

Contaminated Site Management Plan – Te Kowhai East Development

1.0 Introduction

1.1 Purpose of this Management Plan

Te Kowhai East Limited Partnership (the Client) is applying for a substantive fast-track application to redevelop a property located across ten land parcels in Te Kowhai, Hamilton commonly referred to by the primary addresses of 270 Te Kowhai Road and 28 Mathers Road (collectively the Site). The Site location is presented on Figure 1.

At the time of preparation of this Contaminated Site Management Plan (CSMP), detailed information regarding the nature, extent, depth, and sequencing of the proposed earthworks was still being developed.

A Combined Preliminary and Detailed Site Investigation (PSI-DSI) was completed by SLR Consulting New Zealand Ltd (SLR) in 2026 (ref. SLR, 2026. PSI-DSI – Te Kowhai East Development) to support the substantive fast-track application process. This is summarised in Section 1.2.

Based on PSI-DSI findings and the presence of HAIL activities, the proposed works are subject to the NESCS, with soil disturbance exceeding permitted activity thresholds. The estimated volume of spoil requiring off-site disposal as managed fill is approximately 800 m³ of soil. This CSMP has therefore been prepared to support compliance by managing exposure pathways and providing controls for the handling, reuse, and disposal of excavated soils.

This CSMP provides management practices to control potential health and safety, and environmental issues related to soil disturbance and potential discovery of previously unidentified contaminated soil during the proposed works. It is as a management plan to give regard to the Resource Management Act 1991 (RMA) and the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health, 2011 (NESCS).

In accordance with the provisions of the Health and Safety at Work Act (HSWA, 2015), it is the responsibility of the supervisor of the place of work to communicate to the workers undertaking work on the Site the nature and extent of the contamination and associated hazards and recommended management practices.

This CSMP is intended to support this process and does not relieve the supervisor of their responsibility for the health and safety of workers. This CSMP is a 'live document' and should be updated based on Site condition or development plans.

1.2 Site History

Historical and current land uses on Site include pastoral farming and cropping, with farming infrastructure, fuel storage and farm equipment storage building.

The 2026 PSI-DSI involved a collection of 111 soil samples from 58 locations (SS01–SS26, SS28–SS39, HA01–HA19), collected from 0.0–0.5 m bgl across the proposed disturbance area. The findings were:

- Concentrations of all heavy metals in soil samples were below commercial/industrial human health criteria.
- Asbestos (chrysotile) was detected in one soil sample (SS03) below the adopted commercial/industrial human health guideline.
- Total petroleum hydrocarbons (TPH) were detected in two soil samples (SS06 and SS32) above the adopted ecological soil guideline value (Eco SGV) but below the adopted human health criteria. No evidence of separate phase petroleum was observed at the Site.
- All organochlorine pesticides were below laboratory limits of reporting.
- Lead exceeded the Eco SGV for commercial/industrial land use in one sample (SS01).
- One or more heavy metals exceeded Waikato background concentrations in 2 samples.
- One or more heavy metals exceeded the Waikato Cleanfill disposal criteria in 11 samples analysed.

Overall, the majority of soils across the Site are considered to present a low risk to human health and the environment. However, localised contamination associated with current and historical activities at the Site meeting the definition of "Pieces of Land" under the NESCS.

PSI-DSI concluded that soil remediation is not required to support the proposed land use, and that soils are generally safe to remain in situ from both human health and environmental perspectives. However, soils in discrete areas contain contaminants at concentrations that would require disposal as Managed Fill if excavated and removed from the Site.

Why this CSMP is Required

The development of this CSMP is required to manage soil disturbance across the Site and potential for unexpected discovery of contamination that may be encountered during the proposed redevelopment of the Site.

Implementation of the procedures in this document will assist in providing the necessary controls to manage potential exposure of excavation workers to contaminants in soil during the works. It

also sets out appropriate controls for off-site soil disposal of contaminated soils.

2.0 Accidental Discovery and Management of Unexpected Contamination

The presence of discoloured soils, staining, odours, fibrous material (such as presumed asbestos containing material), and general refuse may indicate possible contamination, and immediate steps will be undertaken to address the situation as described in Table 1.

Table 1: Proposed contingency plan for unexpected discovery of contamination during construction

EVENT	POTENTIAL IMPACTS	CONTINGENCY PLAN
Uncovering or disturbance of unexpected contamination – as evidenced by the following • Discoloured soils; • Staining; • Odours; • General refuse; and • Fibrous materials (asbestos).	Discharges to the environment and risks to health and safety of workers	• STOP WORK in area of discovery. Area to be cordoned off until the material has been identified and decisions made on how to progress. • Site Manager to be notified of any contaminated material identified. • Site Manager to contact a Suitably Qualified and Experienced Person (SQEP) to assess the nature of the material. • Work to re-commence only once advised by a SQEP.

3.0 Environmental Management Procedures

Environmental management procedures are required to minimise the impacts to human health and the environment associated with the low-level soil contamination identified across the Site. In addition to the procedures to be followed in the event of unexpected discovery of contamination, the following procedures also apply to all construction works.



3.1 Earthworks

Earthworks controls will be important in minimising potential environmental impact, and will include:

- Minimising exposed surfaces to only those being worked on. If an area has been excavated but is not being worked on, it must be covered or stabilised to prevent stormwater run-off / sediment entering drains.
- Stockpiling of soils should be minimised. If stockpiling of soils is unavoidable, excavated soils will be temporarily stockpiled in accordance with procedures provided in **Section 4.1**.
- Good housekeeping of the worksite shall be maintained to avoid the spread of potentially contaminated material outside the Site, including tracking any spilling on roadways.
- Earthworks will be conducted in accordance with this CSMP and the Earthworks Management Plan prepared by Maven.

4.0 Disposal of Excavated Material

Excavated and disturbed soils should be retained on-site wherever practicable. The DSI results indicate that soils are generally suitable for on-site retention from both human health and environmental perspectives. Retaining soils on-site is the preferred approach, as it represents a more sustainable practice and reduces the volume of material requiring disposal to landfill.

Where off-site disposal is necessary, surplus soils from areas outside identified contamination zones (refer to **Figure 1**) may be suitable for disposal as Cleanfill, subject to classification and acceptance by the receiving facility. Surplus soils from localised areas exceeding Cleanfill criteria, including soils with elevated heavy metals, TPH fractions (C10–C36) and asbestos detection, may be suitable for disposal as Managed Fill, pending acceptance by the receiving facility.

Based on the analytical results from the high-level investigation, approximately 800 m³ of soil may require disposal as Managed Fill (if off-site disposal is undertaken). Additional laboratory analysis may be required to support disposal requirements. This volume primarily comprises shallow surface soils (approximately 0.5 m below ground level) within building footprints, where elevated concentrations of select heavy metals, TPH, and/or asbestos have been identified and are proposed to be removed.

Soil contaminant exceedances requiring disposal as Managed Fill, if excavated and removed from the Site, are identified within the infrastructure halos illustrated in **Figure 1**; accordingly, it is recommended that excavation limits extend to a minimum of 0.5 m

0.5 m around each structure to ensure capture of contaminants within these halos.

Stockpiling of contaminated or potentially contaminated soil shall be avoided where possible, however if immediate disposal is not possible, the material may be stockpiled onsite in accordance with **Section 4.1** of this CSMP or may be segregated and stockpiled at the disposal site pending analysis.

Suitable tracking documentation for all material taken from the site, including weighbridge tonnage, will be provided to the project manager for recording purposes and made available to Council upon request.

4.1 Stockpiling of Contaminated Soils

Stockpiled soil which is contaminated or suspected to be contaminated will be managed by the contractor as follows:

- The stockpiled material shall be placed on plastic sheeting or hardstand to prevent the potential contamination of underlying soil.
- A bund will be constructed around the stockpile to minimise stormwater run-off and prevent run-off.
- Stockpiles will be covered and/or kept under plastic sheeting or a geotextile layer when material is added or removed to prevent erosion and dust generation. Following stockpile removal, the underlying plastic will be removed and disposed of at a licensed facility (if stockpiled soils contain contaminants above acceptable levels). If the underlying plastic is breached, sampling and analysis or removal and appropriate disposal of underlying soil may be required.

4.2 Erosion and Sediment Control

Erosion and sediment controls will be put in place to ensure that the generation of potentially contaminated sediment and stormwater is minimised and managed.

Sediment controls will be undertaken in accordance with:

- The site-specific Erosion and Sediment Control Plan (ESCP).
- Industry best practice.
- Waikato Regional Council (2009) Erosion and Sediment Control Guidelines for Soil Disturbing Activities (TR 2009/02).

Erosion and sediment controls will be adequate to ensure that contaminated soil does not travel off-site.

Daily inspections of erosion and sediment controls and the overall stormwater system will be conducted. Additional inspections will also be conducted following high rainfall events. If the erosion and

sediment control system has been breached, the off-site sediment will be immediately cleaned and managed as potentially contaminated soil. If any areas of the Site have potentially been cross-contaminated, soil testing will be undertaken to characterise the potentially impacted area.

4.3 Dust Control

Dust must be managed during the excavation works to ensure that it generally complies with the Good Practice Guide for Assessing and Managing the Environmental Effects of Dust Emissions³. To control the generation of dust, the contractor will ensure that:

- A water truck and/or portable water spray is used in trafficked areas to dampen exposed soil during dry and windy conditions. When utilising water to control dust, the contractor will ensure that:
 - The volume of water used does not exceed soil field capacity of the wetted areas causing surface run-off that could discharge in stormwater systems or other waterways.
 - The application of water does not induce soil erosion and/or soil pugging.
- Stockpiled material is covered as outlined in Section 4.1.
- Vehicle access onto the works area is limited.
- Working in windy conditions is avoided.

A dust and odour complaints log will be maintained by the site contractor. If complaints regarding dust are received, the following information will be recorded:

- Time and date of the complaint;
- Name and location of the complainant;
- Weather conditions, description of site activities, and location of site activities;
- Nature of the complaint; and
- Mitigation measures undertaken and evaluation of effectiveness.

4.4 Groundwater and Dewatering

Should groundwater be encountered the construction manager will contact a SQEP to determine any further actions that may be required.

5.0 Health and Safety Measures

The health and safety procedures described in this section of the CSMP shall be implemented by the contractor, in addition to those covered by their own Health and Safety Plan (HSP) and documents.



5.1 Site Access and Signage

Fencing or other barricades will be put in place prior to the start of works to provide for site access control. Only authorised personnel may be allowed to enter the site. All persons entering the Site will sign in and out and will be briefed on the HSP. Workers are required to be briefed on the applicable requirements of this CSMP.

5.2 Identification of Hazards and Management

The following contaminated land related hazards may be encountered during the works if contaminated soil is encountered:

- Dermal skin contact with contaminated soil or groundwater.
- Inhalation of contaminated dust.
- Ingestion of contaminated soil or groundwater.

Further unspecified hazards may be identified during the course of the works. The hazards identified above will be managed through the wearing of appropriate personal protective equipment (PPE) and the procedures set out in Sections 5.3 and 5.4. The primary hazard management method is minimising exposure to contaminated soil during excavations and transportation. Maintenance of earthworks controls (Section 2.3) is a key component of contaminated soil hazard management.

5.3 Personal Protective Equipment

The current land use at the site has led to the potential contamination of shallow soils with heavy metals, TPH, and low-level asbestos at the site. The following PPE will be mandatory for all personnel involved in ground disturbance activities where there is potential for direct contact (including accidental contact) with contaminated materials exists:

- Clothing that covers the body;
- Safety footwear;
- Gloves (if soil is handled);
- Dust masks (P1 dust masks, if there is a potential for the generation of contaminated dust);
- Safety glasses;
- Hard hat (if working around traffic); and
- Hi-vis vest.

5.4 Hazard Minimisation Procedures

The following procedures to minimise hazards related to contaminated soil will be implemented by the contractor:

- Dust controls, according to the procedures set out in Section 4.3;
- Contact with potentially contaminated material is expected to be minimal because the excavations are proposed to be undertaken using machinery. However, as a precautionary measure, any worker that is required to manually handle any soil will be required to wear disposable gloves and
- Maintaining good personnel hygiene, including:
 - No eating, drinking or smoking in the works area, whilst potentially contaminated soils are being excavated to prevent contaminated soil coming in contact with food or being ingested directly through soils;
 - Avoiding hand to mouth and hand to face contact during work with potentially contaminated soil;
 - Washing boots if contaminated soil has been contacted;
 - Disposing of clothing that have contacted contaminated material; and
 - Hands and face will be washed before eating, drinking and smoking, which is only permitted in designated areas where Site personnel are not working or in design.

6.0 Works Completion Report

A Works Completion Report will be completed following completion of earthworks at the Site. The Works Completion Report will be completed in general accordance with the CLMG and will include commentary on implementation of the CSMP.

7.0 Contacts

The main contact to be consulted in respect of the Site management control plan, any unexpected discoveries related to potential contamination, and emergencies are as follows:

Table 1: Contacts during construction

Organisation	Contact	Telephone
Kilroy Group Limited	GD Jones	[REDACTED]
SLR Consulting New Zealand- SQEP	Lindsay Lutes	[REDACTED]
Waikato District Council	General Enquiries (24 hours)	0800 492 452
New Zealand Fire and Ambulance Service		111
National Poisons and Hazardous Chemicals Information Hotline		0800 764 766

Organisation	Contact	Telephone
Safe New Zealand		0800 030 040

References

- Ministry for the Environment, 2011. National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health.
- Ministry for the Environment, 2016. Good Practice Guide for Assessing and Managing the Environmental Effects of Dust Emission.
- SLR Consulting New Zealand Limited. 2026. Preliminary and Detailed Site Investigation - Te Kowhai East Development (Project No. 810.032016.00001).

Limitations

In accordance with the provisions of the Health and Safety at Work Act (HSWA, 2015), it is the responsibility of the supervisor of the place of work to communicate to their workers undertaking work on the Site the nature and extent of the identified contamination, and associated hazards, including recommended management practices. The SMP is intended to support this process and does not relieve the supervisor of the place of work of their responsibility for the health and safety of workers.

The SMP also does not address "general" health and safety, such as working at heights and other physical hazards and is focused on hazards presented by hazardous substances at the Site. SLR has relied upon information provided by the Client and other third parties to prepare this document, some of which has not been fully verified by SLR. This document may be transmitted, reproduced, or disseminated only in its entirety.

From a technical perspective, the subsurface environment at any Site may present substantial uncertainty. It is a heterogeneous, complex environment, in which small subsurface features or changes in geologic conditions can have substantial impacts on water, vapour and chemical movement. SLR's professional opinions are based on its professional judgement, experience, and training. This document was prepared based on information provided by others. Should additional information become available, this report should be updated accordingly.

8.0 Closure

This report has been reviewed by Josh Girvin who is a CEnvP SC and SQEP in accordance with the requirements of the NESCS and Ministry for the Environment (MfE) Contaminated Land Management Guideline Publication No.1 Reporting on Contaminated Sites in New Zealand, 2011 (CLMG No.1).

