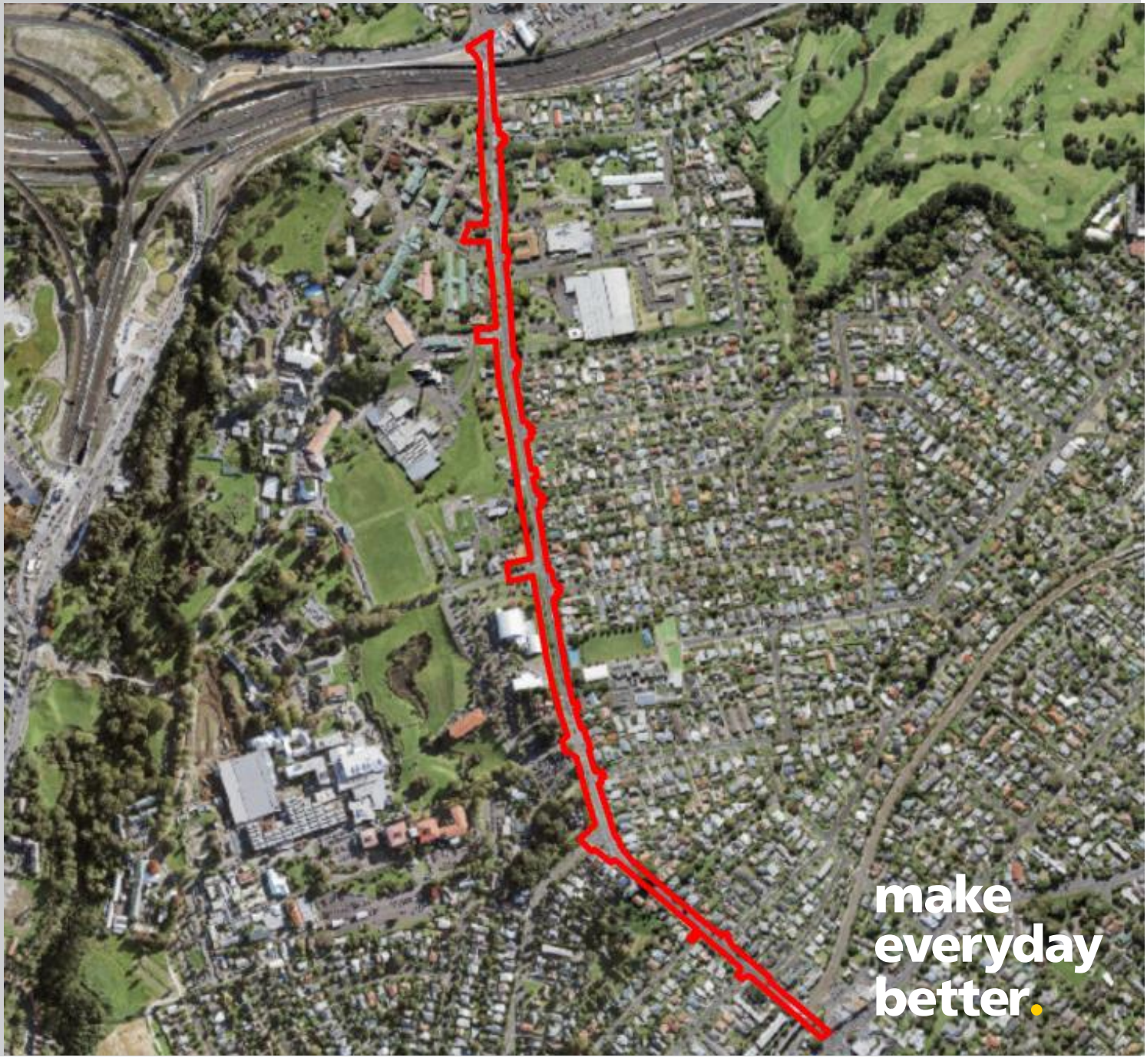
Contaminated Land Assessment

Carrington Road Improvements Project

Prepared for Auckland Transport
Prepared by Beca Limited

22 November 2024



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Revision History

Revision Nº	Prepared By	Description	Date
0	Jack Espin	Final Version	22/11/2024
1	Jack Espin	Updated project description and added Appendix C.	12/02/2025

Document Acceptance

Action	Name	Signed	Date
Prepared by	Jack Espin		22/11/2024
Reviewed by	Brodie Rowse Sarah Shepherd	 	22/11/2024
Approved by	Colin MacArthur		22/11/2024
on behalf of	Beca Limited		

Executive Summary

Beca Limited (Beca) was commissioned by Auckland Transport (AT) to undertake a Contaminated Land Assessment for the Carrington Road improvements Project. The proposed works include the widening of the existing Carrington Road corridor and improvements or construction of associated features such as bus lanes, cycle lanes and foot paths.

The purpose of this assessment was to assess the potential for soil contamination and inform contaminated land consent requirements based on information contained in the following report previously undertaken for the project:

- Carrington Road Improvements Detailed Business Case (DBC), Contaminated Land Assessment. Jacobs, March 2023.

Findings

Based on the information contained in the Jacobs DBC and a subsequent Consenting Strategy Report also prepared by Jacobs, the following activity listed on the Ministry for the Environment (MfE) Hazardous Activities and Industries List (HAIL) was identified as being potentially applicable to the site:

- Potential HAIL E1: asbestos products manufacture or disposal, including sites with buildings containing asbestos products known to be in a deteriorated condition.

The HAIL activity potentially applies to two buildings located to the west of Carrington Road. One of these buildings was reported to contain an asbestos roof, the second was constructed at a similar time and is considered likely to be constructed with similar materials. Both buildings are intended to be removed to enable earthworks within these areas, timings of the removal works have not been confirmed at the time of preparing this assessment.

Soil sampling undertaken in previous investigations adjacent to these buildings has identified concentrations of lead above the Auckland Unitary Plan Permitted Activity criteria but has not detected asbestos.

Consenting

HAIL activities have been identified on the site in areas where subdivision and soil disturbance are proposed. It is unlikely the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS) Permitted Activity (PA) criteria can be met and therefore a resource consent will be required.

As a Detailed Site Investigation (DSI) has not been undertaken within the identified HAIL area, it is recommended resource consent as a discretionary activity be sought under NESCS Regulation 11. Soil sampling is recommended within the buildings footprints to inform the risk from potentially contaminated soils. The soil sampling should be included as a condition of the consent and should be undertaken once the buildings have been removed.

A Contaminated Soils Management Plan (CSMP) is required by the proposed conditions for the NESCS consent. The purpose of the CSMP is to identify procedures that will be implemented during site earthworks to safely control the disturbance and movement of potentially contaminated soils. The CSMP should be updated to reflect actual soil conditions once the buildings have been removed and the soil sampling is completed with provision of a final CSMP recommended as a condition of consent.

It is considered likely that the proposed works will meet PA criteria under the Auckland Unitary Plan – Operative in Part (AUP(OP)) Chapter E30 Contaminated Land rules and therefore contaminated land consent under the AUP(OP) Chapter E30 is unlikely to be required.

Consenting requirements should be confirmed by a qualified planner once the proposed works and construction methodologies are better understood.

Disposal and Handling

As the site is located within a road corridor it is unlikely that soils intended for disposal will comply with the AUP(OP) definition of cleanfill, particularly near surface soils. It is recommended that soil sampling is undertaken within the proposed works area to inform disposal options and economise soil handling and disposal costs. It is understood AT will carry out this disposal testing independently of this Contaminated Land Assessment.

1 Introduction

1.1 Background

Carrington Road is a 1.6km-long arterial road on the Auckland isthmus which connects New North Road at the Mt Albert Town Centre in the south; and Great North Road at the Point Chevalier Town Centre in the north. Auckland Transport (AT) has proposed the Carrington Road Improvements Project (CRIP) to serve planned growth and intensification in the area; and to achieve the long-term strategic network outcomes for the corridor, particularly a higher level of service for active modes and public transport.

To these ends, the CRIP comprises the following road upgrades which include a section of widening on the western side of the road between Woodward Road and State Highway 16 (SH16):

- Bus/special vehicle lanes (TBC) for most of the corridor length in both directions, and new/relocated bus stops;
- Improved walking and cycling facilities along the entire corridor length in both directions, new midblock crossings, and a new pedestrian bridge to supplement the existing Mt Albert Rail Bridge;
- Upgraded intersections along the entire corridor length, including four new/upgraded signalised intersections,
- New stormwater management infrastructure, including treatment and conveyance swales on Segar Avenue; and
- Public realm placemaking/landscaping, and new street trees.

In conjunction, Watercare Services Limited (Watercare) has proposed the Point Chevalier Watermain No. 2 Project (the Watermain) along Carrington Road. The Watermain is a Ø750mm concrete-lined steel (CLS) pipeline approximately 1km in length between Seaview Terrace and Sutherland Road, and forms part of a wider scheme to improve supply, maintain levels of service, and provide resilience to both the Point Chevalier and Khyber water supply zones. The design and planning for the Watermain has been expedited to realise efficiencies with the CRIP, and to enable the projects to be constructed concurrently.

Unless otherwise noted, the CRIP and Watermain projects are referred to collectively in this report as ‘the Project’. The Project extent is shown at Figure 3.

Beca Ltd (Beca) was commissioned by Auckland Transport (AT) to undertake a Contaminated Land Assessment for the Project.

The following desk-based assessment (summarised in Section 2.1) has previously been undertaken for the Project:

- Carrington Road Improvements Detailed Business Case (DBC), Contaminated Land Assessment. Jacobs New Zealand Ltd (Jacobs), March 2023.

Beca has not independently verified the contents of the 2023 Jacobs Report.

1.2 Purpose and Scope

The purpose of this assessment is to inform contaminated land consent requirements based on the findings of the Jacobs DBC.

The scope of this is assessment is to:

- Review the Jacobs DBC
- Review the following pieces of information as recommended in the Jacobs DBC
  - Unitec Mt Albert Campus Redevelopment – Preliminary Site Investigation. URS, June 2014
  - Contaminated land information pertaining to the project area from Marutūāhu Rōpū and Waiohua-Tāmaki Rōpū

- Inform the potential for soil contamination based on Ministry for the Environment (MfE) Hazardous Activities and Industries List (HAIL) activities identified in the Jacobs DBC
- Undertake soil sampling in the HAIL areas if determined to be required
- Develop a Conceptual Site Model (CSM) for the site
- Provide advice regarding management and disposal of excavated spoil
- Comment on contaminated land consent requirements under the following legislation:
  - Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS)
  - Auckland Council's Auckland Unitary Plan Operative in Part (AUP(OP)) – Section E30 Contaminated Land.

The following is excluded from the scope of this investigation:

- Independent assessment or confirmation of HAIL sites
- Assessment of potential groundwater contamination, and any associated dewatering implications
- Assessment of the potential for asbestos or lead soil contamination from residential structures along the development route.

1.3 Site Identification

For the purpose of this Contaminated Land Assessment 'the site' is defined as the indicative area where earthworks are proposed. The site is located along the Carrington Road Corridor, Auckland, as outlined in Figure 1 below. The site is approximately 1.5km long and includes the section of Carrington Road between the New North Road / Carrington Road Intersection and Great North Road / Carrington Road intersection. The site includes all intersections along this stretch of the corridor and encompasses footpaths and roadside berms.

Figure 1: Site area (outlined in red) (Base image source: Auckland Council GeoMaps).

1.4 Proposed Works

The detailed design and earthworks methodology has not been confirmed at the time of preparing this Contaminated Land Assessment.

The earthworks depths will vary depending on the works required for each item and will range from shallow regrading to deeper foundational excavations.

2 Summary of Previous Assessments

2.1 URS 2014 PSI

URS New Zealand Ltd (URS, now AECOM) undertook a Preliminary Site Investigation (PSI)[1] for the redevelopment of 1 and 3 Carrington Road (the Wairaka Precinct) which includes areas of the site.

The PSI scope included:

- Review of site plans to identify product storage areas, production facilities and any other associated chemical handling areas
- Review of readily available aerial photographs
- Review of the NZ Fire Service database of hazardous incidents within a 1km radius of the site
- Review of Auckland Council Land Information Memorandum (LIM) and property information for the site
- Review of Auckland Council database searches to assess issues with respect to contamination
- Review of current and historical certificates of title
- A site walkover and visual inspection noting no campus buildings were entered.

The PSI identified three HAIL areas that intersect the site as displayed on Figure 2:

- Building 2 relating to a building with an asbestos roof identified during the site visit
  - HAIL E1: Asbestos products manufacture or disposal, including sites with buildings containing asbestos products known to be in a deteriorated condition
- Building 201 relating to a sports turf
  - HAIL A10: Persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds
- Carpark 2: relating to market gardens
  - HAIL A10: Persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds.

[1] Unitec Mt Albert Campus Redevelopment – Preliminary Site Investigation. URS, June 2014.

Figure 2: URS PSI identified HAIL activities that intersect site (base image source: Auckland GIS viewer).

2.2 Jacobs 2023 Contaminated Land Assessment

The Jacobs Contaminated Land Assessment[2] was undertaken to inform the optioneering process for the Carrington Road Detailed Business Case (DBC). The Jacobs Contaminated Land Assessment is provided as Appendix A.

The Jacobs Contaminated Land Assessment included review of a Site Contamination Enquiry from Auckland Council, historical aerial photographs, three historical reports, and a site walkover. The three historical reports reviewed by Jacobs in the desktop assessment included:

- A Project Feasibility Report prepared by Opus International Consultants Ltd (Opus, now WSP) in 2017 for implementing road corridor improvements on Carrington Road.
- A Contaminated Site Management Plan (CSMP) prepared by Beca in 2022 for Marutūāhu Rōpū and Waiohua-Tāmaki Rōpū for The Wairaka Precinct/Carrington Residential Development (located west of Carrington Road); and

[2] Carrington Road Improvements Detailed Business Case, Contaminated Land Assessment. Jacobs, March 2023.

- An Archaeological Assessment of Carrington Backbone Works Project from CFG Heritage.

Jacobs identified 11 potential HAIL areas within 10m of the Carrington Road Corridor. Jacobs determined that 6 of these HAIL areas including Carpark 2 and Building 201 identified in the URS report (Section 2.1) would not be relevant to the site works (please refer to Table 4-1 within the Jacobs DBC (Appendix A) for reasons why HAIL activities were not considered as relevant). The five potential HAIL activities that remained and are considered relevant are displayed in Figure 3 and include:

- **Potential HAIL Area 1:** relating to a building that was part of a number of buildings historically used as a psychiatric hospital. The HAIL activities identified in this area were:
  - HAIL E1: Asbestos products manufacture or disposal, including sites with buildings containing asbestos products known to be in a deteriorated condition.
  - HAIL A2: Chemical Manufacture, formulation and bulk storage relating to 2 dangerous goods cabinets.
  - HAIL A14: Pharmaceutical manufacture, including the commercial manufacture, blending, mixing or formulation of pharmaceuticals, including animal remedies or the manufacturing of illicit drugs with the potential for environmental discharge.
- **Potential HAIL Area 2:** relating to a building with a reported asbestos roof. This building historically was used as a studio, storage, classroom and kitchen as part of the psychiatric hospital. The HAIL activity identified was:
  - HAIL E1: Asbestos products manufacture or disposal, including sites with buildings containing asbestos products known to be in a deteriorated condition.
- **Potential HAIL Area 18:** related to a proposed Mobil Training Centre (petrol station) in 1996. The HAIL activities identified were:
  - HAIL A1: Agrichemicals, including commercial premises used by spray contractors for filling, storing, or washing out tanks for agrichemical application.
  - HAIL A17: Storage tanks or drums for fuel, chemicals, or liquid waste.
- **Potential HAIL Area C2**: related to a demolished building in an area subject to previous potential HAIL categories including chemical/fuel storage and pharmaceutical storage and manufacturing. The HAIL activities identified were:
  - HAIL E1: Asbestos products manufacture or disposal, including sites with buildings containing asbestos products known to be in a deteriorated condition.
  - HAIL A14: Pharmaceutical manufacture, including the commercial manufacture, blending, mixing or formulation of pharmaceuticals, including animal remedies or the manufacturing of illicit drugs with the potential for environmental discharge.
  - HAIL I: Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment.
- **Potential HAIL Area 174:** related to a power transformer. The HAIL activity identified was:
  - HAIL B2: Electrical transformers, including the manufacturing, repairing, or disposing of electrical transformers or other heavy electrical equipment.

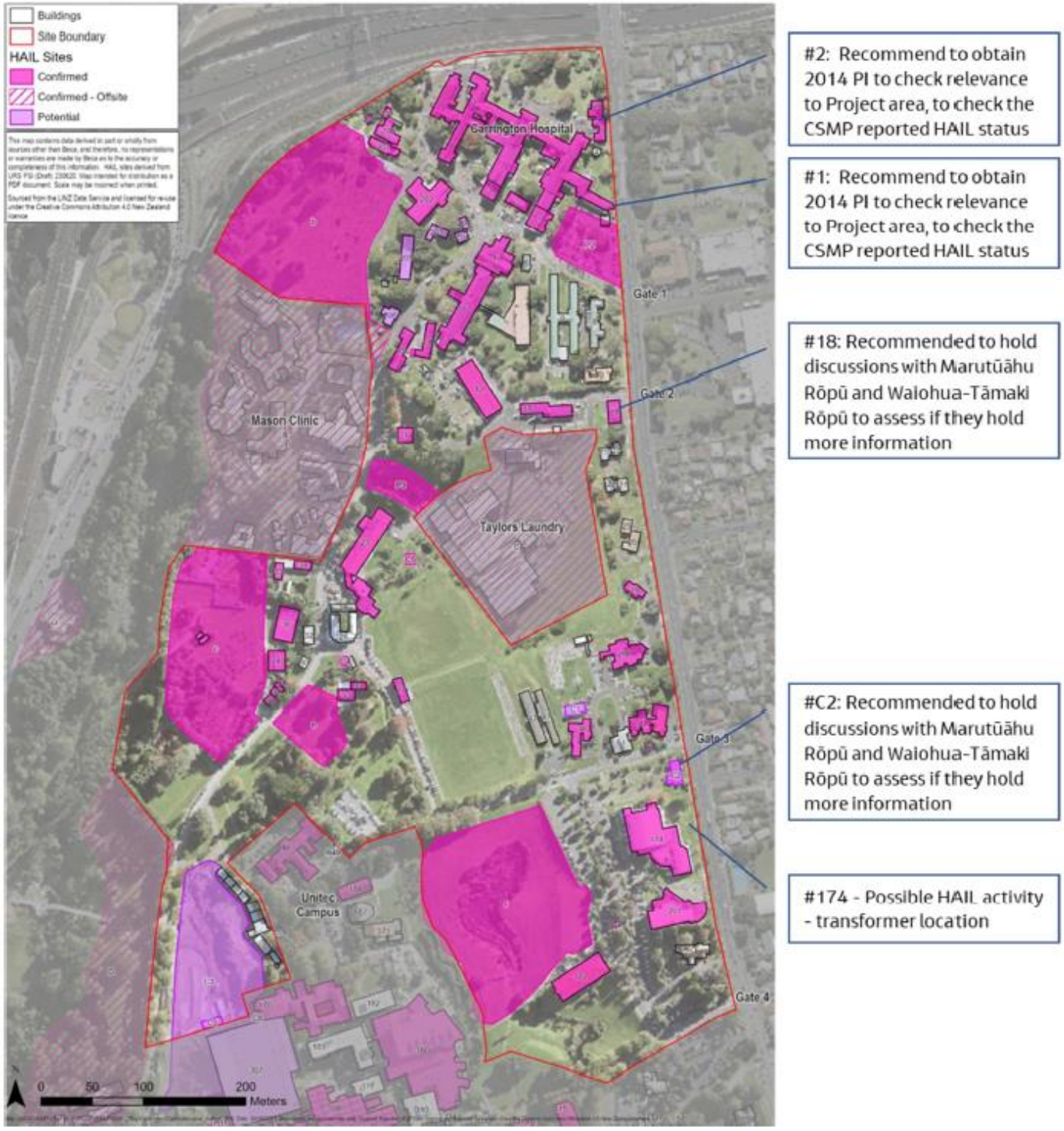

Figure 3. HAIL site identification along Carrington Road (conservative approach), Jacobs 2023.

Jacobs noted that it was their understanding that Auckland Council does not typically require an assessment of asbestos or lead-based paint for residential buildings as part of the reporting in a PSI. Since there was no access to residential properties during the preparation of their assessment and their report was for the purpose of informing the optioneering process for a DBC, consideration of residential buildings with asbestos and lead-based paint was outside the Jacobs scope of work.

Jacobs understood that Auckland Transport and the regulatory body at Auckland Council do not consider roads a HAIL site. Jacobs commented that there are no significant coal tar issues with Auckland roads and that Auckland Council contaminated land staff do not consider coal tar to be a HAIL issue for Auckland Transport projects.

Once the preferred option was confirmed for the DBC, if it involves widening to the west of Carrington Road, Jacobs recommended the following be undertaken to further refine the potential HAIL areas:

- Sourcing a copy of a PSI prepared in 2014 by URS (now AECOM) which is referenced in the Beca CSMP to assess the conclusions of Jacobs contaminated land assessment (this report is reviewed in Section 2.1).
- Liaise with Marutūāhu Rōpū and Waiohua-Tāmaki Rōpū to assess if they hold additional contaminated land information that relate to the Project area, in particular, HAIL sites identified within 10m of Carrington Road Reserve (reports relating to the Wairaka Precent development led by Marutūāhu Rōpū and Waiohua-Tāmaki Rōpū have been reviewed in Section 2.4)

2.3 Jacobs 2023 Consenting Strategy

A Carrington Road Improvements Consenting Strategy letter[3] was prepared for the project in December 2023 which included a section pertaining to contaminated land resource consenting.

This letter detailed that *'subsequent assessment has been undertaken after the preparation of the report* [Jacobs 2023 Contaminated Land Assessment] *and three of the potential HAIL sites have been ruled out (based on the information available at the time).'*

The two potential HAILs areas that remain relevant to this investigation, as shown on Figure 3, are:

- **Potential HAIL Area 2 -** relating to a building with a reported asbestos roof.
- **Potential HAIL Area 174** - relating to a power transformer.

Details to why the three HAIL areas were ruled out was provided in email correspondence between Walter Starke and AT on 17 October 2023. Walter Starke provided an annotated drawing (Appendix B) detailing what areas are to be included as HAILs and what areas are not HAILs and reasons why.

2.4 Additional Investigations

Several contaminated land investigations have been prepared for the large-scale urban development of the Wairaka Precinct led by Marutūāhu Rōpū and Waiohua-Tāmaki Rōpū. The four reports detailed below include soil sampling locations which intersect the site or are located directly adjacent to the site (as displayed on Figure 4):

- Land Development Project, Wairaka Precinct Masterplan – Stage 2 Detailed Site Investigation. WSP, August 2017
- 139 Carrington Road, Mt Albert, Auckland. Soil Sampling Report – Building 41 & Building 5. Thomas Consultants, March 2022
- Asbestos in Soils Investigation, Demolished Building Footprints (Backbone). Beca, May 2022

[3] Carrington Road Improvements Consenting Strategy. Jacobs, December 2023.

- Carrington Backbone Works, Detailed Site Investigation – Contamination. Beca, September 2022

Detailed review of the above investigations is not included in the scope of this assessment, however for completeness, a brief summary of soil sample locations and findings is provided below.

Soil samples were collected from 31 locations (shown in Figure 4 below) and submitted for laboratory analysis for contaminants of concern based on the HAIL activity identified within the corresponding reports. Contaminants of concern analysed for included heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc), asbestos, organochlorine pesticides (OCP), organophosphorus pesticides (OPP), herbicides, phenols, polycyclic aromatic hydrocarbons (PAH), total petroleum hydrocarbons (TPH), polychlorinated biphenyls (PCBs), and benzene, toluene, ethylbenzene, and xylenes (BTEX).

Analyte concentrations from soil samples on or adjacent to the site (Figure 4) are summarised below and a summary screening table provided as Appendix C. The samples were screened against NESCS recreational soil contaminant standards and AUP(OP) permitted activity soil acceptance criteria.

- HA02 0.1m below ground level (bgl) and 0.3m bgl returned lead concentrations of 270mg/kg and 300mg/kg respectively, exceeding the AUP(OP) permitted activity soil acceptance criteria of 250mg/kg.
- Asbestos was detected in two soil samples (represented by the red triangles) within the Thomas Consultant Investigation (presence / absence asbestos analysis completed). These sample locations were 5-10m from the proposed site works and within the footprint of a removed building. Thomas Consultants prepared a Remediation Methodology for the contaminated soils. Confirmation to whether these remedial works were undertaken has not been provided.
- All remaining sample locations returned analyte concentrations below the NESCS recreational soil contaminant standard and AUP(OP) permitted activity soil acceptance criteria. Some samples returned analyte concentrations which exceeded the expected naturally occurring soil background ranges.

Figure 4: Previous onsite / adjacent to site soil sampling locations (base image source: Auckland GIS viewer)

3 HAIL Identification

The 2023 Jacobs DBC and Consenting Strategy identified two potential HAIL areas relevant to the proposed site works:

- **Potential HAIL Area 2 -** relating to a building with a reported asbestos roof.
- **Potential HAIL Area 174** - relating to a power transformer.

Review of other previous intrusive investigation analytical results (Section 2.4) supports Jacob's identification of HAIL sites.

Jacobs noted that an assessment of asbestos or lead-based paint for residential buildings was outside their scope of work.

3.1 Potential HAIL Area 2

Potential HAIL Area 2 relates to a building with an asbestos roof, with site works proposed to intersect this building. Site works are also proposed to intersect a second building 100m to the south, which appears to be of a similar age and construction to the building identified in Area 2. Consequently, this building should also be considered as a potential HAIL. The locations of both buildings are provided in Figure 5.

Historical construction and maintenance activity, alongside general degradation, of asbestos containing material and painted surfaces, may have resulted in asbestos and lead contaminating surrounding these structures.

The potential HAIL code Jacobs assigned was:

- HAIL E1: asbestos products manufacture or disposal, including sites with buildings containing asbestos products known to be in a deteriorated condition.

The contaminants of potential concern are:

- Asbestos
- Heavy metals (arsenic, cadmium, chromium, copper, lead, nickel, zinc)

Analytical results from three soil sample locations from a previous investigation[4] which were proximate to the buildings (HA01, HA02 and HA04 shown in Figure 4) did not detect asbestos, however one sample (HA02) returned a lead concentration exceeding the AUP(OP) permitted activity soil acceptance criteria.

These samples were collected for the installation of a water pipe off set from the buildings and provide a general indication of soil quality, however, they may not be representative of soil conditions within the building footprints of concern.

It is understood that both buildings are intended to be removed to enable earthworks within the proposed development footprint. The timings of the removal works have not been confirmed. It is recommended that further soil sampling be undertaken of the building footprints following removal, but in advance of general development earthworks.

[4] Carrington Backbone Works, Detailed Site Investigation – Contamination. Beca, September 2022

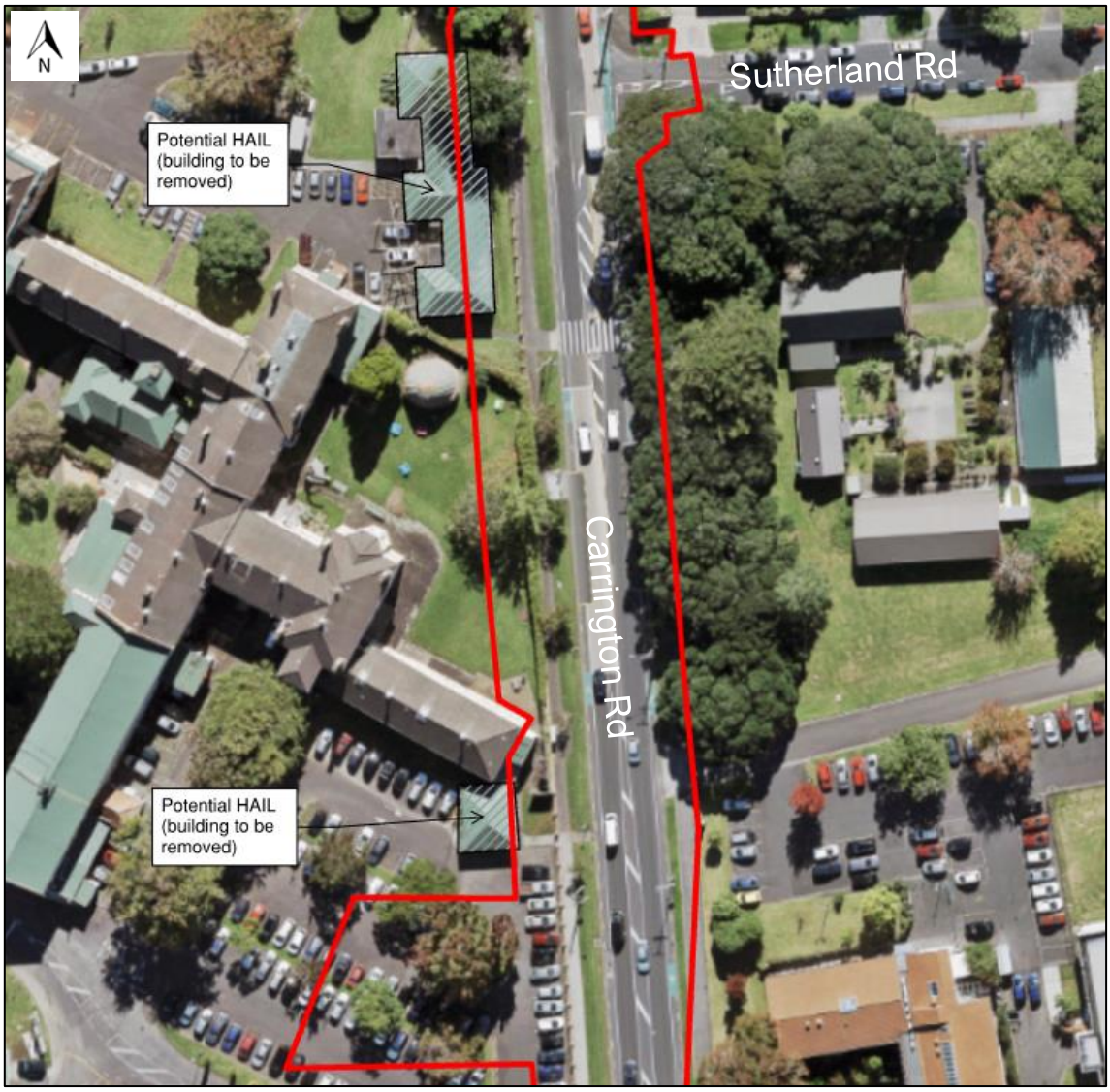

Figure 5: Potential HAIL sites (base image source: Auckland GIS viewer).

3.2 Potential HAIL Area 174

Potential HAIL area 174 relates to a power transformer located at 139 Carrington Road (refer to Figure 3). Previous soil sampling[5] (from HA36 shown in Figure 4) adjacent to the transformer reported asbestos, heavy metals, TPH, PAH, and PCBs concentrations below the applied human health and AUP(OP) permitted activity criteria.

As the transformer does not intersect the site, and no soil disturbance works are currently proposed within two metres of this transformer, it is considered that Area 174 is not considered applicable to the site. If earthworks are proposed within the footprint of the transformer, the application of this HAIL area to the site should be reconsidered and soil sampling may be required.

[5] Carrington Backbone Works, Detailed Site Investigation – Contamination. Beca, September 2022

4 Conceptual Site Model

A Conceptual Site Model (CSM) (**Table 1**) was developed to describe the relationship between potential sources of contamination on the site, the human and environmental receptors that may be exposed to those contaminants, and the pathways by which those receptors may be exposed. A recreational land use is considered to be the most appropriate land use scenario as the site is a road corridor.

Table 1: Conceptual Site Model

Source	Receptor	Pathway	Completeness of Unmitigated Pathway
Historical building (asbestos roof and lead paint)	Construction workers	Exposure of workers to contaminants in soils and groundwater during earthworks– dermal contact, ingestion or inhalation of dust/vapours.	**Potentially Complete Pathway** A potentially contaminating feature has been identified in an area of proposed earthworks. Soil sampling is recommended in the location of this feature to inform risk to construction workers. Risk can be managed through controls detailed in a Contaminated Soils Management Plan (CSMP).
	General public	Exposure of general public to contaminants in soils– dermal contact, ingestion or inhalation of dust/vapours	**Potentially Complete Pathway** A potentially contaminating feature has been identified in an area of proposed earthworks. Access to the site will be restricted to project personnel. However, dust generation from construction works could impact general public in the nearby surrounding area. Soil sampling is recommended in the location of the potentially contaminating feature to inform risk. Risk can be managed through controls detailed in a CSMP.
	Future site users	Exposure of future site users to contaminants in soils – dermal contact, ingestion or inhalation of dust/vapours.	**Potentially Complete Pathway** A potentially contaminating feature has been identified in an area proposed to be green space and a footpath. Future site users (such as landscapers and the general public) may interact with these soils. Soil sampling is recommended in the location of the feature to inform risk.
	Groundwater resources for commercial and rural use.	Leaching and migration of soil contaminants into groundwater.	**Incomplete Pathway** It is considered unlikely that shallow soil contamination from two structures would impact abstraction bore quality to cause a risk to users.
	Surface water	Contaminated sediment entering stormwater drains and discharging to surface water receptors.	**Potentially Complete Pathway** A potentially contaminating activity has been identified in an area of proposed earthworks. Soil sampling is recommended in the location of this feature to inform risk. Risk can be managed through controls detailed in a CSMP.

5 Development Implications

5.1 Consents

5.1.1 National Environmental Standard

The NESCS applies to land as per clause 5(7):

(7) "Land covered:

The piece of land is a piece of land that is described by 1 of the following:

a. an activity or industry described in the HAIL is being undertaken on it

b. an activity or industry described in the HAIL has been undertaken on it

c. it is more likely than not that an activity or industry described in the HAIL is being or has been undertaken on it."

As detailed in Section 3 and displayed on Figure 4, the following potential HAIL activity intersects the site:

- HAIL E1: asbestos products manufacture or disposal, including sites with buildings containing asbestos products known to be in a deteriorated condition.

The NESCS applies to the following activities taking place on a 'piece of land':

- Soil Disturbance
- Land Use Change
- Subdivision
- Fuel Tank Removal
- Soil Sampling.

Subdivision and soil disturbance are proposed for the project. The NESCS applies to areas on the site where soil disturbance or subdivision occurs on an identified HAIL area.

Soil Disturbance

Under Regulation 8(3) of the NESCS, soil disturbance of up to 25m^3 per 500m^2 and disposal of up to 5m^3 per 500m^2 is allowed as a Permitted Activity (PA). The HAIL area of the northern building is approximately 800m^2 and the southern building is approximately 200m^2.

Additional PA conditions include:

- Controls to minimise the exposure of humans to contaminants must:
  - be in place when the activity begins
  - be effective while the activity is done
  - be effective until the soil is reinstated to an erosion-resistant state
- The soil must be reinstated to an erosion-resistant state within 1 month after the serving of the purpose for which the activity was done
- Soil must not be taken away in the course of the activity, except that:
  - for the purpose of laboratory analysis, any amount of soil may be taken away as samples
  - for all other purposes combined, a maximum of 5 m^3 per 500 m^2 of soil may be taken away per year
- Soil taken away in the course of the activity must be disposed of at a facility authorised to receive soil of that kind
- The duration of the activity must be no longer than 2 months
- The integrity of a structure designed to contain contaminated soil or other contaminated materials must not be compromised.

Subdivision

Although consent for subdivision isn't being sought for this initial phase of the project, earthworks are proposed outside the current road corridor land parcel. It is intended that vesting (and by extension subdivision) of the area outside the road corridor will be undertaken as a future process. Therefore, subdivision has been considered when considering the application of the NESCS.

Subdividing land is a PA under Regulation 8(4) while the following requirements are met:

- A preliminary site investigation of the land or piece of land has been prepared
- The PSI states that it is highly unlikely that there will be a risk to human health if the activity is done
- The report must be accompanied by a relevant site plan to which the report is referenced
- The consent authority must have the report and the plan.

Subdivision cannot be considered a PA as an area that may contain uncharacterised asbestos and heavy metal soil contamination will become public space. It is also considered unlikely that the soil disturbance disposal volumes criteria (up to 5m^3 per 500m^2) would be able to be met, as it is assumed the majority of excavated soils will be disposed of offsite.

As the buildings where potential HAIL activities (potential as an asbestos survey has not been sighted so condition is unknown) have been identified are yet to be removed, and the schedule for removal is not yet confirmed, investigation of potential soil contamination in advance of resource consent application is not likely possible.

Consequently, it is recommended that Discretionary Activity consent is sought under NESCS Regulation 11. Soil sampling after removal of these buildings to assess the presence of contaminated soils and potential human health risk is recommended as a condition of the consent.

A Contaminated Soils Management Plan (CSMP) is required by the proposed conditions for the NESCS consent. The purpose of the CSMP is to identify procedures that will be implemented during site earthworks to safely control the disturbance and movement of potentially contaminated soils. The CSMP will contain controls relating to the potential asbestos or heavy metal contamination associated with the HAIL activities identified. The CSMP should be updated to reflect actual soil conditions once the buildings have been removed and the soil sampling is completed and it is recommended that provision of a final CSMP is a condition of the consent.

5.1.2 Auckland Unitary Plan

The contaminated land rules of AUP(OP) Chapter E30 applies to *land containing elevated contaminants*. Previous investigations indicate that lead concentrations within the Area 2 meet this definition, and in lieu of further intrusive investigation, the contaminated land rules AUP(OP) Chapter E30 are considered to apply to the proposed development.

While final design, construction methodologies and earthwork volumes have not been finalised at the time of preparing this assessment, the proposed works are not anticipated to intersect more than 200m^2 of the HAIL activities footprints. It is also unlikely that earthworks in these areas are to be greater than 1m depth and the duration is unlikely to extend for more than 2 months within these areas. Consequently, the proposed works will likely comply with the 200m^3 of soil disturbance PA limit.

Therefore, it is unlikely contaminated land resource consent will be required under AUP(OP) Chapter E30. However controls to management the potential mobilisation of soil contaminants during earthwork within this area will be required, which will be included in the CSMP detailed above and supported by project erosion and sediment control plans.

It is recommended this AUP(OP) Chapter E30 consent requirements assessment is confirmed by a planner once construction methodologies are better understood.

5.2 Material Reuse, Disposal and Handling

As the site is located within a road corridor it is unlikely that soils intended for disposal will meet the AUP(OP) definition of cleanfill, particularly near surface soils.

It is recommended that soil sampling be undertaken within the proposed works area to inform soil handling and disposal requirements and assist in economising soil handling and disposal costs. The WasteMINZ, 2024 Technical Guidelines: Characterising Surplus Soil for Disposal provide direction on sampling for this purpose. It is understood AT will carry out this disposal soil testing independently of this Contaminated Land Assessment.

6 Conclusions and Recommendations

6.1 Conclusions

Based on the information contained in the Jacobs DBC and Consenting Strategy the following potential HAIL activity has been identified on the site relating to a reported asbestos roof:

- HAIL E1: asbestos products manufacture or disposal, including sites with buildings containing asbestos products known to be in a deteriorated condition.

The HAIL activity covers two building located to the west of Carrington Road as displayed on Figure 4. Both buildings are intended to be removed to enable earthworks within these areas, timings of the removal works have not been confirmed at the time of preparing this assessment.

6.2 Recommendations

Consenting

HAIL activities have been identified on the site in areas where subdivision and soil disturbance are proposed. It is unlikely the NESCS PA criteria can be met and therefore a resource consent will be required.

As a DSI has not been undertaken within the identified HAIL area, it is recommended discretionary activity resource consent be sought under NESCS Regulation 11. Soil sampling is recommended within the buildings footprints to inform the risk from potentially contaminated soils. The soil sampling should be included as a condition of the consent and could be undertaken once the buildings have been removed.

A draft CSMP will be required to support the discretionary consent under the NESCS. The CSMP will contain controls relating to the potential asbestos or heavy metal contamination associated with the HAIL activities identified. The CSMP will be submitted as a draft version and should be updated to reflect actual soil conditions once the buildings have been removed and the soil sampling is completed.

It is considered likely that the proposed works will meet PA criteria under the AUP(OP) Chapter E30 Contaminated Land rules and therefore contaminated land consent under the AUP is unlikely to be required.

Consenting requirements should be confirmed by a planner once the proposed works and construction methodologies are better understood.

Disposal and Handling

As the site is located within a road corridor it is unlikely that near surface soils intended for disposal can be considered as cleanfill. It is recommended that soil sampling is undertaken within the proposed works area to inform disposal options.

7 Reviewing Statement

This report has been reviewed by Sarah Shepherd, CEnvP Site Contamination Specialist. Sarah is a suitably qualified and experienced practitioner (SQEP) with 20 years of experience managing and delivering a wide variety of environmental investigation works in New Zealand, Asia and the United Kingdom. She is experienced in regulatory compliance, oversight of environmental investigations, monitoring and risk assessment, contractor management, preparation and review of technical reports, as well as consultation with stakeholders and regulatory bodies. Sarah has been a Certified Environmental Practitioner Site Contamination Specialist since 2016.

8 Limitations

This report has been prepared by Beca Ltd (Beca) solely for Auckland Transport (Client). Beca has been requested by the Client to provide a Contaminated Land Assessment for the Carrington Road Improvements Project. This report is prepared solely for the purpose of the assessment of potential soil contamination (Scope). The contents of this report may not be used by Auckland Transport for any purpose other than in accordance with the stated Scope.

This report is prepared solely for the Client. Beca accepts no liability to any other person for their use of or reliance on this report, and any such use or reliance will be solely at their own risk.

In preparing this report Beca has relied on key information provided in previous reports, in particular the Carrington Road DBC[6] and the Carrington Road Improvements Consenting Strategy[7]. The conclusions and recommendations of this assessment are based on the contents of these reports.

Beca has relied on the accuracy, completeness, currency and sufficiency of all information provided to it by, or on behalf of, the Client or any third party, including the information listed above, and has not independently verified the information provided. Beca accepts no responsibility for errors or omissions in, or the currency or sufficiency of, the information provided.

The contents of this report are based upon our understanding and interpretation of current legislation and guidelines ("Standards") as consulting professionals, and should not be construed as legal opinions or advice. Unless special arrangements are made, this report will not be updated to take account of subsequent changes to any such Standards.

This report should be read in full, having regard to all stated assumptions, limitations and disclaimers.

[6] Carrington Road Improvements Detailed Business Case, Contaminated Land Assessment. Jacobs, March 2023.

[7] Carrington Road Improvements Consenting Strategy. Jacobs, December 2023.