Contaminated Site Management Plan – Mount Welcome Development

Prepared for

Pukerua Property Group LP

November 2025

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Quality Control Sheet

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Limitations:

This report has been prepared by Pattle Delamore Partners Limited (PDP) on the basis of information provided by Classics Development Limited. PDP has not independently verified the provided information and has relied upon it being accurate and sufficient for use by PDP in preparing the report. PDP accepts no responsibility for errors or omissions in, or the currency or sufficiency of, the provided information.

This report has been prepared by PDP on the specific instructions of Classics Development Limited for the limited purposes described in the report. PDP accepts no liability if the report is used for a different purpose. Any such use or reliance will be solely at their own risk.

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1.0 Introduction

Pattle Delamore Partners Limited (PDP) have been engaged by Classic Development Limited (on behalf of Pukerua Property Group LP) to complete a '*Contaminated Site Management Plan*' (CSMP) for the disturbance, handling and disposal of soil in the Lower Terrace at the Mount Welcome development located at Pukerua Bay, Mount Welcome (the Site). Shown as the "proposed development area" in Figure 1.

The whole development comprises approximately 949 residential lots and neighbourhood centre with associated roads and infrastructure. This CSMP applies to soil disturbance and removal works to be undertaken in the western portion of the site only, outlined in Figure 1.

This CSMP has been prepared to support the preliminary site investigation report prepared for the resource consent application for the site and has been written in general accordance with the Ministry for the Environment (MfE) Contaminated Land Management Guideline (CLMG) No. 1 – *Reporting on Contaminated Sites in New Zealand*. The CSMP has been prepared by a suitably qualified and experienced practitioner (SQEP) in Contaminated Land.

2.0 Site Description and Background

The site is legally described as:

- Lot 1000 DP 608433 (34 Muri Road).
- Lot 1 DP 534864 (422 SH59).
- Lot 2 DP 534864 (422A SH59).
- Lot 2 DP 89102 (422B SH59).
- Part Lot 1 DP 89102 (422A SH59).
- Road Reserve (SH59 Corridor).

A preliminary site investigation (PSI) was undertaken by PDP (PDP, 2025) to assist with the fast-track consent application for the site. The PSI identified potential sheep dip/spray race operations and the weathering of pre-2000s buildings at the site as potential sources of contamination. These site features are considered locations where activities listed on the Hazardous Activities and Industries List (HAIL[1]) are likely to have been undertaken (Category A8 and I respectively). To confirm the presence/absence of HAIL activities at the site and identified any associated contaminants within soils at the site, a Detailed Site Investigation is to be undertaken.

[1] See https://environment.govt.nz/publications/contaminated-land-management-guidelines-no-3-risk-screening-system/appendix-b-hazardous-activities-and-industries-list/

This CSMP has been prepared in advance of the completion of the aforementioned DSI. Should the DSI identify contaminants in soil at concentrations not covered by this CSMP (i.e. asbestos requiring Class B controls), the plan should be amended prior to the onset of earthworks activities in the identified contaminated area (refer to Section 3.0 for greater detail).

3.0 Future Reporting Requirements

3.1 Detailed Site Investigation

As per the recommendations of the PSI, a Detailed Site Investigation (DSI) is to be completed to investigate the potential sheep dip and halo soils around buildings at the site (limited to buildings constructed prior to 2000). The DSI is to be completed prior to the onset of soil removal works in these areas.

Should the DSI identify contaminants in soil which pose a risk to human health or environmental receptors, remediation of the identified contaminated soils may be required.

It is proposed that the sampling will comprise the following:

- Underground service locate at each proposed investigation location.
- Approximately 11 locations will be advanced to 2 m bgl, or to groundwater, which has potential to be shallow in parts of the site and a further six sample locations to 0.5 m bgl to assess the potential for residual ACM and lead in shallow soil in the halo of the two farm buildings still present on the site and the footprint of the historical shed.
- Approximately 28 samples to be analysed for heavy metals, 10 for semi-quantitative asbestos and 11 for organochlorine, organonitro and organophosphate pesticides.
- Preparation of a letter report.

A preliminary proposed sampling plan has been appended.

3.2 Remediation, Validation Sampling and CSMP updates

Following the completion of the DSI, the following sections of the CSMP may require updating prior to finalisation;

- Soil handling requirements including PPE and RPE.
- Soil disposal requirements.
- Soil re-use requirements.

In addition, a site plan identifying the extent of the contaminated area will need to be attached to this CSMP.

The Greater Wellington Regional Council shall be notified of any changes to the CSMP and provided with a copy of the revised CSMP prior to the onset of earthworks in identified contaminated areas as per timeframes stipulated in the consent.

Validation sampling may be required following remedial works (if required) to demonstrate that all identified contaminated soils have been removed from the site. The requirement for validation sampling, including the location and frequency of validations samples, and production of a subsequent Site Validation Report (SVR) will be addressed in the DSI. If required, the SVR will include:

- The results of all validation samples collected at the site.
- Photographs showing the remedial area.
- A record of all soil disposal receipts for the site.
- The total volume of soil removed from the site.
- A statement confirming that all soil disturbance and soil removal works were undertaken in accordance with this CSMP.
- Details of any unexpected contamination (if encountered) at the site.
- Details of any complaints made in regard to soil disturbance works at the site.

4.0 Why is the CSMP required and where does it apply?

This CSMP aims to provide guidance and controls for the excavation of potentially contaminated soil within the identified HAIL areas and accidental discovery of contaminants within the relevant identified areas of the site during the demolition of the residential properties and associated structures. Note that the accidental discovery protocol should be applied to the wider development area. It also aims to minimise the exposure risk to the environment and excavation workers.

The CSMP details:

- Roles and responsibilities and contact details for the parties involved, including the suitably qualified and experienced practitioner (SQEP).
- Consenting requirements.
- Excavation site controls.
- Procedures for excavation of potentially contaminated soil.
- Management of on-site stockpiling of potentially contaminated soil.
- Sediment and erosion controls.
- Procedures for soil removal and transport.

- Measures to control health and safety during the works, including dust, and odour control, personal protective equipment (PPE) and personal hygiene.

5.0 Management Procedures

This section sets out general management procedures and requirements for the site.

1. This plan applies to the western portion of the Mount Welcome development area, legally described as Part Lot 1 DP 89102, Lot 2 DP 89102 and Lot 3 DP 89102 as outlined in attached Figure 1.
2. All personnel involved in the excavation works are to be familiar with this plan and must ensure that the requirements of this plan have been followed.
3. A copy of this plan is to remain available at the site office at all times so that reference can be made to the plan when undertaking any excavations works within the site.
4. Overall responsibility for the implementation of this plan shall be held by Pukerua Property Group LP. However, the specific requirements and provisions of the management plan will be under the control of the Site Manager (see Section 7.2).
5. This plan relates solely to potential soil contamination from HAIL activities associated with small scale farming and accidental discovery of contaminants within the Lower Terrace. Should impacts from other contaminants be discovered during works, a SQEP should assess the requirement for any additional investigation and/or management controls.

The CSMP is limited to assisting Pukerua Property Group LP and its agents and contractors in meeting their legal obligations with respect to health, safety and the environment in dealing with potentially contaminated soil within the HAIL area and western portion of the site. It is not intended to cover the general safety procedures required for typical excavation and redevelopment works. The CSMP is not intended to relieve the owner of their legal responsibilities.

6.0 Risk Assessment

A risk (e.g. to human health) can only arise if there is a hazard (e.g. contaminated soil), a receptor (e.g. people) and an exposure pathway between the hazard and the receptor.

As outlined in the PSI, the primary risk is to human health, this CSMP aims to reduce the short-term exposure risk to construction workers.

The risk assessment will be updated following completion of the DSI.

Table 1: Preliminary Conceptual Site Model

Source	Pathway	Receptor	Pathway Linkage
Sheep Dip (HAIL Category A8) Building materials from pre-2000'sbuildings (potential HAIL Category I)	Dermal contact with soil and dust	Construction workers	**Potentially complete -** Short term exposure may be possible during soil disturbance works if elevated contaminants are present. Heavy metals associated with a potential former sheep dip, specifically arsenic, possibly the organochlorine pesticides DDT and dieldrin, and possibly zinc and copper may be present in soil in the vicinity of the dip, race and associated holding pens. Given the age of some buildings, it is possible that lead paint and asbestos containing materials may have been used with residual contamination in shallow soils, around the footprint of current and former buildings.
	Inhalation of ingestion of soil and dust		
	Dermal contact with soil and dust	Future users	**Potentially complete** – If contaminants are present in soils in concentrations which could pose a risk to human health and are accessible following development (noting that it is likely that surficial impacted soil will be removed during site development).
	Inhalation and indigestion of soil and dust		

Table 1: Preliminary Conceptual Site Model			
Source	**Pathway**	**Receptor**	**Pathway Linkage**
Asbestos from historical buildings and demolition activities	Inhalation of asbestos fibres in air mobilised by construction activities.	Construction workers	**Potentially Complete** – short term exposure possible during soil disturbance works. Asbestos containing material (ACM) may be present in residual soils from the demolition of buildings and around the footprint of older buildings still standing.
	Inhalation and indigestion of soil and dust.	Future users	**Potentially incomplete** – The residual risk ACM will depend on soil removal and the amount of exposed soils. Areas where the surface becomes sealed will not have an exposure pathway, however areas of soft landscaping may contain residual ACM.

7.0 Roles and Responsibilities

7.1 Role of Landowner (Pukerua Property Group)

Pukerua Property Group LP is the landowner of the site and is responsible for implementing the requirements of this CSMP in relation to the development activities at the site. Pukerua Property Group must distribute this CSMP and communicate the known extent of residual contamination and associated hazards to workers and contractors conducting work at the site.

7.2 Role of the Project Manager (Classic Development NZ Limited)

The Project Manager is responsible for providing general oversight for the entire project and is the link between the contractor, the SQEP and the client. It is the Project Managers responsibility to ensure site works are undertaken in accordance with the Resource Consent.

7.3 Role of the Contractor

Contractors engaged to work on the site must comply with the CSMP. Should the contractor engaging other relevant parties working at the site, the Contractor is responsible for ensuring that all workers they engage adhere to the requirements of the CSMP. This includes:

- The implementation, management and monitoring of the erosion and sediment control systems.
- The management and disposal of surplus materials disturbed, including any unexpected, contaminated soil identified/encountered during the works.
- Monitoring and record keeping throughout the duration of the works.
- Implementing spill response procedures in the event of a spillage of hazardous substances.

7.4 Role of SQEP (Pattle Delamore Partners)

The SQEP is an experienced person in contaminated land engaged to provide guidance on environmental matters. The SQEP is responsible for undertaking the DSI and updating the CSMP as required.

The SQEP can also assist with identifying appropriate facilities for disposal of contaminated material from the site.

8.0 Health and Safety

The Contractor shall mobilise to site with all the necessary equipment to undertake the redevelopment works (including the remediation of any potential contaminated soils as identified in the DSI) in a safe manner and in compliance with the controls detailed in this CSMP.

Under the *Health and Safety at Work Act* (HSWA, 2015), the Contractor must undertake the works in accordance with the relevant health and safety regulations and meet all their obligations as a '*person in control of a business or undertaking'* (PCBU). The main potential hazards associated with the soil disturbance works are expected to be personal physical injury, and site worker human health exposure to surface soil contaminants.

8.1 PPE Requirements

The Contractor shall ensure that during soil disturbance works across the site, all personnel are wearing standard PPE. The minimum PPE shall include:

- Sturdy steel cap footwear (not exposed steel cap);
- Full coverage overalls/clothing;
- Safety glasses; and
- Hard hats (when earthmoving equipment is present).

In addition, during the removal of the contaminated soils at the site (if identified during the DSI), the contractors must wear nitrile gloves and maintain strong hygiene controls (as outlined in the following section). The soil to be excavated and removed, may be hazardous to workers and/or other receptors in the site vicinity. The use of dust masks may be required if there is potential for the dust generation and inhalation of contaminated dust during the remedial works.

8.2 Personal Hygiene

All personnel working on the site should:

- Avoid skin contact with contaminated soil.
- Not consume food or beverages anywhere near excavated soil.
- Always wash their hands before smoking/vaping or eating, and do not touch their face after handling contaminated soil.

9.0 Environmental Management Controls

The following section provides details for controls that are to be followed for general earthworks across the wider site.

9.1 Erosion and Sediment Control

The Contractor shall be responsible for implementing measures to control site stormwater runoff so that no silt/sediment laden runoff is able to leave the site or enter adjacent waterways. Sediment control/runoff measures shall be designed and implemented in general accordance with the *Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region (2021*). In summary the ESC measures will include:

- A stabilised construction entrance to be formed to minimise tracking of sediment onto roads and trucks movements to be restricted to stabilised surfaces.

- The stormwater watercourse and any catch pits are to be protected with silt fences, diversion bunds, silt socks and geotextile fabric (under catch pit grates), as appropriate, to prevent the discharge of sediment laden runoff.
- Minimising the extent of soil disturbance/earthworks areas and stabilising immediately with mulch or hardfill as required to minimise erosion and sediment runoff.
- Limiting soil disturbance/earthworks during heavy rain and prior to forecast storm events.

The Contractor will be responsible for undertaking periodic inspections/maintenance of the ESC measures throughout the soil disturbance works.

9.2 Dust Suppression

Exposed earthwork areas shall be maintained to minimise the release of dust into the atmosphere, and appropriate measures to reduce the dust release to acceptable levels must be implemented as required. Appropriate dust control measures include the following:

- All site workers will be advised of the need to minimise dust by the responsible operation of machinery and vehicles (e.g. limit site traffic speed to reduce the production of dust, access into/out of the site to be via the stabilised surfaces);
- Exposed areas will be minimised as far as practicable;
- Water sprays will be used on exposed soils to suppress dust, ensuring that any water used is not allowed to migrate beyond the work zone; and
- Dust generating activities will be limited or suspended during periods of high wind.

9.3 Stockpile Management

All stockpiles shall be located within the site boundary and monitored for dust generation. In addition, earth bunds shall be installed around stockpiles where required to ensure sediment laden stormwater from the stockpile cannot enter stormwater.

Stockpiling of contaminated material should be avoided where possible, if temporary stockpiling (of potential or confirmed contamination) is required then the stockpiles shall be managed as follows:

- Be placed on polythene sheeting or similar impervious material to prevent contamination of the underlying material;

- Controls shall be installed to prevent runoff from leaving the area and stormwater from other areas entering the stockpile area;
- Be covered or dampened during dry and windy conditions; and
- If significant rainfall is forecast, the stockpiles shall be covered by a suitable material to prevent contaminated stormwater discharge.

Any material removed during the works that is potentially or confirmed as contaminated shall be disposed of at a facility authorised indicated as appropriate by the SQEP to receive such material.

10.0 Soil Management Controls

10.1 Soil Reuse

Soils generated as a result of the redevelopment earthworks may be reused elsewhere over the site assuming geotechnical suitability. The DSI will confirm if soils within the potential HAIL areas are suitable for re-use.

10.2 Soil Disposal

The DSI will include a soil disposal assessment for soils in the halo of some site buildings and for soils in the vicinity of a potential sheep dip. The contractor should liaise with the SQEP regarding the intended soil disposal locations, to ensure compliance against the applicable waste acceptance criteria is maintained.

The conceptual site model (as per the PSI) for the remaining soils at the site does not identify potential sources of contamination. As the primary land use of the site has historically been for pastoral purposes, it is likely that these soils are cleanfill. However, landfill facilities may require additional testing to confirm this hypothesis. It is recommended that preapproval be obtained for soil disposal prior to the onset of any soil disposal works.

Documentation showing the landfill acceptance of all soil at the site shall be provided to the SQEP along with disposal certificates/dockets.

10.3 Contaminated Soil Handling Measures

Contaminated soil (if identified during the DSI) shall be loaded directly into covered and water-tight trucks for off-site disposal to an approved facility. Trucks and other contractor vehicles shall not drive across the contaminated area prior to or during the removal of the contaminated soils and should remain on stabilised areas wherever possible. Truck wheels shall be inspected and cleaned (via manual sweeping) as necessary prior to egress from the site to prevent tracking of soil onto public roads.

All plant working within the contaminated area shall remain within the area for the duration of the works. Any plant being removed off-site or out of the contaminated area (that has been in contact with the contaminated soils from the remedial excavation) shall be washed clean prior to moving to avoid cross-contamination. The Contractor shall ensure that any wash down water is diverted back into the excavation pits, to ensure that no contaminated or silty water leaves the site.

On this basis wheel washing is not anticipated to be required, the backhoe excavator used for the excavation works may be washed down within the excavation prior to moving off-site or out of the contaminated areas.

10.4 Importation of Fill Material

Imported material, shall be certified cleanfill, or shall be certified as suitable for the intended land use. Dockets confirming that imported hardfill has been sourced from a cleanfill supplier shall be provided to the SQEP and the Project Manager for site validation record purposes.

10.5 Record Keeping

The Contractor shall ensure that records are kept of all excavation, handling and disposal of soil at the site. This includes soil disposal dockets. Photographs and a detailed site plan showing the final extent and dimensions of the excavated areas, including after the removal of any identified contaminated soils is to be provided by the Contractor to the SQEP for verification and provided to the Project Manager for their records.

11.0 Complaints Procedures

The Contractor shall have a procedure in place for recording and responding to any complaints resulting from the development operations. Contact details for the site supervisor shall be displayed on the noticeboard at the entrance of the site. The Contractor shall advise the SQEP of any soil disturbance complaints received and the SQEP shall provide technical advice to the Contractor on how to respond.

12.0 Unexpected Discovery Protocols

Whenever actual or potential unexpected conditions or discharges occur, or are identified, the Contractor shall immediately cease works in that area and inform the Project Manager and the SQEP. The SQEP will provide advice on interim controls to be implemented and shall inspect the site at the earliest opportunity to assess the situation and provide further direction to the Contractor.

The following general controls relating to unexpected contamination shall apply to the site at all stages of the development:

- The Contractor shall be responsible for identifying any potential unexpected soil contamination as follows:
  - Visual – e.g. stained soil, asbestos containing materials (ACM) / fragments, fill material (e.g. refuse), charred soil/debris, buried drums/tanks.
  - Olfactory – hydrocarbon or other chemical odour.
- The Contractor shall be responsible for implementing interim/emergency controls detailed below:
  - Stop all soil disturbance works in the vicinity of the unexpected, contaminated soil/materials (i.e. leave in an undisturbed state if possible) and isolate the area using a physical or visual barrier (temporary fencing or exclusion tape).
  - Notify the SQEP and Project Manager.
  - Stabilise any stockpiled potentially contaminated soil as necessary using covers and other erosion and sediment controls as appropriate.
  - Keep potential asbestos contaminated soil moist and/or cover with an impervious polythene cover.
  - Ensure appropriate PPE is available and used by anyone in the vicinity of the potentially contaminated soil.

13.0 References

Health and Safety at Work Act 2015 (HSWA, 2015)

MfE, 2021. *Contaminated Land Management Guidelines No. 1 Reporting on Contaminated Sites in New Zealand.* Ministry for the Environment.

MfE, 2021. *Contaminated Land Management Guidelines No. 5 Site Investigation and Analysis of Soils.* Ministry for the Environment.

PDP, 2025. *Preliminary Site Investigation – Mount Welcome Pukerua Bay.* Pattle Delamore Partners Limited.

WasteMINZ, 2023. *Technical Guidelines for Waste Disposal to Land.* Waste Management Institute New Zealand.

GWRC, 2021. *Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region.* Greater Wellington Regional Council.

Figures

KEY :

- PROPOSED DEVELOPMENT AREA
- EXTENT OF INVESTIGATION
- RIVER
- LINZ PRIMARY PARCELS

0 100 200
METRES
SCALE : 1:7,500 (A3)

FOR DISCUSSION
24/10/2025

NO.	REVISION	DATE	BY
B	ISSUED FOR REVIEW	OCT 25	CI
A	ISSUED FOR REVIEW	SEP 25	DK

SOURCE:
1. AERIAL IMAGERY (FLOWN 2024) SOURCED FROM THE LINZ DATA SERVICE https://data.linz.govt.nz/ AND LICENCED FOR RE-USE UNDER THE CREATIVE COMMONS ATTRIBUTION 4.0 INTERNATIONAL LICENCE.
2. CADASTRAL/TOPOGRAPHICAL INFORMATION AND INSET DERIVED FROM LINZ DATA.

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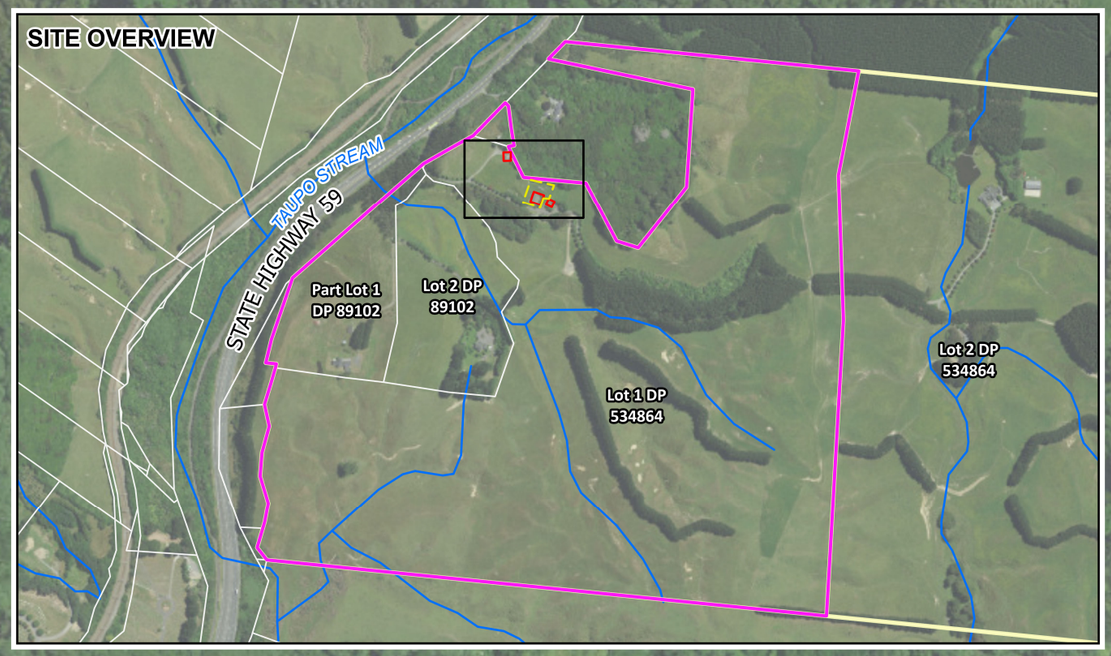
FIGURE
FIGURE 1: SITE LOCATION PLAN

PROJECT
CONTAMINATED SITE MANAGEMENT PLAN – MOUNT WELCOME, PUKERUA BAY

W027550004 apnx - W027550004GIS001_Fig1



Lot 2 DP 507444

Lot 1 DP 534864

KEY :

- PROPOSED SAMPLING LOCATION
- HAIL AREA
- POTENTIALLY CONTAMINATED AREA
- PROPOSED DEVELOPMENT AREA
- EXTENT OF INVESTIGATION
- LINZ PRIMARY PARCELS

0 10 20
METRES

SCALE : 1:500 (A3)

FOR DISCUSSION
17/09/2025

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2. CADASTRAL/TOPOGRAPHICAL INFORMATION AND INSET DERIVED FROM LINZ DATA.

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FIGURE

FIGURE 2: PROPOSED SAMPLING LOCATIONS

PROJECT

CONTAMINATED SITE MANAGEMENT PLAN – MOUNT WELCOME, PUKERUA BAY

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