



post-earthquake recovery

demolition and associated waste management guidelines for home/building owners

April 2017



Foreword

A magnitude 7.8 earthquake on 14 November 2016 caused extensive damage to land and properties in Kaikōura and Hurunui districts.

It is estimated 11,000 tonnes of earthquake waste will be produced as a result, which is equivalent to almost six years' of municipal waste from Hurunui district. In Kaikōura, it is estimated about 8000 tonnes of material will be produced – equating to about eight years' of waste for Kaikōura.

It is vital both councils adequately monitor and deal with waste disposal to provide reassurance for the community that inappropriate waste disposal will not be a legacy of the November 2016 earthquake.

The Kaikōura District Council is working closely with Innovative Waste Kaikōura and has agreed to the following vision: *To deconstruct and reuse as much material as possible.* In doing this, material will be diverted from the landfill and will create work for the community in the process.

The Hurunui District Council's vision is: *To facilitate safe, efficient and cost-effective management and, where appropriate, minimisation, of waste streams from the 14 November 2016 earthquake to protect our communities and environment.*

The following guidelines have been put together by Kaikōura District Council, Hurunui District Council, Environment Canterbury, WorkSafe NZ, Rekindle and Innovative Waste Kaikōura to assist the local Councils and communities in controlling earthquake waste disposal using best practice guidelines, as well as lessons learnt from the Christchurch earthquakes.

These guidelines are intended to provide you with information to help you through the demolition process, including what information you need to create a demolition methodology, what asbestos is and the best way to deal with hazardous substances.

Both Kaikōura District Council and Hurunui District Council are working closely with WorkSafe NZ to manage health and safety during demolition, refurbishment and waste recovery works as a result of the north Canterbury earthquake.

Demolition – What you, as the homeowner, need to be aware of

Before a demolition takes place, a lot of information needs to be obtained from various sources to help put together the demolition plan. The demolition methodology will ultimately outline the demolition process and surrounding works.

If you are unsure whether you need any of the reports listed below, please contact your local Council and they will point you in the right direction.

If you are using a contractor, or project manager, that person will likely take care of these matters on your behalf.

Key information you may need to complete a demolition methodology:

A Structural Engineer Report

A structural engineer report may be required in the following scenarios (amongst others);

- Your property was red stickered
- You're dealing with a multi-story building
- You intend to deconstruct the building by hand

This report will indicate any potential hazards and associated risks with the deconstruction/demolition of the building, along with any hazards associated with the removal of structural retaining walls. The structural engineer report will outline one of the following three scenarios;

- It is safe to enter
- Entry can occur providing conditions are met as outlined in the report
- No entry is allowed

A Geotechnical Engineer Report

A geotechnical engineer report will indicate if you have any issues with land subsidence, mass movement, cliff collapse and/or boulder roll. There may be some other issues that could be included also. This report will outline the hazard and risk associated with the property (rather than the building), and will indicate any access restrictions to the land from a health and safety perspective. The geotechnical engineer report will outline one of the following three scenarios;

- It is safe to enter the property/house
- Entry can occur providing conditions are met as outlined in the report
- No entry is allowed

In this situation, it is recommended that a chartered professional engineer or someone registered with the Institute of Professional Engineers New Zealand (IPENZ) is engaged.

Assess your property for hazardous materials

An assessment of building materials should be undertaken to protect human health and prevent contamination of the environment during the demolition process. Hazardous materials are often found in a building fabric and could include; lead based paint, asbestos (see below) and treated timber. All require appropriate disposal.

Asbestos Survey

If access to your property is available, an asbestos survey involves taking samples of any potential asbestos-containing materials away for testing. A report will then be created which will clearly outline if, and what, asbestos needs to be removed.

A licensed asbestos removal contractor will need to be used if asbestos is required to be removed (For more information on asbestos turn to page 8 of this document).

Asbestos Removal Plan (ARP)

An ARP will be required if you can't access your property. An ARP will outline the process in which the demolition will be undertaken to mitigate any potential environmental and human health risks. If a dirty demo (where asbestos has not been removed prior to demolition – this means all material is treated as contaminated) is required it is considered an emergency demolition by WorkSafe NZ, and they must be notified.

Statement from the New Zealand Historic Places Trust (NZHPT) and statement from local Rūnanga

This statement will outline if NZHPT and/or Rūnanga have any interests in the site. Please note; NZHPT and Rūnanga interests will not necessarily be outlined in your properties Land Information Memorandum (LIM).

Confirmation that the site is not currently on the Listed Land use Register (LLUR) or Hazardous Activities and Industries List (HAIL)

This will indicate if the soil itself is known to be, or could be, contaminated.

Other items required for a complete methodology

There are a number of other items needing to be included in the demolition plan which will ultimately outline how the demolition will be undertaken. These items include:

- A step by step process of how the demolition will be undertaken including the machinery type and capability to undertake the demolition along with the experience of operators/labourers.
- A Site Specific Safety Plan (SSSP).
- Contractor insurance details (this may be covered off in the contract).
- Any required protection measures for adjoining sites.
- A Waste Management Plan, including pathways and receiving environments.
- A Traffic Management Plan.
- How environmental risks will be mitigated including:
 - Dust
 - Sediment and erosion control
 - Noise
 - Vibration
 - Proposed duration of project, considering seasonal influences

Items to consider pre-demolition

- Disconnecting the power.
- Services disconnections (plus maps and photos for reconnection) e.g. water supply.
- If there are any protected trees on the site (check with your local council if unsure).
- Safe removal of any hazardous materials from the site – Please refer to the Hazardous Materials Plan for further information on hazmat removal options and potential funding available.
- You should expect to be invited to attend a pre site start up meeting to go over all of the information and contract details to ensure you, and your contractor or project manager, have a clear understanding of the scope of works.

PREFERRED CONTRACTORS (Kaikōura)

AJ Broughan	ajbroughan@xtra.co.nz	021 336 691
Bruce Ensor Builders	ensorbuilders@xtra.co.nz	027 531 9566
Couga Construction	andrewcogs@hotmail.com	027 675 0842
Chris Cuff Building	cuff.family@hotmail.com	027 717 8667
Craig Guthrie Building	Guthriec@hotmail.co.nz	027 815 2362
DMS Building	dmsfactory@ymail.com	021 982 493
Innovative Waste Kaikoura Ltd	iwk@innovativewaste.org	027 460 0255
John Mcinnes Building	deerbrooke@xtra.co.nz	027 203 1833
Jason Jellyman Building	gulleford@xtra.co.nz	027 380 1787
James Baker Carpentry	dubdubhusky@yahoo.co.nz	021 029 83947
LMC Construction	lmcbuilding@hotmail.com	021 968 596
Logic Construction	logicconstructionltd@gmail.com	027 6844 230
Marty Pattison Building	kkpattison@xtra.co.nz	027 712 7211
Matt Feary Builders	fearys@xtra.co.nz	021 590 795
PT Wilson Building	paulandbeck@xtra.co.nz	027 201 8455
Phil Smith Builder	philkaiks@hotmail.com	022 125 3080
Peter Donne Building	peterdonne@hotmail.co.nz	027 2168 857
Richard Addis Builder	raddisbuilding@gmail.com	021 205 9668
Seaview Homes Ltd	seaviewhomes@xtra.co.nz	021 615 495
Shaun Ford Building	shaunford@xtra.co.nz	021 646 608
Sigglekow Builders	iflyby@amuri.net	03 3195 147
Tom Guthrie Building	deetom@xtra.co.nz	027 481 0942
Tulley Builders	tulley@xtra.co.nz	027 220 3377
2S Developments	2sdevelopments@gmail.com	027 344 7607
Jake Waghorn	jake@waghornbuilders.co.nz	0800 WAGHORN

HAZARDOUS SUBSTANCES

Hazardous substances pose a number of human health and environmental risks if not managed correctly. The removal and appropriate disposal of hazardous substances will enable a safe deconstruction/demolition process and protect the environment from pollution. Hazardous substances that may be present in the household include but are not limited to; cleaning products, paints, garden fertilisers and pesticides, pool chemicals, fuels such as LPG, oils, petrol or diesel.

Safe handling and transport of incompatible products is really important, read the label and if unsure check with your district council about appropriate disposal. Only appropriately licensed operators should be appointed for the removal and disposal of hazardous substances. There may be funding available for appropriate collection and disposal – please contact your district council to confirm this.

For rural properties, Agricultural chemicals may pose an additional risk, for more information on handling agricultural chemicals see the Saferfarms website (saferfarms.org.nz), or contact your Regional Council for advice on disposal.

ASBESTOS

The term asbestos relates to several fibrous minerals regulated under New Zealand law that are known to cause serious health effects when inhaled. Once thought to be safe, asbestos containing materials were widely used in several industries, including construction, as a durable, fireproof and cost-effective material.

Asbestos – where is it most commonly found in homes?

In New Zealand houses, asbestos materials are most commonly found in:

- moulded materials, especially asbestos cement products such as wall and roof claddings (including the corrugated 'Super Six'), gutters and downpipes
- decorative and/or textured internal coatings on ceilings
- fire and thermal insulation
- backing to electrical boards
- backings to vinyl sheet floor coverings
- vinyl tiles
- outbuildings, shed laundry garage
- fences garden edging retaining walls
- under; driveways, paths, garage floors from historic renovations old informal rubbish dumps
- soil beneath asbestos roof if guttering and or downpipes are missing.

Asbestos containing materials may also be found, although much less frequently, in:

- insulation in older types of heating appliances, or lagging around pipes

- the woven sheath wrapped around old rubber insulated wiring
- textured external coatings
- plastic products, caulking and other composites
- built-up roofing felts
- laminated products

Testing for asbestos

The only way to be certain if your home contains asbestos is to have suspect materials tested in an accredited laboratory. Do not attempt to obtain a sample without talking to the laboratory first.

See the next page for a list of laboratories you can contact to test suspected asbestos containing materials:

Company Name	Email	Phone	Qualified to take samples for	Accredited testing and	Qualified to undertake soil
Capital Environmental Services	fibres@ihug.co.nz	04 566 3311		*	
CRL Energy Ltd	m.young@crl.co.nz	03 341 2120 027 471 3165		*	
Dowdell and Associates	nfo@dowdellassociates.co.nz	09 526 0246		*	
Environmental & Industrial Analysis Group	jessica@eiag.co.nz	033774314	*	*	*
Hill Laboratories	barbara.muller@hill-labs.co.nz	03 377 7176		*	*
K2 Environmental	info@k2.co.nz	03 384 8966	*	*	
Precise Consulting	admin@preciseconsulting.co.nz	03 943 5394	*	*	*
AANZ Canterbury	wayne.larmour@aanzcanterbury.kiwi.nz	027430 6716	*		
Agility Asbestos Remediation Solutions	sales@agbs.co.nz	03 389 2219	*		
Chem Safety	paul@chemsafety.co.nz	03 366 3700	*	*	*
ENGEO	goddy@engeo.co.nz	03 328 9012	*		*
International Construction Partners NZ Ltd	admin@icp-usa.com	03 967 1500	*		
Sephira Environmental Limited	brett@sephira.nz	03 967 9523	*		*
TriEx Health, Safety & Wellness Ltd	enquiries@triex.co.nz	03 343 2997	*		
Wheelers Ltd -	info@wheelersltd.co.nz	0508 66 77 101 03 940 7180	*		
WorkSafe Canterbury		022 099 6764	*		

CONTAMINATED LAND

Land subject to post-earthquake recovery work may be contaminated or potentially contaminated due to activities or land uses where persistent hazardous substances have been or are stored, used or disposed. The Ministry for the Environment maintains the [Hazardous Activities and Industries List](#) (HAIL) which shows activities and land uses which could cause land (including groundwater or surface water) contamination.

Contaminants of concern which may be encountered during post-earthquake recovery work include but are not limited to asbestos, heavy metals (e.g., arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc, etc.), petroleum hydrocarbons (e.g. diesel), volatile organic compounds (e.g. solvents, light fuel oils), polychlorinated biphenyls (PCBs), miscellaneous persistent organochlorine (e.g. DDT, DDD, dieldrin), organonitrogen, and organophosphate - based pesticides, herbicides and fungicides.

Adverse effects to human health may occur if exposure to unacceptable levels of contamination occurs via **inhalation** (nose/mouth), **ingestion** (mouth, including smoking) and/or **dermal** (through the skin) contact. Human health effects may be immediate or occur over the long-term, depending on the nature of the contaminant(s) and the mode of exposure.

Adverse effects to ecological receptors (i.e., groundwater, surface water, air, and the coastal marine environment) may occur due to leaching or migration of contaminants from a contamination source to a sensitive receiving environment. Contamination leaching or migration can occur due to contaminant discharges into air, onto or into land, and into groundwater and surface water. Ecological impacts can result in the reduced cultural, recreational, social and environmental value an affected area holds.

Pre-work HAIL Status Checks

Information about known HAIL activities is typically held by the district council and Environment Canterbury, but it should not be assumed that the information is complete or that information held by the district council is the same as information held by Environment Canterbury (and vice versa).

What you need to do:

- Check the Ministry for the Environment's Hazardous Activities and Industries List for the HAIL status of a site prior to starting work.
- If someone else is acting as your project manager then they may inform you of this status.

Resources:

- Environment Canterbury's Listed Land Use Register (LLUR) <http://llur.ecan.govt.nz/Public/>
- District council records
- Environment Canterbury's Contaminated Sites specialists via Customer Service at ecinfo@ecan.govt.nz or (03) 353 9007 and via contaminated.land@ecan.govt.nz

CONTAMINATED LAND CONTRACTORS

The Resources Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (the NES) establishes a requirement that preliminary and detailed site investigations be performed under the direction of and certified by a “suitably qualified and experienced practitioner”. The consulting companies listed below have indicated to Environment Canterbury that they are qualified to perform such work under the NES.

Company Name	Address	Telephone	Website
AECOM	Level 2 2 Hazeldean Road, Addington, Christchurch 8024	03 966 6000	www.aecom.com
Andrew Stewart	Unit 1.04, 28 Waterloo Quay, Wellington	04 894 3965	www.andrewstewart.com
Aurecon	Unit 1, 150 Cavendish Road, Casebrook, Christchurch 8051	03 366 0821	www.aurecongroup.com
Beca	410 Colombo Street, Sydenham, Christchurch 8023	03 366 3521	www.eca.com
Cardno (NZ) Limited	155 Blenheim Road, Riccarton, Christchurch 8041	03 366 5428	www.cardno.com
Coffey	131 Wrights Road, Addington, Christchurch 8140	03 374 9600	www.coffey.com
Contract Environmental Ltd.	119 Johnson Road, West Melton, Christchurch	03 347 6449	www.cenv.co.nz
Davis Ogilvie	11 Deans Avenue, Addington, Christchurch	03 366 1653	www.do.co.nz
Eliot Sinclair & Partners Ltd.	20 Troup Drive, PO Box 9339, Tower Junction, Christchurch 8149	03 379 4014	www.eliotsinclair.co.nz
Engineering Design Consultants	PO Box 7534, Sydenham, Christchurch 8240	03 355 5559	www.edc.co.nz
ERM New Zealand Ltd	CES Bldg., 89 Nazareth Avenue, Middleton, Christchurch 8140	03 338 4469	www.erm.com
Fraser Thomas	121 Roydvale Road, Burnside, Christchurch	03 358 5936	www.fraserthomas.co.nz
Geohazard Environmental	PO Box 7053, Rotorua 3042	022 436 4292	www.geohazard.co.nz
Geoscience Consulting (NZ) Ltd.	124 Montreal Street, Christchurch 8023	03 328 9012	www.nzgeoscience.co.nz
GHD	GHD House, 226 Antigua Street, Christchurch 8011	03 378 0985	www.ghd.com
Golder Associates (NZ) Limited	Level 1, 214 Durham Street, Christchurch 8011	03 377 5696	www.golder.com
Jacobs-Sinclair Knight Merz (SKM)	142 Sherborne Street, St. Albans, Christchurch	03 940 4900	www.globalskm.com
Lowe Environmental Impact Ltd.	1/8 Mayfair Street, Riccarton, Christchurch 8011	03 359 3059	www.lei.co.nz
Opus International Consultants Ltd.	20 Moorhouse Avenue, Christchurch 8011	03 363 5400	www.opus.co.nz
Pattle Delamore Partners Ltd.	295 Blenheim Road, Upper Riccarton, Christchurch 8041	03 345 7100	www.pdp.co.nz
Riley Consultants Ltd	395 Madras Street, Christchurch 8140	03 378 3523	www.riley.co.nz
Precise Consulting & Laboratory¹	4/126 Bishop Street, Christchurch 8014	03 943 5394	www.preciseconsulting.co.nz
Separate Phase Ltd	145 Fisher Avenue, Beckenham, Christchurch 8023	021 555 975	www.separatephase.com
Sephira Environmental Limited	4a Roche Avenue, Upper Riccarton, Christchurch 8041	03 967 9523	www.sephiraenvironmental.co.nz
Tasman Environmental Management Ltd.	314 Riccarton Road, Upper Riccarton, Christchurch	027 277 3566	
Tonkin & Taylor Ltd	33 Parkhouse Road, Wigram, Christchurch	03 363 2440	www.tonkin.co.nz
URS	273 Cashel Street, Christchurch 8810	03 943 0407	www.urscorp.co.nz

¹Asbestos only

RESOURCE CONSENTS

Activities associated with earthquake recovery, demolition and waste management have the potential to affect the environment and human health. These are managed under various pieces of legislation which are administered nationally, or by regional or district councils. In relation to waste management, the district plans regulate activities related to land use, building, and construction, and regional plans regulate the effects of activities on the environment.

Some activities may be permitted and work can occur without authorisation from the district or regional council. Other activities may require a resource consent to authorise what you are doing on your site. Some aspects of demolition and waste management are the responsibility of private landowners, other aspects are dealt with by the district council and covered by authorisations held by them (e.g., the disposal of material at District Council managed landfills).

For guidance on whether you need to apply for a consent, or for general queries on rules and regulations then please contact the relevant Customer Services team:

Environment Canterbury:

- Phone: 0800 324 636
- Email: ecinfo@ecan.govt.nz

Kaikōura District Council:

- Phone: 03 319 5026
- Email: kdc@kaikoura.govt.nz

Hurunui District Council:

- Phone: 03 314 8816
- Email: planning@hurunui.govt.nz

NOTES

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