

Best Practice Guideline

Landfill Disposal of Contaminated Material

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Document Information

Version History

Date	Version	Author	Description of changes
Dec 2015	1.0	T. Ashcroft	Note: Interim (draft) version released due to the urgent need of guidelines being made available to partners over the holiday period.
June 2016	2.0	T. Ashcroft	Added the following sections (1) introduction (2) risk assessment (3) considerations and the addition of two approved landfills. Document control added.
September 2016	2.1	T. Ashcroft	Minor wording changes to Section 3.1 and grammar corrections.
November 2018	2.2	T. Ashcroft	Wording to reflect best practice instead of prescribed instructions. Transferred to new format. Incl. Redvale as an appropriate landfill.
August 2019	2.3	S.Mewara	Change of Hampton Downs primary contact as well as unloading time for Redvale.

Consultation and peer review

Role	Name	Date submitted
Planning & Intelligence	C. Green, T. Beauchamp, N. Waipara, W. Ngakuru, W. Ho.	May 2016
Operations	K. Brown	June 2016 & November 2018
Engagement & Behavioural Change	J. Harkness	September 2016

Approval

Name	Role	Signature / Date	Endorse
Rebecca Murrie Programme Manager	Approve /Note the contents of this document		Yes

Associated documents

Document name	Link
Hygiene Procedures for Kauri Dieback	https://www.kauridieback.co.nz/how-to-guides/
Land disturbance activities (incl. earthworks) around kauri	
Tree Removal and Pruning of Kauri	
Vehicles and Heavy Machinery	

Glossary

Terminology	Meaning
Kauri dieback	Name of the disease that causes dieback on kauri caused by the pathogen <i>Phytophthora agathidicida</i>
KDP	Kauri Dieback Programme
PA	<i>Phytophthora agathidicida</i>
Contaminated Material	Soil, organic matter and disposable items such as liners, bags or personal protection equipment.
Wash-down	Removal of soil and organic material using pressurised water and brushes.

Disclaimer

The information in this guideline is intended to be general information. It is not intended to take the place of, or to represent, the written law of New Zealand or other official guidelines or requirements. While every effort has been made to ensure the information in this document is accurate, the Kauri Dieback Programme (and any of their representatives involved in the drafting of these guidelines) does not accept any responsibility or liability for error of fact, omission, interpretation or opinion that may be present nor for the consequences of any decisions based on this information.

1.0 Purpose

- 1.1 The safe disposal of contaminated or suspect contaminated material is crucial in containing the spread of kauri dieback disease.
- 1.2 If material cannot be left in situ, then safe disposal of material off-site in a suitable landfill is recommended.

2.0 Background

- 2.1 Kauri dieback is a soil-borne disease that spreads primarily through the movement of contaminated soil. Just a pinhead of soil is all that is needed to spread the pathogen (that cause's kauri dieback), *Phytophthora agathidicida* (PA), to other areas.
- 2.2 Humans and their activities are the primary cause of spread through soil contaminated conveyances and infected plant material. It is therefore important that any potentially contaminated material is suitably disposed of to prevent the spread of kauri dieback to other areas.
- 2.3 These guidelines outline best practice measures when selecting a suitable disposal area for potentially disease contaminated material.

3.0 Assumptions & Constraints

It is recognised that the effectiveness of these guidelines may be constrained by the following factors:

- 3.1 The time from infection to when disease symptoms first occur is not known therefore trees may appear healthy but could be infected with PA.
- 3.2 PA can be spread by movement of contaminated soil, root, trunk, bark materials and associated by-products such as sawdust.
- 3.3 Vehicles and heavy equipment are vectors for disease dispersal.
- 3.4 The complete host range of PA has not been defined, therefore it is possible that PA is spread through the propagation and planting of other plant species.

4.0 Before you Begin

- 4.1 These guidelines have been developed to provide written advice on the safe disposal of potentially infected kauri material.
- 4.2 The guidelines are not policy but should be considered by planners, land managers and contractors when planning any operations.
- 4.3 Please contact your regional council or other land management agency to confirm any local policy or regulatory constraints. In particular check whether the area is currently under a Controlled Area Notice (Biosecurity Act, 1993).
- 4.4 The guide provides what is considered best practice based on the current information and uses risk management principles to reduce the likelihood of spread of PA during operations.
- 4.5 As kauri is treated as a taonga by tangata whenua, consultation with local mana whenua should be considered by land administrators prior to disposal.
- 4.6 The following Best Practice Guidelines should be read in conjunction with these guidelines, prior to undertaking any on-site operations:

Guidelines	Link
Hygiene Procedures	https://www.kauridieback.co.nz/how-to-guides/
Land disturbance activities (incl. earthworks) around kauri	
Tree Removal and Pruning of Kauri	
Vehicles and heavy machinery	

5.0 Landfill Assessment

- 5.1 There are a number of criteria that should be considered to determine the suitability of a landfill in the disposal of infected or suspect infected material. These are:

#	Criteria
1	Facility has the ability to deep bury the material by at least 2 metres depth upon arrival or as soon as practical and;

2	Facility has a wheel wash and wash-down facilities to remove soil and material contamination from the transport vehicle prior to exiting the landfill and/or;
3	If washing facilities are not available, then a suitable sealed truck bin liner that is robust enough to contain the material during loading and transportation of material to the landfill is installed and;
4	The landfill is lined with a non-permeable layer that prevents leachate groundwater containments from entering the environment and;
5	Any wastewater is suitably contained and;
6	The location of the landfill perimeter is located at least 20 metres from Kauri and waterways and;
7	The landfill is secure and has a security fence around the entire site.

- 5.2 If the landfill meets all or most of the criteria, then the likelihood of the disease spreading to other areas decreases. If it doesn't, then spread through accidental spillage during transportation, groundwater contamination or spread via contaminated vehicles increases.

6.0 Landfills

- 6.1 A number of landfills were assessed using the above criteria and landfills outlined in Appendix 1 were considered suitable for the disposal of material.
- 6.2 The list is not meant to be an official approval list of landfills, but act as a quick reference guide to assist planners, land managers and contractors when planning any operations. Final decision on the landfill selection should be made by the land authority agency with these guidelines being considered to support the decision making process.
- 6.3 It is also important to note that circumstances at a suitable landfill may change over time hence a landfill reassessment against the criteria is advised.

7.0 Operator Guidelines

7.1. Prior to transportation

- Relevant Best Practice Guidelines should be followed prior to transportation (section 4.6).

7.2 Transportation of material to the landfill

- Trucks transporting material must have sealed sides (or liners installed) to ensure all material being transported is appropriately contained and no leakage occurs.

- Soil for disposal shall be dampened with water prior to transportation and covered at all times during transportation.
- Trailers to be tip trailers.

7.3 Upon arrival at the landfill

- Contractors may be required to have a permit to dispose of material at the landfill.
- Contact with landfill management to access the site is advised as public may not be permitted entry.
- After disposal of soil contaminants, the trailer used to carry the soil and all wheels of the truck/trailer unit will be washed down with water using the wheel wash and wash down facilities at the site. It is expected the contractor will carry out wash down of the trailer unit.
- Refer to specific operational information for landfills listed in Appendix 1.

Appendix 1: Landfills assessed against the criteria

Region	Landfill	Address	Operator	Operational Information
Northland	Northland Regional Landfill	Puwera (8.5km south of Whangarei)	Northland Waste	<ol style="list-style-type: none"> 1. Permit Enquires: Mike Burr (Landfill Manager) mike@quay-contracting.co.nz or ph. 027 240 2309. 2. Contractors will help in washing down the truck/trailer using the portable wash down facility at the tip face. 3. Upon exiting the site, the contractor will drive the truck/trailer unit through the wheel wash prior to leaving the premise.
Auckland	Redvale	Landfill Access Road, Dairy Flat	Waste Management	<ol style="list-style-type: none"> 1. Wheel wash is available but not full wash down facilities. 2. Use of a sealable truck liner is advised prior to transportation. 3. Loads deposited before ca. 1.30pm will be buried 2 metres deep by end of the day.
Waikato	Ridge Road Quarry Managed Fill	Ridge Road, Bombay (3.5km on left after you take the Ridge Road off ramp on southern m/way)	Ridge Road Quarry	<ol style="list-style-type: none"> 1. Permit Enquires :Paul Livesey (Manager) ph. 021 767 950 or weighbridge ph. 021 434 736. 2. No wood, branches, leaves or other organic material is allowed at the landfill. Soil is allowed. 3. Contractors will help in washing down the truck/trailer after disposal and before exiting the site. 4. Upon exiting the site, the contractor will drive the truck/trailer unit through the wheel wash prior to leaving the premise.
Waikato	North Waikato Regional Landfill	136 Hampton Downs Road TeKauwhata	Envirowaste Services	<ol style="list-style-type: none"> 1. Permit Enquires: Wendy Hodge (Special Waste/Soils Manager- EnviroWaste) ph. 021 308 874; 09 622 8829. If Wendy is unavailable, Steven Ridgway (Landfill Engineer –EnviroWaste) ph. 029 493 9531; 07 826 0076.

				<ol style="list-style-type: none"> 2. All contractors will give 24 hour notice upon arrival at the site. Please contact Tony or Steven. 3. Contractors will wash down the truck/trailer unit using the wash down facilities after material has been disposed of. 4. Upon exiting the site, the contractor will drive the truck/trailer unit through the wheel wash prior to leaving the premise.
Coromandel	Tirohia Landfill	Quarry Road, Tirohia (off State Highway 26, 7km south of Paeroa).	H G Leach & Co. Ltd.	<ol style="list-style-type: none"> 1. Permit Enquires: Gary Deadman (Waste Services Engineer) ph. 0278 390 353; 07 862 8727. If Gary is unavailable, Steven Hill (Waste Services Manager ph. 0272 806 302; 07 862 8727 or Rod Lohead (Waste Services Supervisor) ph. 027 290 9976. 2. All new contractors will require an account to be set-up and undergo a Health & Safety Induction. 3. Contractors will give at least 5 working days' notice before arriving at the site. 4. Contractors will wash down the truck/trailer unit using the wash down facilities after material has been disposed of using the portable wash-down facility located on the upper landfill. 5. Upon exiting the site, the contractor will drive the truck/trailer unit through the wheel wash prior to leaving the premise.