconnaissance routes, or an impromptu route.
- The Territorial Authority will also determine whether they wish to use the nominated Transit NZ staff, or nominate their own staff.

For further details on the activation process, see Appendix A.

12. Reporting of Reconnaissance Results

12.1 Reporting Group aerial reconnaissance results

The Wellington Region CDEM Group Reconnaissance Report templates for each of the sweeps which will be sent to all the Territorial Authorities are included as **Appendix F**. The information included in the Wellington Region CDEM Group Reconnaissance Reports will be taken directly from the marked-up aerial maps. An example of a marked-up aerial map is included in **Appendix G**. The Wellington Region CDEM Group Reconnaissance Reports will be available during an event through the Lifelines Co-ordinator at the GEOC.

In addition, video footage will be recorded onto a hard drive for immediate delivery to the GEOC upon completion of each of the sweeps. This data will be copied to disc and provided to the relevant Territorial Authorities' for each of the sweeps.

12.2 Other agencies reconnaissance results

Many agencies in the Wellington Region have identified reconnaissance as an important part of emergency response, and have arrangements in place to carry out their own reconnaissance, and report these results to the GEOC.

Appendix H identifies some of these agencies, the reconnaissance they currently have in place, and their dependencies on lifelines utilities to carry out this reconnaissance.

The table overleaf identifies some of the agencies who may be conducting their own reconnaissance and how this information will be reported to both the Local EOCs and the GEOC.

Other agencies reconnaissance capabilities and reporting of results.

Reconnaissance	Agency Responsible	What / Who agency reports reconnaissance to.
Threat Area Defined		
Earthquake	GNS	GEOC, who send to Local EOCs.
Flooding	GW Flood Protection	Both Local EOCs and GEOC
Extreme Weather	Met Service	Both Local and GEOC
Hazardous substances	HSTLC	Local EOC, who send to GEOC.
Roading Reconnaissance		
City roads - routes to hospitals - access to suburbs	Councils	Main routes availability and alternate routes. To Local EOC, who send to GEOC.
State Highways in Urban	Transit NZ	Segments availability and alternates to GEOC, who send to Local EOC.
State Highways Bridges / Flyovers in Urban	Transit NZ	Availability and restoration timeframes to GEOC, who report to Local EOCs.
State Highways in Rural	Transit NZ	Availability and restoration timeframes to GEOC, who report to Local EOCs.
Rural roads	Councils	Only report to GEOC if a link road.
Search & Rescue Reconnaissance		
CBD and urban areas	Fire Service and Police	Local EOC, who send to GEOC.
Commuter routes	Police	Local EOC, who send to GEOC.
Rural	Councils	Local EOC, who send to GEOC.
Harbour	GW Harbourmaster	GEOC, who send to Local EOC.
Responder Facilities		
Civil Defence	Councils	Status to GEOC.
Police, Fire Service, Ambulance	Police, Fire Service, Ambulance	Status to Local EOC.

Reconnaissance	Agency Responsible	What / Who agency reports reconnaissance to.
Medical Facilities		
Hospitals	District Health Board	Status to Local EOC, who send to GEOC.
Medical Centres	Council	Status to Local EOC.
Hazardous substances		
Storage site	Council, Fire Service	HSTLC and to Local EOC.
In transit	Fire Service	HSTLC.
In Harbour	GW Harbourmaster	GEOC.
Transportation		
Rail	Ontrack / Toll NZ	Status to Lifelines Co-ordinator at GEOC.
Wellington International Airport	Wellington International Airport Limited (WIAL)	Status to GEOC.
Airstrips	Airport Companies	Status to Local EOC
Port	Port Company	Status to Lifelines Centre.
Lifeline Utilities		
Water - bulk	GW Bulk Water	Availability and restoration timeframe to Lifelines Co-ordinator at GEOC, who inform Local EOCs.
Water - local	Councils	Status to Local EOC, who inform GEOC.
Telecoms - network control	Telecomms Companies	Availability and restoration timeframes to Lifelines Co-ordinator at GEOC, who inform Local EOCs.
Telecomms - local	Telecomms Companies	Status to GEOC, who inform Local EOC.
Electricity - bulk	Transpower	Availability and restoration timeframes to Lifelines Co-ordinator at GEOC, who inform Local EOCs.
Electricity - local	Line Companies	Availability and restoration timeframes to Lifelines Co-ordinator at GEOC, who inform Local EOCs.
Gas - bulk	NGC	Availability and restoration timeframes to Lifelines Co-ordinator at

Reconnaissance	Agency Responsible	What / Who agency reports reconnaissance to.
		GEOC, who inform Local EOCs.
Gas - local	Line Companies	Availability and restoration timeframes to Lifelines Co-ordinator at GEOC, who inform Local EOCs.
Fuel - bulk	Fuel Companies	Delivery timeframe to Lifelines Co-ordinator at GEOC, who inform Local EOCs.
Fuel - local	Councils	Status and availability to Local EOC.

13. Problems Conducting Reconnaissance

Agencies and companies having problems with access while carrying out reconnaissance within city/district urban areas must contact the Local EOCs for information/assistance.

Agencies and companies having problems with access while carrying out reconnaissance in rural areas between cities/districts must contact the GEOC for information/assistance.

14. Group Reconnaissance Emergency Communications

A list of emergency communications for key reconnaissance agencies is included as **Appendix I**.

15. Costs Apportionment

Cost apportionment and cost recovery arrangements outlined in the National CD Plan will apply when the Wellington Region CDEM Group Reconnaissance Plan is activated during a declared Group emergency.

These arrangements will continue to apply during the declared emergency period and any extension to the declared period.

If reconnaissance is requested by an agency or asset owner, they will bear the cost of the requested reconnaissance.

16. Contact details

Appendix C identifies the key personnel and organisations associated with the Wellington Region CDEM Group Reconnaissance Plan. For additional contact details refer to the Wellington Region CDEM Group Inter-Agency Contact List.

Appendix A: MOU between Wellington Region CDEM Group and Helipro

Wellington Region Civil Defence Emergency Management Group

Reconnaissance Plan Memorandum of Understanding (MOU) between the Wellington Region CDEM Group and Helipro.

Important: Content must not be changed without prior agreement with the Wellington Region CDEM Group and Helipro.

THIS MOU MUST BE READ IN CONJUNCTION WITH THE WELLINGTON REGION CDEM GROUP RECONNAISSANCE PLAN (THE PLAN) AS THIS MOU IS DEEMED TO BE INCLUSIVE OF ALL PROVISIONS OUTLINED IN THE PLAN.

THIS MOU WILL COME INTO AFFECT UPON ACCEPTANCE OF THE WELLINGTON REGION CDEM GROUP RECONNAISSANCE PLAN BY THE WELLINGTON CDEM GROUP.

In large events, such as a major earthquake, it will be important to quickly gather information about the availability of major routes into and out of the region. The best way to achieve this is by aerial reconnaissance.

The Wellington Region CDEM Group and Helipro have developed a MOU for working together following a major event to undertake aerial reconnaissance of the major road access routes and critical infrastructure. The following provides a summary of these arrangements:

Activation by the Wellington Region CDEM Group Office.

- Immediately following a major event in the Wellington Region, Helipro will:
 - Be contacted by Emergency Management staff from the Wellington Region CDEM Group Office who will activate the Wellington Region CDEM Group Reconnaissance Plan.
 - Start setting up aerial reconnaissance equipment onto their helicopters to enable reconnaissance flights to take place as soon as possible (This can take up to 2 hours to commence) between the hours of 6am and 6pm.
 - Ensure Helipro staff are present to meet nominated Transit NZ staff who will make their way as soon as possible to the Helipro base at Paraparaumu Airport (between the hours of 6am and 6pm).
 - If the event happens during daylight hours (between 6am and 6pm) and the sweep can be completed within the remaining daylight hours, commence the sweeps within four hours of the activation phone call from the Wellington Region CDEM Group.
 - If the event happens outside the hours of 6am and 6pm, then the reconnaissance flights should commence at first light (6am). The practicality of reconnaissance will also be impacted by weather conditions such as strong winds and poor visibility.
- Helicopters fly pre-determined aerial reconnaissance routes:
 - Each helicopter will have on board:
 - A stabilised digital video camera
 - Red Hen Systems sDVR recorder
 - Pre-prepared laminated aerial photographs of the route that identify critical infrastructure sites that may require closer inspection.
 - Pens for annotating laminated maps with observations during the reconnaissance flight.

- As the helicopter flies the route, the nominated staff will mark up on the laminated maps the *major* damage observed along the route.
- Immediately following each of the sweeps Helipro will deliver these marked-up laminated maps and hard drive containing footage to the designated Wellington Region CDEM Group Emergency Operations Centre (EOC).
- As the digital cameras are filming, this information will be collected as follows:
 - A stabilised camera will be used for filming the route flown.
 - All footage will be recorded using Red Hen Systems sDVR recorder. This saves all footage to an external hard drive with GPS coordinates indexed onto the audio track.
 - The hard drive can be connected to a PC or laptop with 'Media Mapper' installed and footage viewed immediately without any editing or post production required.
- The sweeps will be filmed in the following priority: -
 - Wellington Airport to Grenada (Porirua) (SH1).
 - Porirua to Otaki (SH1). Also includes the Manawatu Gorge (SH3), Whirokino Tressel (SH1) and Manawatu River Bridge (SH1).
 - Ngauranga to Featherston (SH2).
 - Featherston to Mount Bruce (SH2).
- The costs for the reconnaissance flights will be as follows:
 - \$3000 + GST for every 8 hours of hireage of the DVCAM deck, Red Hen Systems sDVR recorder, operator, and rigging of the aircraft, or \$375 + GST per hour.
 - \$1750 + GST per hour for the use of the helicopter and pilot if the camera equipment is fitted on a single engine 'squirrel'.
 - \$1900 + GST per hour for the use of the helicopter and pilot if the camera equipment is fitted on a twin engine 'squirrel'.
 - A monthly retainer fee of \$1000 + GST to ensure constant 24/7 operational readiness to perform the aerial reconnaissance.

All costs associated with activating and completing the reconnaissance sweeps under this section will be covered by the Wellington Region CDEM Group.

Activation by Territorial Authorities as members of the Wellington Region CDEM Group.

As members of the Wellington Region CDEM Group under this agreement Territorial Authorities will be able to activate this MOU for an event that is of local significance.

- Following a major event within a particular Territorial Authority, Helipro will:
 - Be contacted by Emergency Management staff from the Wellington Region CDEM Group Office who will activate the Wellington Region CDEM Group Reconnaissance Plan on behalf of the Territorial Authority.
 - Be provided with the contact details of the key contact person at the Territorial Authority who wished to activate the Wellington Region CDEM Group Reconnaissance Plan.

- Start setting up aerial reconnaissance equipment onto their helicopters to enable reconnaissance flights to take place as soon as possible (This can take up to 2 hours to commence) between the hours of 6am and 6pm.
 - Ensure Helipro staff are present to meet nominated Territorial Authority staff at Helipro bases at Paraparaumu Airport or Queens Wharf, Wellington City (between the hours of 6am and 6pm).
 - If the event happens during daylight hours (between 6am and 6pm) and the sweep can be completed within the remaining daylight hours, commence the sweeps within four hours of the activation phone call from the Wellington Region CDEM Group.
 - If the event happens outside the hours of 6am and 6pm, then the reconnaissance flights should commence at first light (6am). The practicality of reconnaissance will also be impacted by weather conditions such as strong winds and poor visibility.
- Helicopters will fly either the pre-determined aerial reconnaissance routes, or a impromptu route determined by the Territorial Authority:
 - Each helicopter will have on board the following equipment as requested by the Territorial Authority:
 - A stabilised digital video camera.
 - Red Hen Systems sDVR recorder
 - Pre-prepared laminated aerial photographs of the route that identify critical infrastructure sites that may require closer inspection.
 - Pens for annotating laminated maps with observations during the reconnaissance flight.
 - As the helicopter flies the route, the nominated staff will mark up on the laminated maps the *major* damage observed along the route, or alternatively make their own notes of the impromptu route.
 - Immediately following the sweep Helipro will deliver these marked-up laminated maps and hard drive containing footage to either the designated Territorial Authority Emergency Operations Centre (EOC), or Helipro bases at Paraparaumu or Wellington City, whichever has been designated by the Territorial Authority.
 - As the digital cameras are filming, this information will be collected as follows:
 - A stabilised camera will be used for filming the route flown.
 - All footage will be recorded using Red Hen Systems sDVR recorder. This saves all footage to an external hard drive with GPS coordinates indexed onto the audio track.
 - The hard drive can be connected to a PC or laptop with 'Media Mapper' installed and footage viewed immediately without any editing or post production required.

The costs for the reconnaissance flights will be as outlined under the **Activation by the Wellington Region CDEM Group Office** section. All costs associated with activating and completing the reconnaissance sweeps under this section will be covered by the Territorial Authority that activated the Wellington Region CDEM Group Reconnaissance Plan.

Activation by all members of the Wellington Region CDEM Group and Transit NZ during normal business hours (no emergency).

All members of the Wellington Region CDEM Group and Transit NZ will be able to utilise services provided by Helipro as outlined in this MOU during normal business hours during a period of 'no emergency'. During normal business hours (no emergency), Helipro will schedule the required services as soon as practical, but are not required to cancel previously booked or scheduled work.

- Should members and Transit NZ wish to activate this during normal business hours (no emergency) , Helipro will:
 - Be contacted by Emergency Management staff from the Wellington Region CDEM Group Office who will activate the Wellington Region CDEM Group Reconnaissance Plan on behalf of the Wellington Region CDEM Group member or Transit NZ.
 - Be provided with the contact details of the key contact person or the Wellington Region CDEM Group member or Transit NZ who wished to activate the Wellington Region CDEM Group Reconnaissance Plan.
 - Start setting up aerial reconnaissance equipment onto their helicopters to enable reconnaissance flights to take place as soon as possible.
 - Ensure Helipro staff are present to meet nominated staff at Helipro bases at either Paraparaumu Airport or Queens Wharf, Wellington.

- Helicopters will fly either the pre-determined aerial reconnaissance routes, or a impromptu route determined by the Wellington Region CDEM Group members or Transit NZ:
 - Each helicopter will have on board the following equipment as requested by the Wellington Region CDEM Group members or Transit NZ:
 - A stabilised digital video camera.
 - Red Hen Systems sDVR recorder
 - Pre-prepared laminated aerial photographs of the route that identify critical infrastructure sites that may require closer inspection.
 - Pens for annotating laminated maps with observations during the reconnaissance flight.
 - As the helicopter flies the route, the nominated staff will mark up on the laminated maps the *major* damage observed along the route, or alternatively make their own notes of the impromptu route.
 - Immediately following the sweep Helipro will deliver these marked-up laminated maps and hard drive containing footage to the designated Wellington Region CDEM Group Emergency Operations Centre (EOC), Transit NZ Office, or Helipro bases at Paraparaumu or Wellington City, whichever has been designated by the Wellington Region CDEM Group member or Transit NZ in consultation with Helipro.
 - As the digital cameras are filming, this information will be collected as follows:
 - A stabilised camera will be used for filming the route flown.
 - All footage will be recorded using Red Hen Systems sDVR recorder. This saves all footage to an external hard drive with GPS coordinates indexed onto the audio track.
 - The hard drive can be connected to a PC or laptop with 'Media Mapper' installed and footage viewed immediately without any editing or post production required.

The costs for the reconnaissance flights will be as outlined under the **Activation by the Wellington Region CDEM Group Office** section. All costs associated with activating and completing the reconnaissance sweeps under this section will be covered by the Wellington Region CDEM Group member or Transit NZ, which activated the Wellington Region CDEM Group Reconnaissance Plan.

For the above procedures to work, the following needs to be in place at all times:

- **Wellington Region CDEM Group Responsibilities**

- To have a MOU in place with Helipro that includes activation processes and levels of service.
- To have defined the reconnaissance maps and areas of interest.
- To provide Helipro (in Palmerston North, Paraparaumu, Wellington, Rotorua and Christchurch) with pre-prepared reconnaissance sweep information, including laminated pre-event aerial maps that can be marked up during flight.
- To provide Helipro with delivery instructions for both the marked up aerial maps and the delivery of the hard drives.

- **Helipro Responsibilities**

- To regularly update Transit NZ staff contact details for staff trained to be involved in an aerial reconnaissance flight (phone numbers, home address, and pre-agreed collection points in case road access is difficult).
- To ensure that all Helipro staff who may be involved with these flights are trained to be involved in aerial reconnaissance flights and understand the requirements.
- To ensure the hard drives required for the Red Hen Systems sDVR recorder are correctly set up and updated as required
- All footage generated is owned by the Wellington Region CDEM Group and can not be reproduced unless permission has been given by the Wellington Region CDEM Group.

All parties are responsible for regularly practicing, testing and improving the above arrangements

Termination

Either party may terminate this agreement by providing written notice to the other party giving three months notice.

Signed on behalf of the Wellington
Region CDEM Group

Signed on behalf of Helipro

Rian van Schalkwyk
Manager, Emergency Management
Wellington Region CDEM Group Office.

John Read
Business Manager
Helipro.

Appendix B: Breakdown of retainer costs per annum.

Organisation	Total	Total (incl GST)	GST
Greater Wellington Regional Council	\$4,000.00	\$4,500.00	\$500.00
Carterton	\$64.00	\$72.00	\$8.00
Kapiti Coast	\$411.20	\$462.60	\$51.40
Hutt Valley	\$1,214.40	\$1,366.20	\$151.80
Masterton	\$200.00	\$225.00	\$25.00
Porirua	\$432.00	\$486.00	\$54.00
South Wairarapa	\$80.00	\$90.00	\$10.00
Wellington	\$1,598.40	\$1,798.20	\$199.80
Total for Wellington Region CDEM Group	\$8,000.00	\$9000.00	\$1000.00
Transit NZ	\$4,000.00	\$4,500.00	\$500.00
Total retainer cost (per year)	\$12,000.00	\$13,500.00	\$1,500.00

Appendix C: Contact details for key personnel

Wellington Region CDEM Group Office Staff

In order of priority for activation:

Rian van Schalkwyk <i>Manager, Emergency Management</i> Wellington	04 802 0336 work 04 586 1957 home	027 4495 079	00881 621461 202 (mobile sat phone)
Jess Hare <i>Emergency Management Advisor</i> Wellington	04 803 0379 work 04 976 0898 home	027 484 6822	00881 621461 201 (mobile sat phone)
Craig Hamilton <i>Emergency Management Advisor</i> Wairarapa	06 378 2484 work 06 377 0789 home	027 297 0811	00881 621461 200 (mobile sat phone)
Chris Killeen <i>Emergency Management Advisor</i> Wellington	04 381 7742 work 04 934 3071 home	027 211 2078	00881 621461 199 (mobile sat phone)

Helipro Contacts

In order of priority for activation:

Regan Graham <i>Base Manager/Pilot</i> Palmerston North	06 357 1348 work	027 449 5527	
Tim Barrow <i>Base Manager/ Operations</i> Rotorua	07 357 2512 work	027 494 2092	
John Read <i>Business Manager</i> Palmerston North	06 357 1348 work	027 241 3510	

Transit NZ Nominated staff

Darren Varcoe	0272 550 434	04 576 1157 work	04 904 1363 home
Brian Baxter	0274 721 261	-	04 364 3136 home
Glen O'Connor	0274 329 876	04 576 1150 work	04 905 9228 home
Kate Mackenzie	0275 323 791	04 576 1125 work	04 298 8713 home

Contact details for Helipro bases.

Rotorua

Office / Hanger
Te Puia, Hemo Road, Rotorua
PO Box 291
Rotorua

Phone: +64 7 357 2512

Fax: +64 7 357 2502

Email: rotorua@helipro.co.nz

Tim Barrow -Operations/Base Manager

Phone: +64 7 357 2512 (24 hours)

Mobile: 0274 942 092 (24 hours)

Paraparaumu

Office / Hanger
Paraparaumu Airport
PO Box 147
Paraparaumu

Phone: +64 4 298 6294

Fax: +64 4 297 0910

Email: training@helipro.co.nz

Christchurch

Office / Hanger
Harewood Aviation Park, 800 Pound Road
PO Box 20421
Christchurch

Phone: +64 3 359 0470

Fax: +64 3 359 0471

Email: christchurch@helipro.co.nz

Keri Page -Base Manager

Mobile: 027 453 7406

Palmerston North

Office / Hanger
Palmerston North
International Airport
PO Box 7004
Palmerston North

Phone: +64 6 357 1348

Fax: +64 6 357 1343

Email: info@helipro.co.nz

Regan Graham - Base Manager/Pilot

Mobile: 0274 495 527 (24 hours)

Wellington

Office / Hanger
Shed 1, Queens Wharf
PO Box 1550
Wellington

Phone: +64 4 472 1550

Fax: +64 4 472 1440

Email: wellington@helipro.co.nz

Rick Lucas - CEO

Mobile: 0274 433

Transit NZ Offices

Transit NZ Regional Office	Level 8, 186 – 190 Willis Street, Wellington	04 801 2580	00881 631 450 287 (sat phone)
Transit NZ EOC – Wellington	Helston Road, Johnsonville	04 461 7249	00881 631 450 288 (mobile sat phone – Mark Owen)
Transit NZ National Office	Level 9, PSIS Building, 20-26 Balance Street Or Level 2, Victoria Arcade, 42-44 Victoria Street, Wellington	04 499 6600	00881 631 450 274 (sat phone)
Transit NZ Auckland	Level 13, Qantas House, 191 Queen Street, Auckland	09 368 2000	00881 631 450 275 (sat phone) 00881 631 450 310 (mobile sat phone)

Fulton Hogan Depots

Fulton Hogan - Petone	Marine Parade, Petone	04 568 5092	00881 621461 143 (sat phone)
Fulton Hogan – Paraparaumu	MaGrath Avenue, Paraparaumu Airport, Paraparaumu	04 296 1059	-
Fulton Hogan – Back up location Wellington	Hirequip – Basin Reserve, 197 Tory Street, Wellington	04 387 4850	00881 621461 142 (sat phone)

Appendix D: Key regional infrastructure to be covered in Group Aerial Reconnaissance

Sweep One: Wellington City

1	Wellington Airport	Airport	International Airport	Mirimar	41°19'41.61"S	174°48'34.08"E	Elev 370ft
2a	Paterson St	Tunnel	Mt Victoria Tunnel - Kilbirnie	Mt Victoria	41°18'15.04"S	174°47'28.83"E	Elev 139ft
2b	Paterson St	Tunnel	Mt Victoria Tunnel - Wellington	Mt Victoria	41°18'06.78"S	174°47'04.24"E	Elev 124ft
3	Ghuznee St	Bridge	Over M'way On-ramp	City	41°17'31.47"S	174°46'18.47"E	Elev 72ft
4a	Motorway	Tunnel	The Terrace Tunnel - South end	Kelburn	41°17'28.70"S	174°46'18.38"E	Elev 108ft
4b	Motorway	Tunnel	The Terrace Tunnel - North end	Kelburn	41°17'13.92"S	174°46'18.10"E	Elev 164ft
5	Boulcott St	Bridge	Over M'way	City	41°17'07.99"S	174°46'21.08"E	Elev 125ft
6	Everton Tce	Bridge	Over M'way	Kelburn	41°17'06.79"S	174°46'21.66"E	Elev 132ft
7	Clifton Tce	Bridge	M'way On-ramp	Kelburn	41°17'02.31"S	174°46'24.01"E	Elev 118ft
8	Motorway	Bridge	Off-ramp at James Cook Hotel	Kelburn	41°17'00.95"S	174°46'26.27"E	Elev 94ft
9	Aurora Tce	Bridge	Over M'way	Kelburn	41°16'52.77"S	174°46'25.12"E	Elev 115ft
10	Bolton St	Bridge	Over M'way	Kelburn	41°16'48.38"S	174°46'24.49"E	Elev 132ft
11	Hill Street	Bridge	Pedestrian motorway over	City	41°16'43.84"S	174°46'24.13"E	Elev 109ft
12	Motorway	Bridge	Over Bowen St	Thorndon	41°16'39.62"S	174°46'23.69"E	Elev 62ft
13	Motorway	Bridge	Off-ramp to Tinakori Rd over Bowen St	Thorndon	41°16'39.75"S	174°46'22.68"E	Elev 67ft
14	Hill St	Bridge	Over M'way	Thorndon	41°16'36.74"S	174°46'23.75"E	Elev 113ft
15	Hawkestone St	Bridge	Over M'way	Thorndon	41°16'29.27"S	174°46'28.21"E	Elev 96ft
16	May St	Bridge	M'way on ramp from Molesworth St	Thorndon	41°16'23.43"S	174°46'35'24"E	Elev 62ft
17	Molesworth St	Bridge	Over M'way at Murphy St	Thorndon	41°16'19.05"S	174°46'40.08"E	Elev 62ft
18	Hobson St	Bridge	Over M'way	Thorndon	41°16'14.54"S	174°46'46.91"E	Elev 59ft
19	Motorway	Bridge	M'way over Thorndon Quay	Thorndon	41°16'11.12"S	174°46'51.56"E	Elev 41ft
20	Motorway	Bridge	Over R'way yards	Thorndon	41°16'05.31"S	174°46'56.91"E	Elev 8ft
21	Motorway	Bridge	Aotea Quay M'way Off-ramp	Thorndon	41°15'57.19"S	174°47'07.42"E	Elev 0ft
22	Motorway	Bridge	Over Aotea Quay	Thorndon	41°15'56.00"S	174°47'06.63"E	Elev 0ft
23	Aotea Quay	Bridge	Onto Hutt Road	Thorndon	41°15'54.41"S	174°47'05.89"E	Elev 2ft
24	Motorway	Bridge	Aotea Quay M'way On-ramp	Ngauranga	41°15'50.36"S	174°47'10.83"E	Elev 1ft
25	Hutt Road	Bridge	Rail bridge over Hutt Road	Kaiwharawhara	41°15'10.53"S	174°48'14.99"E	Elev 42ft
26	Motorway	Bridge	Over Hutt R'way line	Kaiwharawhara	41°15'08.60"S	174°48'22.80"E	Elev 13ft
27	Motorway	Bridge	Ngauranga off-ramp underpass from Hutt Valley	Ngauranga	41°14'51.89"S	174°48'49.73"E	Elev 7ft

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28	Motorway bound	Nth	Bridge	Over Nth bound Hutt Rd On-ramp	Ngauranga	41°14'49.88"S	174°48'50.42"E	Elev 15ft
29	Motorway bound	Sth	Bridge	Over Nth bound Hutt Rd On-ramp	Ngauranga	41°14'49.25"S	174°48'53.03"E	Elev 35ft
30	Motorway		Bridge	M'way over Malvern/Glover access road	Ngauranga	41°14'39.19"S	174°48'51.36"E	Elev 33ft
31	Motorway		Bridge	R'way over M'way at bottom of Gorge	Ngauranga	41°14'32.48"S	174°48'42.97"E	Elev 62ft
32	Motorway		Bridge	Over M'way	Newlands	41°13'54.46"S	174°48'34.50"E	Elev 445ft
33	Motorway		Bridge	Under-pass On-ramp Sth of J'ville	Johnsonville	41°13'39.11"S	174°48'29.04"E	Elev 458ft
34	Helston Rd		Bridge	Road over M'way On- & Off-ramps	Johnsonville	41°13'15.63"S	174°48'30.17"E	Elev 459ft
35	Helston Rd		Bridge	Road over M'way	Johnsonville	41°13'16.89"S	174°48'33.01"E	Elev 476ft
36	Motorway		Bridge	Over J'ville Off-ramp	Johnsonville	41°13'14.28"S	174°48'34.37"E	Elev 460ft
37	Westchester Dr		Bridge	Over M'way at Grenada Landfill	Grenada Sth	41°12'16.12"S	174°49'15.08"E	Elev 370ft
38a	Wellington Wharf		Wharf	From the ferry terminal to overseas terminal	Overseas terminal	41°17'21.12"S	174°47'08.76"E	Elev 0ft
38b	Wellington Wharf		Wharf	From the ferry terminal to overseas terminal	Ferry terminal	41°15'57.24"S	174°47'14.79"E	Elev 0ft
39	Westpac Stadium		Stadium	Aotea Quay	City	41°16'22.87"S	174°47'08.93"E	Elev 13ft
40	Wellington Hospital		Hospital	Riddiford Rd	Newtown	41°18'34.47"S	174°46'44.65"E	Elev 68ft

Sweep Two: Porirua and Kapiti Coast

1	Motorway	Bridge	Over Takapu Rd under-pass	Tawa	41°11'07.92"S	174°49'56.28"E	Elev 206 ft
2	Motorway	Bridge	Over Collins Ave	Tawa	41°09'32.42"S	174°50'13.38"E	Elev 118 ft
3	Motorway	Bridge	Overbridge , on/off ramps - Southern	Porirua	41°08'18.69"S	174°50'41.38"E	Elev 52 ft
4	Motorway	Bridge	Overbridge , on/off ramps - Northern	Porirua	41°08'16.84"S	174°50'41.43"E	Elev 52 ft
5	Motorway	Bridge	On/off ramps - Porirua City Centre/Titahi Bay	Porirua	41°07'53.56"S	174°50'38.98"E	Elev 37 ft
6	Motorway	Bridge	Pedestrian over M'way south of Paremata School	Porirua	41°06'26.92	174°51'54.35"E	Elev 10 ft
7	Motorway	Bridge	Pedestrian over M'way north of Paremata School	Porirua	41°06'23.16	174°52'01.88	Elev 16 ft
8	State Highway	Bridge	Paremata rail bridge	Paremata	41°06'12.59"S	174°52'06.93"E	Elev 0 ft
9	State Highway	Bridge	Paremata road bridge	Paremata	41°06'12.24"S	174°52'11.11"E	Elev 0 ft
10	State Highway	Bridge	Pedestrian walkway over SH	Plimmerton	41°05'06.11"S	174°52'07.03"E	Elev 23 ft
11	State Highway	Bridge	Over R'way north Gray Rd	Pukerua Bay	41°02'20.77"S	174°53'06.61"E	Elev 269 ft
12	State Highway	Bridge	Pedestrian over State Highway	Pukerua Bay	41°02'06.71"S	174°53'12.81"E	Elev 248 ft
13a	State Highway	Roads	Centennial Highway (Pukerua Bay)	Pukerua Bay	41°01'48.79"S	174°53'49.51"E	Elev 138 ft
13b	State Highway	Roads	Centennial Highway (Paekakariki)	Pukerua Bay	40°59'58.51"S	174°56'21.21"E	Elev 22 ft
14	State Highway	Bridge	Over R'way	Paekakariki	40°59'37.25"S	174°56'48.20"E	Elev 62 ft
15	State Highway	Bridge	McKay Crossing overbridge	McKays Crossing	40°58'13.72"S	174°58'53.31"E	Elev 30 ft
16	State Highway	Bridge	Amohia street	Paraparaumu	40°54'40.86"S	175°00'42.81"E	Elev 0 ft
17	State Highway	Bridge	Rail overbridge	Waikanae	40°52'59.56"S	175°03'41.00"E	Elev 128 ft
18	State Highway	Bridge	Waikanae River bridge	Waikanae	40°52'55.77"S	175°03'46.26"E	Elev 32 ft
19	State Highway	Bridge	R'way bridge over Waikanae River	Waikanae	40°52'56.39"S	175°03'47.40"E	Elev 60 ft
20	State Highway	Bridge	Otaki river bridge	Otaki	40°46'15.05"S	175°08'41.87"E	Elev 56 ft
21	State Highway	Bridge	R'way bridge over Otaki River	Otaki	40°46'15.81"S	175°08'44.16"E	Elev 56 ft
22	State Highway	Bridge	Bridge over rail line by Otaki Scenic Reserve	Otaki	40°45'30.83	175°09'39.97"E	Elev 69 ft
23	State Highway	Bridge	Waitohu river bridge north of Otaki	Otaki	40°45'10.59"S	175°10'00.90"E	Elev 98ft
24	State Highway	Bridge	R'way bridge over Waitohu River	Otaki	40°45'03.38"S	175°09'45.71"E	Elev 75 ft
25	Manawatu Gorge		Junction SH 3 / SH 57	Manawatu	40°18'33.14"S	175°45'42.60"E	Elev 56 ft
			Junction SH3 / SH2 (Woodville)		40°20'13.59"S	175°52'00.90"E	Elev 83 ft
26	Whirokino Tressel (south of Foxton)			Manawatu	40°30'13.08"S	175°16'57.73"E	Elev 11 ft
27	Manawatu River Bridge			Manawatu	40°30'51.33"S	175°16'40.11"E	Elev 19 ft

Sweep Three: Hutt Valley

1a	State Highway	Roads	State Highway (Ngauranga)	Wellington	41°14'44.50"S	174°49'00.18"E	Elev 22 ft
1b	State Highway	Roads	State Highway (Petone)	Wellington	41°13'28.64"S	174°51'25.94"E	Elev 24 ft
2	State Highway	Bridge	Petone overbridge	Petone	41°13'25.70"S	174°51'35.71"E	Elev 16 ft
3	State Highway	Bridge	Pedestrian Bridge by Petone R'way station	Petone	41°13'17.21"S	174°52'11.19"E	Elev 14 ft
4	State Highway	Bridge	Normandale Overbridge	Normandale	41°12'34.10"S	174°53'37.66"E	Elev 37 ft
5	State Highway	Bridge	Melling Bridge	Lower Hutt	41°12'14.93"S	174°54'24.36	Elev 0 ft
6	State Highway	Bridge	Kennedy Good Bridge	Lower Hutt	41°11'32.72"S	174°55'50.58"E	Elev 0 ft
7	State Highway	Bridge	Pedestrian Bridge over State Highway (Hebden Crescent)	Kelston	41°11'09.62"S	174°56'12.00"E	Elev 28 ft
8	Infrastructure	Petrol Plant	Fuel tank farm in Seaview	Seaview	41°14'25.50"S	174°54'11.58"E	Elev 18 ft
9	Infrastructure	Sewage	Sewage treatment plant	Seaview	41°14'31.29"S	174°54'22.40"E	Elev 24 ft
10	Main Road	Bridge	Bridge over Hutt River - Waione Street	Lower Hutt	41°13'59.14"S	174°54'02.43"E	Elev 0 ft
11	Main Road	Bridge	R'way bridge	Lower Hutt	41°13'20.42"S	174°53'59.01"E	Elev 12 ft
12	Main Road	Bridge	Over Hutt River - Railway Ave	Lower Hutt	41°12'46.71"S	174°53'52.79"E	Elev 0 ft
13	State Highway	Bridge	R'way bridge over High Street	Taita	41°09'58.77"S	174°58'16.26"E	Elev 75 ft
14	Infrastructure	Sewage	Sewage holding plant	Silverstream	41°08'58.46"S	174°59'45.20"E	Elev 89 ft
15	State Highway	Bridge	R'way bridge over Eastern Hutt Road	Lower Hutt	41°08'46.08"S	174°59'55.97"E	Elev 62 ft
16	State Highway	Bridge	Silverstream Bridge	Silverstream	41°08'43.49"S	174°59'51.77"E	Elev 62 ft
17	State Highway	Bridge	Moonshine Bridge	Moonshine	41°07'21.94"S	175°02'13.40"E	Elev 164 ft
18	State Highway	Bridge	Totara Park Bridge	Totara Park	41°06'52.60"S	175°04'52.18"E	Elev 184 ft
19a	State Highway	Roads	Te Marua to Pukuratahi (Te Marua)	Upper Hutt	41°05'30.34"S	175°07'57.90"E	Elev 328 ft
19b	State Highway	Roads	Te Marua to Pukuratahi (Pukuratahi)	Upper Hutt	41°04'45.27"S	175°12'10.45"E	Elev 684 ft
20	Infrastructure	Water	Bulk water supply Lakes	Kaitoke	41°05'06.26"S	175°08'47.36"E	Elev 361 ft
21a	State Highway	Roads	Pukuratahi to Featherston (Pukuratahi)	Rimutaka Hill Rd	41°04'45.53"S	175°12'11.22"E	Elev 692 ft
21b	State Highway	Roads	Pukuratahi to Featherston (Featherston)	Rimutaka Hill Rd	41°06'53.46"S	175°18'50.90"E	Elev 205 ft

Sweep Four: Wairarapa

1	State Highway	Bridge	Donalds Bridge	Featherston Martinborough -	41°07'25.21"S	175°20'06.29"E	Elev 101 ft
2	State Highway	Bridge	Tauherenikau Bridge	Featherston Martinborough -	41°08'35.25"S	175°21'38.39"E	Elev 68 ft
3	State Highway	Bridge	Stonestead Creek Bridge	Featherston Martinborough -	41°09'11.30"S	175°22.17.97"E	Elev 66 ft
4	State Highway	Bridge	Jenkins Dip Floodway	Featherston Martinborough -	41°11'35.51"S	175°26'04.68"E	Elev 66 ft
5	State Highway	Bridge	Waihenga Bridge	Featherston Martinborough -	41°11'51.65"S	175°26'23.86"E	Elev 66 ft
6	State Highway	Bridge	Donalds Bridge	Featherston Greytown -	41°07'07.53"S	175°20'02.47"E	Elev 124 ft
7	State Highway	Bridge	Tauherenikau Bridge	Featherston Greytown -	41°07'05.84"S	175°22'30.33"E	Elev 131ft
8	State Highway	Bridge	Waiohine Bridge	Greytown Carterton -	41°03'31.19"S	175°29'40.16"E	Elev 177 ft
9	State Highway	Bridge	Beef Creek Bridge	Greytown Carterton -	41°03'24.18"S	175°29'44.35"E	Elev 180 ft
10	State Highway	Bridge	Mangatarere Bridge	Greytown Carterton -	41°03'17.87"S	175°29'46.62"E	Elev 184 ft
11	State Highway	Bridge	Waingawa Bridge	Carterton Masterton -	40°57'51.71"S	175°36.34.21"E	Elev 391 ft
12	State Highway	Bridge	Waipoua Bridge	Carterton Masterton -	40°56'45.55"S	175°40'04.98"E	Elev 370 ft
13	State Highway	Bridge	Opaki Overbridge	Masterton Eketahuna -	40°53'42.04"S	175°39'43.67"E	Elev 502 ft
14	State Highway	Bridge	Ruamahanga Bridge	Masterton Eketahuna -	40°45'44.98"S	175°36'25.57"E	Elev 917 ft

Appendix E: MOU between Wellington Region CDEM Group and Transit NZ

Wellington Region CDEM Group Reconnaissance Plan Memorandum of Understanding (MOU) between the Wellington Region CDEM Group and Transit New Zealand (Transit NZ).

Important: Content within this MOU for aerial reconnaissance must not be changed without prior agreement between Wellington Region CDEM Group and Transit NZ.

THIS MOU MUST BE READ IN CONJUNCTION WITH THE WELLINGTON REGION CDEM GROUP RECONNAISSANCE PLAN (THE PLAN). THIS MOU IS DEEMED TO BE INCLUSIVE OF ALL PROVISIONS OUTLINED IN THE PLAN.

THIS MOU WILL COME INTO EFFECT UPON ACCEPTANCE OF THE WELLINGTON REGION CDEM GROUP RECONNAISSANCE PLAN BY THE WELLINGTON CDEM GROUP.

In large events, such as a major earthquake, it will be important to quickly gather information about the availability of major routes into and out of the region. The best way to achieve this is by aerial reconnaissance.

Transit NZ and Wellington Region Civil Defence and Emergency Management Group have developed this Memorandum of Understanding (MOU) for working together following a major event to undertake aerial reconnaissance of the major road access routes. The following is a summary of these arrangements:

- Wellington Region CDEM Group has a MOU with Helipro who have bases in Wellington, Paraparaumu, Palmerston North, Rotorua and Christchurch for undertaking aerial reconnaissance following a major event in the Wellington region.
- **As part of the MOU between Helipro and the Wellington Region CDEM Group, the Wellington Region CDEM Group have agreed to pay a monthly retainer fee to Helipro to ensure that the specified levels of service can be provided at all times. The cost of the retainer will be split between the Wellington Region CDEM Group and Transit NZ, with the Wellington Region CDEM Group contributing two-thirds, and Transit NZ contributing the remaining one-third.**

Activation by the Wellington Region CDEM Group.

- Immediately following a major event in the Wellington Region, Helipro will:
 - Be contacted by Emergency Management staff from the Wellington Region CDEM Group Office who will activate the Wellington Region CDEM Group Reconnaissance Plan.
 - Start setting up aerial reconnaissance equipment onto their helicopters to enable reconnaissance flights to take place as soon as possible (This can take up to 2 hours to commence) between the hours of 6am and 6pm.
 - Ensure Helipro staff are present to meet nominated Transit NZ staff who will make their way as soon as possible to the Helipro base at Paraparaumu Airport (between the hours of 6am and 6pm).
 - If the event happens during daylight hours (between 6am and 6pm) and the sweep can be completed within the remaining daylight hours, commence the sweeps within four hours of the activation phone call from the Wellington Region CDEM Group Office.
 - If the event happens outside the hours of 6am and 6pm, then the reconnaissance flights should commence at first light (6am). The practicality of reconnaissance will also be impacted by weather conditions such as strong winds and poor visibility.

- Helicopters fly pre-determined aerial reconnaissance routes:
 - Each helicopter will have on board:
 - A stabilised digital video camera
 - Red Hen Systems sDVR recorder
 - Pre-prepared laminated aerial photographs of the route that identify critical infrastructure sites that may require closer inspection.
 - Pens for annotating laminated maps with observations during the reconnaissance flight.
 - As the helicopter flies the route, the nominated staff will mark up on the laminated maps the *major* damage observed along the route.
 - Immediately following each of the sweeps Helipro will deliver these marked-up laminated maps and hard drive containing footage to the designated Wellington Region CDEM Group Emergency Operations Centre (EOC).
 - As the digital cameras are filming, this information will be collected as follows:
 - A stabilised camera will be used for filming the route flown.
 - All footage will be recorded using Red Hen Systems sDVR recorder. This saves all footage to an external hard drive with GPS coordinates indexed onto the audio track.
 - The hard drive can be connected to a PC or laptop with 'Media Mapper' installed and footage viewed immediately without any editing or post production required.
 - The sweeps will be filmed in the following priority: -
 - Wellington Airport to Grenada (Porirua) (SH1).
 - Porirua to Otaki (SH1). Also includes the Manawatu Gorge (SH3), Whirokino Tressel (SH1) and Manawatu River Bridge (SH1).
 - Ngauranga to Featherston (SH2).
 - Featherston to Mount Bruce (SH2).
 - Once reconnaissance information arrives in the Wellington region, it then needs to be shared. Helipro will deliver copies of the reconnaissance information to a predetermined drop-off point for the Wellington Region CDEM Group EOC. The GEOC will then:
 - Inform the Transit NZ Wellington EOC by satellite phone or radio communications that copies of the reconnaissance information are available. It is the responsibility of Transit NZ to send a representative to the Wellington Region CDEM Group EOC to collect this information.
 - Inform the Transit NZ National Office EOC by satellite phone or radio communications that copies of the reconnaissance information are available. If the Transit NZ National Office is activated in Wellington, they will collect a copy of this information from the GEOC.
 - Summarise the results of the reconnaissance information into a Lifelines Situation Report (SitRep) to be shared with other responding lifeline organisations.

Activation by Transit NZ during normal business hours (no emergency).

All members of the Wellington Region CDEM Group and Transit NZ will be able to utilise services provided by Helipro as outlined in this MOU during normal business hours during a period of 'no emergency'. During normal business hours (no emergency), Helipro will schedule the required services as soon as practical, but are not required to cancel previously booked or scheduled work.

- Should Transit NZ wish to activate this during normal business hours (no emergency) , Helipro will:
 - Be contacted by Emergency Management staff from the Wellington Region CDEM Group Office who will activate the Wellington Region CDEM Group Reconnaissance Plan on behalf of the Wellington Region CDEM Group member or Transit NZ.
 - Be provided with the contact details of the key contact person at Transit NZ who wished to activate the Wellington Region CDEM Group Reconnaissance Plan.
 - Start setting up aerial reconnaissance equipment onto their helicopters to enable reconnaissance flights to take place as soon as possible.
 - Ensure Helipro staff are present to meet nominated staff at Helipro bases at either Paraparaumu Airport or Queens Wharf, Wellington.
- Helicopters will fly either the pre-determined aerial reconnaissance routes, or a impromptu route determined by Transit NZ:
 - Each helicopter will have on board the following equipment as requested by Transit NZ:
 - A stabilised digital video camera.
 - Red Hen Systems sDVR recorder
 - Pre-prepared laminated aerial photographs of the route that identify critical infrastructure sites that may require closer inspection.
 - Pens for annotating laminated maps with observations during the reconnaissance flight.
 - As the helicopter flies the route, the nominated staff will mark up on the laminated maps the *major* damage observed along the route, or alternatively make their own notes of the impromptu route.
 - Immediately following the sweep Helipro will deliver these marked-up laminated maps and hard drive containing footage to the designated, Transit NZ Office, or Helipro bases at Paraparaumu or Wellington City, whichever has been designated by Transit NZ in consultation with Helipro.
 - As the digital cameras are filming, this information will be collected as follows:
 - A stabilised camera will be used for filming the route flown.
 - All footage will be recorded using Red Hen Systems sDVR recorder. This saves all footage to an external hard drive with GPS coordinates indexed onto the audio track.
 - The hard drive can be connected to a PC or laptop with 'Media Mapper' installed and footage viewed immediately without any editing or post production required.

The costs for the reconnaissance flights will be as follows:

- \$3000 + GST for every 8 hours of hireage of the DVCAM deck, Red Hen Systems sDVR recorder, operator, and rigging of the aircraft, or \$375 + GST per hour.

- \$1750 + GST per hour for the use of the helicopter and pilot if the camera equipment is fitted on a single engine 'squirrel'.
- \$1900 + GST per hour for the use of the helicopter and pilot if the camera equipment is fitted on a twin engine 'squirrel'.

All costs associated with activating and completing the reconnaissance sweeps under this section will be covered by Transit NZ.

Procedures in Place

For the above procedures to work, the following needs to be in place at all times:

- **Wellington Region CDEM Group Responsibilities**
 - To have a current MOU in place with Helipro that includes automatic activation processes, levels of service and clear thresholds for this activation.
 - To define reconnaissance flight paths and to seek comment on these from Transit NZ National and Regional Offices as well as other lifeline organisations.
 - To provide Helipro bases with pre-prepared reconnaissance sweep information, including laminated pre-event aerial maps that can be marked up during flight.
 - Develop a standard set of symbols that should be used for annotating damage observed onto reconnaissance route maps.
 - To provide Helipro with delivery instructions for both the initial marked up aerial maps and later delivery of DVD's.
 - Wellington Region CDEM Group should specify the technical requirements for processing the digital images. For example Wellington Region CDEM Group should explore with Helipro the possibility of linking the digital images with GIS or GPS coordinated to enable rapid searching of the video feed.
 - To have the ability to reproduce and share with Transit NZ the results of the aerial reconnaissance information.
 - To pay for the services provided by Helipro, as detailed above in section 1.0.
- **Transit NZ Responsibilities**
 - To provide Helipro and Wellington Region CDEM Group with regularly updated contact details for staff trained to be involved in an aerial reconnaissance flight (phone numbers, home address).
 - To ensure that there are a minimum of four staff at any-one time in the Paraparaumu area that are suitably trained for aerial reconnaissance flights.
 - To provide Wellington Region CDEM Group EOC with regular Situation Reports on what is known about the status of the road network with estimates of time until restoration of access to stated levels, particularly as ground reconnaissance information becomes available.
 - Transit NZ will provide Situation Reports twice daily to Wellington Region CDEM Group EOC throughout the emergency phase.
 - **Note** - if the Transit NZ Wellington Emergency Response Team has not yet activated, the Transit NZ National Office responsibilities may initially devolve to the Auckland Office until such time as the Transit NZ Wellington Regional Office EOC is established. When the Transit NZ Wellington Regional Emergency Response Team activates, it will inform both Wellington Region CDEM Group and Transit NZ National Office (whether located in Wellington or Auckland) and commence activities. This handover may, by agreement at the time, be phased.

- **All parties are responsible for regularly practicing, testing and improving the above arrangements.**

Signed on behalf of the Wellington
Region CDEM Group

Signed on behalf of Transit NZ

Rian van Schalkwyk
Manager, Emergency Management
Wellington Region CDEM Group Office.

Mark Owen
Operations Manager - Central
Transit NZ.

Appendix F: Wellington Region CDEM Group Reconnaissance Reports

Sweep One: Wellington City

WELLINGTON REGION CIVIL DEFENCE EMERGENCY MANAGEMENT GROUP RECONNAISSANCE REPORT – SWEEP ONE: WELLINGTON CITY	
Event	Maps completed by
Date	Agency/Company
Time	Contact Details
Author	
EOC	
Contact Details	Log number

Priority Areas For Ground Reconnaissance/ Impact Assessment and Restoration:

Ground Reconnaissance/ Impact Assessment:

Details of Infrastructure		Useable ¹	Notes
AIRPORT - MT VICTORIA TUNNEL			
1	Wellington Airport	Airport	Mirimar Y <input type="checkbox"/> N <input type="checkbox"/>
2a	Paterson St	Tunnel	Mt Victoria Tunnel - Kilbirnie Mt Victoria Y <input type="checkbox"/> N <input type="checkbox"/>
MT VICTORIA TUNNEL - TERRACE TUNNEL			
2b	Paterson St	Tunnel	Mt Victoria Tunnel - Wellington Mt Victoria Y <input type="checkbox"/> N <input type="checkbox"/>

¹ 'Useable' indicates that it is *likely* to be useable for at least limited functions. e.g For roads, 4WD access may be possible. All of these sites will require further ground assessments to determine the *actual* level of operation.

3	Chuznee St	Bridge	Over M'way On-ramp	City	Y <input type="checkbox"/> N <input type="checkbox"/>	
4a	Motorway	Tunnel	The Terrace Tunnel - South end	Kelburn	Y <input type="checkbox"/> N <input type="checkbox"/>	
TERRACE TUNNEL - NGAURANGA GORGE						
4b	Motorway	Tunnel	The Terrace Tunnel - North end	Kelburn	Y <input type="checkbox"/> N <input type="checkbox"/>	
5	Boulcott St	Bridge	Over M'way	City	Y <input type="checkbox"/> N <input type="checkbox"/>	
6	Everton Tce	Bridge	Over M'way	Kelburn	Y <input type="checkbox"/> N <input type="checkbox"/>	
7	Clifton Tce	Bridge	M'way On-ramp	Kelburn	Y <input type="checkbox"/> N <input type="checkbox"/>	
8	Motorway	Bridge	Off-ramp at James Cook Hotel	Kelburn	Y <input type="checkbox"/> N <input type="checkbox"/>	
9	Aurora Tce	Bridge	Over M'way	Kelburn	Y <input type="checkbox"/> N <input type="checkbox"/>	
10	Bolton St	Bridge	Over M'way	Kelburn	Y <input type="checkbox"/> N <input type="checkbox"/>	
11	Hill Street	Bridge	Pedestrian over motorway	City	Y <input type="checkbox"/> N <input type="checkbox"/>	
12	Motorway	Bridge	Over Bowen St	Thorndon	Y <input type="checkbox"/> N <input type="checkbox"/>	
13	Motorway	Bridge	Off-ramp to Tinakori Rd over Bowen St	Thorndon	Y <input type="checkbox"/> N <input type="checkbox"/>	
14	Hill St	Bridge	Over M'way	Thorndon	Y <input type="checkbox"/> N <input type="checkbox"/>	
15	Hawkestone St	Bridge	Over M'way	Thorndon	Y <input type="checkbox"/> N <input type="checkbox"/>	

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16	May St	Bridge	M'way on ramp from Molesworth St	Thorndon	Y <input type="checkbox"/> N <input type="checkbox"/>
17	Molesworth St	Bridge	Over M'way at Murphy St	Thorndon	Y <input type="checkbox"/> N <input type="checkbox"/>
18	Hobson St	Bridge	Over M'way	Thorndon	Y <input type="checkbox"/> N <input type="checkbox"/>
19	Motorway	Bridge	M'way over Thorndon Quay	Thorndon	Y <input type="checkbox"/> N <input type="checkbox"/>
20	Motorway	Bridge	Over R'way yards	Thorndon	Y <input type="checkbox"/> N <input type="checkbox"/>
21	Motorway	Bridge	Aotea Quay M'way Off-ramp	Ngauranga	Y <input type="checkbox"/> N <input type="checkbox"/>
22	Motorway	Bridge	Over Aotea Quay	Thorndon	Y <input type="checkbox"/> N <input type="checkbox"/>
23	Aotea Quay	Bridge	Onto Hutt Road	Thorndon	Y <input type="checkbox"/> N <input type="checkbox"/>
24	Motorway	Bridge	Aotea Quay M'way On-ramp	Ngauranga	Y <input type="checkbox"/> N <input type="checkbox"/>
25	Hutt Road	Bridge	Rail bridge over Hutt Road	Kaiwharawhara	Y <input type="checkbox"/> N <input type="checkbox"/>
26	Motorway	Bridge	Over Hutt R'way line	Kaiwharawhara	Y <input type="checkbox"/> N <input type="checkbox"/>
27	Motorway	Bridge	Ngauranga off-ramp underpass from Hutt Valley	Ngauranga	Y <input type="checkbox"/> N <input type="checkbox"/>
28	Motorway Nth bound	Bridge	Over Nth bound Hutt Rd On-ramp	Ngauranga	Y <input type="checkbox"/> N <input type="checkbox"/>
29	Motorway Sth bound	Bridge	Over Nth bound Hutt Rd On-ramp	Ngauranga	Y <input type="checkbox"/> N <input type="checkbox"/>
NGAURANGA - GRENADA					

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30	Motorway	Bridge	M'way over Malvern/Glover access road	Ngauranga	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
31	Motorway	Bridge	R'way over M'way at bottom of Gorge	Ngauranga	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
32	Motorway	Bridge	Over M'way	Newlands	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
33	Motorway	Bridge	Under-pass On-ramp Sth of J'ville	Johnsonville	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
34	Helston Rd	Bridge	Road over M'way On- & Off-ramps	Johnsonville	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
35	Helston Rd	Bridge	Road over M'way	Johnsonville	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
36	Motorway	Bridge	Over J'ville Off-ramp	Johnsonville	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
37	Westchester Dr	Bridge	Over M'way at Grenada Landfill	Grenada Sth	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
OTHER						
Details of Infrastructure				Significant Damage²		Notes
38a	Wellington Wharf	Wharf	From the ferry terminal to overseas terminal	Overseas terminal	Y <input type="checkbox"/> N <input type="checkbox"/>	
38b	Wellington Wharf	Wharf	From the ferry terminal to overseas terminal	Ferry terminal	Y <input type="checkbox"/> N <input type="checkbox"/>	
39	Westpac Stadium	Stadium	Aotea Quay	City	Y <input type="checkbox"/> N <input type="checkbox"/>	

² 'Significant damage' identifies whether the level of damage observed from the air is likely to impact on the operational capabilities of the site. All of these sites will require further ground assessments to determine the *actual* level of operation.

WELLINGTON REGION CDEM GROUP RECONNAISSANCE PLAN

40	Wellington Hospital	Hospital	Riddiford Rd	Newtown	Y <input type="checkbox"/>	N <input type="checkbox"/>
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Sweep Two: Porirua and Kapiti Coast

**WELLINGTON REGION CIVIL DEFENCE EMERGENCY MANAGEMENT GROUP
RECONNAISSANCE REPORT – SWEEP TWO: PORIRUA/KAPITI COAST**

Event	Maps completed by
Date	Agency/Company
Time	Contact Details
Author	
EOC	
Contact Details	Log number

Priority Areas For Ground Reconnaissance/ Impact Assessment and Restoration:

Ground Reconnaissance/ Impact Assessment:

Details of Infrastructure		Useable ³	Notes
GRENADA – PORIRUA			
1	Motorway	Bridge	Over Takapu Rd under-pass
			Tawa
		Y <input type="checkbox"/>	N <input type="checkbox"/>
2	Motorway	Bridge	Over Collins Ave
			Tawa
		Y <input type="checkbox"/>	N <input type="checkbox"/>
PORIRUA – PAREMATA			
3	Motorway	Bridge	Overbridge , on/off ramps - Southern
			Porirua
		Y <input type="checkbox"/>	N <input type="checkbox"/>

³ 'Useable' indicates that it is *likely* to be useable for at least limited functions. e.g For roads, 4WD access may be possible. All of these sites will require further ground assessments to determine the *actual* level of operation.

4	Motorway	Bridge	Overbridge , on/off ramps - Northern	Porirua	Y <input type="checkbox"/> N <input type="checkbox"/>	Y <input type="checkbox"/> N <input type="checkbox"/>
5	Motorway	Bridge	On/off ramps - Porirua City Centre/Titahi Bay	Porirua	Y <input type="checkbox"/> N <input type="checkbox"/>	Y <input type="checkbox"/> N <input type="checkbox"/>
6	Motorway	Bridge	Pedestrian over M'way south of Paremata School	Porirua	Y <input type="checkbox"/> N <input type="checkbox"/>	Y <input type="checkbox"/> N <input type="checkbox"/>
7	Motorway	Bridge	Pedestrian over M'way north of Paremata School	Porirua	Y <input type="checkbox"/> N <input type="checkbox"/>	Y <input type="checkbox"/> N <input type="checkbox"/>
PAREMATA – PLIMMERTON						
8	State Highway	Bridge	Paremata rail bridge	Paremata	Y <input type="checkbox"/> N <input type="checkbox"/>	Y <input type="checkbox"/> N <input type="checkbox"/>
9	State Highway	Bridge	Paremata road bridge	Paremata	Y <input type="checkbox"/> N <input type="checkbox"/>	Y <input type="checkbox"/> N <input type="checkbox"/>
PLIMMERTON – PUKERUA BAY						
10	State Highway	Bridge	Pedestrian walkway over SH	Plimmerton	Y <input type="checkbox"/> N <input type="checkbox"/>	Y <input type="checkbox"/> N <input type="checkbox"/>
11	State Highway	Bridge	Over R'way north Gray Rd	Pukerua Bay	Y <input type="checkbox"/> N <input type="checkbox"/>	Y <input type="checkbox"/> N <input type="checkbox"/>
12	State Highway	Bridge	Pedestrian over State Highway	Pukerua Bay	Y <input type="checkbox"/> N <input type="checkbox"/>	Y <input type="checkbox"/> N <input type="checkbox"/>
PUKERUA BAY - PAEKAKARIKI						
13a	State Highway	Roads	Centennial Highway (Pukerua Bay)	Pukerua Bay	Y <input type="checkbox"/> N <input type="checkbox"/>	Y <input type="checkbox"/> N <input type="checkbox"/>
13b	State Highway	Roads	Centennial Highway (Paekakariki)	Pukerua Bay	Y <input type="checkbox"/> N <input type="checkbox"/>	Y <input type="checkbox"/> N <input type="checkbox"/>
PAEKAKARIKI – PARAPARAUMU						

14	State Highway	Bridge	Over R'way	Paekakariki	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
15	State Highway	Bridge	McKay Crossing overbridge	McKays Crossing	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
PARAPARAUMU – WAIKANAЕ						
16	State Highway	Bridge	Amohia street	Paraparaumu	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
WAIKANAЕ – OTAKI						
17	State Highway	Bridge	Rail overbridge	Waikanae	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
18	State Highway	Bridge	Waikanae River bridge	Waikanae	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
19	State Highway	Bridge	R'way bridge over Waikanae River	Waikanae	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
OTAKI (NORTH)						
20	State Highway	Bridge	Otaki river bridge	Otaki	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
21	State Highway	Bridge	R'way bridge over Otaki River	Otaki	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
22	State Highway	Bridge	Bridge over rail line by Otaki Scenic Reserve	Otaki	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
23	State Highway	Bridge	Waitohu river bridge north of Otaki	Otaki	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
24	State Highway	Bridge	R'way bridge over Waitohu River	Otaki	Y <input type="checkbox"/> N <input type="checkbox"/>	N <input type="checkbox"/>
ADDITIONAL AREAS (Not on Maps)						

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25	Manawatu Gorge	Y <input type="checkbox"/> N <input type="checkbox"/>	
26	Whirokino Tressel (south of Foxton)	Y <input type="checkbox"/> N <input type="checkbox"/>	
27	Manawatu River Bridge	Y <input type="checkbox"/> N <input type="checkbox"/>	

Sweep Three: Hutt Valley

**WELLINGTON REGION CIVIL DEFENCE EMERGENCY MANAGEMENT GROUP
RECONNAISSANCE REPORT –SWEEP THREE: HUTT VALLEY**

Event	Maps completed by
Date	Agency/Company
Time	Contact Details
Author	
EOC	
Contact Details	Log number

Priority Areas For Ground Reconnaissance/ Impact Assessment and Restoration:

Ground Reconnaissance/ Impact Assessment:

Details of Infrastructure		Useable ⁴	Notes
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NGAURANGA – PETONE

1a	State Highway	Roads	State Highway (Ngauranga)	Wellington	Y <input type="checkbox"/> N <input type="checkbox"/>
1b	State Highway	Roads	State Highway (Petone)	Wellington	Y <input type="checkbox"/> N <input type="checkbox"/>

PETONE – MANOR PARK

2	State Highway	Bridge	Petone overbridge	Petone	Y <input type="checkbox"/> N <input type="checkbox"/>
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⁴ 'Useable' indicates that it is *likely* to be useable for at least limited functions. e.g For roads, 4WD access may be possible. All of these sites will require further ground assessments to determine the *actual* level of operation.

3	State Highway	Bridge	Pedestrian Bridge by Petone R'way station	Petone	Y <input type="checkbox"/> N <input type="checkbox"/>
4	State Highway	Bridge	Normandale Overbridge	Normandale	Y <input type="checkbox"/> N <input type="checkbox"/>
5	State Highway	Bridge	Melling Bridge	Lower Hutt	Y <input type="checkbox"/> N <input type="checkbox"/>
6	State Highway	Bridge	Kennedy Good Bridge	Lower Hutt	Y <input type="checkbox"/> N <input type="checkbox"/>
7	State Highway	Bridge	Pedestrian Bridge over State Highway (Hebden Crescent)	Kelston	Y <input type="checkbox"/> N <input type="checkbox"/>
MANOR PARK – UPPER HUTT					
16	State Highway	Bridge	Silverstream Bridge	Silverstream	Y <input type="checkbox"/> N <input type="checkbox"/>
17	State Highway	Bridge	Moonshine Bridge	Moonshine	Y <input type="checkbox"/> N <input type="checkbox"/>
UPPER HUTT – PUKURATAHI					
18	State Highway	Bridge	Totara Park Bridge	Totara Park	Y <input type="checkbox"/> N <input type="checkbox"/>
19a	State Highway	Roads	Te Marua to Pukuratahi (Te Marua)	Upper Hutt	Y <input type="checkbox"/> N <input type="checkbox"/>
19b	State Highway	Roads	Te Marua to Pukuratahi (Pukuratahi)	Upper Hutt	Y <input type="checkbox"/> N <input type="checkbox"/>
PUKURATAHI – FEATHERSTON					
21a	State Highway	Roads	Pukuratahi to Featherston (Pukuratahi)	Rimutaka Hill Rd	Y <input type="checkbox"/> N <input type="checkbox"/>
21b	State Highway	Roads	Pukuratahi to Featherston (Featherston)	Rimutaka Hill Rd	Y <input type="checkbox"/> N <input type="checkbox"/>

OTHER INFRASTRUCTURE

Details of Infrastructure			Useable		Notes
Main Road	Bridge	R'way bridge	Y <input type="checkbox"/>	N <input type="checkbox"/>	
11	Bridge	R'way bridge	Y <input type="checkbox"/>	N <input type="checkbox"/>	
12	Bridge	Over Hutt River - Railway Ave	Y <input type="checkbox"/>	N <input type="checkbox"/>	
10	Bridge	Bridge over Hutt River - Waione Street	Y <input type="checkbox"/>	N <input type="checkbox"/>	
Details of Infrastructure			Significant Damage ⁵		Notes
Infrastructure			Y <input type="checkbox"/>	N <input type="checkbox"/>	
8	Petrol Plant	Fuel tank farm in Seaview	Y <input type="checkbox"/>	N <input type="checkbox"/>	
9	Sewage	Sewage treatment plant	Y <input type="checkbox"/>	N <input type="checkbox"/>	
14	Sewage	Sewage holding plant	Y <input type="checkbox"/>	N <input type="checkbox"/>	
20	Water	Bulk water supply Lakes	Y <input type="checkbox"/>	N <input type="checkbox"/>	

⁵ 'Significant damage' identifies whether the level of damage observed from the air is likely to impact on the operational capabilities of the site. All of these sites will require further ground assessments to determine the *actual* level of operation.

Sweep Four: Wairarapa

**WELLINGTON REGION CIVIL DEFENCE EMERGENCY MANAGEMENT GROUP
RECONNAISSANCE REPORT – SWEEP FOUR: WAIRARAPA**

Event	Maps completed by
Date	Agency/Company
Time	Contact Details
Author	
EOC	
Contact Details	Log number

Priority Areas For Ground Reconnaissance/ Impact Assessment and Restoration:
Ground Reconnaissance/ Impact Assessment:

Details of Infrastructure		Useable ⁶	Notes
FEATHERSTON – MARTINBOROUGH			
1	State Highway Bridge Donalds Bridge	Y <input type="checkbox"/> N <input type="checkbox"/>	Featherston - Martinborough
2	State Highway Bridge Tauherenikau Bridge	Y <input type="checkbox"/> N <input type="checkbox"/>	Featherston - Martinborough
3	State Highway Bridge Stonestead Creek Bridge	Y <input type="checkbox"/> N <input type="checkbox"/>	Featherston - Martinborough
4	State Highway Bridge Jenkins Dip Floodway	Y <input type="checkbox"/> N <input type="checkbox"/>	Featherston - Martinborough

⁶ 'Useable' indicates that it is *likely* to be useable for at least limited functions. e.g For roads, 4WD access may be possible. All of these sites will require further ground assessments to determine the *actual* level of operation.

5	State Highway	Bridge	Waihenga Bridge	Featherston - Martinborough	Y <input type="checkbox"/> N <input type="checkbox"/>
FEATHERSTON – GREYTOWN					
6	State Highway	Bridge	Donalds Bridge	Featherston - Greytown	Y <input type="checkbox"/> N <input type="checkbox"/>
7	State Highway	Bridge	Tauherenikau Bridge	Featherston - Greytown	Y <input type="checkbox"/> N <input type="checkbox"/>
GREYTOWN – CARTERTON					
8	State Highway	Bridge	Waiohine Bridge	Greytown - Carterton	Y <input type="checkbox"/> N <input type="checkbox"/>
9	State Highway	Bridge	Beef Creek Bridge	Greytown - Carterton	Y <input type="checkbox"/> N <input type="checkbox"/>
10	State Highway	Bridge	Mangatarere Bridge	Greytown - Carterton	Y <input type="checkbox"/> N <input type="checkbox"/>
CARTERTON – MASTERTON					
11	State Highway	Bridge	Waingawa Bridge	Carterton - Masterton	Y <input type="checkbox"/> N <input type="checkbox"/>
12	State Highway	Bridge	Waipoua Bridge	Carterton - Masterton	Y <input type="checkbox"/> N <input type="checkbox"/>
MASTERTON – EKETAHUNA					
13	State Highway	Bridge	Opaki Overbridge	Masterton - Eketahuna	Y <input type="checkbox"/> N <input type="checkbox"/>
14	State Highway	Bridge	Ruamahanga Bridge	Masterton - Eketahuna	Y <input type="checkbox"/> N <input type="checkbox"/>



Appendix G: Example of marked-Up Aerial Map



Note: Map key overleaf.

AERIAL RECONNAISSANCE MAP KEY

Buildings/ Roads and Other Infrastructure:

	Damage unknown / requires further ground reconnaissance / may have limited use
	Significant damage / collapsed / not usable

Hazards:

L	Landslide
F	Flooding
D	Debris

Appendix H: Reconnaissance Capabilities of Other Agencies

Agency	Ground Reconnaissance	Interdependencies with other Lifelines	Aerial Reconnaissance	Agency Recon Centre	Report to GEOC	Resources from Agency
<u>Port</u>	Port facilities. Port berths.	Need road access to Seaview Wharf and Burnham Wharf.	None planned.	CentrePort HQ	Through Lifelines Co-ordinator at GEOC	Could provide launches for cross harbour access. Tugs for electricity generation. Can quickly sound harbour entrance with small boat depth sounders.
<u>Harbourmaster</u>	Harbour NavAids Debris Hazsub	None	None planned. Helicopter recon useful for hazsub and debris checks.	Offices and Beacon Hill Signal Station.	VHF to Beacon Hill, or directly to GEOC	4WD vehicles.
Greater Wellington <u>Bulk Water</u> - Treatment Plant at Te Marua - Hutt Acquirer - Orongorongo intake - bulk pipes	Staff located around region. Many 4WD utilities. Telemetry for monitoring performance and indicating breaks in pipes sections.	Electricity critical for pumping. Need road access for pipes recon.	None planned.	Mabey Road Depot	Depots have VHF ES41, will report to Lifeline Co-ordinator at GEOC	
<u>Transpower</u> - comms sites - overhead lines - major cables	Contractors to major substations in Takapau Rd, Wilton, Central Park, Haywards, Pauatahanui. Have 4WD vehicles.	Road access needed. Some comms nodes shared with BCL and Telecom sites. Water for cooling towers at Haywards.	Vital for recon and access to sites. Contractors regularly use helicopters.	National Centre to be at The Terrace. Regional Centre at Haywards.	Through Lifelines Co-ordinator at GEOC	

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Agency	Ground Reconnaissance	Interdependencies with other Lifelines	Aerial Reconnaissance	Agency Recon Centre	Report to GEOC	Resources from Agency
Wellington International Airport - local nav aids - runway - control buildings	Airport facility checked on ground. 4WD large fire appliances.	Generators in place with approx 3 hours fuel.	Needed for distant nav aids - CAA responsibility.	Airport Fire Base.	Directly to GEOC	Crash Boat for harbour access. Large 4WD fire appliances.
<u>GNS</u> - ground damage aerial recon - key remote sites if malfunctioning - portable equipment	Saturate area with portable seismograph equipment.	Need road access. Electricity for IT and comms.	Needed for overview of ground deformation and landslide hazards.	GNS Gracefield Base.	Directly to GEOC	GNS provides isoseismal map in 20 mins of quake. GNS observer can add value to aerial recon sweeps for major damage assessment.
<u>Transit NZ</u> - State Highways SH1, SH2, SH58 including bridges and overbridges	Contractors to State Highways.	Need road access to get to State Highways.	Needed for overview of road sections too dangerous / damaged to safely access by vehicle.	Transit NZ	VHF Radios, using Simplex if necessary. Will report to Lifeline Co-ordinator at GEOC	None Expect own contractors will be overcommitted. Roading projects may have extra external contractors plant on site.
<u>Toll NZ/Ontrack</u> - Main Trunk Rail coastal and Hutt valley	Contractors do rail and bridges recon.	Need road access. Have rail-use vehicles including light 4WD. Concern with multiple-committed contractors.	No plans for aerial recon.	Toll NZ/Ontrack	Will report to Lifeline Co-ordinator at GEOC	

WELLINGTON REGION CDEM GROUP RECONNAISSANCE PLAN

Agency	Ground Reconnaissance	Interdependencies with other Lifelines	Aerial Reconnaissance	Agency Recon Centre	Report to GEOC	Resources from Agency
Councils Roading - city / districts roads - bridges and culverts	Contractors or own staff do local roads recon. Some urban roads and many rural roads may not be usable	Need road access. Some 4WD vehicles.	WCC plans for aerial recon locally. Regional aerial recon planned.	Council Depots	Via TA EOC to Lifeline Coordinator at GEOC	

Appendix I: Group reconnaissance emergency communications

Agency	Location	Agency recon function	Emergency Communications
GEOC	Hoyt's Room, Level 4, Regional Council Centre, Wellington	Situation reports	ES41 (channel 4) ES150 (channel 8) ESX39 (channel 6)
Alternate GEOC	GWRC, 34 Chapel Street, Masterton	Situation reports	
Mobile GEOC	Mabey Road, Lower Hutt	Situation reports	
CAA	Wellington International Airport	Airspace clearance and control	Via Wellington International Airport (Fire)
Wellington International Airport (Fire)	Wellington International Airport	Status of Airport	ES41 (channel 4) ES150 (channel 8) ESX39 (channel 6)
Rescue Co-ordination Centre	Avalon, Lower Hutt	Support for aerial reconnaissance when required	Via Beacon Hill Harbourmaster
Regional Police (Police HQ)	Victoria St Station	Status of response facilities, USAR and hazardous substances	ES41 (channel 4) ES150 (channel 8) ESX39 (channel 6)
Regional Fire Service	Williston St, Wellington		
Capital and Coast Health DHB	Wellington Hospital Kenepuru Hospital	Status of hospitals	Wellington Hospital ES41 (channel 4) ES150 (channel 8) ESX39 (channel 6)
			Kenepuru Via Wellington Hospital
Hutt Valley Health DHB	Hutt Hospital	Status of Hospitals	ES41 (channel 4) ES150 (channel 8) ESX39 (channel 6)
Transit NZ	Transit NZ Wellington Regional office	Status of State Highways	Satellite phone 00881631450287 00881631450288
Fulton Hogan	MaGrath Avenue, Paraparaumu Airport	Nominated by Transit NZ as helicopter staff	N/A
	Marine Parade, Petone (main base)		Satellite phone 00881621461143
	Hirequip, basin Reserve (back up location)		Satellite phone 00881621461142
Beacon Hill Harbourmaster	Beacon Hill	Status of harbour	ES41 (channel 4) ES150 (channel 8) Maritime Radio
GNS	Fairway Drive, Avalon, Lower Hutt	Defining threat area	Satellite phone 00881631435251 00881631443412
Local EOCs	Wellington City Lower Hutt City Upper Hutt City Porirua City Kapiti Coast DC Wairarapa	Situation reports for local reconnaissance	ES41 (channel 4) ES150 (channel 8) ESX39 (channel 6)
MCDEM	NCCM	Support	Satellite phone 00881621465606

