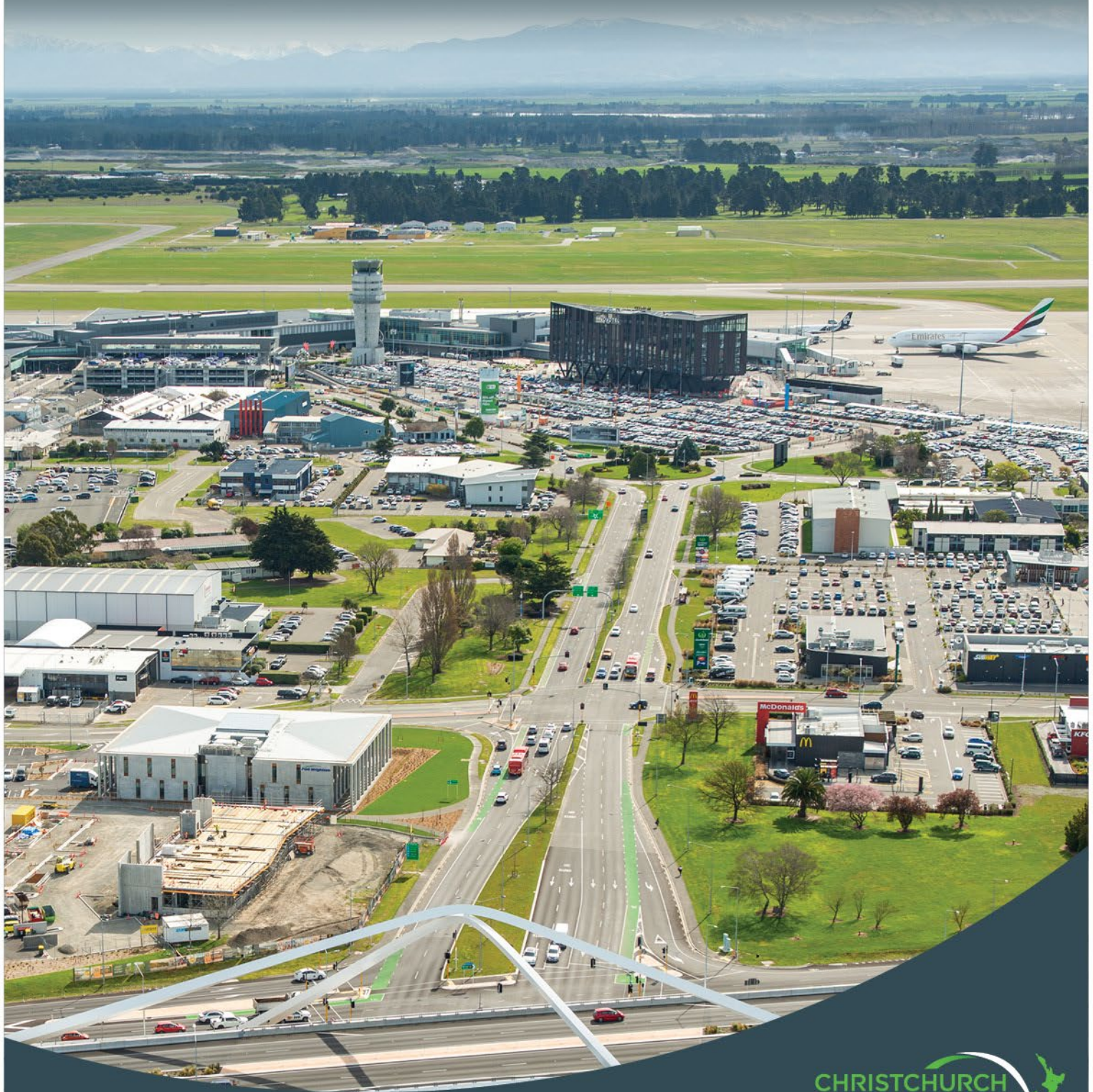


CIAL User's Guide

Contaminated Land



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1 DOCUMENT CONTROL

This Management Guide is a living document and can be updated at any time, provided updates result in better management approaches. Table 1 below presents a document control register to track the changes made to the document. An annual review of the Management Guide will be completed by the CIAL Environment and Planning Team.

Table 1. Document control register

Date	Pages amended	Nature of change	Name

2 INTRODUCTION AND BACKGROUND

2.1 PURPOSE OF THIS DOCUMENT

The aim of CIAL User's Guide – Contaminated Land is to ensure that Christchurch International Airport (CIAL) employees and its site users/stakeholders manage contaminated land effectively and consistently on the Airport Campus and CIAL owned/occupied land and in accordance with the relevant consents CIAL hold. This includes ensuring the necessary processes are followed, CIAL's Environment and Planning Team are appropriately involved, and the required documentation and records are prepared and submitted.

2.2 WHO HAS A ROLE IN MANAGING CONTAMINATED LAND ON CAMPUS?

All parties involved in the project, from the project manager through to site workers have a role in managing contaminated land. Specific roles and responsibilities are set out in Appendix A.

2.3 WHAT IS CONTAMINATED LAND?

All soils have natural levels of some chemicals/elements (such as lead, copper, zinc etc) known as natural background levels. Soils can accumulate higher levels of these contaminants, or have other contaminants added as a result of human activities. These soils would be considered contaminated.

The Airport Campus contains current or historical land uses with the potential to cause ground contamination. Consequently, some of the soils on the campus may have elevated levels of contaminants or have contaminants present that do not naturally occur in those soils.

2.4 WHERE IS THE CONTAMINATED LAND?

In 2016, CIAL commissioned Tonkin & Taylor (T&T) to undertake a Preliminary Site Investigation (PSI) for the whole campus. The purpose of this investigation was to identify current or historical land uses with the potential to cause ground contamination, the likely nature and extent of contamination, and the potential risks to human health.

The PSI report includes a series of maps documenting the approximate location of the potentially contaminating activities (HAIL activities), and therefore where contaminated ground may be encountered. T&T also produced a series of Risk Category Maps which classify the campus into three risk categories. These maps provide a **relative** indication of the likelihood the ground has been contaminated and to what degree. T&T updated these maps in 2019, and in 2024 GHD undertook a further update, to reflect the findings of more recent site investigations and testing that has taken place across campus.

These maps are available on CIAL's website and can be accessed [here](#) under 'Earthworks or soil disturbance'. They are also available on CIAL's internal GIS platform.

It is important to note that contaminated land may still be present where no record of a potentially contaminating activity was found, including areas not categorised on the Risk Category Maps.

2.5 WHY DO WE NEED TO MANAGE CONTAMINATED LAND?

If contaminants are present in soil at high enough levels, there may be a risk to human health and/or the environment. To prevent adverse human health or environmental effects from occurring, it is important risks posed by potentially contaminated soil are evaluated, understood and managed. CIAL has three Site Management Plans (SMP's), one for each Risk Category. The SMP's set out the measures that need to be put in place, during site development works, to manage the risks posed by contaminated land.

2.6 TYPES OF WORK THAT INTERACT WITH CONTAMINATED LAND

Any activity that disturbs the ground has the potential to interact with contaminated land. These activities could include:

- Work on utilities (water, wastewater, stormwater, power, data etc): construction, repair and maintenance
- Property development projects (site development and individual buildings)
- Pavement construction, repair and maintenance (airside and landside)
- Installation, maintenance and removal of fuel storage systems
- General infrastructure maintenance

Where potentially contaminated land is disturbed on CIAL land, specific management measures are required.

2.7 WHAT CONSENTS DO I NEED TO COMPLY WITH?

2.7.1 NESCS CONSENT (RMA/2016/884)

The primary resource consent that directs the management of contaminated land is the campus-wide NESCS¹ consent (RMA/2016/884) from the Christchurch City Council (CCC).

The NESCS consent applies to land that CIAL owned at the time the consent was applied for. This covers all the current campus (both landside and airside), but **excludes**:

- The Shipley Block (1 Shipleys Road)
- The Musson Block (117 Savills Road)
- Lucky Rentals site (791 Wairakei Road)
- The ECan lease Block (715 Pound Road)
- Pukaki Road and site (6 Pukaki Road)

This is shown in **Appendix 2**.

Within the area it applies to, the global NESCS consent covers soil disturbance and removal, fuel storage removal and land use changes associated with:

- Undertaking excavations in areas potentially containing contaminated soils;
- Removal and installation of fuel storage systems and associated infrastructure;
- Sampling soil and identifying the presence of contaminants;
- Managing and containing contaminated soils encountered/excavated during the infrastructure development;
- Making disposal decisions, including where necessary temporarily storing potentially contaminated soil in appropriate locations;
- Managing the potential effects during the works such as odour, dust and tracked soil;
- Health and safety during the development works; and

¹ National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011.

- Validating/monitoring the works to ensure appropriate disposal.

Contaminated soil needs to be managed for all projects (airside and landside) that disturb soil, even where that disturbance is minimal.

2.7.2 LAND AND WATER REGIONAL PLAN (ECAN CONSENTS)

There are Environment Canterbury (ECan) consents that apply to the campus and include requirements related to contaminated land. The two primary consents that have specific requirements relating to contaminated land are:

- The landside global stormwater discharge consent (CRC210218)
- The construction phase airside global stormwater discharge consent (CRC151333).

The contaminated land aspect of CRC151333 is addressed in section 4 below. For any matters related to stormwater, please consult CIAL's Stormwater Design Guide.

2.7.3 HEALTH AND SAFETY

The health and safety of site workers and the potential effects posed by contaminated land needs to be assessed and controls put in place. The Site Management Plans (SMPs) provide some guidance, but the health and safety of site workers in relation to contaminated land should not solely rely on the SMPs. It is expected that those performing the works will understand the hazards present and develop controls to eliminate or minimise risks. The information on these hazard management processes should be included in the site-specific safety plans or similar and provided to CIAL.

3 HOW DO I APPLY THE RIGHT SITE MANAGEMENT PLAN FOR MY PROJECT?

3.1 WHICH SITE MANAGEMENT PLAN SHOULD I USE?

Separate site management plans (SMP) have been prepared for each risk management category (high, medium, and low). The category SMPs provide procedures that have been designed to reflect the likelihood of encountering ground contamination in the area and the potential risk to human health.

To determine if your site is potentially contaminated consult the Risk Category Maps. It may be easiest to locate your site on one of the larger scale maps, and then drill down into the small-scale maps to check the finer detail and site boundaries. A link to the maps can be found below.

(<https://www.christchurchairport.co.nz/about-us/doing-business-with-us/contractors-and-suppliers/> under 'Earthworks or soil disturbance').

For CIAL staff, these maps are also included as a layer in the internal GIS system. If your site is covered by one of the risk categories (high, medium or low), historical land use activities have occurred on the site that **indicates your site has the potential to be contaminated**. You should consult the entire series of additional HAIL maps (in the same map package) to see what historical activities occurred on the site that led to the risk category classification.

Each SMP contains a table setting out the potential contaminants relevant to the HAIL activity that has taken place at the site.

In general, if your site intersects more than one risk category, apply the highest risk SMP to your project.

For example: Your site intersects land zoned as both Category 2 (medium) and Category 3 (low) - apply the Category 2 (medium) SMP which has more conservative requirements.

However, there may be instances where the project can be staged such that separate SMPs can be applied. Any such case will need to be under the advice of a Contaminated Land Specialist (CLS) and approved by CIAL's Environment and Planning Team.

If no Risk Category intersects with your site, it means there was no information found that suggested a historic activity occurred on the site with the potential to cause ground contamination. **Note this does not definitively mean the ground is not contaminated.**

In this situation, Accidental Discovery Protocols in case of unexpected ground contamination apply during site works. These protocols are described in Section 3 of the relevant Site Management Plan. Note also that soil sampling will be required if soil is to be moved offsite.

Refer to the flowchart in Figure 2 to assist you in working out what SMP applies to your project.

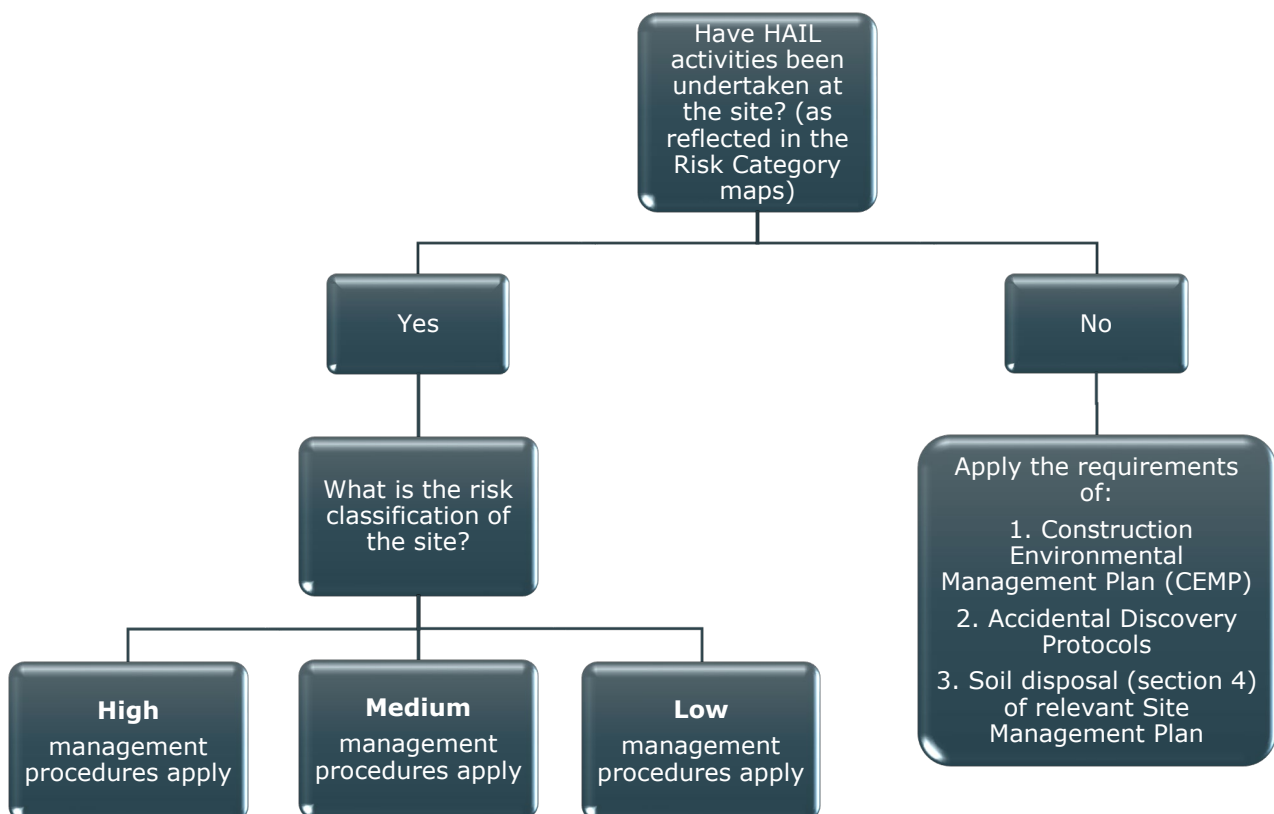


Figure 2. Christchurch Airport earthworks management measures

3.2 WHO IS RESPONSIBLE FOR IMPLEMENTING THE SMP FOR MY PROJECT?

The full set of roles and responsibilities for applying the SMP's to a project are contained in **section 2** of the overarching SMP document. Please see also the 'roles and responsibilities' in **Appendix 1** of this document.

It is the responsibility of the **Project Manager/Delivery Manager** to:

- Designate a Site Environmental Supervisor and Health and Safety Officer for the works.
- Ensure that the relevant SMP has been provided to the project team and contractor undertaking the work.
- Ensure that the SMP is implemented on site and that all site workers understand their responsibilities.
- Ensure that all reporting, including the works verification form, is completed and provided to CIAL.

A Contaminated Land Specialist will need to be appointed provide training and inductions to site personnel, and provide contaminated land-related advice during works.

The CLS, the Site Environmental Supervisor and Health & Safety Advisor for the project should work together to ensure the SMP is implemented on-site and that all site workers understand their responsibilities.

3.3 SOIL SAMPLING

The process of producing the SMPs and Category Maps means that additional site investigations are generally not required prior to undertaking works on airport campus within the area covered by the NESCS consent.

However, soil sampling may be required to assist with disposal decisions, for health and safety purposes, for works in certain airside locations, or for soak pit design and installation. Soil sampling requirements and procedures are contained in section 2 of each SMP. It is expected that the sampling would be guided by the potential contaminants identified for the particular HAIL activity in Table 1.1 of the relevant SMP.

The results of soil testing can be presented in a short summary report outlining:

- The reason for sampling e.g. soil to be disposed offsite.
- The tabulated results of laboratory testing (including laboratory certificates).
- A brief analysis of the results of the testing.
- A discussion of the suitability of material for its future application.

A copy of this report must be provided to the Environment and Planning Team.

Seek advice from the Environment and Planning team on engaging a suitable consultant to undertake a CLS role on your project.

4 ADDITIONAL MEASURES

In certain circumstances, processes in addition to those set out in section 2 above and in the SMPs may be required. These circumstances are set out below.

4.1 DETAILED SITE INVESTIGATIONS

A DSI **must** be undertaken (or already exist in the relevant area) before:

- Developing sites (and discharging stormwater) within the hatched area of the plan included in the global landside stormwater consent (CRC210218).
- Disturbing the ground in the shaded areas of the plan included in the global airside construction phase stormwater consent (CRC151333).

Please contact the Environment and Planning Team if you are undertaking earthworks in these areas.

4.2 SOIL SAMPLING FOR SOAKPITS

If a soakpit is to be located in land where initial testing shows there is potential for soil contamination to exceed background concentrations, or in a high or medium risk site, the specific location will need to be suitably remediated, or soil sampling carried out of the natural soil at the location of the soakpit. The purpose of sampling is to determine if contaminant concentrations exceed the limits of Condition 45 of CRC210218. Please refer to the CIAL's Stormwater Design Guide (Landside) for the process for undertaking such sampling.

4.3 SITE-SPECIFIC MEASURES

There may be situations where additional site-specific measures need to be considered. Site-specific measures may be required in areas identified as high-risk areas e.g. former munitions storage, areas of significant organic material and former landfills, or in situations where the land use is changing to one which is more sensitive to contaminated land health effects. The need for any additional measures will be dependent on the nature of the excavations and the HAIL activity. Depending on the HAIL activity, this may also require the input of CIAL's Health, Safety and Wellbeing team.

Please contact the Environment and Planning Team if you are undertaking earthworks in these areas.

APPENDIX 1. Roles and Responsibilities

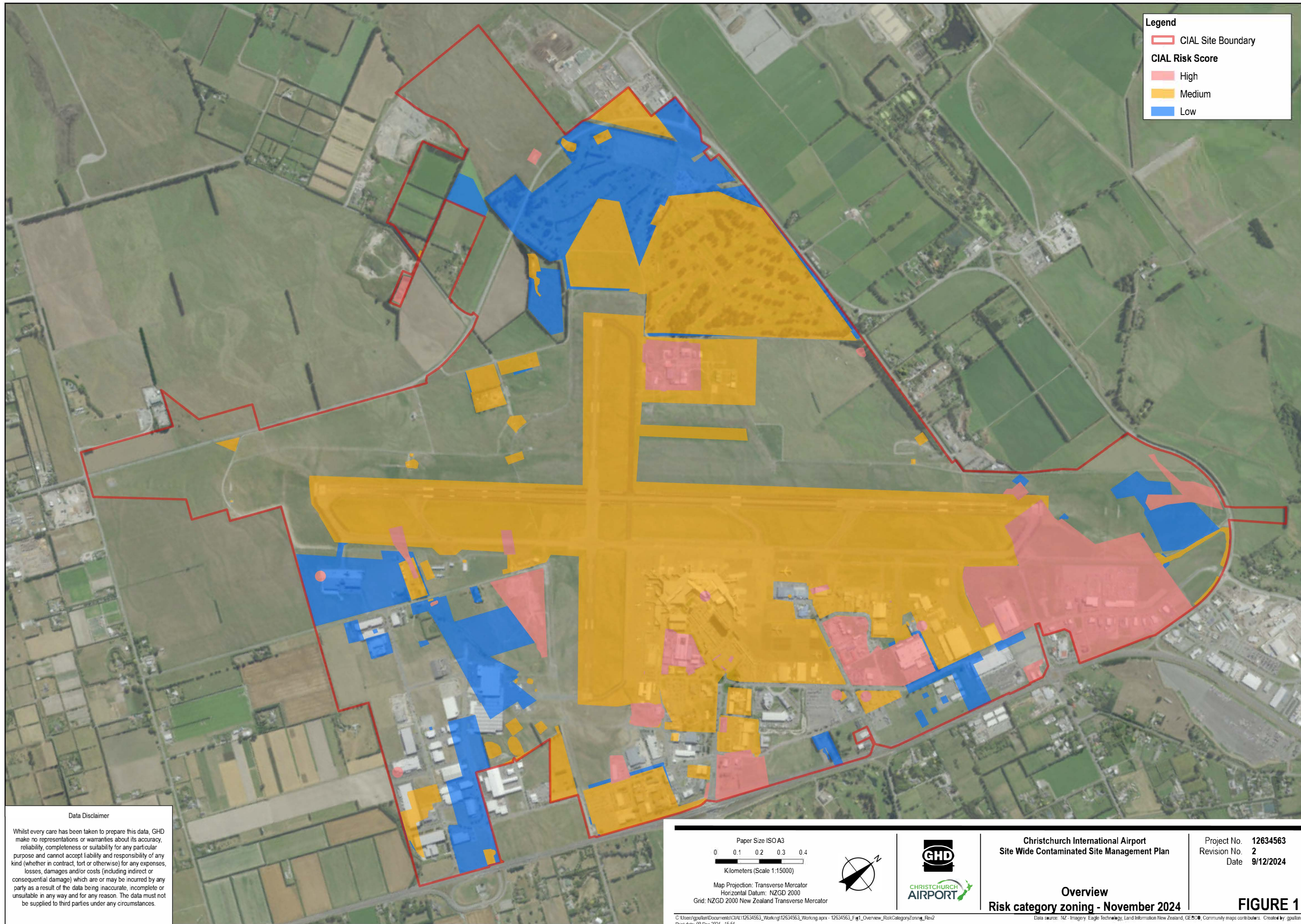
Project Phase	Mandatory Tasks	Recommended Tasks	Relevant Roles	Responsibility	Required Documentation	Timeframe
Feasibility/ Design	<ul style="list-style-type: none"> Determine if your site may be potentially contaminated. Determine which risk categories apply to the site (or part of your site). Determine the HAIL activities that have occurred at the site. See Section 2 for guidance. Plan the stormwater discharge locations to avoid discharging through contaminated land. Determine whether any soil sampling or a site investigation is needed. 	<ul style="list-style-type: none"> Determine where excavation/filling will occur on the site, the volume of soil to be disturbed (total of cut and fill) and volumes to be carted offsite. If contaminated land may be present, consider design options to minimise offsite disposal of excess soil. If the site is high risk, consider design options and methods to minimise soil disturbance. Determine likely disposal options (see Section 4 of the relevant SMP). 	Environment and Planning Team	Advice and guidance to project team as needed.	Environmental Strategy	Prior to commencing design
			Project Manager Development Manager	<ul style="list-style-type: none"> Ensuring the designers are aware of the presence of contaminated land, their regulatory responsibilities and the contaminated land management measures needed. Consider the location and volume of soil to be excavated, and likely disposal options. 		
			Property Manager	To ensure the tenants are aware of the presence of contaminated land, their responsibilities under the NESCS consent and management measures needed.		
Procurement	<p>If the site is potentially contaminated:</p> <ul style="list-style-type: none"> Establish which Site Management Plan will apply to the works (Section 6) and include it in the tender documentation. It may also be useful to include the results of any soil sampling undertaken in the design phase (if any). Allow for remediation works (if required) and ensure remediation works proposed in any tender methodology comply with the NESCS consent (Section 2.2) and 	<ul style="list-style-type: none"> Include contingencies/rates for disposal to other disposal locations in case 'worse' contamination is found. For uncategorised sites, allow for the involvement of a CLS for oversight in the event an Accidental Discovery Protocol is triggered. 	Environment and Planning Team	<ul style="list-style-type: none"> Advice and guidance as requested. Review CIAL tender documentation to ensure that the NESCS consent requirements are accurately reflected. 		

Project Phase	Mandatory Tasks	Recommended Tasks	Relevant Roles	Responsibility	Required Documentation	Timeframe
	<p>are appropriately sequenced with main site works</p> <ul style="list-style-type: none"> Allow for disposal of contaminated soil) and any associated soil sampling. If required, allow for soil sampling associated with the stormwater discharge infrastructure. Allow for the involvement of a CLS for oversight and any required testing and reporting (as per the correct category SMP). 		Project Manager/ Development Manager/	<ul style="list-style-type: none"> Review tender documentation to ensure that the mandatory tasks are incorporated into the RFP documentation as appropriate. Review the tender responses methodology to ensure that the mandatory tasks are incorporated as appropriate. 		
Pre-Construction	<p>If the site is potentially contaminated:</p> <ul style="list-style-type: none"> Prepare and submit a Construction and Environment Management Plan (CEMP) including the relevant SMP and any contaminated land measures to be implemented during the works. Designate a CLS, Site Environmental Supervisor and Health and Safety Officer for the project. Ensure that the contractor has a copy of the appropriate SMP. Advise the Environment and Planning Team that works are to commence. 		Project Manager/ Development Manager/ Property Manager	<ul style="list-style-type: none"> Submit to CIAL Environmental Advisor a CEMP including the relevant SMP and any contaminated land measures to be implemented during the works. Ensure that the contractor has a copy of the appropriate SMP. 	CEMP	At least 3 weeks prior to earthworks commencing on site.
			Environment and Planning Team	<ul style="list-style-type: none"> Submit CEMP to Canterbury Regional Council Compliance Leader Monitoring and Compliance. 	CEMP	At least 10 working days prior to earthworks commencing on site.
			Contractor	<ul style="list-style-type: none"> Designate a Site Environmental Supervisor and Health and Safety Officer. Advise the Environment and Planning Team that works are to commence. 		
Construction	<p>If the site is potentially contaminated:</p> <ul style="list-style-type: none"> Ensure a pre-start briefing by a CLS is completed. Ensure a copy of the NESCS consent and the relevant Site Management Plan are kept on site and that staff on site have access to the supporting reports (Section 4). Ensure all control measures required by the SMP are set up/installed before ground disturbance activities commence. 	Repeat toolbox talks on contaminated land for longer duration projects to keep awareness high	Environment and Planning Team	<ul style="list-style-type: none"> Facilitation between regulators and CIAL. Monitoring compliance with consent conditions. Submitting information to regulators where required. 		
			Project Manager Development Manager/	Ensure the management measures are followed, and consents complied with during construction.	<ol style="list-style-type: none"> NESCS Consent CEMP and relevant SMP A copy of any DSI investigation undertaken. 	

Project Phase	Mandatory Tasks	Recommended Tasks	Relevant Roles	Responsibility	Required Documentation	Timeframe
	<ul style="list-style-type: none"> Ensure all soil removed from the site is (or has been) tested (Section 5). Follow the relevant Site Management Plan (Section 6). Keep records as required by the consents/SMP. <p>If the site is not categorised:</p> <ul style="list-style-type: none"> Refer to the requirements of the CEMP. Follow accidental discovery protocols. Ensure a CLS is on standby. Ensure all soil removed from the site is (or has been) tested for disposal purposes (Section 5). 		Property Manager (CIAL and Contractor)		4. A copy of any report detailing soil sampling or groundwater monitoring undertaken.	
			Health, Safety and Wellbeing Team	Ensure that health and safety related measures in the SMP and otherwise are adhered to.		
			Property Manager	<ul style="list-style-type: none"> Ensure the tenants are aware of the presence of contaminated land, their regulatory responsibilities and management measures needed. Ensure the management measures are followed, and consents complied with during construction. 		
			Contaminated Land Specialist	<ul style="list-style-type: none"> Provide site-specific advice on the investigation and management of contaminated land. Undertake site investigations, design remediation actions and preparation of reports. Undertake pre-start briefings and site observations. Advise on soil disposal. 	Soil sampling report (if required under SMP)	Soil sampling report 2-4 weeks
			Site Environmental Supervisor	To implement the appropriate Site Management Plan/(s) on site.		
			Site Health and Safety Officer	To ensure that contaminated land-related health and safety procedures are adhered to and that all relevant personnel are familiar with the H&S aspects of the Site Management Plans (including the PPE required).		
			Post construction	<ul style="list-style-type: none"> Completion of a Works Verification Form. A copy of this form can be found in the appendices of the Site Management Plans. The Works Verification Form details the identification and movement of soil from your project. The Works Verification Form should be accompanied by the weighbridge documentation and other 		Contractor
Project Manager/ Development Manager/ Property Manager	Provision of Works Verification Form and accompanying documents to Environment and Planning Team					As soon as practicable following receipt from Contractor

Project Phase	Mandatory Tasks	Recommended Tasks	Relevant Roles	Responsibility	Required Documentation	Timeframe
	information contained in Section 5 of the overarching SMP document. <ul style="list-style-type: none"> • Reporting to CCC. 		Environment and Planning Team	Preparation of 6 monthly reports to Christchurch City Council that contain information supplied on the Works Verification Form for the projects that have occurred in the previous 6-month period (attention Team Leader Environmental Compliance Team).	6 Monthly report	6 Monthly

APPENDIX 2. Geographic extent of RMA2016884



Legend

- CIAL Site Boundary
- CIAL Risk Score**
- High
- Medium
- Low

Data Disclaimer


Whilst every care has been taken to prepare this data, GHD make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damages) which are or may be incurred by any party as a result of the data being inaccurate, incomplete or unstable in any way and for any reason. The data must not be supplied to third parties under any circumstances.

Paper Size ISO A3

0 0.1 0.2 0.3 0.4

Kilometers (Scale 1:15000)

Map Projection: Transverse Mercator
Horizontal Datum: NZGD 2000
Grid: NZGD 2000 New Zealand Transverse Mercator




Christchurch International Airport
Site Wide Contaminated Site Management Plan

Overview
Risk category zoning - November 2024

Project No. **12634563**
Revision No. **2**
Date **9/12/2024**

FIGURE 1

